LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 16

2020

Bate Stamp Numbers
00976062 – 00977892

Prepared for

Department of the Army
Longhorn Army Ammunition Plant

1976–2020

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

VOLUME 16

2020

A. Title: (8a. cont'd) Appendix F (cont'd) to Report – Quarterly Evaluation Report, 2nd Quarter (April–June) 2020 Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Bhate Environmental Associates, Inc.
Recipient: U.S. Army Corps of Engineers – Tulsa District
Date: August 27, 2020
Bate Stamp: 00976062 – 00977090

B. Title: (8b.) Appendix F (cont'd) to Report – Quarterly Evaluation Report, 2nd Quarter (April–June) 2020 Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Bhate Environmental Associates, Inc.
Recipient: U.S. Army Corps of Engineers – Tulsa District
Date: August 27, 2020
Bate Stamp: 00977091 – 00977892

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

20200602

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000450
Project:	HS20050754	**Date Analyzed:**	6/ 2/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200602\20200602_037	**Calibration ID:**	EC2000007
		Analysis Lot:	682302
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	0.1279	0.1354	5.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000450
Project:	HS20050754	**Date Analyzed:**	6/ 2/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200602\20200602_044	**Calibration ID:**	EC2000007
		Analysis Lot:	682302
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1383	8.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000450
Project:	HS20050754	**Date Analyzed:**	6/2/20 19:14

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

File ID:	I:\LCMS01\DATA\20200602\20200602_037	**Lab Code:**	EQ2000220-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	682302
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000220-01	130,037	2.95
Method Blank	EQ2000209-01	156,098	2.95
Lab Control Sample	EQ2000209-02	162,494	2.95
Duplicate Lab Control Sample	EQ2000209-03	164,223	2.94
LH18/24-SP140_051920	E2000450-001	130,312	2.94

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:**	E2000450
Project:	HS20050754	**Date Analyzed:**	6/2/20 20:09

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200602\20200602_044	**Lab Code:**	EQ2000220-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	682302
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000220-02	130,496	2.94

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

ALS Group Houston

PERCHLORATE7

Date acquired: 6/2/2020 7:14:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_037.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

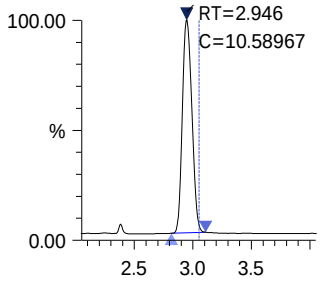
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/2/2020 7:14:09 PM	176124	10.58967	20200602_037	2.946	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 7:14:09 PM	130037	1.00000	20200602_037	2.945	25.0000	1.0000	10

Perchlorate

Conc 10.58967

Area 176124

Q 99.00>83.00 (-) 3.08e4

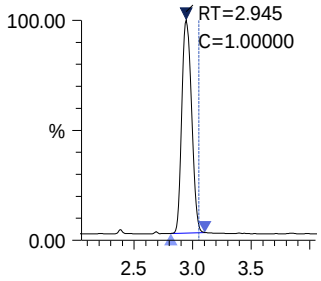


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 130037

ISTD 107.00>89.00 (-) 2.26e4



ALS Group Houston

EQ2000209-01

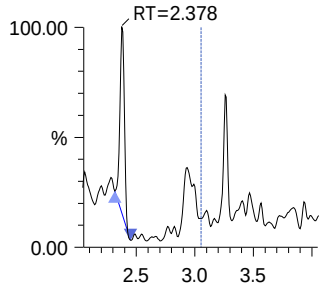
Date acquired: 6/2/2020 7:22:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_038.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-01	6/2/2020 7:22:03 PM	----	----	20200602_038	----	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	EQ2000209-01	6/2/2020 7:22:03 PM	156098	1.00000	20200602_038	2.947	25.0000	1.0000	21

Perchlorate

Conc ----
Area ----

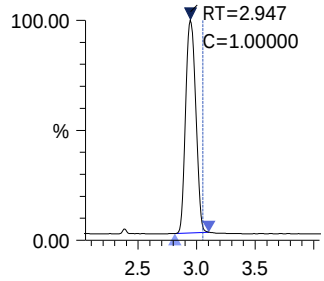
Q 99.00>83.00 (-) 3.73e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 156098

ISTD 107.00>89.00 (-) 2.62e4



ALS Group Houston

EQ2000209-02

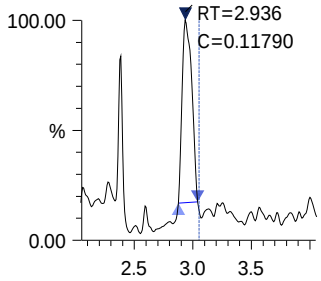
Date acquired: 6/2/2020 7:29:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_039.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-02	6/2/2020 7:29:57 PM	2450	0.11790	20200602_039	2.936	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	EQ2000209-02	6/2/2020 7:29:57 PM	162494	1.00000	20200602_039	2.946	25.0000	1.0000	22

Perchlorate

Conc 0.11790
Area 2450

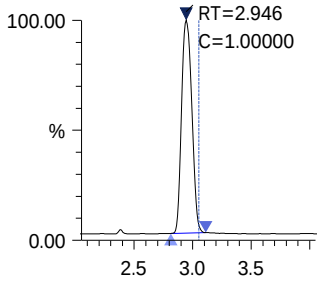
Q 99.00>83.00 (-) 4.93e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 162494

ISTD 107.00>89.00 (-) 2.69e4



ALS Group Houston

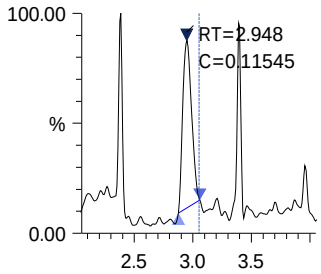
EQ2000209-03

Date acquired: 6/2/2020 7:37:52 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_040.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-03	6/2/2020 7:37:52 PM	2425	0.11545	20200602_040	2.948	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	EQ2000209-03	6/2/2020 7:37:52 PM	164223	1.00000	20200602_040	2.944	25.0000	1.0000	23

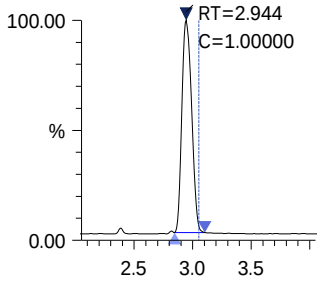
Perchlorate

Conc 0.11545
Area 2425
Q 99.00>83.00 (-) 5.79e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 164223
ISTD 107.00>89.00 (-) 2.88e4



ALS Group Houston

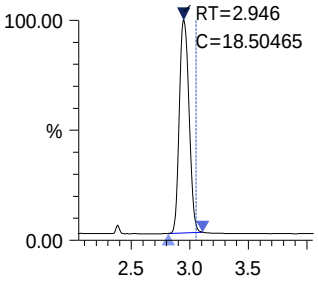
E2000450-001X500

Date acquired: 6/2/2020 8:01:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_043.lcd
Vial: 25 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000450-001X500	6/2/2020 8:01:36 PM	308415	18.50465	20200602_043	2.946	25.0000	1.0000	25
Sodium Perchlorate-18O4_IS	E2000450-001X500	6/2/2020 8:01:36 PM	130312	1.00000	20200602_043	2.944	25.0000	1.0000	25

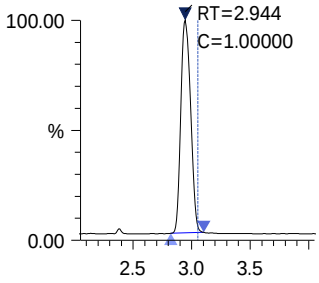
Perchlorate

Conc 18.50465
Area 308415
Q 99.00>83.00 (-) 5.28e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130312
ISTD 107.00>89.00 (-) 2.26e4



ALS Group Houston

PERCHLORATE7

Date acquired: 6/2/2020 8:09:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_044.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

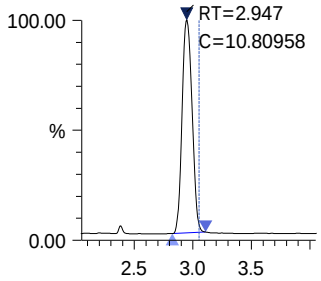
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/2/2020 8:09:29 PM	180416	10.80958	20200602_044	2.947	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 8:09:29 PM	130496	1.00000	20200602_044	2.941	25.0000	1.0000	10

Perchlorate

Conc 10.80958

Area 180416

Q 99.00>83.00 (-) 3.01e4

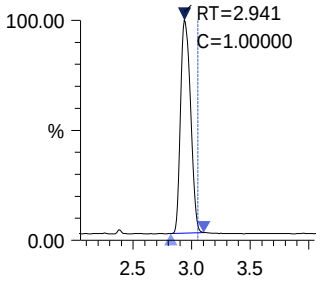


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 130496

ISTD 107.00>89.00 (-) 2.21e4



10450 Stancliff Rd. Suite 210
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T: +1 281 530 5656
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June 05, 2020

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

Work Order: **HS20050757**

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

Dear Marcia,

ALS Environmental received 3 sample(s) on May 20, 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: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20050757

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20050757-01	LH18/24-SP650_051920	Water		19-May-2020 14:00	20-May-2020 09:25	☐
HS20050757-02	LH18/24-SP650_051920_BIX	Water		19-May-2020 14:00	20-May-2020 09:25	☐
HS20050757-03	Trip Blank	Water		19-May-2020 14:00	20-May-2020 09:25	☐

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20050757

Work Order Comments

• The analysis for Perchlorate was subcontracted to ALS Salt Lake City, UT. Final report attached.

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 153733

Sample ID: LCSD-153733

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

Sample ID: LH18/24-SP650_051920 (HS20050757-01)

• The surrogate recoveries could not be determined due to dilution below the calibration range.

Sample ID: MBLK-153733

• High %Recovery for surrogate 4-Terphenyl-d14, it is not associated with target compound.

GCMS Volatiles by Method SW8260

Batch ID: R362012

Sample ID: HS20050754-01MS

• MS and MSD are for an unrelated sample

Batch ID: R362091

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

Metals by Method SW7470

Batch ID: 153928

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

Metals by Method SW6020

Batch ID: 153795

Sample ID: HS20050797-01MS

• MS/MSD and DUPs are for an unrelated sample

WetChemistry by Method SW9056

Batch ID: R362252

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

WetChemistry by Method E410.4

Batch ID: R362235

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

WetChemistry by Method E1664A

Batch ID: R362159

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20050757

WetChemistry by Method E1664A

Batch ID: R362159

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

ALS Houston, US Date: 05-Jun-20

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

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757

Sample ID: LH18/24-SP650_051920 Lab ID:HS20050757-01

Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,2-Dichloroethane	**0.91**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	22-May-2020 13:36
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	22-May-2020 13:36
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	22-May-2020 13:36
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	22-May-2020 13:36
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	22-May-2020 13:36
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	22-May-2020 13:36
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	22-May-2020 13:36
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36

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

ALS Houston, US Date: 05-Jun-20

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

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757

Sample ID: LH18/24-SP650_051920 Lab ID:HS20050757-01

Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
cis-1,2-Dichloroethene	**20**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-May-2020 13:36
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	22-May-2020 13:36
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	22-May-2020 13:36
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	22-May-2020 13:36
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	22-May-2020 13:36
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	22-May-2020 13:36
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Trichloroethene	**4.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	22-May-2020 13:36
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	22-May-2020 13:36
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	22-May-2020 13:36
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*1*	*22-May-2020 13:36*
Surr: 4-Bromofluorobenzene	*96.8*			**0**	*85-114*	*%REC*	*1*	*22-May-2020 13:36*
Surr: Dibromofluoromethane	*91.9*			**0**	*80-119*	*%REC*	*1*	*22-May-2020 13:36*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*22-May-2020 13:36*
SEMIVOLATILES SIM	**Method:SW8270SIM**					Prep:SW3510 / 21-May-2020		Analyst: ACN
1,4-Dioxane	**33**		**1.0**	**1.0**	**1.0**	**ug/L**	100	29-May-2020 15:15
Surr: 2-Fluorobiphenyl	*0*	*S*		0	*40-140*	*%REC*	*100*	*29-May-2020 15:15*
Surr: 4-Terphenyl-d14	*0*	*S*		0	*40-140*	*%REC*	*100*	*29-May-2020 15:15*
Surr: Nitrobenzene-d5	*0*	*S*		0	*40-140*	*%REC*	*100*	*29-May-2020 15:15*

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

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757
Sample ID: LH18/24-SP650_051920 Lab ID:HS20050757-01
Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 26-May-2020		Analyst: JHD
Aluminum	**0.0440**		**0.00180**	**0.00500**	**0.0100**	**mg/L**	1	28-May-2020 16:25
Antimony	**0.000560**	J	**0.000400**	**0.000500**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Arsenic	**0.000722**	J	**0.000400**	**0.000500**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Barium	**0.0980**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Beryllium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-May-2020 16:25
Cadmium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-May-2020 16:25
Calcium	**8.42**		**0.0340**	**0.0500**	**0.500**	**mg/L**	1	28-May-2020 16:25
Chromium	**0.00262**	J	**0.000400**	**0.000500**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Cobalt	**0.00148**	J	**0.000100**	**0.000500**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Iron	**0.248**		**0.0120**	**0.0500**	**0.200**	**mg/L**	1	28-May-2020 16:25
Lead	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	28-May-2020 16:25
Magnesium	**11.9**		**0.0100**	**0.0500**	**0.200**	**mg/L**	1	28-May-2020 16:25
Manganese	**0.0987**		**0.000700**	**0.00250**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Nickel	**0.00369**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	28-May-2020 16:25
Potassium	**1.48**		**0.0180**	**0.0500**	**0.200**	**mg/L**	1	28-May-2020 16:25
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	28-May-2020 16:25
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	28-May-2020 16:25
Sodium	**320**		**0.140**	**0.500**	**2.00**	**mg/L**	10	28-May-2020 17:20
Thallium	0.000500	U	0.000200	0.000500	0.00200	mg/L	1	28-May-2020 16:25
Vanadium	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	28-May-2020 16:25
Zinc	**0.0341**		**0.00200**	**0.00250**	**0.00500**	**mg/L**	1	28-May-2020 16:25
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 28-May-2020		Analyst: FO
Mercury	**0.0000410**	J	**0.0000300**	**0.000100**	**0.000200**	**mg/L**	1	28-May-2020 16:26
OIL & GREASE (HEM) BY E1664A		**Method:E1664A**						Analyst: KAH
Oil and Grease	**0.612**	J	**0.610**	**2.00**	**2.00**	**mg/L**	1	26-May-2020 14:10
CHEMICAL OXYGEN DEMAND BY E410.4		**Method:E410.4**						Analyst: TH
Chemical Oxygen Demand	**17.0**		**5.00**	**15.0**	**15.0**	**mg/L**	1	27-May-2020 15:00
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**326**		**2.00**	**5.00**	**5.00**	**mg/L**	10	27-May-2020 06:46
Sulfate	**32.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	27-May-2020 17:57

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

ALS Houston, US Date: 05-Jun-20

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

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757

Sample ID: LH18/24-SP650_051920_BIX Lab ID:HS20050757-02

Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	05-Jun-2020 10:54

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

ALS Houston, US Date: 05-Jun-20

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

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757

Sample ID: Trip Blank Lab ID:HS20050757-03

Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	21-May-2020 21:03
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	21-May-2020 21:03
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	21-May-2020 21:03
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	21-May-2020 21:03
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	21-May-2020 21:03
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	21-May-2020 21:03
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03

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

ALS Houston, US Date: 05-Jun-20

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

Project: Groundwater Treatment Plant Quarterly Effluent Samples WorkOrder:HS20050757

Sample ID: Trip Blank Lab ID:HS20050757-03

Collection Date: 19-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	21-May-2020 21:03
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	21-May-2020 21:03
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	21-May-2020 21:03
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	21-May-2020 21:03
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	21-May-2020 21:03
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	21-May-2020 21:03
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	21-May-2020 21:03
Surr: 1,2-Dichloroethane-d4	*88.9*			**0**	*81-118*	*%REC*	*1*	*21-May-2020 21:03*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*1*	*21-May-2020 21:03*
Surr: Dibromofluoromethane	*89.5*			**0**	*80-119*	*%REC*	*1*	*21-May-2020 21:03*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*21-May-2020 21:03*

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

ALS Houston, US Date: 05-Jun-20

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

Batch ID: 153733 **Start Date:** 21 May 2020 09:30 **End Date:** 21 May 2020 13:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20050757-01	1	1000 (mL)	1 (mL)	0.001

Batch ID: 153795 **Start Date:** 26 May 2020 09:04 **End Date:** 26 May 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20050757-01		10 (mL)	10 (mL)	1

Batch ID: 153928 **Start Date:** 28 May 2020 11:30 **End Date:** 28 May 2020 13:30
Method: MERCURY PREP BY 7470A- WATER **Prep Code:** HG_WPR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20050757-01		10 (mL)	10 (mL)	1

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 153733 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00		21 May 2020 14:52	29 May 2020 15:15	100
Batch ID: 153795 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00		26 May 2020 13:00	28 May 2020 17:20	10
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00		26 May 2020 13:00	28 May 2020 16:25	1
Batch ID: 153928 (0)	**Test Name :** MERCURY BY SW7470A				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00		28 May 2020 11:30	28 May 2020 16:26	1
Batch ID: R362012 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20050757-03	Trip Blank	19 May 2020 14:00			21 May 2020 21:03	1
Batch ID: R362091 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			22 May 2020 13:36	1
Batch ID: R362159 (0)	**Test Name :** OIL & GREASE (HEM) BY E1664A				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			26 May 2020 14:10	1
Batch ID: R362235 (0)	**Test Name :** CHEMICAL OXYGEN DEMAND BY E410.4				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			27 May 2020 15:00	1
Batch ID: R362252 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			27 May 2020 17:57	1
HS20050757-01	LH18/24-SP650_051920	19 May 2020 14:00			27 May 2020 06:46	10
Batch ID: R362710 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20050757-02	LH18/24-SP650_051920_BIX	19 May 2020 14:00			05 Jun 2020 10:54	1

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-153795** Units: **mg/L** Analysis Date: **28-May-2020 16:06**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599970** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.005208	0.0100								J
Antimony	0.000500	0.00500								U
Arsenic	0.000500	0.00500								U
Barium	0.00250	0.00500								U
Beryllium	0.000500	0.00200								U
Cadmium	0.000500	0.00200								U
Calcium	0.0500	0.500								U
Chromium	0.000500	0.00500								U
Cobalt	0.000500	0.00500								U
Iron	0.0500	0.200								U
Lead	0.00100	0.00500								U
Magnesium	0.01854	0.200								J
Manganese	0.00250	0.00500								U
Nickel	0.00100	0.00500								U
Potassium	0.0500	0.200								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U
Sodium	0.0500	0.200								U
Thallium	0.000500	0.00200								U
Vanadium	0.00100	0.00500								U
Zinc	0.00250	0.00500								U

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

LCS Sample ID: **LCS-153795** Units: **mg/L** Analysis Date: **28-May-2020 16:08**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599971** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1003	0.0100	0.1	0	100	84 - 117				
Antimony	0.04695	0.00500	0.05	0	93.9	85 - 117				
Arsenic	0.04829	0.00500	0.05	0	96.6	84 - 116				
Barium	0.04737	0.00500	0.05	0	94.7	86 - 114				
Beryllium	0.04531	0.00200	0.05	0	90.6	83 - 121				
Cadmium	0.04857	0.00200	0.05	0	97.1	87 - 115				
Calcium	4.746	0.500	5	0	94.9	87 - 118				
Chromium	0.04745	0.00500	0.05	0	94.9	85 - 116				
Cobalt	0.04571	0.00500	0.05	0	91.4	86 - 115				
Iron	4.925	0.200	5	0	98.5	87 - 118				
Lead	0.04605	0.00500	0.05	0	92.1	88 - 115				
Magnesium	5.048	0.200	5	0	101	83 - 118				
Manganese	0.04727	0.00500	0.05	0	94.5	87 - 115				
Nickel	0.04941	0.00500	0.05	0	98.8	85 - 117				
Potassium	5.074	0.200	5	0	101	87 - 115				
Selenium	0.04922	0.00500	0.05	0	98.4	80 - 120				
Silver	0.04657	0.00500	0.05	0	93.1	85 - 116				
Sodium	4.934	0.200	5	0	98.7	85 - 117				
Thallium	0.04405	0.00200	0.05	0	88.1	82 - 116				
Vanadium	0.04727	0.00500	0.05	0	94.5	86 - 115				
Zinc	0.04992	0.00500	0.05	0	99.8	83 - 119				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MS Sample ID: **HS20050797-01MS** Units: **mg/L** Analysis Date: **28-May-2020 16:15**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599974** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09461	0.0100	0.1	0.007035	87.6	84 - 117				
Antimony	0.04548	0.00500	0.05	0.000709	89.5	85 - 117				
Arsenic	0.05415	0.00500	0.05	0.009884	88.5	84 - 116				
Barium	0.6695	0.00500	0.05	0.7122	-85.2	86 - 114				SO
Beryllium	0.043	0.00200	0.05	0.000011	86.0	83 - 121				
Cadmium	0.04612	0.00200	0.05	0.000041	92.2	87 - 115				
Calcium	111.4	0.500	5	122.8	-228	87 - 118				SO
Chromium	0.04575	0.00500	0.05	0.000891	89.7	85 - 116				
Cobalt	0.04339	0.00500	0.05	0.000834	85.1	86 - 115				S
Iron	19.39	0.200	5	17.24	42.9	87 - 118				S
Lead	0.04465	0.00500	0.05	0.000215	88.9	88 - 115				
Magnesium	23.14	0.200	5	21.57	31.5	83 - 118				SO
Manganese	7.972	0.00500	0.05	9.28	-2620	87 - 115				SEO
Nickel	0.04654	0.00500	0.05	0.001935	89.2	85 - 117				
Potassium	9.189	0.200	5	5.307	77.6	87 - 115				S
Selenium	0.04755	0.00500	0.05	0.000192	94.7	80 - 120				
Silver	0.04339	0.00500	0.05	0.00001	86.8	85 - 116				
Sodium	74.78	0.200	5	81.69	-138	85 - 117				SO
Thallium	0.0445	0.00200	0.05	0.000445	88.1	82 - 116				
Vanadium	0.0454	0.00500	0.05	0.000098	90.6	86 - 115				
Zinc	0.0479	0.00500	0.05	0.001604	92.6	83 - 119				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MSD Sample ID: **HS20050797-01MSD** Units: **mg/L** Analysis Date: **28-May-2020 16:18**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599975** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09744	0.0100	0.1	0.007035	90.4	84 - 117	0.09461	2.95	20	
Antimony	0.04694	0.00500	0.05	0.000709	92.5	85 - 117	0.04548	3.18	20	
Arsenic	0.05668	0.00500	0.05	0.009884	93.6	84 - 116	0.05415	4.55	20	
Barium	0.6657	0.00500	0.05	0.7122	-92.9	86 - 114	0.6695	0.576	20	SO
Beryllium	0.04482	0.00200	0.05	0.000011	89.6	83 - 121	0.043	4.16	20	
Cadmium	0.04818	0.00200	0.05	0.000041	96.3	87 - 115	0.04612	4.38	20	
Calcium	115.7	0.500	5	122.8	-142	87 - 118	111.4	3.8	20	SO
Chromium	0.04647	0.00500	0.05	0.000891	91.2	85 - 116	0.04575	1.55	20	
Cobalt	0.04512	0.00500	0.05	0.000834	88.6	86 - 115	0.04339	3.92	20	
Iron	20.18	0.200	5	17.24	58.7	87 - 118	19.39	3.99	20	S
Lead	0.0454	0.00500	0.05	0.000215	90.4	88 - 115	0.04465	1.66	20	
Magnesium	23.69	0.200	5	21.57	42.4	83 - 118	23.14	2.34	20	SO
Manganese	8.319	0.00500	0.05	9.28	-1920	87 - 115	7.972	4.27	20	SEO
Nickel	0.0475	0.00500	0.05	0.001935	91.1	85 - 117	0.04654	2.05	20	
Potassium	9.373	0.200	5	5.307	81.3	87 - 115	9.189	1.99	20	S
Selenium	0.04925	0.00500	0.05	0.000192	98.1	80 - 120	0.04755	3.51	20	
Silver	0.04536	0.00500	0.05	0.00001	90.7	85 - 116	0.04339	4.44	20	
Sodium	76.65	0.200	5	81.69	-101	85 - 117	74.78	2.46	20	SO
Thallium	0.04489	0.00200	0.05	0.000445	88.9	82 - 116	0.0445	0.87	20	
Vanadium	0.04643	0.00500	0.05	0.000098	92.7	86 - 115	0.0454	2.24	20	
Zinc	0.04892	0.00500	0.05	0.001604	94.6	83 - 119	0.0479	2.1	20	

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS20050797-01PDS** Units: **mg/L** Analysis Date: **28-May-2020 16:20**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599976** PrepDate: **26-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.09986	0.0100	0.1	0.007035	92.8	80 - 120				
Antimony	0.09843	0.00500	0.1	0.000709	97.7	80 - 120				
Arsenic	0.1077	0.00500	0.1	0.009884	97.8	80 - 120				
Barium	0.7337	0.00500	0.1	0.7122	21.5	80 - 120				SO
Beryllium	0.09242	0.00200	0.1	0.000011	92.4	80 - 120				
Cadmium	0.09639	0.00200	0.1	0.000041	96.3	80 - 120				
Calcium	125	0.500	10	122.8	21.3	80 - 120				SO
Chromium	0.09733	0.00500	0.1	0.000891	96.4	80 - 120				
Cobalt	0.0925	0.00500	0.1	0.000834	91.7	80 - 120				
Iron	25.75	0.200	10	17.24	85.1	80 - 120				
Lead	0.09296	0.00500	0.1	0.000215	92.7	80 - 120				
Magnesium	29.6	0.200	10	21.57	80.3	80 - 120				
Nickel	0.09706	0.00500	0.1	0.001935	95.1	80 - 120				
Potassium	14.6	0.200	10	5.307	92.9	80 - 120				
Selenium	0.1031	0.00500	0.1	0.000192	103	80 - 120				
Silver	0.09459	0.00500	0.1	0.00001	94.6	80 - 120				
Sodium	84.33	0.200	10	81.69	26.4	80 - 120				SO
Thallium	0.1009	0.00200	0.1	0.000445	101	80 - 120				
Vanadium	0.0988	0.00500	0.1	0.000098	98.7	80 - 120				
Zinc	0.1116	0.00500	0.1	0.001604	110	80 - 120				

PDS Sample ID: **HS20050797-01PDS** Units: **mg/L** Analysis Date: **28-May-2020 17:18**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5600101** PrepDate: **26-May-2020** DF: **100**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Manganese	19.03	0.500	10	9.308	97.2	80 - 120				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153795 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

SD Sample ID: **HS20050797-01SD** Units: **mg/L** Analysis Date: **28-May-2020 16:13**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5599973** PrepDate: **26-May-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.01028	0.0500					0.007035	0	10	J
Antimony	0.00250	0.0250					0.000709	0	10	U
Arsenic	0.008982	0.0250					0.009884	0	10	J
Barium	0.654	0.0250					0.7122	8.17	10	
Beryllium	0.00250	0.0100					0.000011	0	10	U
Cadmium	0.00250	0.0100					0.000041	0	10	U
Calcium	122.1	2.50					122.8	0.629	10	
Chromium	0.00250	0.0250					0.000891	0	10	U
Cobalt	0.000869	0.0250					0.000834	0	10	J
Iron	17.35	1.00					17.24	0.653	10	
Lead	0.00500	0.0250					0.000215	0	10	U
Magnesium	21.86	1.00					21.57	1.34	10	
Nickel	0.007287	0.0250					0.001935	0	10	J
Potassium	5.001	1.00					5.307	5.76	10	
Selenium	0.0125	0.0250					0.000192	0	10	U
Silver	0.00250	0.0250					0.00001	0	10	U
Sodium	81.21	1.00					81.69	0.581	10	
Thallium	0.00250	0.0100					0.000445	0	10	U
Vanadium	0.00500	0.0250					0.000098	0	10	U
Zinc	0.0125	0.0250					0.001604	0	10	U

SD Sample ID: **HS20050797-01SD** Units: **mg/L** Analysis Date: **28-May-2020 17:16**
Client ID: Run ID: **ICPMS05_362274** SeqNo: **5600100** PrepDate: **26-May-2020** DF: **500**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Manganese	9.457	2.50					9.308	1.6	10	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153928 (0) **Instrument: HG03** **Method: MERCURY BY SW7470A**

MBLK Sample ID: **MBLK-153928** Units: **mg/L** Analysis Date: **28-May-2020 16:16**
Client ID: Run ID: **HG03_362311** SeqNo: **5600137** PrepDate: **28-May-2020** DF: **1**

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

LCS Sample ID: **LCS-153928** Units: **mg/L** Analysis Date: **28-May-2020 16:18**
Client ID: Run ID: **HG03_362311** SeqNo: **5600138** PrepDate: **28-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00503	0.000200	0.005	0	101	80 - 120				

MS Sample ID: **HS20050905-01MS** Units: **mg/L** Analysis Date: **28-May-2020 16:21**
Client ID: Run ID: **HG03_362311** SeqNo: **5600140** PrepDate: **28-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00497	0.000200	0.005	0.000004000	99.3	75 - 125				

MSD Sample ID: **HS20050905-01MSD** Units: **mg/L** Analysis Date: **28-May-2020 16:23**
Client ID: Run ID: **HG03_362311** SeqNo: **5600141** PrepDate: **28-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00527	0.000200	0.005	0.000004000	105	75 - 125	0.004970	5.86	20	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: 153733 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-153733** Units: **ug/L** Analysis Date: **29-May-2020 13:21**
Client ID: Run ID: **SV-6_362411** SeqNo: **5601769** PrepDate: **21-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.010	0.010								U
Surr: 2-Fluorobiphenyl	*0.09957*	*0*	*0.08*	*0*	*124*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.1139*	*0*	*0.08*	*0*	*142*	*40 - 140*				S
Surr: Nitrobenzene-d5	*0.07603*	*0*	*0.08*	*0*	*95.0*	*40 - 140*				

LCS Sample ID: **LCS-153733** Units: **ug/L** Analysis Date: **29-May-2020 13:40**
Client ID: Run ID: **SV-6_362411** SeqNo: **5601770** PrepDate: **21-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.05124	0.010	0.08	0	64.1	40 - 140				
Surr: 2-Fluorobiphenyl	*0.07082*	*0*	*0.08*	*0*	*88.5*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07395*	*0*	*0.08*	*0*	*92.4*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.06014*	*0*	*0.08*	*0*	*75.2*	*40 - 140*				

LCSD Sample ID: **LCSD-153733** Units: **ug/L** Analysis Date: **29-May-2020 13:59**
Client ID: Run ID: **SV-6_362411** SeqNo: **5601771** PrepDate: **21-May-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07679	0.010	0.08	0	96.0	40 - 140	0.05124	39.9	20	R
Surr: 2-Fluorobiphenyl	*0.07625*	*0*	*0.08*	*0*	*95.3*	*40 - 140*	*0.07082*	*7.39*	*20*	
Surr: 4-Terphenyl-d14	*0.08164*	*0*	*0.08*	*0*	*102*	*40 - 140*	*0.07395*	*9.89*	*20*	
Surr: Nitrobenzene-d5	*0.06709*	*0*	*0.08*	*0*	*83.9*	*40 - 140*	*0.06014*	*10.9*	*20*	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200521** Units: **UG/L** Analysis Date: **21-May-2020 20:15**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593326** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200521** Units: **UG/L** Analysis Date: **21-May-2020 20:15**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593326** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.43*	*1.0*	*50*	*0*	*88.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.29*	*1.0*	*50*	*0*	*96.6*	*85 - 114*				
Surr: Dibromofluoromethane	*45.06*	*1.0*	*50*	*0*	*90.1*	*80 - 119*				
Surr: Toluene-d8	*53.02*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200521** Units: **UG/L** Analysis Date: **21-May-2020 19:27**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593325** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.56	1.0	20	0	92.8	78 - 124				
1,1,1-Trichloroethane	19.8	1.0	20	0	99.0	74 - 131				
1,1,2,2-Tetrachloroethane	19.41	1.0	20	0	97.0	71 - 121				
1,1,2-Trichloroethane	18.98	1.0	20	0	94.9	80 - 119				
1,1-Dichloroethane	19.58	1.0	20	0	97.9	77 - 125				
1,1-Dichloroethene	19.09	1.0	20	0	95.4	71 - 131				
1,1-Dichloropropene	18.38	1.0	20	0	91.9	78 - 125				
1,2,3-Trichlorobenzene	19.33	1.0	20	0	96.6	69 - 129				
1,2,3-Trichloropropane	18.71	1.0	20	0	93.6	73 - 122				
1,2,4-Trichlorobenzene	19.4	1.0	20	0	97.0	69 - 130				
1,2,4-Trimethylbenzene	18.99	1.0	20	0	95.0	76 - 124				
1,2-Dibromo-3-chloropropane	20.33	1.0	20	0	102	62 - 128				
1,2-Dibromoethane	19.23	1.0	20	0	96.2	77 - 121				
1,2-Dichlorobenzene	19.22	1.0	20	0	96.1	80 - 119				
1,2-Dichloroethane	19.07	1.0	20	0	95.4	73 - 128				
1,2-Dichloropropane	19.27	1.0	20	0	96.4	78 - 122				
1,3,5-Trimethylbenzene	19.03	1.0	20	0	95.2	75 - 124				
1,3-Dichlorobenzene	19.47	1.0	20	0	97.3	80 - 119				
1,3-Dichloropropane	19.05	1.0	20	0	95.2	80 - 119				
1,4-Dichlorobenzene	19.17	1.0	20	0	95.9	79 - 118				
2,2-Dichloropropane	19.15	1.0	20	0	95.7	60 - 139				
2-Butanone	37.44	2.0	40	0	93.6	56 - 143				
2-Chlorotoluene	19.02	1.0	20	0	95.1	79 - 122				
2-Hexanone	38.98	2.0	40	0	97.4	57 - 139				
4-Chlorotoluene	19.39	1.0	20	0	96.9	78 - 122				
4-Isopropyltoluene	18.72	1.0	20	0	93.6	77 - 127				
4-Methyl-2-pentanone	37.28	2.0	40	0	93.2	67 - 130				
Acetone	38.7	2.0	40	0	96.8	39 - 160				
Benzene	19.15	1.0	20	0	95.7	79 - 120				
Bromobenzene	19.11	1.0	20	0	95.5	80 - 120				
Bromochloromethane	19.4	1.0	20	0	97.0	78 - 123				
Bromodichloromethane	18.82	1.0	20	0	94.1	79 - 125				
Bromoform	18.85	1.0	20	0	94.3	66 - 130				
Bromomethane	24.05	1.0	20	0	120	53 - 141				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200521** Units: **UG/L** Analysis Date: **21-May-2020 19:27**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593325** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	39.82	2.0	40	0	99.5	64 - 133				
Carbon tetrachloride	17.74	1.0	20	0	88.7	72 - 136				
Chlorobenzene	19.05	1.0	20	0	95.3	82 - 118				
Chloroethane	17.98	1.0	20	0	89.9	60 - 138				
Chloroform	19.67	1.0	20	0	98.3	79 - 124				
Chloromethane	17.51	1.0	20	0	87.6	50 - 139				
cis-1,2-Dichloroethene	19.54	1.0	20	0	97.7	78 - 123				
cis-1,3-Dichloropropene	18.72	1.0	20	0	93.6	75 - 124				
Dibromochloromethane	18.77	1.0	20	0	93.9	74 - 126				
Dibromomethane	19.48	1.0	20	0	97.4	79 - 123				
Dichlorodifluoromethane	18.7	1.0	20	0	93.5	32 - 152				
Ethylbenzene	19.51	1.0	20	0	97.5	79 - 121				
Hexachlorobutadiene	20.4	1.0	20	0	102	66 - 134				
Isopropylbenzene	18.92	1.0	20	0	94.6	72 - 131				
m,p-Xylene	38.38	2.0	40	0	95.9	80 - 121				
Methylene chloride	21.21	2.0	20	0	106	74 - 124				
Naphthalene	18.12	1.0	20	0	90.6	61 - 128				
n-Butylbenzene	18.36	1.0	20	0	91.8	75 - 128				
n-Propylbenzene	19.12	1.0	20	0	95.6	76 - 126				
o-Xylene	19.1	1.0	20	0	95.5	78 - 122				
sec-Butylbenzene	18.25	1.0	20	0	91.3	77 - 126				
Styrene	19.05	1.0	20	0	95.3	78 - 123				
tert-Butylbenzene	18.57	1.0	20	0	92.8	78 - 124				
Tetrachloroethene	19.16	1.0	20	0	95.8	74 - 129				
Toluene	19.35	1.0	20	0	96.8	80 - 121				
trans-1,2-Dichloroethene	19.72	1.0	20	0	98.6	75 - 124				
trans-1,3-Dichloropropene	19	1.0	20	0	95.0	73 - 127				
Trichloroethene	19.13	1.0	20	0	95.6	79 - 123				
Trichlorofluoromethane	19.44	1.0	20	0	97.2	65 - 141				
Vinyl chloride	18.75	1.0	20	0	93.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*51.74*	*1.0*	*50*	*0*	*103*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.62*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*51.28*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*50.19*	*1.0*	*50*	*0*	*100*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20050754-01MS** Units: **UG/L** Analysis Date: **21-May-2020 22:15**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.01	1.0	20	0	100	78 - 124				
1,1,1-Trichloroethane	21.8	1.0	20	2.287	97.6	74 - 131				
1,1,2,2-Tetrachloroethane	18.77	1.0	20	0	93.8	71 - 121				
1,1,2-Trichloroethane	20.86	1.0	20	2.115	93.7	80 - 119				
1,1-Dichloroethane	27.27	1.0	20	9.616	88.2	77 - 125				
1,1-Dichloroethene	115.1	1.0	20	0	576	71 - 131				S
1,1-Dichloropropene	20.13	1.0	20	0	101	78 - 125				
1,2,3-Trichlorobenzene	13.13	1.0	20	0	65.6	69 - 129				S
1,2,3-Trichloropropane	18.11	1.0	20	0	90.6	73 - 122				
1,2,4-Trichlorobenzene	15.22	1.0	20	0	76.1	69 - 130				
1,2,4-Trimethylbenzene	20.96	1.0	20	0	105	76 - 124				
1,2-Dibromo-3-chloropropane	15.57	1.0	20	0	77.9	62 - 128				
1,2-Dibromoethane	18.9	1.0	20	0	94.5	77 - 121				
1,2-Dichlorobenzene	19.97	1.0	20	0	99.9	80 - 119				
1,2-Dichloroethane	67.24	1.0	20	49.55	88.4	73 - 128				
1,2-Dichloropropane	18.46	1.0	20	0	92.3	78 - 122				
1,3,5-Trimethylbenzene	20.82	1.0	20	0	104	75 - 124				
1,3-Dichlorobenzene	19.7	1.0	20	0	98.5	80 - 119				
1,3-Dichloropropane	19.02	1.0	20	0	95.1	80 - 119				
1,4-Dichlorobenzene	19.74	1.0	20	0	98.7	79 - 118				
2,2-Dichloropropane	17.54	1.0	20	0	87.7	60 - 139				
2-Butanone	31.47	2.0	40	0	78.7	56 - 143				
2-Chlorotoluene	20.3	1.0	20	0	101	79 - 122				
2-Hexanone	36.64	2.0	40	0	91.6	57 - 139				
4-Chlorotoluene	20.24	1.0	20	0	101	78 - 122				
4-Isopropyltoluene	21.45	1.0	20	0	107	77 - 127				
4-Methyl-2-pentanone	36.69	2.0	40	0	91.7	67 - 130				
Acetone	40.97	2.0	40	0	102	39 - 160				
Benzene	21.74	1.0	20	2.478	96.3	79 - 120				
Bromobenzene	19.59	1.0	20	0	98.0	80 - 120				
Bromochloromethane	30.12	1.0	20	17.08	65.2	78 - 123				S
Bromodichloromethane	18.14	1.0	20	0	90.7	79 - 125				
Bromoform	18.85	1.0	20	0	94.3	66 - 130				
Bromomethane	24.48	1.0	20	0	122	53 - 141				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20050754-01MS** Units: **UG/L** Analysis Date: **21-May-2020 22:15**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593330** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	37.26	2.0	40	0	93.1	64 - 133				
Carbon tetrachloride	26.79	1.0	20	7.288	97.5	72 - 136				
Chlorobenzene	19.76	1.0	20	0	98.8	82 - 118				
Chloroethane	20.29	1.0	20	0	101	60 - 138				
Chloroform	31.3	1.0	20	13.26	90.2	79 - 124				
Chloromethane	28.2	1.0	20	0	141	50 - 139				S
cis-1,2-Dichloroethene	3227	1.0	20	3313	-427	78 - 123				SEO
cis-1,3-Dichloropropene	18.27	1.0	20	0	91.4	75 - 124				
Dibromochloromethane	19.13	1.0	20	0	95.6	74 - 126				
Dibromomethane	17.83	1.0	20	0	89.2	79 - 123				
Dichlorodifluoromethane	29.35	1.0	20	0	147	32 - 152				
Ethylbenzene	22.21	1.0	20	1.458	104	79 - 121				
Hexachlorobutadiene	19.48	1.0	20	0	97.4	66 - 134				
Isopropylbenzene	21.54	1.0	20	0	108	72 - 131				
m,p-Xylene	41.72	2.0	40	1	102	80 - 121				
Methylene chloride	4163	2.0	20	4410	-1230	74 - 124				SEO
Naphthalene	14.05	1.0	20	0	70.3	61 - 128				
n-Butylbenzene	21.98	1.0	20	0	110	75 - 128				
n-Propylbenzene	21.4	1.0	20	0	107	76 - 126				
o-Xylene	21.12	1.0	20	0.7571	102	78 - 122				
sec-Butylbenzene	21.79	1.0	20	0	109	77 - 126				
Styrene	21.1	1.0	20	1.674	97.1	78 - 123				
tert-Butylbenzene	21.62	1.0	20	0	108	78 - 124				
Tetrachloroethene	95.09	1.0	20	76.75	91.7	74 - 129				
Toluene	22.07	1.0	20	2.282	98.9	80 - 121				
trans-1,2-Dichloroethene	28.73	1.0	20	11	88.6	75 - 124				
trans-1,3-Dichloropropene	18.53	1.0	20	0	92.6	73 - 127				
Trichloroethene	6117	1.0	20	6279	-810	79 - 123				SEO
Trichlorofluoromethane	22.93	1.0	20	0	115	65 - 141				
Vinyl chloride	116.2	1.0	20	99.05	85.8	58 - 137				O
Surr: 1,2-Dichloroethane-d4	*45.51*	*1.0*	*50*	*0*	*91.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.24*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*45.65*	*1.0*	*50*	*0*	*91.3*	*80 - 119*				
Surr: Toluene-d8	*49.96*	*1.0*	*50*	*0*	*99.9*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20050754-01MSD** Units: **UG/L** Analysis Date: **21-May-2020 22:39**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593331** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	18.94	1.0	20	0	94.7	78 - 124	20.01	5.53	20	
1,1,1-Trichloroethane	20.63	1.0	20	2.287	91.7	74 - 131	21.8	5.5	20	
1,1,2,2-Tetrachloroethane	19.44	1.0	20	0	97.2	71 - 121	18.77	3.54	20	
1,1,2-Trichloroethane	20.69	1.0	20	2.115	92.9	80 - 119	20.86	0.797	20	
1,1-Dichloroethane	26.3	1.0	20	9.616	83.4	77 - 125	27.27	3.59	20	
1,1-Dichloroethene	108.1	1.0	20	0	540	71 - 131	115.1	6.33	20	S
1,1-Dichloropropene	19.09	1.0	20	0	95.4	78 - 125	20.13	5.29	20	
1,2,3-Trichlorobenzene	16.1	1.0	20	0	80.5	69 - 129	13.13	20.4	20	R
1,2,3-Trichloropropane	18.89	1.0	20	0	94.4	73 - 122	18.11	4.18	20	
1,2,4-Trichlorobenzene	17.56	1.0	20	0	87.8	69 - 130	15.22	14.3	20	
1,2,4-Trimethylbenzene	20.86	1.0	20	0	104	76 - 124	20.96	0.488	20	
1,2-Dibromo-3-chloropropane	16.77	1.0	20	0	83.8	62 - 128	15.57	7.4	20	
1,2-Dibromoethane	18.72	1.0	20	0	93.6	77 - 121	18.9	0.914	20	
1,2-Dichlorobenzene	20.48	1.0	20	0	102	80 - 119	19.97	2.49	20	
1,2-Dichloroethane	65.59	1.0	20	49.55	80.2	73 - 128	67.24	2.48	20	
1,2-Dichloropropane	17.55	1.0	20	0	87.7	78 - 122	18.46	5.09	20	
1,3,5-Trimethylbenzene	20.75	1.0	20	0	104	75 - 124	20.82	0.345	20	
1,3-Dichlorobenzene	20.25	1.0	20	0	101	80 - 119	19.7	2.78	20	
1,3-Dichloropropane	18.82	1.0	20	0	94.1	80 - 119	19.02	1.05	20	
1,4-Dichlorobenzene	19.79	1.0	20	0	98.9	79 - 118	19.74	0.226	20	
2,2-Dichloropropane	16.36	1.0	20	0	81.8	60 - 139	17.54	6.96	20	
2-Butanone	31.42	2.0	40	0	78.6	56 - 143	31.47	0.145	20	
2-Chlorotoluene	20.08	1.0	20	0	100	79 - 122	20.3	1.06	20	
2-Hexanone	37.29	2.0	40	0	93.2	57 - 139	36.64	1.76	20	
4-Chlorotoluene	20.29	1.0	20	0	101	78 - 122	20.24	0.264	20	
4-Isopropyltoluene	21.14	1.0	20	0	106	77 - 127	21.45	1.46	20	
4-Methyl-2-pentanone	36.42	2.0	40	0	91.1	67 - 130	36.69	0.744	20	
Acetone	38.5	2.0	40	0	96.3	39 - 160	40.97	6.21	20	
Benzene	20.68	1.0	20	2.478	91.0	79 - 120	21.74	5	20	
Bromobenzene	19.71	1.0	20	0	98.5	80 - 120	19.59	0.585	20	
Bromochloromethane	27.52	1.0	20	17.08	52.2	78 - 123	30.12	9.02	20	S
Bromodichloromethane	17.96	1.0	20	0	89.8	79 - 125	18.14	0.965	20	
Bromoform	18.85	1.0	20	0	94.3	66 - 130	18.85	0.00216	20	
Bromomethane	18.43	1.0	20	0	92.1	53 - 141	24.48	28.2	20	R

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362012 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS20050754-01MSD** Units: **UG/L** Analysis Date: **21-May-2020 22:39**
Client ID: Run ID: **VOA6_362012** SeqNo: **5593331** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	35	2.0	40	0	87.5	64 - 133	37.26	6.25	20	
Carbon tetrachloride	25.09	1.0	20	7.288	89.0	72 - 136	26.79	6.55	20	
Chlorobenzene	19.13	1.0	20	0	95.7	82 - 118	19.76	3.21	20	
Chloroethane	18.74	1.0	20	0	93.7	60 - 138	20.29	7.94	20	
Chloroform	30.15	1.0	20	13.26	84.5	79 - 124	31.3	3.74	20	
Chloromethane	28.8	1.0	20	0	144	50 - 139	28.2	2.12	20	S
cis-1,2-Dichloroethene	3093	1.0	20	3313	-1100	78 - 123	3227	4.26	20	SEO
cis-1,3-Dichloropropene	17.73	1.0	20	0	88.7	75 - 124	18.27	2.99	20	
Dibromochloromethane	18.53	1.0	20	0	92.7	74 - 126	19.13	3.14	20	
Dibromomethane	17.97	1.0	20	0	89.9	79 - 123	17.83	0.785	20	
Dichlorodifluoromethane	27.05	1.0	20	0	135	32 - 152	29.35	8.17	20	
Ethylbenzene	21.36	1.0	20	1.458	99.5	79 - 121	22.21	3.88	20	
Hexachlorobutadiene	21.83	1.0	20	0	109	66 - 134	19.48	11.4	20	
Isopropylbenzene	20.55	1.0	20	0	103	72 - 131	21.54	4.74	20	
m,p-Xylene	40.27	2.0	40	1	98.2	80 - 121	41.72	3.53	20	
Methylene chloride	4011	2.0	20	4410	-1990	74 - 124	4163	3.72	20	SEO
Naphthalene	16.34	1.0	20	0	81.7	61 - 128	14.05	15.1	20	
n-Butylbenzene	21.88	1.0	20	0	109	75 - 128	21.98	0.449	20	
n-Propylbenzene	21.24	1.0	20	0	106	76 - 126	21.4	0.746	20	
o-Xylene	20.53	1.0	20	0.7571	98.9	78 - 122	21.12	2.82	20	
sec-Butylbenzene	21.7	1.0	20	0	109	77 - 126	21.79	0.427	20	
Styrene	19.99	1.0	20	1.674	91.6	78 - 123	21.1	5.4	20	
tert-Butylbenzene	21.26	1.0	20	0	106	78 - 124	21.62	1.66	20	
Tetrachloroethene	90.7	1.0	20	76.75	69.7	74 - 129	95.09	4.73	20	S
Toluene	21.16	1.0	20	2.282	94.4	80 - 121	22.07	4.21	20	
trans-1,2-Dichloroethene	27.52	1.0	20	11	82.6	75 - 124	28.73	4.28	20	
trans-1,3-Dichloropropene	18.44	1.0	20	0	92.2	73 - 127	18.53	0.496	20	
Trichloroethene	5917	1.0	20	6279	-1810	79 - 123	6117	3.32	20	SEO
Trichlorofluoromethane	20.86	1.0	20	0	104	65 - 141	22.93	9.47	20	
Vinyl chloride	106	1.0	20	99.05	34.8	58 - 137	116.2	9.18	20	SO
Surr: 1,2-Dichloroethane-d4	*45.2*	*1.0*	*50*	*0*	*90.4*	*81 - 118*	*45.51*	*0.673*	*20*	
Surr: 4-Bromofluorobenzene	*50.35*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.24*	*0.223*	*20*	
Surr: Dibromofluoromethane	*45.64*	*1.0*	*50*	*0*	*91.3*	*80 - 119*	*45.65*	*0.0173*	*20*	
Surr: Toluene-d8	*50.42*	*1.0*	*50*	*0*	*101*	*89 - 112*	*49.96*	*0.913*	*20*	

ALS Houston, US Date: 05-Jun-20

Client:	Bhate Environmental Associates, Inc.
Project:	Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder:	HS20050757

QC BATCH REPORT

Batch ID:	**R362012 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20050757-03

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200522** Units: **UG/L** Analysis Date: **22-May-2020 12:48**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200522** Units: **UG/L** Analysis Date: **22-May-2020 12:48**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*44.38*	*1.0*	*50*	*0*	*88.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.9*	*1.0*	*50*	*0*	*99.8*	*85 - 114*				
Surr: Dibromofluoromethane	*44.09*	*1.0*	*50*	*0*	*88.2*	*80 - 119*				
Surr: Toluene-d8	*53.41*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200522** Units: **UG/L** Analysis Date: **22-May-2020 12:00**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.42	1.0	20	0	97.1	78 - 124				
1,1,1-Trichloroethane	20.01	1.0	20	0	100	74 - 131				
1,1,2,2-Tetrachloroethane	20	1.0	20	0	100	71 - 121				
1,1,2-Trichloroethane	20.08	1.0	20	0	100	80 - 119				
1,1-Dichloroethane	20.85	1.0	20	0	104	77 - 125				
1,1-Dichloroethene	19.43	1.0	20	0	97.2	71 - 131				
1,1-Dichloropropene	19.09	1.0	20	0	95.5	78 - 125				
1,2,3-Trichlorobenzene	19.4	1.0	20	0	97.0	69 - 129				
1,2,3-Trichloropropane	19.22	1.0	20	0	96.1	73 - 122				
1,2,4-Trichlorobenzene	20.21	1.0	20	0	101	69 - 130				
1,2,4-Trimethylbenzene	19.81	1.0	20	0	99.0	76 - 124				
1,2-Dibromo-3-chloropropane	18.63	1.0	20	0	93.2	62 - 128				
1,2-Dibromoethane	20.15	1.0	20	0	101	77 - 121				
1,2-Dichlorobenzene	20.46	1.0	20	0	102	80 - 119				
1,2-Dichloroethane	20.32	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	20.59	1.0	20	0	103	78 - 122				
1,3,5-Trimethylbenzene	19.61	1.0	20	0	98.1	75 - 124				
1,3-Dichlorobenzene	19.83	1.0	20	0	99.1	80 - 119				
1,3-Dichloropropane	20.1	1.0	20	0	100	80 - 119				
1,4-Dichlorobenzene	19.75	1.0	20	0	98.8	79 - 118				
2,2-Dichloropropane	21.51	1.0	20	0	108	60 - 139				
2-Butanone	41.16	2.0	40	0	103	56 - 143				
2-Chlorotoluene	19.53	1.0	20	0	97.7	79 - 122				
2-Hexanone	40.81	2.0	40	0	102	57 - 139				
4-Chlorotoluene	19.84	1.0	20	0	99.2	78 - 122				
4-Isopropyltoluene	19.09	1.0	20	0	95.5	77 - 127				
4-Methyl-2-pentanone	40.23	2.0	40	0	101	67 - 130				
Acetone	42.87	2.0	40	0	107	39 - 160				
Benzene	20.14	1.0	20	0	101	79 - 120				
Bromobenzene	20.41	1.0	20	0	102	80 - 120				
Bromochloromethane	21.03	1.0	20	0	105	78 - 123				
Bromodichloromethane	20.07	1.0	20	0	100	79 - 125				
Bromoform	19.72	1.0	20	0	98.6	66 - 130				
Bromomethane	23.79	1.0	20	0	119	53 - 141				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200522** Units: **UG/L** Analysis Date: **22-May-2020 12:00**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	40.63	2.0	40	0	102	64 - 133				
Carbon tetrachloride	17.68	1.0	20	0	88.4	72 - 136				
Chlorobenzene	19.97	1.0	20	0	99.8	82 - 118				
Chloroethane	19.51	1.0	20	0	97.6	60 - 138				
Chloroform	21.16	1.0	20	0	106	79 - 124				
Chloromethane	18.47	1.0	20	0	92.3	50 - 139				
cis-1,2-Dichloroethene	21.1	1.0	20	0	106	78 - 123				
cis-1,3-Dichloropropene	20.26	1.0	20	0	101	75 - 124				
Dibromochloromethane	19.44	1.0	20	0	97.2	74 - 126				
Dibromomethane	21.19	1.0	20	0	106	79 - 123				
Dichlorodifluoromethane	18.43	1.0	20	0	92.2	32 - 152				
Ethylbenzene	19.91	1.0	20	0	99.5	79 - 121				
Hexachlorobutadiene	22.46	1.0	20	0	112	66 - 134				
Isopropylbenzene	19.21	1.0	20	0	96.0	72 - 131				
m,p-Xylene	39.66	2.0	40	0	99.2	80 - 121				
Methylene chloride	23.71	2.0	20	0	119	74 - 124				
Naphthalene	19.14	1.0	20	0	95.7	61 - 128				
n-Butylbenzene	19.74	1.0	20	0	98.7	75 - 128				
n-Propylbenzene	19.2	1.0	20	0	96.0	76 - 126				
o-Xylene	20.19	1.0	20	0	101	78 - 122				
sec-Butylbenzene	18.87	1.0	20	0	94.3	77 - 126				
Styrene	20.45	1.0	20	0	102	78 - 123				
tert-Butylbenzene	18.71	1.0	20	0	93.6	78 - 124				
Tetrachloroethene	19.37	1.0	20	0	96.9	74 - 129				
Toluene	20.21	1.0	20	0	101	80 - 121				
trans-1,2-Dichloroethene	21.01	1.0	20	0	105	75 - 124				
trans-1,3-Dichloropropene	20.57	1.0	20	0	103	73 - 127				
Trichloroethene	20.53	1.0	20	0	103	79 - 123				
Trichlorofluoromethane	19.68	1.0	20	0	98.4	65 - 141				
Vinyl chloride	19.39	1.0	20	0	96.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.52*	*1.0*	*50*	*0*	*109*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*51.85*	*1.0*	*50*	*0*	*104*	*85 - 114*				
Surr: Dibromofluoromethane	*53.52*	*1.0*	*50*	*0*	*107*	*80 - 119*				
Surr: Toluene-d8	*51.18*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20050797-01MS** Units: **UG/L** Analysis Date: **22-May-2020 15:12**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594995** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	480.2	25	500	0	96.0	78 - 124				
1,1,1-Trichloroethane	451.8	25	500	0	90.4	74 - 131				
1,1,2,2-Tetrachloroethane	492	25	500	0	98.4	71 - 121				
1,1,2-Trichloroethane	484.2	25	500	0	96.8	80 - 119				
1,1-Dichloroethane	427.9	25	500	0	85.6	77 - 125				
1,1-Dichloroethene	442.4	25	500	0	88.5	71 - 131				
1,1-Dichloropropene	475.2	25	500	0	95.0	78 - 125				
1,2,3-Trichlorobenzene	381.1	25	500	0	76.2	69 - 129				
1,2,3-Trichloropropane	469.2	25	500	0	93.8	73 - 122				
1,2,4-Trichlorobenzene	433.9	25	500	0	86.8	69 - 130				
1,2,4-Trimethylbenzene	834.1	25	500	295.2	108	76 - 124				
1,2-Dibromo-3-chloropropane	483	25	500	0	96.6	62 - 128				
1,2-Dibromoethane	472.6	25	500	0	94.5	77 - 121				
1,2-Dichlorobenzene	511.8	25	500	0	102	80 - 119				
1,2-Dichloroethane	452.2	25	500	0	90.4	73 - 128				
1,2-Dichloropropane	464.3	25	500	0	92.9	78 - 122				
1,3,5-Trimethylbenzene	612.5	25	500	97.52	103	75 - 124				
1,3-Dichlorobenzene	509.4	25	500	0	102	80 - 119				
1,3-Dichloropropane	469.7	25	500	0	93.9	80 - 119				
1,4-Dichlorobenzene	505.3	25	500	0	101	79 - 118				
2,2-Dichloropropane	474.6	25	500	0	94.9	60 - 139				
2-Butanone	831.9	50	1000	0	83.2	56 - 143				
2-Chlorotoluene	552.2	25	500	0	110	79 - 122				
2-Hexanone	994.9	50	1000	0	99.5	57 - 139				
4-Chlorotoluene	514.8	25	500	0	103	78 - 122				
4-Isopropyltoluene	584.3	25	500	0	117	77 - 127				
4-Methyl-2-pentanone	975.2	50	1000	0	97.5	67 - 130				
Acetone	793.7	50	1000	0	79.4	39 - 160				
Benzene	2622	25	500	2151	94.2	79 - 120				O
Bromobenzene	507.1	25	500	0	101	80 - 120				
Bromochloromethane	429.8	25	500	0	86.0	78 - 123				
Bromodichloromethane	446.2	25	500	0	89.2	79 - 125				
Bromoform	458.2	25	500	0	91.6	66 - 130				
Bromomethane	530.1	25	500	0	106	53 - 141				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20050797-01MS** Units: **UG/L** Analysis Date: **22-May-2020 15:12**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594995** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	928.9	50	1000	0	92.9	64 - 133				
Carbon tetrachloride	450.6	25	500	0	90.1	72 - 136				
Chlorobenzene	485.6	25	500	0	97.1	82 - 118				
Chloroethane	417.4	25	500	0	83.5	60 - 138				
Chloroform	437.4	25	500	0	87.5	79 - 124				
Chloromethane	407.9	25	500	0	81.6	50 - 139				
cis-1,2-Dichloroethene	434	25	500	0	86.8	78 - 123				
cis-1,3-Dichloropropene	446.7	25	500	0	89.3	75 - 124				
Dibromochloromethane	455.3	25	500	0	91.1	74 - 126				
Dibromomethane	452.5	25	500	0	90.5	79 - 123				
Dichlorodifluoromethane	486.5	25	500	0	97.3	32 - 152				
Ethylbenzene	1399	25	500	873	105	79 - 121				
Hexachlorobutadiene	528.6	25	500	0	106	66 - 134				
Isopropylbenzene	672.9	25	500	162.3	102	72 - 131				
m,p-Xylene	2849	50	1000	1826	102	80 - 121				
Methylene chloride	479.5	50	500	43.71	87.2	74 - 124				
Naphthalene	583.7	25	500	87.53	99.2	61 - 128				
n-Butylbenzene	542	25	500	0	108	75 - 128				
n-Propylbenzene	612.6	25	500	83.08	106	76 - 126				
o-Xylene	1382	25	500	881.6	100	78 - 122				
sec-Butylbenzene	540.4	25	500	0	108	77 - 126				
Styrene	521.5	25	500	0	104	78 - 123				
tert-Butylbenzene	519	25	500	0	104	78 - 124				
Tetrachloroethene	525.5	25	500	0	105	74 - 129				
Toluene	502.4	25	500	0	100	80 - 121				
trans-1,2-Dichloroethene	440.5	25	500	0	88.1	75 - 124				
trans-1,3-Dichloropropene	439.9	25	500	0	88.0	73 - 127				
Trichloroethene	482.8	25	500	0	96.6	79 - 123				
Trichlorofluoromethane	467.3	25	500	0	93.5	65 - 141				
Vinyl chloride	457.6	25	500	0	91.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*1121*	*25*	*1250*	*0*	*89.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*1216*	*25*	*1250*	*0*	*97.3*	*85 - 114*				
Surr: Dibromofluoromethane	*1137*	*25*	*1250*	*0*	*91.0*	*80 - 119*				
Surr: Toluene-d8	*1317*	*25*	*1250*	*0*	*105*	*89 - 112*				

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS20050797-01MSD** Units: **UG/L** Analysis Date: **22-May-2020 15:36**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594996** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	447.1	25	500	0	89.4	78 - 124	480.2	7.12	20	
1,1,1-Trichloroethane	424.2	25	500	0	84.8	74 - 131	451.8	6.29	20	
1,1,2,2-Tetrachloroethane	473.8	25	500	0	94.8	71 - 121	492	3.76	20	
1,1,2-Trichloroethane	466	25	500	0	93.2	80 - 119	484.2	3.83	20	
1,1-Dichloroethane	407.3	25	500	0	81.5	77 - 125	427.9	4.93	20	
1,1-Dichloroethene	420.1	25	500	0	84.0	71 - 131	442.4	5.18	20	
1,1-Dichloropropene	448.4	25	500	0	89.7	78 - 125	475.2	5.8	20	
1,2,3-Trichlorobenzene	455.6	25	500	0	91.1	69 - 129	381.1	17.8	20	
1,2,3-Trichloropropane	443.8	25	500	0	88.8	73 - 122	469.2	5.56	20	
1,2,4-Trichlorobenzene	476.8	25	500	0	95.4	69 - 130	433.9	9.43	20	
1,2,4-Trimethylbenzene	767	25	500	295.2	94.4	76 - 124	834.1	8.38	20	
1,2-Dibromo-3-chloropropane	454.1	25	500	0	90.8	62 - 128	483	6.18	20	
1,2-Dibromoethane	446.9	25	500	0	89.4	77 - 121	472.6	5.58	20	
1,2-Dichlorobenzene	467.6	25	500	0	93.5	80 - 119	511.8	9.03	20	
1,2-Dichloroethane	436.8	25	500	0	87.4	73 - 128	452.2	3.46	20	
1,2-Dichloropropane	446.9	25	500	0	89.4	78 - 122	464.3	3.83	20	
1,3,5-Trimethylbenzene	566.9	25	500	97.52	93.9	75 - 124	612.5	7.73	20	
1,3-Dichlorobenzene	477.5	25	500	0	95.5	80 - 119	509.4	6.46	20	
1,3-Dichloropropane	454.7	25	500	0	90.9	80 - 119	469.7	3.26	20	
1,4-Dichlorobenzene	476.5	25	500	0	95.3	79 - 118	505.3	5.87	20	
2,2-Dichloropropane	429.4	25	500	0	85.9	60 - 139	474.6	10	20	
2-Butanone	817.6	50	1000	0	81.8	56 - 143	831.9	1.73	20	
2-Chlorotoluene	507	25	500	0	101	79 - 122	552.2	8.52	20	
2-Hexanone	970	50	1000	0	97.0	57 - 139	994.9	2.53	20	
4-Chlorotoluene	479.8	25	500	0	96.0	78 - 122	514.8	7.03	20	
4-Isopropyltoluene	538.3	25	500	0	108	77 - 127	584.3	8.19	20	
4-Methyl-2-pentanone	938.1	50	1000	0	93.8	67 - 130	975.2	3.88	20	
Acetone	758.7	50	1000	0	75.9	39 - 160	793.7	4.51	20	
Benzene	2460	25	500	2151	61.8	79 - 120	2622	6.36	20	SO
Bromobenzene	472.3	25	500	0	94.5	80 - 120	507.1	7.11	20	
Bromochloromethane	423.1	25	500	0	84.6	78 - 123	429.8	1.57	20	
Bromodichloromethane	427.9	25	500	0	85.6	79 - 125	446.2	4.18	20	
Bromoform	442.4	25	500	0	88.5	66 - 130	458.2	3.51	20	
Bromomethane	477.2	25	500	0	95.4	53 - 141	530.1	10.5	20	

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362091 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MSD Sample ID: **HS20050797-01MSD** Units: **UG/L** Analysis Date: **22-May-2020 15:36**
Client ID: Run ID: **VOA6_362091** SeqNo: **5594996** PrepDate: DF: **25**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	882.9	50	1000	0	88.3	64 - 133	928.9	5.08	20	
Carbon tetrachloride	420.8	25	500	0	84.2	72 - 136	450.6	6.84	20	
Chlorobenzene	456.4	25	500	0	91.3	82 - 118	485.6	6.19	20	
Chloroethane	394.6	25	500	0	78.9	60 - 138	417.4	5.6	20	
Chloroform	406.7	25	500	0	81.3	79 - 124	437.4	7.27	20	
Chloromethane	383	25	500	0	76.6	50 - 139	407.9	6.3	20	
cis-1,2-Dichloroethene	407.6	25	500	0	81.5	78 - 123	434	6.27	20	
cis-1,3-Dichloropropene	424.8	25	500	0	85.0	75 - 124	446.7	5.01	20	
Dibromochloromethane	439.2	25	500	0	87.8	74 - 126	455.3	3.58	20	
Dibromomethane	444.3	25	500	0	88.9	79 - 123	452.5	1.83	20	
Dichlorodifluoromethane	459.2	25	500	0	91.8	32 - 152	486.5	5.77	20	
Ethylbenzene	1310	25	500	873	87.4	79 - 121	1399	6.59	20	
Hexachlorobutadiene	511.9	25	500	0	102	66 - 134	528.6	3.21	20	
Isopropylbenzene	629.8	25	500	162.3	93.5	72 - 131	672.9	6.61	20	
m,p-Xylene	2650	50	1000	1826	82.4	80 - 121	2849	7.24	20	
Methylene chloride	466.2	50	500	43.71	84.5	74 - 124	479.5	2.82	20	
Naphthalene	580.6	25	500	87.53	98.6	61 - 128	583.7	0.531	20	
n-Butylbenzene	503.1	25	500	0	101	75 - 128	542	7.44	20	
n-Propylbenzene	560.7	25	500	83.08	95.5	76 - 126	612.6	8.84	20	
o-Xylene	1297	25	500	881.6	83.1	78 - 122	1382	6.35	20	
sec-Butylbenzene	498.7	25	500	0	99.7	77 - 126	540.4	8.02	20	
Styrene	493.9	25	500	0	98.8	78 - 123	521.5	5.43	20	
tert-Butylbenzene	481.3	25	500	0	96.3	78 - 124	519	7.55	20	
Tetrachloroethene	487.6	25	500	0	97.5	74 - 129	525.5	7.49	20	
Toluene	472.9	25	500	0	94.6	80 - 121	502.4	6.05	20	
trans-1,2-Dichloroethene	425.6	25	500	0	85.1	75 - 124	440.5	3.45	20	
trans-1,3-Dichloropropene	427	25	500	0	85.4	73 - 127	439.9	2.98	20	
Trichloroethene	458.6	25	500	0	91.7	79 - 123	482.8	5.14	20	
Trichlorofluoromethane	433.2	25	500	0	86.6	65 - 141	467.3	7.58	20	
Vinyl chloride	432.9	25	500	0	86.6	58 - 137	457.6	5.55	20	
Surr: 1,2-Dichloroethane-d4	*1094*	*25*	*1250*	*0*	*87.5*	*81 - 118*	*1121*	*2.43*	*20*	
Surr: 4-Bromofluorobenzene	*1236*	*25*	*1250*	*0*	*98.9*	*85 - 114*	*1216*	*1.65*	*20*	
Surr: Dibromofluoromethane	*1127*	*25*	*1250*	*0*	*90.2*	*80 - 119*	*1137*	*0.883*	*20*	
Surr: Toluene-d8	*1303*	*25*	*1250*	*0*	*104*	*89 - 112*	*1317*	*1.08*	*20*	

ALS Houston, US Date: 05-Jun-20

Client:	Bhate Environmental Associates, Inc.
Project:	Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder:	HS20050757

QC BATCH REPORT

Batch ID:	**R362091 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362159 (0) **Instrument: Balance1** **Method: OIL & GREASE (HEM) BY E1664A**

MBLK	Sample ID:	**WBLKW-052620**			Units: **mg/L**		Analysis Date: **26-May-2020 14:10**				
Client ID:			Run ID:	**Balance1_362159**	SeqNo: **5596493**		PrepDate:		DF: **1**		
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease		2.00	2.00								U
LCS	Sample ID:	**WLCSW-052620**			Units: **mg/L**		Analysis Date: **26-May-2020 14:10**				
Client ID:			Run ID:	**Balance1_362159**	SeqNo: **5596495**		PrepDate:		DF: **1**		
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease		35.6	2.00	40	0	89.0	78 - 114				
LCSD	Sample ID:	**WLCSDW-052620**			Units: **mg/L**		Analysis Date: **26-May-2020 14:10**				
Client ID:			Run ID:	**Balance1_362159**	SeqNo: **5596494**		PrepDate:		DF: **1**		
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease		35.2	2.00	40	0	88.0	78 - 114	35.6	1.13	18	
MS	Sample ID:	**HS20050734-01MS**			Units: **mg/L**		Analysis Date: **26-May-2020 14:10**				
Client ID:			Run ID:	**Balance1_362159**	SeqNo: **5596473**		PrepDate:		DF: **1**		
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Oil and Grease		34.78	2.00	40	0	87.0	78 - 114				

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362235 (0) **Instrument: WetChem_HS** **Method: CHEMICAL OXYGEN DEMAND BY E410.4**

MBLK Sample ID: **MBLK-R362235** Units: **mg/L** Analysis Date: **27-May-2020 15:00**
Client ID: Run ID: **WetChem_HS_362235** SeqNo: **5598369** PrepDate: DF: **1**

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

LCS Sample ID: **LCS-R362235** Units: **mg/L** Analysis Date: **27-May-2020 15:00**
Client ID: Run ID: **WetChem_HS_362235** SeqNo: **5598368** PrepDate: DF: **1**

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

MS Sample ID: **HS20050992-01MS** Units: **mg/L** Analysis Date: **27-May-2020 15:00**
Client ID: Run ID: **WetChem_HS_362235** SeqNo: **5598371** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	60	15.0	50	12	96.0	80 - 120				

MSD Sample ID: **HS20050992-01MSD** Units: **mg/L** Analysis Date: **27-May-2020 15:00**
Client ID: Run ID: **WetChem_HS_362235** SeqNo: **5598370** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chemical Oxygen Demand	60	15.0	50	12	96.0	80 - 120	60	0	20	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: HS20050757

QC BATCH REPORT

Batch ID: R362252 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK052620** Units: **mg/L** Analysis Date: **27-May-2020 18:15**
Client ID: Run ID: **ICS-Integrion_362252** SeqNo: **5598771** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Sulfate	0.2195	0.500								J

LCS Sample ID: **LCS052620** Units: **mg/L** Analysis Date: **27-May-2020 18:33**
Client ID: Run ID: **ICS-Integrion_362252** SeqNo: **5598772** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.14	0.500	20	0	95.7	80 - 120				
Sulfate	18.72	0.500	20	0	93.6	80 - 120				

MS Sample ID: **HS20050754-01MS** Units: **mg/L** Analysis Date: **27-May-2020 06:10**
Client ID: Run ID: **ICS-Integrion_362252** SeqNo: **5598740** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	331.4	5.00	100	238.8	92.6	80 - 120				
Sulfate	126.1	5.00	100	30.73	95.3	80 - 120				

MSD Sample ID: **HS20050754-01MSD** Units: **mg/L** Analysis Date: **27-May-2020 06:28**
Client ID: Run ID: **ICS-Integrion_362252** SeqNo: **5598741** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	328.2	5.00	100	238.8	89.4	80 - 120	331.4	0.995	20	
Sulfate	124.5	5.00	100	30.73	93.7	80 - 120	126.1	1.27	20	

The following samples were analyzed in this batch: HS20050757-01

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
WorkOrder: **HS20050757**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 05-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Groundwater Treatment Plant Quarterly Effluent Samples
Work Order: HS20050757

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	Disposed
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	EXT154
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	Disposed
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	Disposed
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	Disposed
HS20050757-01	LH18/24-SP650_051920	Login	5/20/2020 5:11:41 PM	RPG	VOA001
HS20050757-02	LH18/24-SP650_051920_BIX	Login	5/20/2020 5:11:41 PM	RPG	Sub
HS20050757-03	Trip Blank	Login	5/20/2020 5:11:41 PM	RPG	VOA001

ALS Houston, US Date: 05-Jun-20

Sample Receipt Checklist

Work Order ID: HS20050757 **Date/Time Received:** 20-May-2020 09:25

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By: /S/ Raegen Giga (eSignature) 20-May-2020 17:15 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 21-May-2020 09:07 (Date/Time)

Matrices: water Carrier name: FedEx

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

Temperature(s)/Thermometer(s):	1.4c uc/c	IR 25
Cooler(s)/Kit(s):	45282	
Date/Time sample(s) sent to storage:	05/20/2020 17:20	

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

Login Notes: 1 x TB Rec'vd - Trip Blank split between 2 work orders (1 vial each)

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd., Suite 210 Houston, Tx. 77099 ATTN: RJ Modashia
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Page 1 of

HS20050757

Bhate Environmental Associates, Inc.
Groundwater Treatment Plant Quarterly Effluent Sam

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT QUARTERLY EFFLUENT SAMPLES

Prepared By:
Scott Beesinger

P. O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: ROD Volatiles	Total Metals	Oil & Grease	Chemical Oxygen Demand	Chloride & Sulfate	1, 4 - DIOXANE	PERCHLORATE				Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_051920	Water	05/19/20 / 14:00		4	3		1								HCL	
LH18/24-SP650_051920	Water	05/19/20 / 14:00		1		1									HNO3	
LH18/24-SP650_051920	Water	05/19/20 / 14:00		2					1	1					NONE	
LH18/24-SP650_051920	Water	05/19/20 / 14:00		1				1							H2SO4	
LH18/24-SP650_051920_BIX	Water	05/19/20 / 14:00		1							1				NONE	
Trip Blank	Water	05/19/20		2	2										HCL	

Additional Remarks: **Standard TAT**

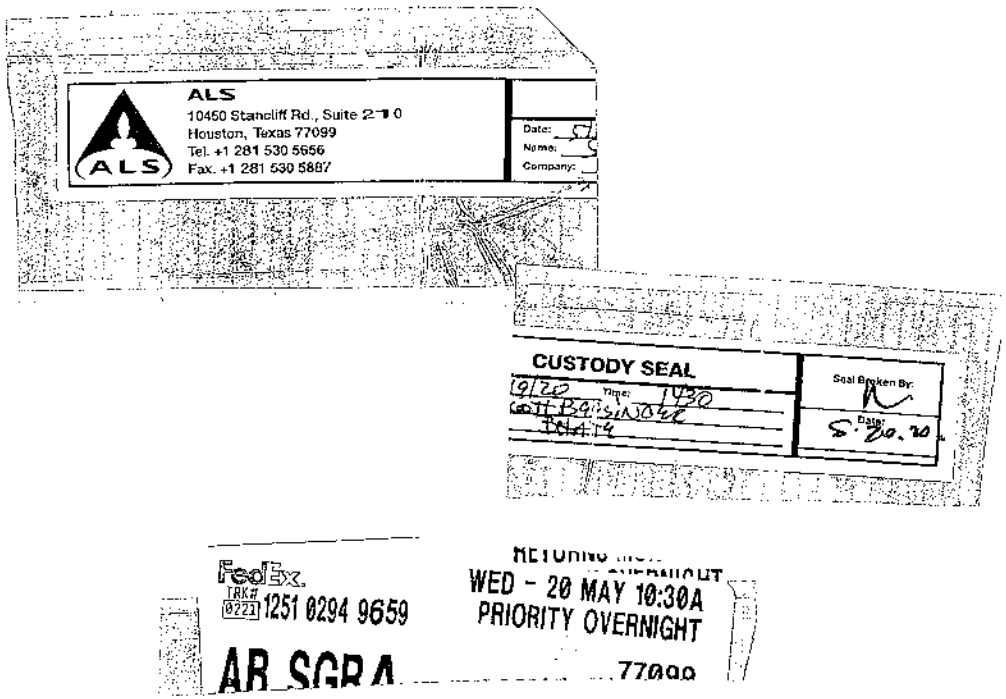
Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	05/19/20	14:30		5/20/2020	09:30						

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:\Forms\Chain of Custody - BiWeekly


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
Date:
Name:
Company:
CUSTODY SEAL
Seal Broken By:
Date:
5.20.20
FedEx
TRK# 0221 1251 0294 9659
WED - 20 MAY 10:30A
PRIORITY OVERNIGHT
AR SGRA
77099

June 04, 2020 Service Request No:E2000449

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

Laboratory Results for: HS20050757

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 22, 2020
For your reference, these analyses have been assigned our service request number **E2000449.**

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
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Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000449
Project:	HS20050757	**Date Received:**	05/22/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One water sample was received for analysis at ALS Environmental in Houston on 05/22/20.

The sample was received in good condition and are consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000209: 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.

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:**E2000449

Project: HS20050757

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000449-001	LH18/24-SP650_051920_BIX	5/19/2020	1400

Service Request Summary

Folder #: **E2000449**
Client Name: ALS Environmental - US
Project Name: HS20050757
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: 05/22/20
Internal Due Date: 6/4/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20050757
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000449-001	LH18/24-SP650_051920_BIX	Water	05/19/20 1400	**IV**

Service Request Summary

Folder #:	**E2000449**
Client Name:	ALS Environmental - US
Project Name:	HS20050757
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:	05/22/20
Internal Due Date:	6/4/2020
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS20050757
EDD:	No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved

Location: EHRMS-WIC 7B

Pressure Gas:

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
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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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
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	2020	4/30/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Center for Disease Control and Prevention	201815	6/5/2020
Maryland Department of the Environment	343	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

Chain of Custody

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F: +1 281 530 5887
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Subcontract Chain of Custody

SAMPLING STATE: **Colorado** **COC ID:** **13941**

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:	HS20050757
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20050757-02**	**LH18/24-SP650_051920_BIX**	**Water**	**19 May 2020 14:00**
	SUB_Perch-6850			29 May 2020

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Mayson Date/Time: 5/22/20 09:00

Received By: [illegible] Date/Time: 5/22/20 [illegible]

Cooler ID(s): Temperature(s):

Cooler Receipt Form

ALS Environmental

Project Chemist: CH

Client/Project: ALS-H

Thermometer ID: SMOM/IR11

Date/Time Received: 5/22/20 Initials: CH

Date/Time Logged in: 5/22/20 Initials: CH

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ALS Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ✓ No

If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		5/22/20	0900	CH	0.5	✓
						☐
						☐
						☐

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:

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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Phone (713)266-1599 Fax (713)266-0130
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Preparation Information Benchsheet

Prep Run#: 359084 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 5/27/20 09:18

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000449-001	LH18/24-SP650_051920_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000450-001	LH18/24-SP140_051920	.01	6850/ClO4 DOD			Water	10mL	
3	E2000451-001	LH18/24-SP650_051920_BIX	.01	6850/ClO4 DOD			Water	10mL	
4	EQ2000209-01	MB		6850/ClO4 DOD			Liquid	10mL	
5	EQ2000209-02	LCS		6850/ClO4 DOD			Liquid	10mL	
6	EQ2000209-03	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

E2000449-001 100.00µL E2000450-001 100.00µL E2000451-001 100.00µL EQ2000209-01 100.00µL EQ2000209-02 100.00µL EQ2000209-03 100.00µL

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

EQ2000209-02 1.00µL EQ2000209-03 1.00µL

Preparation Steps

Step: Preparation
Started: 5/27/20 09:18
Finished: 5/27/20 11:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 5/27/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Collected:**	5/19/20 1400
Sample Matrix:	Water	**Date Received:**	5/22/20
Sample Name:	LH18/24-SP650_051920_BIX	**Units:**	µg/L
Lab Code:	E2000449-001	**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	5/27/20	6/2/20 19:45	359084	682302	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000209-01	**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			1	5/27/20	6/2/20 19:22	359084	682302	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Analyzed:**	6/ 2/20
Sample Matrix:	Water		

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	359084

	Lab Control Sample EQ2000209-02			Duplicate Lab Control Sample EQ2000209-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.118	0.100	118	0.115	0.100	115	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:**	E2000449
Project:	HS20050757	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000209-02	**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	**0.118**		0.100			1	5/27/20	6/2/20 19:29	359084	682302	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000209-03	**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	**0.115**		0.100			1	5/27/20	6/2/20 19:37	359084	682302	

Initial Calibration

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
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20200602

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

1st Review: Kneir
2nd Review: Hvan

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

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

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

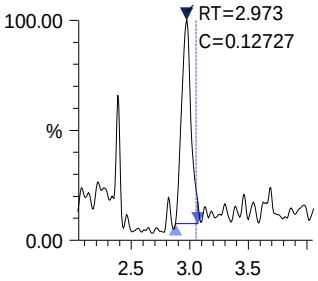
PERCHLORATE1

Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.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	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

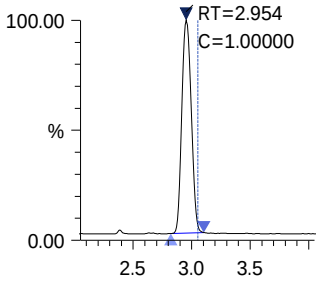
Perchlorate

Conc 0.12727
Area 2231
Q 99.00>83.00 (-) 4.13e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060
ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

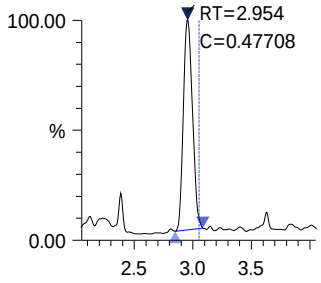
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

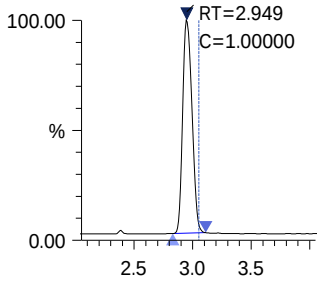
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

PERCHLORATE3

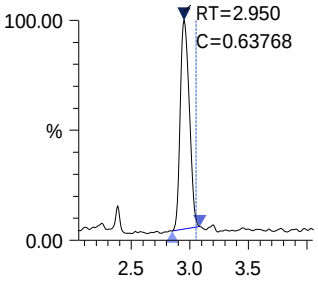
Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

Perchlorate

Conc 0.63768
Area 11656

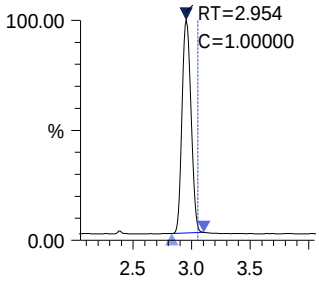
Q 99.00>83.00 (-) 2.17e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 142915

ISTD 107.00>89.00 (-) 2.70e4



ALS Group Houston

PERCHLORATE4

Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

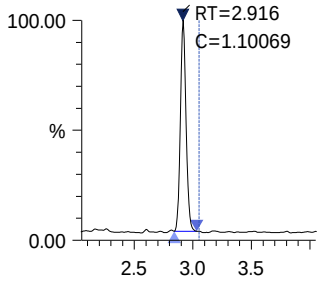
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

Perchlorate

Conc 1.10069

Area 18119

Q 99.00>83.00 (-) 5.42e3

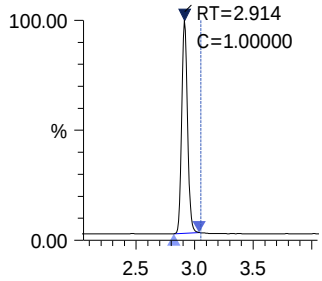


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 128706

ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

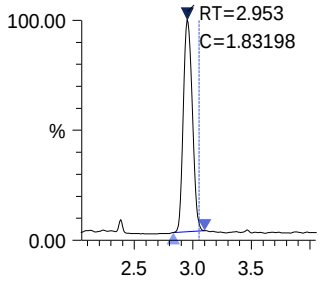
PERCHLORATE5

Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.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	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

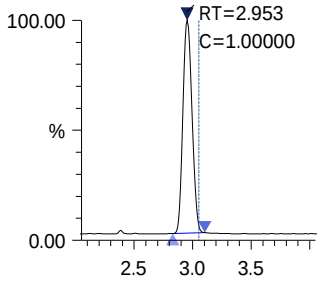
Perchlorate

Conc 1.83198
Area 33971
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982
ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

PERCHLORATE6

Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

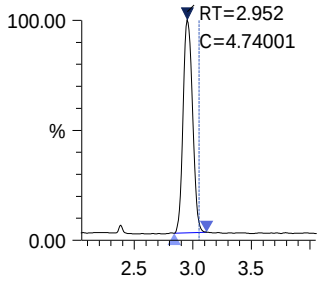
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

Perchlorate

Conc 4.74001

Area 85178

Q 99.00>83.00 (-) 1.50e4

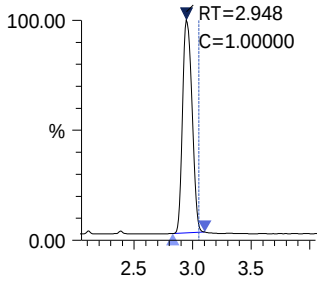


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 140500

ISTD 107.00>89.00 (-) 2.51e4



ALS Group Houston

PERCHLORATE7

Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

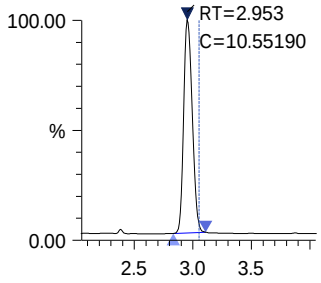
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

Perchlorate

Conc 10.55190

Area 173998

Q 99.00>83.00 (-) 3.36e4

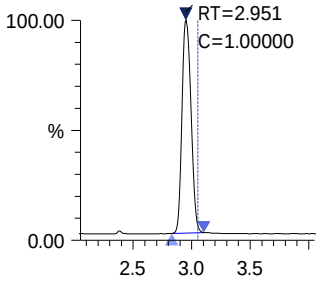


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 128928

ISTD 107.00>89.00 (-) 2.43e4



ALS Group Houston

PERCHLORATE8

Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_016.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

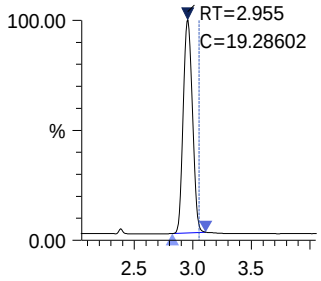
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

Perchlorate

Conc 19.28602

Area 324944

Q 99.00>83.00 (-) 5.85e4

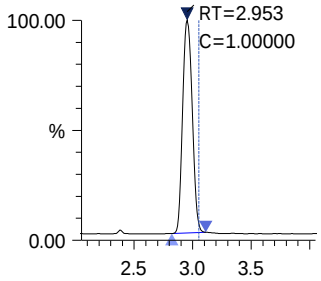


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 131734

ISTD 107.00>89.00 (-) 2.34e4



ALS Group Houston

PERCHLORATE9

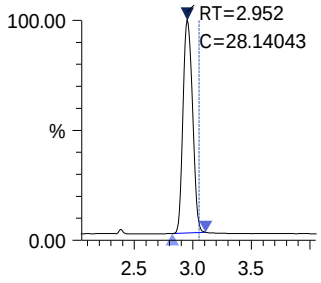
Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

Perchlorate

Conc 28.14043
Area 469066

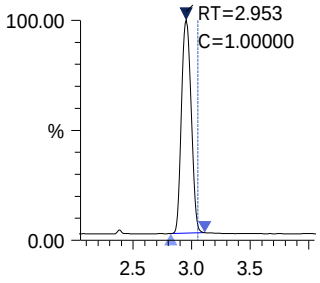
Q 99.00>83.00 (-) 8.16e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327

ISTD 107.00>89.00 (-) 2.28e4



ALS Group Houston

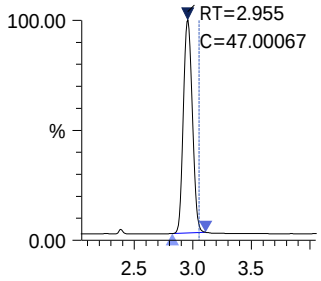
PERCHLORATE10

Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_018.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	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

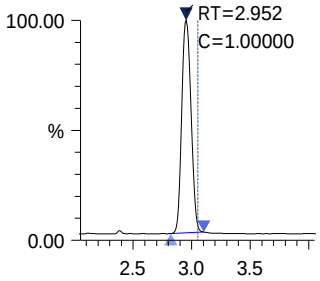
Perchlorate

Conc 47.00067
Area 737362
Q 99.00>83.00 (-) 1.36e5



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 122661
ISTD 107.00>89.00 (-) 2.25e4



ALS Group Houston

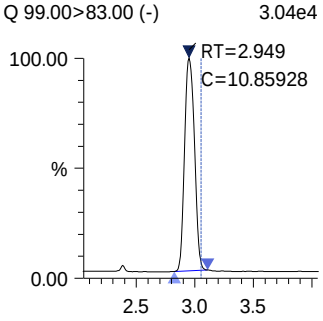
PERCHLORATEICV

Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_019.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	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

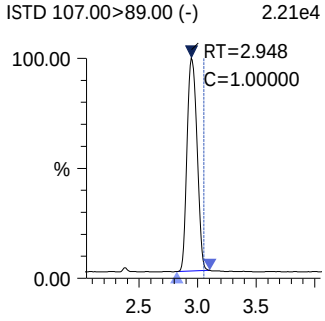
Perchlorate

Conc 10.85928
Area 180334



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 129839



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

20200602

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Analyzed:**	6/ 2/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200602\20200602_037	**Calibration ID:**	EC2000007
		Analysis Lot:	682302
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	0.1279	0.1354	5.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Analyzed:**	6/ 2/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200602\20200602_044	**Calibration ID:**	EC2000007
		Analysis Lot:	682302
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1383	8.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000449
Project:	HS20050757	**Date Analyzed:**	6/2/20 19:14

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

File ID:	I:\LCMS01\DATA\20200602\20200602_037	**Lab Code:**	EQ2000220-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	682302
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000220-01	130,037	2.95
Method Blank	EQ2000209-01	156,098	2.95
Lab Control Sample	EQ2000209-02	162,494	2.95
Duplicate Lab Control Sample	EQ2000209-03	164,223	2.94
LH18/24-SP650_051920_BIX	E2000449-001	159,999	2.93

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:**	E2000449
Project:	HS20050757	**Date Analyzed:**	6/2/20 20:09

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200602\20200602_044	**Lab Code:**	EQ2000220-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	682302
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000220-02	130,496	2.94

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

ALS Group Houston

PERCHLORATE7

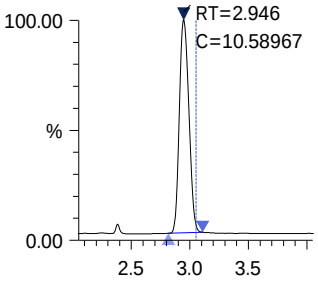
Date acquired: 6/2/2020 7:14:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_037.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/2/2020 7:14:09 PM	176124	10.58967	20200602_037	2.946	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 7:14:09 PM	130037	1.00000	20200602_037	2.945	25.0000	1.0000	10

Perchlorate

Conc 10.58967
Area 176124

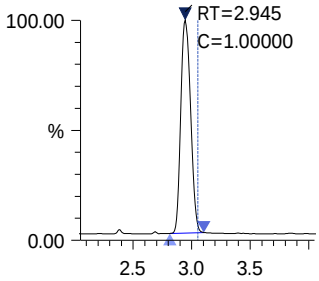
Q 99.00>83.00 (-) 3.08e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130037

ISTD 107.00>89.00 (-) 2.26e4



ALS Group Houston

EQ2000209-01

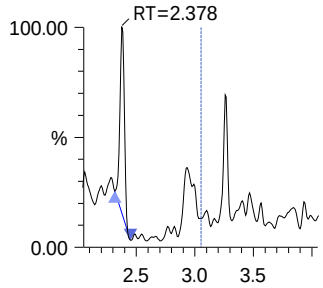
Date acquired: 6/2/2020 7:22:03 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_038.lcd
Vial: 21 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-01	6/2/2020 7:22:03 PM	----	----	20200602_038	----	25.0000	1.0000	21
Sodium Perchlorate-18O4_IS	EQ2000209-01	6/2/2020 7:22:03 PM	156098	1.00000	20200602_038	2.947	25.0000	1.0000	21

Perchlorate

Conc ----
Area ----

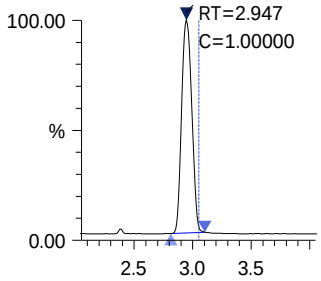
Q 99.00>83.00 (-) 3.73e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 156098

ISTD 107.00>89.00 (-) 2.62e4



ALS Group Houston

EQ2000209-02

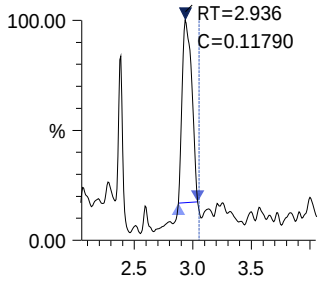
Date acquired: 6/2/2020 7:29:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_039.lcd
Vial: 22 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-02	6/2/2020 7:29:57 PM	2450	0.11790	20200602_039	2.936	25.0000	1.0000	22
Sodium Perchlorate-18O4_IS	EQ2000209-02	6/2/2020 7:29:57 PM	162494	1.00000	20200602_039	2.946	25.0000	1.0000	22

Perchlorate

Conc 0.11790
Area 2450

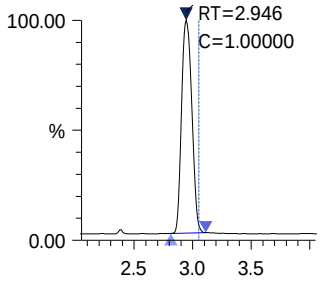
Q 99.00>83.00 (-) 4.93e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 162494

ISTD 107.00>89.00 (-) 2.69e4



ALS Group Houston

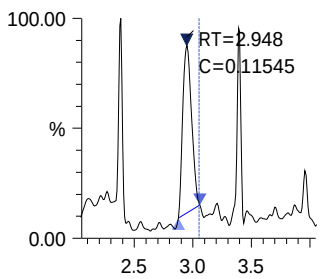
EQ2000209-03

Date acquired: 6/2/2020 7:37:52 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_040.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000209-03	6/2/2020 7:37:52 PM	2425	0.11545	20200602_040	2.948	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	EQ2000209-03	6/2/2020 7:37:52 PM	164223	1.00000	20200602_040	2.944	25.0000	1.0000	23

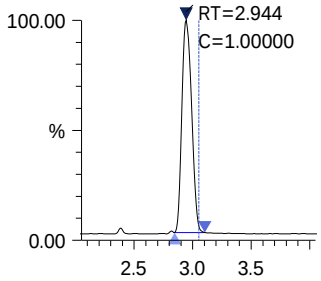
Perchlorate

Conc 0.11545
Area 2425
Q 99.00>83.00 (-) 5.79e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 164223
ISTD 107.00>89.00 (-) 2.88e4



ALS Group Houston

E2000449-001

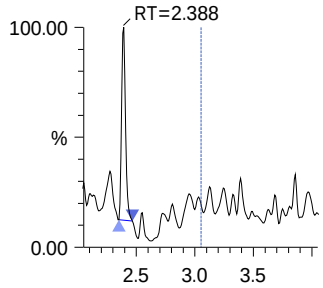
Date acquired: 6/2/2020 7:45:47 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_041.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000449-001	6/2/2020 7:45:47 PM	----	----	20200602_041	----	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	E2000449-001	6/2/2020 7:45:47 PM	159999	1.00000	20200602_041	2.932	25.0000	1.0000	24

Perchlorate

Conc ----
Area ----

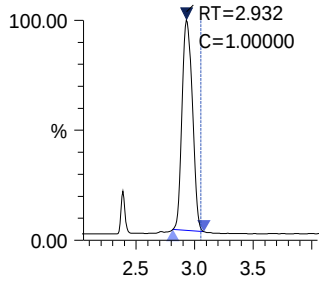
Q 99.00>83.00 (-) 3.32e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 159999

ISTD 107.00>89.00 (-) 2.64e4



ALS Group Houston

PERCHLORATE7

Date acquired: 6/2/2020 8:09:29 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_044.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

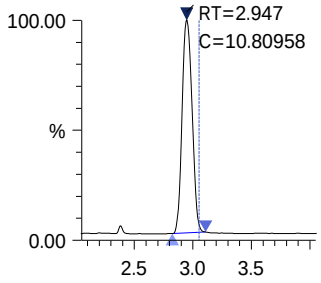
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/2/2020 8:09:29 PM	180416	10.80958	20200602_044	2.947	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 8:09:29 PM	130496	1.00000	20200602_044	2.941	25.0000	1.0000	10

Perchlorate

Conc 10.80958

Area 180416

Q 99.00>83.00 (-) 3.01e4

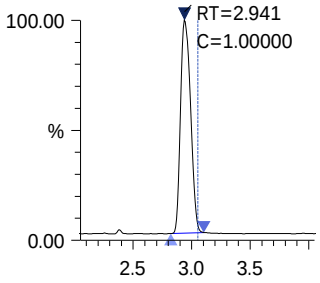


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 130496

ISTD 107.00>89.00 (-) 2.21e4



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

June 16, 2020

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

Work Order: **HS20051122**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia,

ALS Environmental received 2 sample(s) on May 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: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20051122

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20051122-01	LH18/24-SP650_052820	Water		28-May-2020 14:00	29-May-2020 09:00	☐
HS20051122-02	LH18/24-SP650_052820-BIX	Water		28-May-2020 14:00	29-May-2020 09:00	☐

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20051122

Work Order Comments

• Analysis of Perchlorate was performed by ALS Houston TX, High Resolution. LaboratoryFinal Report attached

The analysis for Perchlorate was subcontracted to ALS Salt Lake City, UT. Final report attached.

WetChemistry by Method E350.3

Batch ID: R362582

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

WetChemistry by Method E365.3

Batch ID: R362404

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

ALS Houston, US Date: 16-Jun-20

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

Project: Longhorn GW Treatment Plant Weekly Samples WorkOrder:HS20051122

Sample ID: LH18/24-SP650_052820 Lab ID:HS20051122-01

Collection Date: 28-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**11**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	03-Jun-2020 10:00
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: KVL
Phosphorus, Total Orthophosphate (As P)	**0.960**	a	**0.0500**	**0.125**	**0.125**	**mg/L**	5	29-May-2020 15:00
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	09-Jun-2020 10:37

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

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20051122
Sample ID: LH18/24-SP650_052820-BIX
Lab ID:HS20051122-02
Collection Date: 28-May-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: CGG
Subcontract Analysis	See Attached		0	0		NA	1	16-Jun-2020 13:44

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

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20051122

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R362404 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20051122-01	LH18/24-SP650_052820	28 May 2020 14:00			29 May 2020 15:00	5
Batch ID: R362582 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20051122-01	LH18/24-SP650_052820	28 May 2020 14:00			03 Jun 2020 10:00	1
Batch ID: R362863 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20051122-01	LH18/24-SP650_052820	28 May 2020 14:00			09 Jun 2020 10:37	1
Batch ID: R363319 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20051122-02	LH18/24-SP650_052820-BIX	28 May 2020 14:00			16 Jun 2020 13:44	1

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20051122

QC BATCH REPORT

Batch ID: R362404 (0) **Instrument: UV-2450** **Method: ORTHO PHOSPHATE (PO4) AS P BY E365.3**

MBLK Sample ID: **MBLK-R362404** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: Run ID: **UV-2450_362404** SeqNo: **5601675** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-R362404** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: Run ID: **UV-2450_362404** SeqNo: **5601674** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.224	0.0250	0.25	0	89.6	85 - 115				

LCSD Sample ID: **LCSD-R362404** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: Run ID: **UV-2450_362404** SeqNo: **5601673** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.226	0.0250	0.25	0	90.4	85 - 115	0.224	0.889	20	

MS Sample ID: **HS20051122-01MS** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: **LH18/24-SP650_052820** Run ID: **UV-2450_362404** SeqNo: **5601677** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	2.21	0.125	1.25	0.96	100	80 - 120				

MSD Sample ID: **HS20051122-01MSD** Units: **mg/L** Analysis Date: **29-May-2020 15:00**
Client ID: **LH18/24-SP650_052820** Run ID: **UV-2450_362404** SeqNo: **5601676** PrepDate: DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	2.2	0.125	1.25	0.96	99.2	80 - 120	2.21	0.454	20	

The following samples were analyzed in this batch: HS20051122-01

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20051122

QC BATCH REPORT

Batch ID: R362582 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-362582** Units: **mg/L** Analysis Date: **03-Jun-2020 10:00**
Client ID: Run ID: **WetChem_HS_362582** SeqNo: **5605255** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.10	0.20								U

LCS Sample ID: **LCS-362582** Units: **mg/L** Analysis Date: **03-Jun-2020 10:00**
Client ID: Run ID: **WetChem_HS_362582** SeqNo: **5605256** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	9.749	0.20	10	0	97.5	80 - 120				

MS Sample ID: **HS20060050-01MS** Units: **mg/L** Analysis Date: **03-Jun-2020 10:00**
Client ID: Run ID: **WetChem_HS_362582** SeqNo: **5605259** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.2	0.20	10	0.178	100	80 - 120				

MSD Sample ID: **HS20060050-01MSD** Units: **mg/L** Analysis Date: **03-Jun-2020 10:00**
Client ID: Run ID: **WetChem_HS_362582** SeqNo: **5605260** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.25	0.20	10	0.178	101	80 - 120	10.2	0.509	20	

The following samples were analyzed in this batch: HS20051122-01

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20051122**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 16-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20051122

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20051122-01	LH18/24-SP650_052820	Login	5/29/2020 11:59:25 AM	JRM	WET197
HS20051122-01	LH18/24-SP650_052820	Login	5/29/2020 11:59:25 AM	JRM	WET197
HS20051122-01	LH18/24-SP650_052820	Login	5/29/2020 11:59:25 AM	JRM	Sub
HS20051122-02	LH18/24-SP650_052820-BIX	Login	5/29/2020 11:59:25 AM	JRM	Sub

ALS Houston, US Date: 16-Jun-20

Sample Receipt Checklist

Work Order ID: HS20051122 **Date/Time Received:** **29-May-2020 09:00**

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

Completed By:	/S/ Jared R. Makan	29-May-2020 12:02	**Reviewed by:**	/S/ RJ Modashia	29-May-2020 16:10
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **ALS Courier**

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

Temperature(s)/Thermometer(s):	1.4°C/1.4°C UC/C	IR11	
Cooler(s)/Kit(s):	44753		
Date/Time sample(s) sent to storage:	05/29/2020 12:02		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE							Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_052820	Water	05/28/20 / 14:00		3	X	X									H2SO4	
LH18/24-SP650_052820	Water	05/28/20 / 14:00		1			X								NONE	
LH18/24-SP650_052820_BIX	Water	05/28/20 / 14:00		1				X							NONE	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	05/28/20	14:30									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. HUMPHREY	5/29/20	09:00							

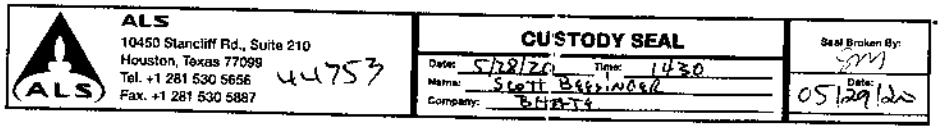
Remarks:

HS20051122

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

Cooler -44753 Temp 1.4
1121
CF0.0

(Word) S:\Users\Forms\Chain of Custody - BiWee



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

44753

CUSTODY SEAL

Date: 5/28/20 Time: 1430
Name: Scott Beesinger
Company: Burns

Seal Broken By:
Date: 05/29/20

44753 MAY 29 2020

Must Deliver Next Business I
Time and Tempature Sensi

44753

RT917

ORIGIN ID:SGRA (303) 597-2456
SCOTT BEESINGER
SHAKE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 28MAY20
ACTWGT: 1.00 LB MAN
CAD: 3001307CAFE3211
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP - 58 - BD 70550 - RJ
RMA:

FedEx Express

TRK# 0221 1251 0294 9670

RETURNS MON-SAT
PRIORITY OVERNIGHT

FedEx
TRK# 0221 1251 0294 9670

FRI - 29 MAY 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

FED 2BJ6A5 28MAY20 CCGA 568C3/2995/B5A7

ALS Environmental
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June 08, 2020

Analytical Report for Service Request No: K2004521

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

RE: HS20051122

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 03, 2020
For your reference, these analyses have been assigned our service request number **K2004521.**

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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www.alsglobal.com

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

Client: ALS Environmental - US
Project: HS20051122
Sample Matrix: Water

Service Request: K2004521
Date Received: 06/03/2020

CASE NARRATIVE

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

Sample Receipt:

One water sample was received for analysis at ALS Environmental on 06/03/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 06/08/2020

Chain of Custody

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

PC_____

Cooler Receipt and Preservation Form

Client ALS Irvine Service Request K20 ~~K2002268~~ K2004684

Received: 6/5/20 Opened: 6/5/20 By: KM Unloaded: 6/5/20 By: KM

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?_____

   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
N/A	1.5	1.7	1.2	2.4	IR01		770625131019	

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:**	K2004521
Project:	HS20051122	**Date Collected:**	05/28/20
Sample Matrix:	Water	**Date Received:**	06/3/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_052820	K2004521-001	**2.96**	0.50	0.20	0.07	1	06/05/20 14:17	
Method Blank	K2004521-MB	ND U	0.50	0.20	0.07	1	06/05/20 10:59	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2004521
Project	HS20051122	**Date Collected:**	05/28/20
Sample Matrix:	Water	**Date Received:**	06/03/20
		Date Analyzed:	06/05/20

Replicate Sample Summary

General Chemistry Parameters

Sample Name:	LH18/24-SP650_052820	**Units:**	mg/L
Lab Code:	K2004521-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2004521-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	2.96	2.79	2.87	6	10

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

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2004521
Project:	HS20051122	**Date Analyzed:**	06/05/20
Sample Matrix:	Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	682634

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2004521-LCS	22.9	25.0	91	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2004521
Project: HS20051122

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	682634	KQ2007578-01	06/05/20 02:47	25.0	24.5	98	90-110
CCV2	682634	KQ2007578-02	06/05/20 10:30	25.0	24.9	100	90-110
CCV3	682634	KQ2007578-03	06/05/20 15:13	25.0	24.3	97	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2004521
Project: HS20051122

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	682634	KQ2007578-04	06/05/20 03:02	0.50	0.20	0.07	0.18	J
CCB2	682634	KQ2007578-05	06/05/20 10:44	0.50	0.20	0.07	0.24	J
CCB3	682634	KQ2007578-06	06/05/20 15:28	0.50	0.20	0.07	0.20	J

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
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Work Request # Original ( ) K2004490, 4110, 4521, 4541, 4561, 4414, 4492, 4498, 4483, 4484, 4410, 4411, 4413

Tier: IV IV IV I IV III II II IV III IV IV III

Date Analyzed: 6/4/20

Analyst: BCP

Analysis: DOC/TOC

TOC: 682533, 682544, 682546, 682547, 682548

Run # DOC: 682548

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: K2004541-2/2d, 4561-~~3/3d~~, 4561-~~1/1d~~ 4561-8/8d, 4414-1/1d, 4414-5/5d 4498-2/2d, 4483-1/1d, 4483-2/2d, 4484-2/2d, 4412-2/2d, 4484-1/1d report a high %RSD. However, these samples are less than 5x the MRL.
K2004483-1MS reports a high %Recovery due to suspected matrix interferences.
K2004561-3/3d reports a high %RSD due to suspected non-homogenous sample.

Final Approved by: _____ Date: 6/8/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682633 **Method/Testcode:** 9060A/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
K2004490-001	Carbon, Total Organic (TOC)	N/A		Water	12.96 mg/L	10 ml	13.0 mg/L	1		0.50			6/4/20 20:17	N	IV
K2004490-002	Carbon, Total Organic (TOC)	N/A		Water	5.84 mg/L	10 ml	5.84 mg/L	1		0.50			6/4/20 21:13	N	IV
K2004490-003	Carbon, Total Organic (TOC)	N/A		Water	7.99 mg/L	10 ml	7.99 mg/L	1		0.50			6/4/20 22:09	N	IV
K2004490-004	Carbon, Total Organic (TOC)	N/A		Water	7.93 mg/L	10 ml	7.93 mg/L	1		0.50			6/4/20 23:04	N	IV
K2004490-005	Carbon, Total Organic (TOC)	N/A		Water	7.73 mg/L	10 ml	7.73 mg/L	1		0.50			6/5/20 00:00	N	IV
K2004490-006	Carbon, Total Organic (TOC)	N/A		Water	7.49 mg/L	10 ml	7.49 mg/L	1		0.50			6/5/20 00:56	N	IV
K2004490-007	Carbon, Total Organic (TOC)	N/A		Water	12.44 mg/L	10 ml	12.4 mg/L	1		0.50			6/5/20 01:51	N	IV
K2004490-008	Carbon, Total Organic (TOC)	N/A		Water	2.45 mg/L	10 ml	2.45 mg/L	1		0.50			6/5/20 03:16	N	IV
K2004490-009	Carbon, Total Organic (TOC)	N/A		Water	1.85 mg/L	10 ml	1.85 mg/L	1		0.50			6/5/20 04:12	N	IV
K2004490-010	Carbon, Total Organic (TOC)	N/A		Water	5.93 mg/L	10 ml	5.93 mg/L	1		0.50			6/5/20 05:08	N	IV
K2004490-011	Carbon, Total Organic (TOC)	N/A		Water	9.84 mg/L	10 ml	9.84 mg/L	1		0.50			6/5/20 06:03	N	IV
K2004490-012	Carbon, Total Organic (TOC)	N/A		Water	6.57 mg/L	10 ml	6.57 mg/L	1		0.50			6/5/20 08:23	N	IV
KQ2007579-01	Carbon, Total Organic (TOC)	CCV		Water	25.39 mg/L	10 ml	25.4 mg/L	1					6/4/20 17:42	N	IV
KQ2007579-02	Carbon, Total Organic (TOC)	CCV		Water	24.54 mg/L	10 ml	24.5 mg/L	1					6/5/20 02:47	N	IV
KQ2007579-03	Carbon, Total Organic (TOC)	CCV		Water	24.93 mg/L	10 ml	24.9 mg/L	1					6/5/20 10:30	N	IV
KQ2007579-04	Carbon, Total Organic (TOC)	CCB		Water	0.25 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 17:56	N	IV
KQ2007579-05	Carbon, Total Organic (TOC)	CCB		Water	0.18 mg/L	10 ml	0.50 mg/L U	1		0.50			6/5/20 03:02	N	IV
KQ2007579-06	Carbon, Total Organic (TOC)	CCB		Water	0.24 mg/L	10 ml	0.50 mg/L U	1		0.50			6/5/20 10:44	N	IV
KQ2007579-07	Carbon, Total Organic (TOC)	MB		Water	0.05 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 18:11	N	IV
KQ2007579-08	Carbon, Total Organic (TOC)	MB		Water	0.16 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 18:11	N	IV
KQ2007579-09	Carbon, Total Organic (TOC)	MB		Water	0.04 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 18:11	N	IV
KQ2007579-10	Carbon, Total Organic (TOC)	MB		Water	-0.03 mg/L	10 ml	0.50 mg/L U	1		0.50			6/4/20 18:11	N	IV
KQ2007579-11	Carbon, Total Organic (TOC)	LCS		Water	23.51 mg/L	10 ml	23.5 mg/L	1		0.50	94		6/4/20 19:07	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-03 **Analyst:** BDITZLER **Analysis Lot:** 682633 **Method/Testcode:** 9060A/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
KQ2007579-12	Carbon, Total Organic (TOC)	LCS		Water	23.46 mg/L	10 ml	23.5 mg/L	1		0.50	94		6/4/20 19:07	N	IV
KQ2007579-13	Carbon, Total Organic (TOC)	LCS		Water	23.46 mg/L	10 ml	23.5 mg/L	1		0.50	94		6/4/20 19:07	N	IV
KQ2007579-14	Carbon, Total Organic (TOC)	LCS		Water	23.23 mg/L	10 ml	23.2 mg/L	1		0.50	93		6/4/20 19:07	N	IV
KQ2007579-15	Carbon, Total Organic (TOC)	MS	K2004490-012	Water	34.09 mg/L	10 ml	34.1 mg/L	1		0.50	110		6/5/20 09:19	N	IV
KQ2007579-16	Carbon, Total Organic (TOC)	MS	K2004490-012	Water	34.36 mg/L	10 ml	34.4 mg/L	1		0.50	111		6/5/20 09:19	N	IV
KQ2007579-17	Carbon, Total Organic (TOC)	MS	K2004490-012	Water	34.33 mg/L	10 ml	34.3 mg/L	1		0.50	111		6/5/20 09:19	N	IV
KQ2007579-18	Carbon, Total Organic (TOC)	MS	K2004490-012	Water	34.15 mg/L	10 ml	34.2 mg/L	1		0.50	110		6/5/20 09:19	N	IV
KQ2007579-19	Carbon, Total Organic (TOC)	DUP	K2004490-002	Water	5.74 mg/L	10 ml	5.74 mg/L	1		0.50		2	6/4/20 21:13	N	IV
KQ2007579-20	Carbon, Total Organic (TOC)	TRP	K2004490-002	Water	5.65 mg/L	10 ml	5.65 mg/L	1		0.50		2	6/4/20 21:13	N	IV
KQ2007579-21	Carbon, Total Organic (TOC)	QUAD	K2004490-002	Water	5.75 mg/L	10 ml	5.75 mg/L	1		0.50		1	6/4/20 21:13	N	IV
KQ2007579-22	Carbon, Total Organic (TOC)	DUP	K2004490-003	Water	7.85 mg/L	10 ml	7.85 mg/L	1		0.50		2	6/4/20 22:09	N	IV
KQ2007579-23	Carbon, Total Organic (TOC)	TRP	K2004490-003	Water	7.91 mg/L	10 ml	7.91 mg/L	1		0.50		<1	6/4/20 22:09	N	IV
KQ2007579-24	Carbon, Total Organic (TOC)	QUAD	K2004490-003	Water	7.80 mg/L	10 ml	7.80 mg/L	1		0.50		1	6/4/20 22:09	N	IV
KQ2007579-25	Carbon, Total Organic (TOC)	DUP	K2004490-004	Water	7.98 mg/L	10 ml	7.98 mg/L	1		0.50		<1	6/4/20 23:04	N	IV
KQ2007579-26	Carbon, Total Organic (TOC)	TRP	K2004490-004	Water	7.85 mg/L	10 ml	7.85 mg/L	1		0.50		<1	6/4/20 23:04	N	IV
KQ2007579-27	Carbon, Total Organic (TOC)	QUAD	K2004490-004	Water	7.90 mg/L	10 ml	7.90 mg/L	1		0.50		<1	6/4/20 23:04	N	IV
KQ2007579-28	Carbon, Total Organic (TOC)	DUP	K2004490-001	Water	12.78 mg/L	10 ml	12.8 mg/L	1		0.50		1	6/4/20 20:17	N	IV
KQ2007579-29	Carbon, Total Organic (TOC)	TRP	K2004490-001	Water	13.00 mg/L	10 ml	13.0 mg/L	1		0.50		<1	6/4/20 20:17	N	IV
KQ2007579-30	Carbon, Total Organic (TOC)	QUAD	K2004490-001	Water	12.98 mg/L	10 ml	13.0 mg/L	1		0.50		<1	6/4/20 20:17	N	IV
KQ2007579-31	Carbon, Total Organic (TOC)	DUP	K2004490-005	Water	7.75 mg/L	10 ml	7.75 mg/L	1		0.50		<1	6/5/20 00:00	N	IV
KQ2007579-32	Carbon, Total Organic (TOC)	TRP	K2004490-005	Water	7.70 mg/L	10 ml	7.70 mg/L	1		0.50		<1	6/5/20 00:00	N	IV
KQ2007579-33	Carbon, Total Organic (TOC)	QUAD	K2004490-005	Water	7.66 mg/L	10 ml	7.66 mg/L	1		0.50		<1	6/5/20 00:00	N	IV
KQ2007579-34	Carbon, Total Organic (TOC)	DUP	K2004490-006	Water	7.39 mg/L	10 ml	7.39 mg/L	1		0.50		1	6/5/20 00:56	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-03 **Analyst:** BDITZLER **Analysis Lot:** 682633 **Method/Testcode:** 9060A/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
KQ2007579-35	Carbon, Total Organic (TOC)	TRP	K2004490-006	Water	7.41 mg/L	10 ml	7.41 mg/L	1		0.50		<1	6/5/20 00:56	N	IV
KQ2007579-36	Carbon, Total Organic (TOC)	QUAD	K2004490-006	Water	7.32 mg/L	10 ml	7.32 mg/L	1		0.50		<1	6/5/20 00:56	N	IV
KQ2007579-37	Carbon, Total Organic (TOC)	DUP	K2004490-007	Water	12.49 mg/L	10 ml	12.5 mg/L	1		0.50		<1	6/5/20 01:51	N	IV
KQ2007579-38	Carbon, Total Organic (TOC)	TRP	K2004490-007	Water	12.39 mg/L	10 ml	12.4 mg/L	1		0.50		<1	6/5/20 01:51	N	IV
KQ2007579-39	Carbon, Total Organic (TOC)	QUAD	K2004490-007	Water	12.58 mg/L	10 ml	12.6 mg/L	1		0.50		<1	6/5/20 01:51	N	IV
KQ2007579-40	Carbon, Total Organic (TOC)	DUP	K2004490-008	Water	2.47 mg/L	10 ml	2.47 mg/L	1		0.50		<1	6/5/20 03:16	N	IV
KQ2007579-41	Carbon, Total Organic (TOC)	TRP	K2004490-008	Water	2.46 mg/L	10 ml	2.46 mg/L	1		0.50		<1	6/5/20 03:16	N	IV
KQ2007579-42	Carbon, Total Organic (TOC)	QUAD	K2004490-008	Water	2.43 mg/L	10 ml	2.43 mg/L	1		0.50		<1	6/5/20 03:16	N	IV
KQ2007579-43	Carbon, Total Organic (TOC)	DUP	K2004490-009	Water	1.81 mg/L	10 ml	1.81 mg/L	1		0.50		2	6/5/20 04:12	N	IV
KQ2007579-44	Carbon, Total Organic (TOC)	TRP	K2004490-009	Water	1.80 mg/L	10 ml	1.80 mg/L	1		0.50		2	6/5/20 04:12	N	IV
KQ2007579-45	Carbon, Total Organic (TOC)	QUAD	K2004490-009	Water	1.78 mg/L	10 ml	1.78 mg/L	1		0.50		2	6/5/20 04:12	N	IV
KQ2007579-46	Carbon, Total Organic (TOC)	DUP	K2004490-010	Water	5.83 mg/L	10 ml	5.83 mg/L	1		0.50		2	6/5/20 05:08	N	IV
KQ2007579-47	Carbon, Total Organic (TOC)	TRP	K2004490-010	Water	5.87 mg/L	10 ml	5.87 mg/L	1		0.50		<1	6/5/20 05:08	N	IV
KQ2007579-48	Carbon, Total Organic (TOC)	QUAD	K2004490-010	Water	5.79 mg/L	10 ml	5.79 mg/L	1		0.50		<1	6/5/20 05:08	N	IV
KQ2007579-49	Carbon, Total Organic (TOC)	DUP	K2004490-011	Water	9.88 mg/L	10 ml	9.88 mg/L	1		0.50		<1	6/5/20 06:03	N	IV
KQ2007579-50	Carbon, Total Organic (TOC)	TRP	K2004490-011	Water	9.98 mg/L	10 ml	9.98 mg/L	1		0.50		<1	6/5/20 06:03	N	IV
KQ2007579-51	Carbon, Total Organic (TOC)	QUAD	K2004490-011	Water	9.87 mg/L	10 ml	9.87 mg/L	1		0.50		<1	6/5/20 06:03	N	IV
KQ2007579-52	Carbon, Total Organic (TOC)	DUP	K2004490-012	Water	6.38 mg/L	10 ml	6.38 mg/L	1		0.50		3	6/5/20 08:23	N	IV
KQ2007579-53	Carbon, Total Organic (TOC)	TRP	K2004490-012	Water	6.43 mg/L	10 ml	6.43 mg/L	1		0.50		2	6/5/20 08:23	N	IV
KQ2007579-54	Carbon, Total Organic (TOC)	QUAD	K2004490-012	Water	6.32 mg/L	10 ml	6.32 mg/L	1		0.50		2	6/5/20 08:23	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-03 **Analyst:** BDITZLER **Analysis Lot:** 682634 **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
K2004110-004	Carbon, Total Organic	N/A		Water	15.54 mg/L	10 ml	15.5 mg/L	1	0.07	0.50			6/5/20 06:59	N	IV
K2004521-001	Carbon, Total Organic	N/A		Water	2.96 mg/L	10 ml	2.96 mg/L	1	0.07	0.50			6/5/20 14:17	N	IV
K2004541-002	Carbon, Total Organic	N/A		Drinking Water	0.65 mg/L	10 ml	0.65 mg/L	1	0.07	0.50			6/5/20 14:45	N	I
K2004561-001	Carbon, Total Organic	N/A		Water	2.37 mg/L	10 ml	23.7 mg/L	10	0.7	5.0			6/5/20 07:27	N	IV
K2004561-002	Carbon, Total Organic	N/A		Water	11.03 mg/L	10 ml	11.0 mg/L	1	0.07	0.50			6/5/20 07:55	N	IV
K2004561-003	Carbon, Total Organic	N/A		Water	8.37 mg/L	10 ml	83.7 mg/L	10	0.7	5.0			6/5/20 11:28	N	IV
K2004561-004	Carbon, Total Organic	N/A		Water	2.96 mg/L	10 ml	29.6 mg/L	10	0.7	5.0			6/5/20 11:57	N	IV
K2004561-005	Carbon, Total Organic	N/A		Water	2.19 mg/L	10 ml	21.9 mg/L	10	0.7	5.0			6/5/20 12:25	N	IV
K2004561-006	Carbon, Total Organic	N/A		Water	14.25 mg/L	10 ml	71.2 mg/L	5	0.4	2.5			6/5/20 12:53	N	IV
K2004561-007	Carbon, Total Organic	N/A		Water	18.15 mg/L	10 ml	18.1 mg/L	1	0.07	0.50			6/5/20 13:21	N	IV
K2004561-008	Carbon, Total Organic	N/A		Water	1.71 mg/L	10 ml	17.1 mg/L	10	0.7	5.0			6/5/20 13:49	N	IV
KQ2007578-01	Carbon, Total Organic	CCV		Water	24.54 mg/L	10 ml	24.5 mg/L	1					6/5/20 02:47	N	IV
KQ2007578-02	Carbon, Total Organic	CCV		Water	24.93 mg/L	10 ml	24.9 mg/L	1					6/5/20 10:30	N	IV
KQ2007578-03	Carbon, Total Organic	CCV		Water	24.32 mg/L	10 ml	24.3 mg/L	1					6/5/20 15:13	N	IV
KQ2007578-04	Carbon, Total Organic	CCB		Water	0.18 mg/L	10 ml	0.18 mg/L J	1	0.07	0.50			6/5/20 03:02	N	IV
KQ2007578-05	Carbon, Total Organic	CCB		Water	0.24 mg/L	10 ml	0.24 mg/L J	1	0.07	0.50			6/5/20 10:44	N	IV
KQ2007578-06	Carbon, Total Organic	CCB		Water	0.20 mg/L	10 ml	0.20 mg/L J	1	0.07	0.50			6/5/20 15:28	N	IV
KQ2007578-07	Carbon, Total Organic	MB		Water	-0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 10:59	N	IV
KQ2007578-08	Carbon, Total Organic	LCS		Water	22.86 mg/L	10 ml	22.9 mg/L	1	0.07	0.50	91		6/5/20 11:14	N	IV
KQ2007578-09	Carbon, Total Organic	MS	K2004110-004	Water	43.84 mg/L	10 ml	43.8 mg/L	1	0.07	0.50	113		6/5/20 10:15	N	IV
KQ2007578-10	Carbon, Total Organic	DUP	K2004110-004	Water	16.30 mg/L	10 ml	16.3 mg/L	1	0.07	0.50		5	6/5/20 06:59	N	IV
KQ2007578-11	Carbon, Total Organic	DUP	K2004521-001	Water	2.79 mg/L	10 ml	2.79 mg/L	1	0.07	0.50		6	6/5/20 14:17	N	IV
KQ2007578-12	Carbon, Total Organic	DUP	K2004541-002	Drinking Water	0.50 mg/L	10 ml	0.50 mg/L	1	0.07	0.50		26*	6/5/20 14:45	N	I
KQ2007578-13	Carbon, Total Organic	DUP	K2004561-002	Water	11.27 mg/L	10 ml	11.3 mg/L	1	0.07	0.50		2	6/5/20 07:55	N	IV
KQ2007578-14	Carbon, Total Organic	DUP	K2004561-003	Water	9.80 mg/L	10 ml	98.0 mg/L	10	0.7	5.0		16*	6/5/20 11:28	N	IV
KQ2007578-15	Carbon, Total Organic	DUP	K2004561-004	Water	2.37 mg/L	10 ml	23.7 mg/L	10	0.7	5.0		22*	6/5/20 11:57	N	IV
KQ2007578-16	Carbon, Total Organic	DUP	K2004561-005	Water	2.09 mg/L	10 ml	20.9 mg/L	10	0.7	5.0		5	6/5/20 12:25	N	IV
KQ2007578-17	Carbon, Total Organic	DUP	K2004561-006	Water	14.73 mg/L	10 ml	73.7 mg/L	5	0.4	2.5		3	6/5/20 12:53	N	IV
KQ2007578-18	Carbon, Total Organic	DUP	K2004561-007	Water	17.78 mg/L	10 ml	17.8 mg/L	1	0.07	0.50		2	6/5/20 13:21	N	IV
KQ2007578-19	Carbon, Total Organic	DUP	K2004561-001	Water	2.06 mg/L	10 ml	20.6 mg/L	10	0.7	5.0		14*	6/5/20 07:27	N	IV
KQ2007578-20	Carbon, Total Organic	DUP	K2004561-008	Water	1.01 mg/L	10 ml	10.1 mg/L	10	0.7	5.0		51*	6/5/20 13:49	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-03 **Analyst:** BDITZLER **Analysis Lot:** 682346 **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
K2004414-001	Carbon, Total Organic	N/A		Ground Water	0.41 mg/L	10 ml	0.41 mg/L J	1	0.07	0.50			6/5/20 19:27	Y	III
K2004414-002	Carbon, Total Organic	N/A		Ground Water	0.50 mg/L	10 ml	0.50 mg/L J	1	0.07	0.50			6/5/20 16:10	N	III
K2004414-003	Carbon, Total Organic	N/A		Ground Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 16:39	N	III
K2004414-004	Carbon, Total Organic	N/A		Ground Water	0.63 mg/L	10 ml	0.63 mg/L	1	0.07	0.50			6/5/20 17:07	N	III
K2004414-005	Carbon, Total Organic	N/A		Ground Water	0.23 mg/L	10 ml	0.23 mg/L J	1	0.07	0.50			6/5/20 17:35	N	III
K2004414-006	Carbon, Total Organic	N/A		Ground Water	2.62 mg/L	10 ml	2.62 mg/L	1	0.07	0.50			6/5/20 18:03	N	III
K2004414-007	Carbon, Total Organic	N/A		Ground Water	0.50 mg/L	10 ml	0.50 mg/L	1	0.07	0.50			6/5/20 18:31	N	III
K2004492-009	Carbon, Total Organic	N/A		Water	0.73 mg/L	10 ml	0.73 mg/L	1	0.07	0.50			6/5/20 15:42	N	II
K2004498-001	Carbon, Total Organic	N/A		Ground Water	1.71 mg/L	10 ml	1.71 mg/L	1	0.07	0.50			6/5/20 18:59	N	II
K2004498-002	Carbon, Total Organic	N/A		Ground Water	1.41 mg/L	10 ml	1.41 mg/L	1	0.07	0.50			6/5/20 21:08	N	II
K2004498-003	Carbon, Total Organic	N/A		Ground Water	1.47 mg/L	10 ml	1.47 mg/L	1	0.07	0.50			6/5/20 21:36	N	II
K2004498-004	Carbon, Total Organic	N/A		Ground Water	2.21 mg/L	10 ml	2.21 mg/L	1	0.07	0.50			6/5/20 22:05	N	II
K2004498-005	Carbon, Total Organic	N/A		Ground Water	1.09 mg/L	10 ml	1.09 mg/L	1	0.07	0.50			6/5/20 22:33	N	II
K2004498-006	Carbon, Total Organic	N/A		Ground Water	2.88 mg/L	10 ml	2.88 mg/L	1	0.07	0.50			6/5/20 23:01	N	II
K2004498-007	Carbon, Total Organic	N/A		Ground Water	3.00 mg/L	10 ml	3.00 mg/L	1	0.07	0.50			6/5/20 23:29	N	II
KQ2007451-01	Carbon, Total Organic	MS	K2004414-007	Ground Water	28.76 mg/L	10 ml	28.8 mg/L	1	0.07	0.50	113		6/5/20 19:55	N	III
KQ2007451-02	Carbon, Total Organic	CCV		Water	24.32 mg/L	10 ml	24.3 mg/L	1					6/5/20 15:13	N	II
KQ2007451-03	Carbon, Total Organic	CCV		Water	24.09 mg/L	10 ml	24.1 mg/L	1					6/5/20 20:10	N	II
KQ2007451-04	Carbon, Total Organic	CCV		Water	23.72 mg/L	10 ml	23.7 mg/L	1					6/6/20 00:40	N	II
KQ2007451-05	Carbon, Total Organic	CCB		Water	0.20 mg/L	10 ml	0.20 mg/L J	1	0.07	0.50			6/5/20 15:28	N	II
KQ2007451-06	Carbon, Total Organic	CCB		Water	0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 20:24	N	II
KQ2007451-07	Carbon, Total Organic	CCB		Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 00:55	N	II
KQ2007451-08	Carbon, Total Organic	MB		Water	-0.12 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 20:39	N	II
KQ2007451-09	Carbon, Total Organic	LCS		Water	22.14 mg/L	10 ml	22.1 mg/L	1	0.07	0.50	89		6/5/20 20:54	N	II
KQ2007451-10	Carbon, Total Organic	DUP	K2004414-001	Ground Water	0.36 mg/L	10 ml	0.36 mg/L J	1	0.07	0.50		12*	6/5/20 19:27	N	III
KQ2007451-11	Carbon, Total Organic	DUP	K2004414-002	Ground Water	0.48 mg/L	10 ml	0.48 mg/L J	1	0.07	0.50		3	6/5/20 16:10	N	III
KQ2007451-12	Carbon, Total Organic	DUP	K2004414-003	Ground Water	-0.05 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	6/5/20 16:39	N	III

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Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682346 **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
KQ2007451-13	Carbon, Total Organic	DUP	K2004414-004	Ground Water	0.59 mg/L	10 ml	0.59 mg/L	1	0.07	0.50		6	6/5/20 17:07	N	III
KQ2007451-14	Carbon, Total Organic	DUP	K2004414-005	Ground Water	0.19 mg/L	10 ml	0.19 mg/L J	1	0.07	0.50		18*	6/5/20 17:35	N	III
KQ2007451-15	Carbon, Total Organic	DUP	K2004414-006	Ground Water	2.56 mg/L	10 ml	2.56 mg/L	1	0.07	0.50		3	6/5/20 18:03	N	III
KQ2007451-16	Carbon, Total Organic	DUP	K2004414-007	Ground Water	0.45 mg/L	10 ml	0.45 mg/L J	1	0.07	0.50		10	6/5/20 18:31	N	III
KQ2007451-17	Carbon, Total Organic	DUP	K2004492-009	Water	0.68 mg/L	10 ml	0.68 mg/L	1	0.07	0.50		7	6/5/20 15:42	N	II
KQ2007451-18	Carbon, Total Organic	DUP	K2004498-001	Ground Water	1.65 mg/L	10 ml	1.65 mg/L	1	0.07	0.50		3	6/5/20 18:59	N	II
KQ2007451-19	Carbon, Total Organic	DUP	K2004498-006	Ground Water	2.94 mg/L	10 ml	2.94 mg/L	1	0.07	0.50		2	6/5/20 23:01	N	II
KQ2007451-20	Carbon, Total Organic	DUP	K2004498-007	Ground Water	2.88 mg/L	10 ml	2.88 mg/L	1	0.07	0.50		4	6/5/20 23:29	N	II
KQ2007451-21	Carbon, Total Organic	DUP	K2004498-002	Ground Water	1.22 mg/L	10 ml	1.22 mg/L	1	0.07	0.50		15*	6/5/20 21:08	N	II
KQ2007451-22	Carbon, Total Organic	DUP	K2004498-003	Ground Water	1.41 mg/L	10 ml	1.41 mg/L	1	0.07	0.50		4	6/5/20 21:36	N	II
KQ2007451-23	Carbon, Total Organic	DUP	K2004498-004	Ground Water	2.18 mg/L	10 ml	2.18 mg/L	1	0.07	0.50		1	6/5/20 22:05	N	II
KQ2007451-24	Carbon, Total Organic	DUP	K2004498-005	Ground Water	1.02 mg/L	10 ml	1.02 mg/L	1	0.07	0.50		6	6/5/20 22:33	N	II

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Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682347 **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
K2004483-001	Carbon, Total Organic	N/A		Ground Water	0.12 mg/L	10 ml	0.12 mg/L J	1	0.07	0.50			6/5/20 23:57	Y	IV
K2004483-002	Carbon, Total Organic	N/A		Ground Water	0.22 mg/L	10 ml	0.22 mg/L J	1	0.07	0.50			6/6/20 01:09	N	IV
K2004483-003	Carbon, Total Organic	N/A		Ground Water	-0.13 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 01:38	N	IV
K2004484-001	Carbon, Total Organic	N/A		Ground Water	0.28 mg/L	10 ml	0.28 mg/L J	1	0.07	0.50			6/6/20 02:06	N	III
K2004484-002	Carbon, Total Organic	N/A		Ground Water	0.32 mg/L	10 ml	0.32 mg/L J	1	0.07	0.50			6/6/20 02:34	N	III
K2004484-003	Carbon, Total Organic	N/A		Ground Water	2.44 mg/L	10 ml	2.44 mg/L	1	0.07	0.50			6/6/20 03:02	N	III
K2004498-008	Carbon, Total Organic	N/A		Ground Water	24.39 mg/L	10 ml	24.4 mg/L	1	0.07	0.50			6/6/20 03:30	N	II
K2004498-009	Carbon, Total Organic	N/A		Ground Water	4.12 mg/L	10 ml	4.12 mg/L	1	0.07	0.50			6/6/20 03:58	N	II
KQ2007452-01	Carbon, Total Organic	CCV		Water	24.09 mg/L	10 ml	24.1 mg/L	1					6/5/20 20:10	N	IV
KQ2007452-02	Carbon, Total Organic	CCV		Water	23.72 mg/L	10 ml	23.7 mg/L	1					6/6/20 00:40	N	IV
KQ2007452-03	Carbon, Total Organic	CCV		Water	23.33 mg/L	10 ml	23.3 mg/L	1					6/6/20 05:37	N	IV
KQ2007452-04	Carbon, Total Organic	CCB		Water	0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/5/20 20:24	N	IV
KQ2007452-05	Carbon, Total Organic	CCB		Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 00:55	N	IV
KQ2007452-06	Carbon, Total Organic	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 05:52	N	IV
KQ2007452-07	Carbon, Total Organic	MB		Water	-0.23 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 06:06	N	IV
KQ2007452-08	Carbon, Total Organic	LCS		Water	21.27 mg/L	10 ml	21.3 mg/L	1	0.07	0.50	85		6/6/20 06:21	N	IV
KQ2007452-09	Carbon, Total Organic	MS	K2004483-001	Water	28.64 mg/L	10 ml	28.6 mg/L	1	0.07	0.50	114		6/6/20 00:25	N	IV
KQ2007452-10	Carbon, Total Organic	DUP	K2004483-001	Water	0.15 mg/L	10 ml	0.15 mg/L J	1	0.07	0.50		25*	6/5/20 23:57	N	IV
KQ2007452-11	Carbon, Total Organic	DUP	K2004483-002	Water	0.18 mg/L	10 ml	0.18 mg/L J	1	0.07	0.50		20*	6/6/20 01:09	N	IV
KQ2007452-12	Carbon, Total Organic	DUP	K2004483-003	Water	-0.17 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	6/6/20 01:38	N	IV
KQ2007452-13	Carbon, Total Organic	DUP	K2004484-003	Ground Water	2.35 mg/L	10 ml	2.35 mg/L	1	0.07	0.50		4	6/6/20 03:02	N	III
KQ2007452-14	Carbon, Total Organic	DUP	K2004484-001	Ground Water	0.28 mg/L	10 ml	0.28 mg/L J	1	0.07	0.50		1	6/6/20 02:06	N	III
KQ2007452-15	Carbon, Total Organic	DUP	K2004484-002	Ground Water	0.28 mg/L	10 ml	0.28 mg/L J	1	0.07	0.50		15*	6/6/20 02:34	N	III
KQ2007452-16	Carbon, Total Organic	DUP	K2004498-008	Ground Water	24.81 mg/L	10 ml	24.8 mg/L	1	0.07	0.50		2	6/6/20 03:30	N	II
KQ2007452-17	Carbon, Total Organic	DUP	K2004498-009	Ground Water	3.92 mg/L	10 ml	3.92 mg/L	1	0.07	0.50		5	6/6/20 03:58	N	II

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Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682348 **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
K2004410-001	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.73 mg/L	10 ml	0.73 mg/L	1	0.07	0.50			6/6/20 04:26	N	IV
K2004411-001	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	3.08 mg/L	10 ml	3.08 mg/L	1	0.07	0.50			6/6/20 08:00	N	IV
K2004413-001	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.87 mg/L	10 ml	1.87 mg/L	1	0.07	0.50			6/6/20 04:54	Y	III
K2004413-002	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	2.00 mg/L	10 ml	2.00 mg/L	1	0.07	0.50			6/6/20 06:36	N	III
K2004413-003	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	2.20 mg/L	10 ml	2.20 mg/L	1	0.07	0.50			6/6/20 07:04	N	III
K2004413-004	Carbon, Dissolved Organic (DOC)	N/A		Surface Water	1.31 mg/L	10 ml	1.31 mg/L	1	0.07	0.50			6/6/20 07:32	N	III
K2004414-001	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.35 mg/L	10 mL	0.35 mg/L J	1	0.07	0.50			6/6/20 09:25:00	Y	III
K2004414-002	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.36 mg/L	10 ml	0.36 mg/L J	1	0.07	0.50			6/6/20 08:28	N	III
K2004414-003	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	-0.19 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 08:56	N	III
K2004414-004	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.94 mg/L	10 ml	0.94 mg/L	1	0.07	0.50			6/6/20 10:37	N	III
K2004414-005	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.85 mg/L	10 ml	0.85 mg/L	1	0.07	0.50			6/6/20 11:05	N	III
K2004414-006	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	2.86 mg/L	10 ml	2.86 mg/L	1	0.07	0.50			6/6/20 11:33	N	III
K2004414-007	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.47 mg/L	10 ml	0.47 mg/L J	1	0.07	0.50			6/6/20 12:01	N	III
K2004484-001	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	0.46 mg/L	10 ml	0.46 mg/L J	1	0.07	0.50			6/6/20 12:30	N	III
K2004484-002	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	1.08 mg/L	10 ml	1.08 mg/L	1	0.07	0.50			6/6/20 12:58	N	III
K2004484-003	Carbon, Dissolved Organic (DOC)	N/A		Ground Water	2.43 mg/L	10 ml	2.43 mg/L	1	0.07	0.50			6/6/20 13:26	N	III
KQ2007453-01	Carbon, Dissolved Organic (DOC)	CCV		Ground Water	23.72 mg/L	10 ml	23.7 mg/L	1					6/6/20 00:40	N	IV
KQ2007453-02	Carbon, Dissolved Organic (DOC)	CCV		Ground Water	23.33 mg/L	10 ml	23.3 mg/L	1					6/6/20 05:37	N	IV
KQ2007453-03	Carbon, Dissolved Organic (DOC)	CCV		Ground Water	23.02 mg/L	10 ml	23.0 mg/L	1					6/6/20 10:07	N	IV
KQ2007453-04	Carbon, Dissolved Organic (DOC)	CCV		Ground Water	24.19 mg/L	10 ml	24.2 mg/L	1					6/6/20 14:52	N	IV
KQ2007453-05	Carbon, Dissolved Organic (DOC)	CCB		Ground Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 00:55	N	IV
KQ2007453-06	Carbon, Dissolved Organic (DOC)	CCB		Ground Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 05:52	N	IV
KQ2007453-07	Carbon, Dissolved Organic (DOC)	CCB		Ground Water	-0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 10:22	N	IV

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Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682348 **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
KQ2007453-08	Carbon, Dissolved Organic (DOC)	CCB		Ground Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 15:06	N	IV
KQ2007453-09	Carbon, Dissolved Organic (DOC)	MB		Ground Water	-0.35 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/6/20 14:22	N	IV
KQ2007453-10	Carbon, Dissolved Organic (DOC)	LCS		Ground Water	22.46 mg/L	10 ml	22.5 mg/L	1	0.07	0.50	90		6/6/20 14:37	N	IV
KQ2007453-11	Carbon, Dissolved Organic (DOC)	MS	K2004413-001	Surface Water	31.82 mg/L	10 ml	31.8 mg/L	1	0.07	0.50	120*		6/6/20 05:22	N	III
KQ2007453-12	Carbon, Dissolved Organic (DOC)	MS	K2004414-001	Ground Water	28.84 mg/L	10 ml	28.8 mg/L	1	0.07	0.50	114		6/6/20 09:53	N	III
KQ2007453-13	Carbon, Dissolved Organic (DOC)	DUP	K2004410-001	Ground Water	0.67 mg/L	10 ml	0.67 mg/L	1	0.07	0.50		8	6/6/20 04:26	N	IV
KQ2007453-14	Carbon, Dissolved Organic (DOC)	DUP	K2004411-001	Surface Water	3.00 mg/L	10 ml	3.00 mg/L	1	0.07	0.50		3	6/6/20 08:00	N	IV
KQ2007453-15	Carbon, Dissolved Organic (DOC)	DUP	K2004413-001	Surface Water	1.92 mg/L	10 ml	1.92 mg/L	1	0.07	0.50		3	6/6/20 04:54	N	III
KQ2007453-16	Carbon, Dissolved Organic (DOC)	DUP	K2004413-002	Surface Water	1.89 mg/L	10 ml	1.89 mg/L	1	0.07	0.50		5	6/6/20 06:36	N	III
KQ2007453-17	Carbon, Dissolved Organic (DOC)	DUP	K2004413-003	Surface Water	2.20 mg/L	10 ml	2.20 mg/L	1	0.07	0.50		<1	6/6/20 07:04	N	III
KQ2007453-18	Carbon, Dissolved Organic (DOC)	DUP	K2004413-004	Surface Water	1.29 mg/L	10 ml	1.29 mg/L	1	0.07	0.50		1	6/6/20 07:32	N	III
KQ2007453-19	Carbon, Dissolved Organic (DOC)	DUP	K2004414-001	Ground Water	0.35 mg/L	10 mL	0.35 mg/L J	1	0.07	0.50		<1	6/6/20 09:25:00	N	III
KQ2007453-20	Carbon, Dissolved Organic (DOC)	DUP	K2004414-002	Ground Water	0.32 mg/L	10 ml	0.32 mg/L J	1	0.07	0.50		14*	6/6/20 08:28	N	III
KQ2007453-21	Carbon, Dissolved Organic (DOC)	DUP	K2004414-003	Ground Water	-0.22 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	6/6/20 08:56	N	III
KQ2007453-22	Carbon, Dissolved Organic (DOC)	DUP	K2004414-004	Ground Water	0.90 mg/L	10 ml	0.90 mg/L	1	0.07	0.50		5	6/6/20 10:37	N	III
KQ2007453-23	Carbon, Dissolved Organic (DOC)	DUP	K2004414-005	Ground Water	0.87 mg/L	10 ml	0.87 mg/L	1	0.07	0.50		2	6/6/20 11:05	N	III
KQ2007453-24	Carbon, Dissolved Organic (DOC)	DUP	K2004414-006	Ground Water	2.88 mg/L	10 ml	2.88 mg/L	1	0.07	0.50		<1	6/6/20 11:33	N	III
KQ2007453-25	Carbon, Dissolved Organic (DOC)	DUP	K2004414-007	Ground Water	0.43 mg/L	10 ml	0.43 mg/L J	1	0.07	0.50		9	6/6/20 12:01	N	III
KQ2007453-26	Carbon, Dissolved Organic (DOC)	DUP	K2004484-003	Ground Water	2.44 mg/L	10 ml	2.44 mg/L	1	0.07	0.50		<1	6/6/20 13:26	N	III
KQ2007453-27	Carbon, Dissolved Organic (DOC)	DUP	K2004484-001	Ground Water	0.38 mg/L	10 ml	0.38 mg/L J	1	0.07	0.50		17*	6/6/20 12:30	N	III
KQ2007453-28	Carbon, Dissolved Organic (DOC)	DUP	K2004484-002	Ground Water	1.04 mg/L	10 ml	1.04 mg/L	1	0.07	0.50		4	6/6/20 12:58	N	III

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

0.664				OBSERVATIONS	17	ABOVE
0.461	0.461	0.461	0.461	STD Deviation	0.16178	0.4606
0.568	0.568	0.568	0.568	AVERAGE	0.43012	0.568
0.451	0.451	0.451	0.451	UCL	0.59191	0.451
0.384	0.384	0.384	0.384	LCL	0.26834	0.3842
0.592						ABOVE
0.655						ABOVE
0.357	0.357	0.357	0.357	OBSERVATIONS	11	0.3567
0.617				STD Deviation	0.18252	ABOVE
0.476	0.476	0.476	0.476	AVERAGE	0.41268	0.4761
0.292	0.292	0.292	0.292	UCL	0.59520	0.2921
0.391	0.391	0.391	0.391	LCL	0.23016	0.3905
0.382	0.382	0.382	0.382			0.3818
0.180						BELOW
0.394	0.394	0.394	0.394	OBSERVATIONS	11	0.394
0.065				STD Deviation	0.18252	BELOW
0.385	0.385	0.385	0.385	AVERAGE	0.41268	0.3845
				UCL	0.59520	BELOW
				LCL	0.23016	BELOW
						BELOW
						BELOW
				OBSERVATIONS	11	BELOW
				STD Deviation	0.07634	BELOW
				AVERAGE	0.41268	BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW

5/6/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.729	0.4127	24.3158	24.31582	24.3	6/5/2020
3	ccb	1	0.617	0.4127	0.2042	0.20422	<0.5	6/5/2020
4	K2004492-009	1	1.143	0.4127	0.7302	0.73022	0.7	6/5/2020
5	K2004492-009	1	1.095	0.4127	0.6826	0.68262	0.7	6/5/2020
6	K2004414-002	1	0.908	0.4127	0.4954	0.49542	<0.5	6/5/2020
7	K2004414-002	1	0.893	0.4127	0.4805	0.48052	<0.5	6/5/2020
8	K2004414-003	1	0.394	0.4127	-0.0189	-0.01888	<0.5	6/5/2020
9	K2004414-003	1	0.365	0.4127	-0.0474	-0.04738	<0.5	6/5/2020
10	K2004414-004	1	1.040	0.4127	0.6271	0.62712	0.63	6/5/2020
11	K2004414-004	1	1.004	0.4127	0.5911	0.59112	0.6	6/5/2020
12	K2004414-005	1	0.641	0.4127	0.2281	0.22812	<0.5	6/5/2020
13	K2004414-005	1	0.603	0.4127	0.1899	0.18992	<0.5	6/5/2020
14	K2004414-006	1	3.038	0.4127	2.6249	2.62492	2.62	6/5/2020
15	K2004414-006	1	2.969	0.4127	2.5567	2.55672	2.6	6/5/2020
16	K2004414-007	1	0.913	0.4127	0.5007	0.50072	0.5	6/5/2020
17	K2004414-007	1	0.868	0.4127	0.4548	0.45482	<0.5	6/5/2020
18	K2004498-001	1	2.125	0.4127	1.7119	1.71192	1.7	6/5/2020
19	K2004498-001	1	2.067	0.4127	1.6542	1.65422	1.7	6/5/2020
20	K2004414-001	1	0.825	0.4127	0.4122	0.41222	<0.5	6/5/2020
21	K2004414-001	1	0.777	0.4127	0.3638	0.36382	<0.5	6/5/2020
22	4414-1ms	1	29.175	0.4127	28.7622	28.76222	28.8	6/5/2020
23	ccv	1	24.508	0.4127	24.0948	24.09482	24.1	6/5/2020
24	ccb	1	0.476	0.4127	0.0634	0.06342	<0.5	6/5/2020
25	mb	1	0.292	0.4127	-0.1206	-0.12058	<0.5	6/5/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By: BN	Date Analyzed	6/6/20	
Reviewed By:	Date Reviewed	6/8/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	lcs	1	22.555	0.4127	22.1427	22.14272	22.14	6/5/2020
27	K2004498-002	1	1.820	0.4127	1.4068	1.40682	1.41	6/5/2020
28	K2004498-002	1	1.629	0.4127	1.2164	1.21642	1.2	6/5/2020
29	K2004498-003	1	1.879	0.4127	1.4664	1.46642	1.5	6/5/2020
30	K2004498-003	1	1.828	0.4127	1.4148	1.41482	1.4	6/5/2020
31	K2004498-004	1	2.619	0.4127	2.2065	2.20652	2.2	6/5/2020
32	K2004498-004	1	2.592	0.4127	2.1797	2.17972	2.2	6/5/2020
33	K2004498-005	1	1.498	0.4127	1.0852	1.08522	1.1	6/5/2020
34	K2004498-005	1	1.436	0.4127	1.0235	1.02352	1.0	6/5/2020
35	K2004498-006	1	3.294	0.4127	2.8815	2.88152	2.9	6/5/2020
36	K2004498-006	1	3.356	0.4127	2.9437	2.94372	2.9	6/5/2020
37	K2004498-007	1	3.411	0.4127	2.9986	2.99862	3.0	6/5/2020
38	K2004498-007	1	3.295	0.4127	2.8823	2.88232	2.9	6/5/2020
39	ccv	1	24.131	0.4127	23.7185	23.71852	23.7	6/6/2020
40	ccb	1	0.391	0.4127	-0.0222	-0.02218	<0.5	6/6/2020
41	ccv	1	24.776	0.2169	24.5592	24.55924	24.6	5/14/2020
42	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	BDP	Date Analyzed	6/16/20
Reviewed By:		Date Reviewed	6/16/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.508	0.4127	24.0948	24.09482	24.1	6/5/2020
3	ccb	1	0.476	0.4127	0.0634	0.06342	<0.5	6/5/2020
4	K2004483-001	1	0.528	0.4127	0.1150	0.11502	<0.5	6/5/2020
5	K2004483-001	1	0.560	0.4127	0.1473	0.14732	<0.5	6/5/2020
6	KQ2007452-09	1	29.051	0.4127	28.6379	28.63792	28.64	6/6/2020
7	ccv	1	24.131	0.4127	23.7185	23.71852	23.7	6/6/2020
8	ccb	1	0.391	0.4127	-0.0222	-0.02218	<0.5	6/6/2020
9	K2004483-002	1	0.636	0.4127	0.2229	0.22292	<0.5	6/6/2020
10	K2004483-002	1	0.596	0.4127	0.1832	0.18322	<0.5	6/6/2020
11	K2004483-003	1	0.286	0.4127	-0.1267	-0.12668	<0.5	6/6/2020
12	K2004483-003	1	0.246	0.4127	-0.1667	-0.16668	<0.5	6/6/2020
13	K2004484-001	1	0.697	0.4127	0.2839	0.28392	<0.5	6/6/2020
14	K2004484-001	1	0.693	0.4127	0.2801	0.28012	<0.5	6/6/2020
15	K2004484-002	1	0.734	0.4127	0.3214	0.32142	<0.5	6/6/2020
16	K2004484-002	1	0.691	0.4127	0.2779	0.27792	<0.5	6/6/2020
17	K2004484-003	1	2.855	0.4127	2.4424	2.44242	2.44	6/6/2020
18	K2004484-003	1	2.762	0.4127	2.3488	2.34882	2.3	6/6/2020
19	K2004498-008	1	24.800	0.4127	24.3873	24.38732	24.4	6/6/2020
20	K2004498-008	1	25.221	0.4127	24.8079	24.80792	24.81	6/6/2020
21	K2004498-009	1	4.528	0.4127	4.1150	4.11502	4.12	6/6/2020
22	K2004498-009	1	4.328	0.4127	3.9154	3.91542	3.9	6/6/2020
23	ccv	1	23.743	0.4127	23.3299	23.32992	23.3	6/6/2020
24	ccb	1	0.382	0.4127	-0.0309	-0.03088	<0.5	6/6/2020
25	mb	1	0.180	0.4127	-0.2331	-0.23308	<0.5	6/6/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

date time

Analyzed By:	BVP	Date Analyzed	6/6/20
Reviewed By:		Date Reviewed	6/8/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	lcs	1	21.678	0.4127	21.2656	21.26562	21.27	6/6/2020
27	K2003842-010.06 doc	1	0.193	0.2169	-0.0235	-0.02346	<0.5	5/14/2020
28	K2003842-010.06 doc	1	0.137	0.2169	-0.0801	-0.08006	<0.5	5/14/2020
29	K2003842-011.06 doc	1	0.662	0.2169	0.4451	0.44514	<0.5	5/14/2020
30	K2003842-011.06 doc	1	0.640	0.2169	0.4229	0.42294	<0.5	5/14/2020
31	ccv	1	25.097	0.2169	24.8796	24.87964	24.9	5/14/2020
32	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
33	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
34	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
35	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
36	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
37	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
38	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
39	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
40	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
41	ccv	1	24.776	0.2169	24.5592	24.55924	24.6	5/14/2020
42	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	BVP	Date Analyzed	6/6/20
Reviewed By:	JC	Date Reviewed	6/8/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.950	0.4127	24.5371	24.53712	24.5	6/5/2020
3	ccb	1	0.592	0.4127	0.1796	0.17962	<0.5	6/5/2020
4	K2004110-004	1	15.956	0.4127	15.5430	15.54302	15.5	6/5/2020
5	K2004110-004	1	16.715	0.4127	16.3027	16.30272	16.3	6/5/2020
6	K2004561-001	10	2.780	0.4127	2.3673	23.6732	23.67	6/5/2020
7	K2004561-001	10	2.478	0.4127	2.0649	20.6492	20.6	6/5/2020
8	K2004561-002	1	11.446	0.4127	11.0329	11.03292	11	6/5/2020
9	K2004561-002	1	11.683	0.4127	11.2704	11.27042	11.27	6/5/2020
10	KQ2007578-09	1	44.251	0.4127	43.8386	43.83862	43.84	6/5/2020
11	ccv	1	25.340	0.4127	24.9276	24.92762	24.9	6/5/2020
12	ccb	1	0.655	0.4127	0.2421	0.24212	<0.5	6/5/2020
13	mb	1	0.357	0.4127	-0.0560	-0.05598	<0.5	6/5/2020
14	lcs	1	23.276	0.4127	22.8630	22.86302	22.86	6/5/2020
15	K2004561-003	10	8.785	0.4127	8.3724	83.7242	83.7	6/5/2020
16	K2004561-003	10	10.216	0.4127	9.8037	98.0372	98.0	6/5/2020
17	K2004561-004	10	3.377	0.4127	2.9644	29.6442	29.64	6/5/2020
18	K2004561-004	10	2.781	0.4127	2.3687	23.6872	23.7	6/5/2020
19	K2004561-005	10	2.607	0.4127	2.1947	21.9472	21.9	6/5/2020
20	K2004561-005	10	2.508	0.4127	2.0949	20.9492	20.95	6/5/2020
21	K2004561-006	5	14.661	0.4127	14.2483	71.2416	71.24	6/5/2020
22	K2004561-006	5	15.143	0.4127	14.7301	73.6506	73.7	6/5/2020
23	K2004561-007	1	18.558	0.4127	18.1453	18.14532	18.1	6/5/2020
24	K2004561-007	1	18.194	0.4127	17.7815	17.78152	17.78	6/5/2020
25	K2004561-008	10	2.126	0.4127	1.7135	17.1352	17.14	6/5/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By: BCP	Date Analyzed	6/16/20	
Reviewed By: JC	Date Reviewed	6/22/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2004561-008	10	1.427	0.4127	1.0143	10.1432	10.14	6/5/2020
27	K2004521-001	1	3.368	0.4127	2.9554	2.95542	2.96	6/5/2020
28	K2004521-001	1	3.204	0.4127	2.7916	2.79162	2.8	6/5/2020
29	K2004541-002	1	1.061	0.4127	0.6485	0.64852	0.6	6/5/2020
30	K2004541-002	1	0.915	0.4127	0.5018	0.50182	0.5	6/5/2020
31	ccv	1	24.729	0.4127	24.3158	24.31582	24.3	6/5/2020
32	ccb	1	0.617	0.4127	0.2042	0.20422	<0.5	6/5/2020
33	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
34	K2003842-012.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
35	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
36	K2003842-013.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
37	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
38	K2003842-014.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
39	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
40	K2003842-015.06 doc	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
41	ccv	1	24.776	0.2169	24.5592	24.55924	24.6	5/14/2020
42	ccb	1	0.000	0.2169	-0.2169	-0.21686	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	BW	Date Analyzed	6/16/20
Reviewed By:	JC	Date Reviewed	6/18/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.131	0.4127	23.7185	23.71852	23.7	6/6/2020
3	ccb	1	0.391	0.4127	-0.0222	-0.02218	<0.5	6/6/2020
4	K2004410-001	1	1.140	0.4127	0.7274	0.72742	0.7	6/6/2020
5	K2004410-001	1	1.086	0.4127	0.6732	0.67322	0.7	6/6/2020
6	K2004413-001	1	2.285	0.4127	1.8724	1.87242	1.87	6/6/2020
7	K2004413-001	1	2.334	0.4127	1.9215	1.92152	1.9	6/6/2020
8	KQ2007453-11	1	32.229	0.4127	31.8158	31.81582	32	6/6/2020
9	ccv	1	23.743	0.4127	23.3299	23.32992	23.33	6/6/2020
10	ccb	1	0.382	0.4127	-0.0309	-0.03088	<0.5	6/6/2020
11	K2004413-002	1	2.409	0.4127	1.9967	1.99672	2.0	6/6/2020
12	K2004413-002	1	2.304	0.4127	1.8909	1.89092	1.89	6/6/2020
13	K2004413-003	1	2.613	0.4127	2.1999	2.19992	2.20	6/6/2020
14	K2004413-003	1	2.612	0.4127	2.1996	2.19962	2.20	6/6/2020
15	K2004413-004	1	1.721	0.4127	1.3086	1.30862	1.3	6/6/2020
16	K2004413-004	1	1.703	0.4127	1.2905	1.29052	1.3	6/6/2020
17	K2004411-001	1	3.495	0.4127	3.0818	3.08182	3.08	6/6/2020
18	K2004411-001	1	3.409	0.4127	2.9967	2.99672	3.0	6/6/2020
19	4414-2	1	0.777	0.4127	0.3643	0.36432	<0.5	6/6/2020
20	4414-2	1	0.730	0.4127	0.3171	0.31712	<0.5	6/6/2020
21	4414-3	1	0.223	0.4127	-0.1901	-0.19008	<0.5	6/6/2020
22	4414-3	1	0.191	0.4127	-0.2221	-0.22208	<0.5	6/6/2020
23	4414-4	1	0.764	0.4127	0.3510	0.35102	<0.5	6/6/2020
24	4414-4	1	0.764	0.4127	0.3514	0.35142	<0.5	6/6/2020
25	4414-4 ms	1	29.256	0.4127	28.8433	28.84332	28.84	6/6/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By: BVP	Date Analyzed	6/6/20	
Reviewed By: JC	Date Reviewed	6/8/20	

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	ccv	1	23.430	0.4127	23.0171	23.01712	23.02	6/6/2020
27	ccb	1	0.394	0.4127	-0.0187	-0.01868	<0.5	6/6/2020
28	4414-4	1	1.358	0.4127	0.9449	0.94492	0.9	6/6/2020
29	4414-4	1	1.309	0.4127	0.8965	0.89652	0.9	6/6/2020
30	4414-5	1	1.265	0.4127	0.8520	0.85202	0.9	6/6/2020
31	4414-5	1	1.282	0.4127	0.8694	0.86942	0.9	6/6/2020
32	4414-6	1	3.275	0.4127	2.8624	2.86242	2.9	6/6/2020
33	4414-6	1	3.293	0.4127	2.8807	2.88072	2.9	6/6/2020
34	4414-7	1	0.880	0.4127	0.4677	0.46772	<0.5	6/6/2020
35	4414-7	1	0.842	0.4127	0.4290	0.42902	<0.5	6/6/2020
36	4484-1	1	0.868	0.4127	0.4554	0.45542	<0.5	6/6/2020
37	4484-1	1	0.797	0.4127	0.3840	0.38402	<0.5	6/6/2020
38	4484-2	1	1.490	0.4127	1.0771	1.07712	1.1	6/6/2020
39	4484-2	1	1.451	0.4127	1.0385	1.03852	1.0	6/6/2020
40	4484-3	1	2.842	0.4127	2.4295	2.42952	2.4	6/6/2020
41	4484-3	1	2.850	0.4127	2.4376	2.43762	2.4	6/6/2020
42	mb	1	0.065	0.4127	-0.3477	-0.34768	<0.5	6/6/2020
43	lcs	1	22.870	0.4127	22.4577	22.45772	22.5	6/6/2020
44	ccv	1	24.601	0.4127	24.1887	24.18872	24.2	6/6/2020
45	ccb	1	0.385	0.4127	-0.0282	-0.02818	<0.5	6/6/2020
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By: BW	Date Analyzed 6/6/20
Reviewed By:	Date Reviewed 6/8/20

TOC: 682633, 682634, 682346, 682347, DOC: 682348

Schedule: 06042020

Version: 4
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/06/04 13:31 - Thursday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use
(Clean)	Clean	Clean		1	True
(Clean)	Clean	Clean		1	True
(Clean)	Clean	Clean		1	True
(Blank)	Blank	Reagent/Acid Blank		1	True
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Cal Standard	[TOC] CAS_salt_010711 CAL [DI Water]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [0.500 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [1.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [5.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [10 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [50 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	4	True
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	4	True
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True
3	Sample	K2004490-001.01	CAS_salt_010711 (CAS_salt_010711)	4	True
4	Sample	K2004490-002.01	CAS_salt_010711 (CAS_salt_010711)	4	True
5	Sample	K2004490-003.01	CAS_salt_010711 (CAS_salt_010711)	4	True
6	Sample	K2004490-004.01	CAS_salt_010711 (CAS_salt_010711)	4	True
7	Sample	K2004490-005.01	CAS_salt_010711 (CAS_salt_010711)	4	True
8	Sample	K2004490-006.01	CAS_salt_010711 (CAS_salt_010711)	4	True
9	Sample	K2004490-007.01	CAS_salt_010711 (CAS_salt_010711)	4	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
10	Sample	K2004490-008.01	CAS_salt_010711 (CAS_salt_010711)	4	True
11	Sample	K2004490-009.01	CAS_salt_010711 (CAS_salt_010711)	4	True
12	Sample	K2004490-010.01	CAS_salt_010711 (CAS_salt_010711)	4	True
13	Sample	K2004490-011.01	CAS_salt_010711 (CAS_salt_010711)	4	True
14	Sample	K2004110-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True
15	Sample	K2004561-001.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
16	Sample	K2004561-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True
17	Sample	K2004490-012.01	CAS_salt_010711 (CAS_salt_010711)	4	True
18	Sample	K2004490-012.01 ms	CAS_salt_010711 (CAS_salt_010711)	4	True
19	Sample	K2004110-004.02 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
21	Sample	K2004561-003.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
22	Sample	K2004561-004.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
23	Sample	K2004561-005.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
24	Sample	K2004561-006.01 5x	CAS_salt_010711 (CAS_salt_010711)	2	True
25	Sample	K2004561-007.01	CAS_salt_010711 (CAS_salt_010711)	2	True
26	Sample	K2004561-008.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
27	Sample	K2004521-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
28	Sample	K2004541-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
29	Sample	K2004492-009.01	CAS_salt_010711 (CAS_salt_010711)	2	True
30	Sample	K2004414-002.07	CAS_salt_010711 (CAS_salt_010711)	2	True
31	Sample	K2004414-003.07	CAS_salt_010711 (CAS_salt_010711)	2	True
32	Sample	K2004414-004.07	CAS_salt_010711 (CAS_salt_010711)	2	True

Schedule: 06042020

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use
33	Sample	K2004414-005.07	CAS_salt_010711 (CAS_salt_010711)	2	True
34	Sample	K2004414-006.07	CAS_salt_010711 (CAS_salt_010711)	2	True
35	Sample	K2004414-007.07	CAS_salt_010711 (CAS_salt_010711)	2	True
36	Sample	K2004498-001.04	CAS_salt_010711 (CAS_salt_010711)	2	True
37	Sample	K2004414-001.07	CAS_salt_010711 (CAS_salt_010711)	2	True
38	Sample	K2004414-001.07 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
40	Sample	K2004498-002.04	CAS_salt_010711 (CAS_salt_010711)	2	True
41	Sample	K2004498-003.04	CAS_salt_010711 (CAS_salt_010711)	2	True
42	Sample	K2004498-004.04	CAS_salt_010711 (CAS_salt_010711)	2	True
43	Sample	K2004498-005.04	CAS_salt_010711 (CAS_salt_010711)	2	True
44	Sample	K2004498-006.04	CAS_salt_010711 (CAS_salt_010711)	2	True
45	Sample	K2004498-007.04	CAS_salt_010711 (CAS_salt_010711)	2	True
46	Sample	K2004483-001.10	CAS_salt_010711 (CAS_salt_010711)	2	True
47	Sample	K2004483-001.10 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
48	Sample	K2004483-002.04	CAS_salt_010711 (CAS_salt_010711)	2	True
49	Sample	K2004483-003.04	CAS_salt_010711 (CAS_salt_010711)	2	True
50	Sample	K2004484-001.07	CAS_salt_010711 (CAS_salt_010711)	2	True
51	Sample	K2004484-002.07	CAS_salt_010711 (CAS_salt_010711)	2	True
52	Sample	K2004484-003.07	CAS_salt_010711 (CAS_salt_010711)	2	True
53	Sample	K2004498-008.04	CAS_salt_010711 (CAS_salt_010711)	2	True
54	Sample	K2004498-009.04	CAS_salt_010711 (CAS_salt_010711)	2	True
55	Sample	K2004410-001.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
56	Sample	K2004413-001.15 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
57	Sample	K2004413-001.15 doc ms	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
58	Sample	MB4	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
59	Sample	K2004413-002.05 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
60	Sample	K2004413-003.05 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
61	Sample	K2004413-004.05 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
62	Sample	K2004411-001.05 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
63	Sample	K2004414-002.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
64	Sample	K2004414-003.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
65	Sample	K2004414-001.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
66	Sample	K2004414-001.02 ms doc	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
67	Sample	K2004414-004.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
68	Sample	K2004414-005.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
69	Sample	K2004414-006.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
70	Sample	K2004414-007.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
71	Sample	K2004484-001.08 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
72	Sample	K2004484-002.08 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
73	Sample	K2004484-003.08 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
74	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True
75	Sample	MB5	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
					False

Fusion Report - 06042020
Thursday, June 04, 2020 02:09 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/06/06 17:16 - Saturday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	06042020	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) (v4)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 4

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/04 14:09

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	11.35	15.07	3.72	49.70	05:21
2	TC Clean	4.16	7.58	3.43	50.28	04:03
3	TC Clean	1.32	4.88	3.56	50.26	03:47
4	TC Clean	1.18	4.85	3.67	50.23	03:46

Sample Type: Clean — From Schedule Version 4

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/04 14:30

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.63	4.03	3.40	49.80	05:15
2	TC Clean	2.98	6.49	3.51	50.39	04:03
3	TC Clean	1.66	5.20	3.54	50.30	03:46
4	TC Clean	1.77	5.19	3.42	50.00	03:43

Sample Type: Clean From Schedule Version 4

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/04 14:52

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.65	4.12	3.48	49.76	05:11
2	TC Clean	3.42	6.88	3.46	50.23	03:59
3	TC Clean	1.74	5.31	3.57	50.20	03:44
4	TC Clean	1.56	5.37	3.80	50.12	03:47

Sample Type: Blank (Creating v1394) From Schedule Version 4

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/06/04 15:14

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.88	4.27	3.39	49.37	05:08
2	TC Clean	3.58	7.03	3.46	50.15	04:00
3	TC Clean	1.95	5.63	3.68	49.91	03:49
4	TC Clean	2.03	5.67	3.64	50.02	03:50
5	Reagent Blank	5.28	8.98	3.70	50.07	05:03
6	Acid Blank	1.09	4.71	3.62	49.69	05:26

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.7155 ppm	0.0000 ppm	0.0000%	2020/06/04 15:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7155	7.1546	8.63	12.27	3.63	50.13	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.6874 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v36)

Sample Type: Calibration Standard: CAS_salt_010711 CAL (Creating calibration From Schedule Version 4

CAS_salt_010711 v37)

	Pos	BAT	Concentration (ppm)	STD Conc	Dil	Sample ID	Result (Abs)	Std. Dev. (Abs)	RSD	Start Time
◆	D	TOC	0.0000	0 ppmC	1:1	[TOC] CAS_salt_010711 CAL [DI Water]	6.8000	0.0000	0%	2020/06/04 16:02
◆	A	TOC	0.5000	5 ppmC	1:10	[TOC] CAS_salt_010711 CAL [0.500 ppm]	7.9000	0.0000	0%	2020/06/04 16:16
◆	A	TOC	1.0000	5 ppmC	1:5	[TOC] CAS_salt_010711 CAL [1.0 ppm]	9.1600	0.0000	0%	2020/06/04 16:31
◆	A	TOC	5.0000	5 ppmC	1:1	[TOC] CAS_salt_010711 CAL [5.0 ppm]	22.9500	0.0000	0%	2020/06/04 16:45
◆	B	TOC	10.0000	50 ppmC	1:5	[TOC] CAS_salt_010711 CAL [10 ppm]	68.0970	0.0000	0%	2020/06/04 16:59
◆	B	TOC	25.0000	50 ppmC	1:2	[TOC] CAS_salt_010711 CAL [25 ppm]	163.0030	0.0000	0%	2020/06/04 17:14
◆	B	TOC	50.0000	50 ppmC	1:1	[TOC] CAS_salt_010711 CAL [50 ppm]	315.2880	0.0000	0%	2020/06/04 17:28

Pos	Base Analysis Type	ID	Rep #	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	DI Water	1	6.80	10.45	3.65	50.09	10:30
A	TOC	0.500 ppm	1	7.90	11.52	3.62	50.12	10:29
A	TOC	1.0 ppm	1	9.16	12.71	3.55	50.02	10:30
A	TOC	5.0 ppm	1	22.95	26.34	3.39	50.07	10:32
B	TOC	10 ppm	1	68.10	71.48	3.38	50.03	10:35
B	TOC	25 ppm	1	163.00	166.47	3.46	50.00	10:30
B	TOC	50 ppm	1	315.29	318.86	3.57	50.04	10:31

Completion State
Success - All Update Conditions met

Method
CAS_salt_010711 (v4)

Success Action
Auto (always)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.8014 ppm (PASS)	0.0000 ppm	0%	2020/06/04 17:42

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.8014	258.0139	164.61	168.12	3.51	50.01	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.6640 ppm (PASS)	0.0000 ppm	0%	2020/06/04 17:56

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.6640	6.6405	6.90	10.54	3.64	49.98	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.4660 ppm	0.0760 ppm	16.3200%	2020/06/04 18:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4606	4.6058	6.41	9.86	3.45	50.05	10:28
2	TOC	0.5680	5.6801	7.08	10.77	3.69	50.04	10:30
3	TOC	0.4510	4.5102	6.35	9.77	3.42	50.03	10:30
4	TOC	0.3842	3.8423	5.93	9.50	3.57	50.04	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS From Schedule Version 4

	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)	23.8270 ppm (PASS)	0.1273 ppm	0.53%	2020/06/04 19:07

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.9238	239.2379	152.83	156.29	3.46	50.02	10:28

C	TOC	25.0 ppm	2	23.8757	238.7565	152.53	156.14	3.61	49.95	10:24
C	TOC	25.0 ppm	3	23.8688	238.6880	152.48	156.06	3.58	49.99	10:27
C	TOC	25.0 ppm	4	23.6396	236.3960	151.05	154.59	3.55	49.97	10:28

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.8965 ppm	0.0000 ppm	0.0000%	2020/06/04 20:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8965	8.9651	9.15	12.67	3.53	49.92	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2004490-001.01	13.3428 ppm	0.0985 ppm	0.7400%	2020/06/04 20:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	13.3704	133.7042	87.41	90.91	3.50	49.87	10:32
2	TOC	13.1975	131.9748	86.32	89.90	3.58	49.84	10:29
3	TOC	13.4147	134.1473	87.68	91.19	3.50	49.83	10:26
4	TOC	13.3884	133.8843	87.52	91.25	3.73	49.81	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2004490-002.01	6.1573 ppm	0.0794 ppm	1.2900%	2020/06/04 21:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.2550	62.5499	42.76	46.32	3.56	49.80	10:29
2	TOC	6.1543	61.5426	42.13	45.73	3.60	49.80	10:28
3	TOC	6.0605	60.6054	41.54	45.19	3.65	49.80	10:27
4	TOC	6.1595	61.5952	42.17	45.58	3.41	49.81	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2004490-003.01	8.2982 ppm	0.0830 ppm	1.0000%	2020/06/04 22:09

Rep	Base			Adjusted		Baseline	Pressure	Run

#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	8.4036	84.0355	56.24	59.61	3.37	49.81	10:30
2	TOC	8.2617	82.6170	55.36	58.84	3.49	49.82	10:30
3	TOC	8.3181	83.1812	55.71	59.17	3.47	49.83	10:26
4	TOC	8.2096	82.0958	55.03	58.47	3.44	49.85	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	K2004490-004.01	8.3267 ppm	0.0537 ppm	0.6400%	2020/06/04 23:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.3419	83.4187	55.86	59.39	3.54	49.86	10:26
2	TOC	8.3895	83.8953	56.16	59.57	3.42	49.88	10:29
3	TOC	8.2611	82.6106	55.35	58.96	3.61	49.87	10:27
4	TOC	8.3145	83.1445	55.69	59.24	3.55	49.88	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2004490-005.01	8.1206 ppm	0.0376 ppm	0.4600%	2020/06/05 00:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.1377	81.3769	54.58	58.12	3.54	49.89	10:25
2	TOC	8.1589	81.5889	54.71	58.23	3.52	49.91	10:26
3	TOC	8.1146	81.1458	54.43	57.87	3.43	49.91	10:30
4	TOC	8.0711	80.7107	54.16	57.72	3.56	49.93	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2004490-006.01	7.8157 ppm	0.0718 ppm	0.9200%	2020/06/05 00:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.9026	79.0259	53.10	56.55	3.44	49.93	10:26
2	TOC	7.8049	78.0489	52.49	55.94	3.45	49.94	10:29
3	TOC	7.8272	78.2720	52.63	56.06	3.43	49.95	10:28
4	TOC	7.7281	77.2806	52.01	55.38	3.38	49.98	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◈	9	TOC	K2004490-007.01	12.8878 ppm	0.0783 ppm	0.6100%	2020/06/05 01:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.8511	128.5113	84.15	87.60	3.45	49.98	10:28
2	TOC	12.9036	129.0357	84.48	87.96	3.48	49.99	10:28
3	TOC	12.8071	128.0714	83.87	87.32	3.44	49.99	10:27
4	TOC	12.9892	129.8916	85.02	88.25	3.24	50.04	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.9498 ppm (PASS)	0.0000 ppm	0%	2020/06/05 02:47

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9498	249.4977	159.27	162.64	3.38	50.01	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.5923 ppm (PASS)	0.0000 ppm	0%	2020/06/05 03:02

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.5923	5.9232	6.45	9.85	3.40	50.02	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	10	TOC	K2004490-008.01	2.8643 ppm	0.0196 ppm	0.6900%	2020/06/05 03:16

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

1	TOC	2.8635	28.6352	21.49	25.06	3.57	50.03	10:28
2	TOC	2.8862	28.8616	21.63	25.18	3.55	50.03	10:25
3	TOC	2.8688	28.6878	21.52	25.10	3.58	50.03	10:26
4	TOC	2.8387	28.3866	21.33	24.90	3.57	50.04	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2004490-009.01	2.2245 ppm	0.0307 ppm	1.3800%	2020/06/05 04:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2665	22.6645	17.74	21.35	3.61	50.06	10:30
2	TOC	2.2241	22.2406	17.48	21.01	3.53	50.08	10:28
3	TOC	2.2139	22.1385	17.41	20.96	3.55	50.07	10:30
4	TOC	2.1936	21.9361	17.28	20.72	3.44	50.07	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2004490-010.01	6.2711 ppm	0.0582 ppm	0.9300%	2020/06/05 05:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.3431	63.4314	43.32	46.84	3.52	50.09	10:29
2	TOC	6.2465	62.4655	42.71	46.21	3.50	50.10	10:26
3	TOC	6.2875	62.8751	42.97	46.48	3.51	50.10	10:29
4	TOC	6.2070	62.0702	42.46	46.01	3.54	50.11	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	13	TOC	K2004490-011.01	10.3048 ppm	0.0606 ppm	0.5900%	2020/06/05 06:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.2574	102.5740	67.88	71.43	3.55	50.12	10:29
2	TOC	10.2883	102.8832	68.07	71.74	3.67	50.09	10:28
3	TOC	10.3935	103.9352	68.73	72.27	3.54	50.12	10:28
4	TOC	10.2800	102.8004	68.02	71.52	3.50	50.15	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	14	TOC	K2004110-004.02	16.3355 ppm	0.5372 ppm	3.2900%	2020/06/05 06:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	15.9557	159.5570	103.63	107.23	3.61	50.13	10:30
2	TOC	16.7154	167.1535	108.39	112.10	3.70	50.14	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2004561-001.01 10x	2.6288 ppm	0.2138 ppm	8.1300%	2020/06/05 07:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7800	27.8000	20.96	24.45	3.49	50.14	10:29
2	TOC	2.4776	24.7764	19.07	22.66	3.59	50.13	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K2004561-002.01	11.5644 ppm	0.1679 ppm	1.4500%	2020/06/05 07:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	11.4456	114.4564	75.33	78.71	3.37	50.11	10:30
2	TOC	11.6831	116.8313	76.82	80.34	3.52	50.11	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2004490-012.01	6.8356 ppm	0.1063 ppm	1.5600%	2020/06/05 08:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.9810	69.8101	47.32	50.78	3.46	50.12	10:26
2	TOC	6.7886	67.8863	46.11	49.71	3.60	50.09	10:30
3	TOC	6.8398	68.3979	46.43	49.98	3.54	50.07	10:27
4	TOC	6.7328	67.3284	45.76	49.35	3.58	50.08	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2004490-012.01 ms	34.6474 ppm	0.1306 ppm	0.3800%	2020/06/05 09:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	34.5074	345.0743	220.02	223.50	3.48	50.06	10:27
2	TOC	34.7717	347.7169	221.68	225.41	3.74	50.06	10:30

3	TOC	34.7448	347.4475	221.51	225.02	3.51	50.04	10:26
4	TOC	34.5658	345.6576	220.39	224.04	3.65	50.03	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2004110-004.02 ms	44.2513 ppm	0.0000 ppm	0.0000%	2020/06/05 10:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	44.2513	442.5133	281.15	284.73	3.58	50.03	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	25.3403 ppm (PASS)	0.0000 ppm	0%	2020/06/05 10:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.3403	253.4028	161.72	165.16	3.45	50.00	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.6548 ppm (PASS)	0.0000 ppm	0%	2020/06/05 10:44

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.6548	6.5480	6.84	10.29	3.45	49.99	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	20	TOC	MB2	0.3567 ppm	0.0000 ppm	0.0000%	2020/06/05 10:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3567	3.5666	5.76	9.20	3.44	49.96	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS From Schedule Version 4

	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)	23.2757 ppm (PASS)	0.0000 ppm	0%	2020/06/05 11:14

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	23.2757	232.7572	148.76	152.39	3.63	49.96	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2004561-003.01 10x	9.5008 ppm	1.0121 ppm	10.6500%	2020/06/05 11:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.7851	87.8513	58.64	62.09	3.45	49.93	10:30
2	TOC	10.2164	102.1644	67.62	71.24	3.62	49.92	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2004561-004.01 10x	3.0793 ppm	0.4212 ppm	13.6800%	2020/06/05 11:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.3771	33.7707	24.71	28.31	3.60	49.92	10:25
2	TOC	2.7814	27.8144	20.97	24.50	3.53	49.88	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	23	TOC	K2004561-005.01 10x	2.5575 ppm	0.0706 ppm	2.7600%	2020/06/05 12:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6074	26.0739	19.88	23.30	3.42	49.90	10:28
2	TOC	2.5076	25.0761	19.25	22.55	3.30	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2004561-006.01 5x	14.9019 ppm	0.3407 ppm	2.2900%	2020/06/05 12:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	14.6610	146.6099	95.50	99.01	3.51	49.87	10:25
2	TOC	15.1428	151.4282	98.53	102.06	3.54	49.86	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2004561-007.01	18.3761 ppm	0.2573 ppm	1.4000%	2020/06/05 13:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.5580	185.5804	119.95	123.46	3.50	49.85	10:30
2	TOC	18.1942	181.9416	117.67	121.17	3.50	49.84	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K2004561-008.01 10x	1.7766 ppm	0.4944 ppm	27.8300%	2020/06/05 13:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1262	21.2619	16.86	20.25	3.39	49.83	10:28
2	TOC	1.4270	14.2695	12.47	16.01	3.54	49.80	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	27	TOC	K2004521-001.01	3.2862 ppm	0.1159 ppm	3.5300%	2020/06/05 14:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.3681	33.6815	24.65	28.15	3.50	49.76	10:29
2	TOC	3.2043	32.0430	23.62	27.08	3.46	49.78	10:26

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2004541-002.01	0.9878 ppm	0.1037 ppm	10.5000%	2020/06/05 14:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0612	10.6116	10.18	13.62	3.44	49.84	10:28
2	TOC	0.9145	9.1452	9.26	12.75	3.50	50.03	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.7285 ppm (PASS)	0.0000 ppm	0%	2020/06/05 15:13

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.7285	247.2854	157.88	161.35	3.47	50.15	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.6169 ppm (PASS)	0.0000 ppm	0%	2020/06/05 15:28

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.6169	6.1687	6.60	10.17	3.56	50.36	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2004492-009.01	1.1191 ppm	0.0337 ppm	3.0100%	2020/06/05 15:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1429	11.4292	10.69	14.22	3.53	50.51	10:27
2	TOC	1.0953	10.9527	10.39	13.92	3.53	50.64	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2004414-002.07	0.9007 ppm	0.0106 ppm	1.1800%	2020/06/05 16:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9081	9.0814	9.22	12.71	3.49	50.71	10:26
2	TOC	0.8932	8.9316	9.12	12.54	3.41	50.75	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2004414-003.07	0.3795 ppm	0.0202 ppm	5.3200%	2020/06/05 16:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3938	3.9380	5.99	9.40	3.41	50.85	10:25
2	TOC	0.3653	3.6527	5.81	9.26	3.44	50.88	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2004414-004.07	1.0218 ppm	0.0255 ppm	2.4900%	2020/06/05 17:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0398	10.3980	10.05	13.41	3.37	50.89	10:28
2	TOC	1.0038	10.0378	9.82	13.42	3.60	50.95	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2004414-005.07	0.6217 ppm	0.0270 ppm	4.3500%	2020/06/05 17:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6408	6.4085	7.54	11.04	3.50	50.96	10:28
2	TOC	0.6026	6.0260	7.30	10.79	3.49	51.01	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC)	CAS_salt_010711	CAS_salt_010711

(v1394) (v4) (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2004414-006.07	3.0035 ppm	0.0482 ppm	1.6100%	2020/06/05 18:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0376	30.3758	22.58	25.94	3.37	50.95	10:28
2	TOC	2.9694	29.6936	22.15	25.76	3.61	50.88	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2004414-007.07	0.8905 ppm	0.0325 ppm	3.6500%	2020/06/05 18:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9134	9.1340	9.25	12.52	3.27	50.81	10:29
2	TOC	0.8675	8.6750	8.96	12.33	3.37	50.68	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	36	TOC	K2004498-001.04	2.0957 ppm	0.0408 ppm	1.9500%	2020/06/05 18:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1246	21.2460	16.85	20.22	3.37	50.60	10:28
2	TOC	2.0669	20.6690	16.49	19.57	3.08	50.47	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	37	TOC	K2004414-001.07	0.8007 ppm	0.0343 ppm	4.2800%	2020/06/05 19:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8249	8.2494	8.70	12.02	3.32	50.37	10:28
2	TOC	0.7765	7.7649	8.39	11.93	3.54	50.28	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	38	TOC	K2004414-001.07 ms	29.1749 ppm	0.0000 ppm	0.0000%	2020/06/05 19:55

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

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	29.1749	291.7492	186.56	190.02	3.45	50.20	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.5075 ppm (PASS)	0.0000 ppm	0%	2020/06/05 20:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.5075	245.0747	156.49	160.03	3.54	50.13	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.4761 ppm (PASS)	0.0000 ppm	0%	2020/06/05 20:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.4761	4.7613	5.72	9.06	3.34	50.09	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	39	TOC	MB3	0.2921 ppm	0.0000 ppm	0.0000%	2020/06/05 20:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2921	2.9211	5.35	8.74	3.39	50.06	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS From Schedule Version 4

	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)	22.5554 ppm (PASS)	0.0000 ppm	0%	2020/06/05 20:54

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	22.5554	225.5544	144.24	147.78	3.53	50.03	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	40	TOC	K2004498-002.04	1.7243 ppm	0.1347 ppm	7.8100%	2020/06/05 21:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8195	18.1953	14.94	18.48	3.54	50.01	10:27
2	TOC	1.6291	16.2906	13.74	17.48	3.73	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	41	TOC	K2004498-003.04	1.8533 ppm	0.0365 ppm	1.9700%	2020/06/05 21:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8791	18.7914	15.31	18.83	3.52	50.05	10:30
2	TOC	1.8275	18.2750	14.99	18.58	3.59	50.02	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	42	TOC	K2004498-004.04	2.6058 ppm	0.0189 ppm	0.7300%	2020/06/05 22:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6192	26.1918	19.95	23.41	3.46	50.03	10:25
2	TOC	2.5924	25.9240	19.79	23.20	3.41	50.07	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	43	TOC	K2004498-005.04	1.4670 ppm	0.0436 ppm	2.9700%	2020/06/05 22:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4979	14.9788	12.92	16.44	3.52	50.07	10:26
2	TOC	1.4362	14.3620	12.53	16.02	3.49	50.07	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	44	TOC	K2004498-006.04	3.3253 ppm	0.0440 ppm	1.3200%	2020/06/05 23:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.2942	32.9419	24.19	27.65	3.46	50.07	10:26
2	TOC	3.3564	33.5635	24.58	28.01	3.43	50.02	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	45	TOC	K2004498-007.04	3.3532 ppm	0.0823 ppm	2.4500%	2020/06/05 23:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4113	34.1134	24.92	28.27	3.35	50.08	10:25
2	TOC	3.2950	32.9499	24.19	27.63	3.44	50.10	10:22

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	46	TOC	K2004483-001.10	0.5439 ppm	0.0229 ppm	4.2100%	2020/06/05 23:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5277	5.2768	6.83	10.29	3.46	50.08	10:30
2	TOC	0.5600	5.6004	7.03	10.45	3.41	50.08	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	47	TOC	K2004483-001.10 ms	29.0506 ppm	0.0000 ppm	0.0000%	2020/06/06 00:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.0506	290.5060	185.78	189.29	3.50	50.08	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> CCV 25 ppm — From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.1312 ppm (PASS)	0.0000 ppm	0%	2020/06/06 00:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.1312	241.3115	154.13	157.65	3.52	50.10	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	50 ppmC

Sample Type: Check Standard --> CCB — From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3905 ppm (PASS)	0.0000 ppm	0%	2020/06/06 00:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3905	3.9054	5.18	8.78	3.60	50.10	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample — From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	48	TOC	K2004483-002.04	0.6157 ppm	0.0281 ppm	4.5600%	2020/06/06 01:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6356	6.3559	7.51	11.07	3.57	50.11	10:30
2	TOC	0.5959	5.9590	7.26	10.93	3.67	50.11	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◆	49	TOC	K2004483-003.04	0.2660 ppm	0.0283 ppm	10.6300%	2020/06/06 01:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2860	2.8605	5.32	8.87	3.55	50.11	10:27
2	TOC	0.2460	2.4604	5.06	8.65	3.59	50.11	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	50	TOC	K2004484-001.07	0.6947 ppm	0.0027 ppm	0.3900%	2020/06/06 02:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6966	6.9663	7.89	11.52	3.63	50.12	10:32
2	TOC	0.6928	6.9281	7.87	11.38	3.51	50.12	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	51	TOC	K2004484-002.07	0.7123 ppm	0.0308 ppm	4.3200%	2020/06/06 02:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7341	7.3409	8.13	11.83	3.70	50.15	10:30
2	TOC	0.6906	6.9058	7.85	11.37	3.52	50.15	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	52	TOC	K2004484-003.07	2.8083 ppm	0.0662 ppm	2.3600%	2020/06/06 03:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8551	28.5508	21.43	24.90	3.47	50.15	10:29
2	TOC	2.7615	27.6151	20.85	24.46	3.61	50.15	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	53	TOC	K2004498-008.04	25.0103 ppm	0.2974 ppm	1.1900%	2020/06/06 03:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	24.8000	248.0002	159.12	162.63	3.52	50.15	10:29
2	TOC	25.2206	252.2065	161.76	165.22	3.46	50.15	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	54	TOC	K2004498-009.04	4.4279 ppm	0.1411 ppm	3.1900%	2020/06/06 03:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5277	45.2770	31.93	35.45	3.52	50.16	10:28
2	TOC	4.3281	43.2815	30.68	34.20	3.52	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	55	TOC	K2004410-001.02 doc	1.1130 ppm	0.0383 ppm	3.4400%	2020/06/06 04:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1401	11.4005	10.67	14.12	3.45	50.17	10:26
2	TOC	1.0859	10.8586	10.33	13.73	3.39	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	56	TOC	K2004413-001.15 doc	2.3096 ppm	0.0347 ppm	1.5000%	2020/06/06 04:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2851	22.8510	17.86	21.35	3.49	50.18	10:27
2	TOC	2.3342	23.3419	18.17	21.62	3.45	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	57	TOC	K2004413-001.15 doc ms	32.2285 ppm	0.0000 ppm	0.0000%	2020/06/06 05:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	32.2285	322.2849	205.72	209.22	3.49	50.17	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	23.7426 ppm (PASS)	0.0000 ppm	0%	2020/06/06 05:37

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.7426	237.4257	151.69	155.26	3.57	50.18	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3818 ppm (PASS)	0.0000 ppm	0%	2020/06/06 05:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3818	3.8177	5.13	8.75	3.63	50.17	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	58	TOC	MB4	0.1796 ppm	0.0000 ppm	0.0000%	2020/06/06 06:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1796	1.7958	4.65	8.20	3.55	50.19	10:35

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS From Schedule Version 4

	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)	21.6783 ppm (PASS)	0.0000 ppm	0%	2020/06/06 06:21

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

	Type									
C	TOC	25.0 ppm	1	21.6783	216.7832	138.74	142.41	3.67	50.18	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	59	TOC	K2004413-002.05 doc	2.3565 ppm	0.0748 ppm	3.1800%	2020/06/06 06:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4094	24.0942	18.64	22.22	3.58	50.18	10:28
2	TOC	2.3036	23.0359	17.97	21.62	3.65	50.19	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	60	TOC	K2004413-003.05 doc	2.6125 ppm	0.0002 ppm	0.0100%	2020/06/06 07:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6126	26.1265	19.91	23.50	3.58	50.20	10:31
2	TOC	2.6123	26.1233	19.91	23.46	3.55	50.18	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	61	TOC	K2004413-004.05 doc	1.7123 ppm	0.0128 ppm	0.7500%	2020/06/06 07:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7213	17.2134	14.32	17.97	3.65	50.19	10:25
2	TOC	1.7032	17.0317	14.21	17.77	3.56	50.19	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	62	TOC	K2004411-001.05 doc	3.4520 ppm	0.0602 ppm	1.7400%	2020/06/06 08:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4945	34.9454	25.45	28.90	3.46	50.19	10:30
2	TOC	3.4094	34.0943	24.91	28.42	3.51	50.19	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	63	TOC	K2004414-002.02 doc	0.7534 ppm	0.0334 ppm	4.4300%	2020/06/06 08:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7770	7.7697	8.40	11.92	3.52	50.20	10:23
2	TOC	0.7298	7.2979	8.10	11.71	3.61	50.18	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	64	TOC	K2004414-003.02 doc	0.2066 ppm	0.0227 ppm	10.9700%	2020/06/06 08:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2226	2.2261	4.92	8.47	3.55	50.18	10:27
2	TOC	0.1906	1.9058	4.72	8.40	3.68	50.16	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	65	TOC	K2004414-001.02 doc	0.7639 ppm	0.0002 ppm	0.0300%	2020/06/06 09:25

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7637	7.6374	8.31	11.81	3.50	50.16	10:26
2	TOC	0.7641	7.6406	8.32	11.81	3.50	50.14	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	66	TOC	K2004414-001.02 ms doc	29.2560 ppm	0.0000 ppm	0.0000%	2020/06/06 09:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.2560	292.5605	187.07	190.67	3.60	50.13	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	23.4298 ppm (PASS)	0.0000 ppm	0%	2020/06/06 10:07

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	23.4298	234.2984	149.73	153.36	3.63	50.16	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3940 ppm (PASS)	0.0000 ppm	0%	2020/06/06 10:22

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3940	3.9404	5.20	8.66	3.45	50.13	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	67	TOC	K2004414-004.02 doc	1.3334 ppm	0.0343 ppm	2.5700%	2020/06/06 10:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3576	13.5762	12.04	15.64	3.60	50.12	10:28
2	TOC	1.3092	13.0917	11.74	15.33	3.59	50.10	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	68	TOC	K2004414-005.02 doc	1.2734 ppm	0.0123 ppm	0.9600%	2020/06/06 11:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2647	12.6470	11.46	15.13	3.67	50.10	10:25
2	TOC	1.2821	12.8207	11.57	15.17	3.60	50.04	10:27

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	69	TOC	K2004414-006.02 doc	3.2842 ppm	0.0130 ppm	0.3900%	2020/06/06 11:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.2751	32.7506	24.07	27.69	3.62	50.00	10:30
2	TOC	3.2934	32.9339	24.18	27.70	3.52	50.02	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	70	TOC	K2004414-007.02 doc	0.8610 ppm	0.0274 ppm	3.1800%	2020/06/06 12:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8804	8.8041	9.04	12.62	3.57	50.02	10:30
2	TOC	0.8417	8.4168	8.80	12.42	3.62	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	71	TOC	K2004484-001.08 doc	0.8324 ppm	0.0505 ppm	6.0700%	2020/06/06 12:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8681	8.6814	8.97	12.45	3.48	50.00	10:29
2	TOC	0.7967	7.9673	8.52	12.13	3.61	50.00	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	72	TOC	K2004484-002.08 doc	1.4705 ppm	0.0273 ppm	1.8500%	2020/06/06 12:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4898	14.8975	12.87	16.28	3.41	50.01	10:31
2	TOC	1.4512	14.5118	12.63	16.05	3.42	50.01	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	73	TOC	K2004484-003.08 doc	2.8462 ppm	0.0057 ppm	0.2000%	2020/06/06 13:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8422	28.4216	21.35	24.83	3.47	50.00	10:28
2	TOC	2.8503	28.5029	21.40	24.90	3.50	49.99	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	74	TOC	RB	0.1789 ppm	0.0137 ppm	7.6800%	2020/06/06 13:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1887	1.8866	4.70	8.16	3.46	49.99	10:30
2	TOC	0.1692	1.6922	4.58	8.02	3.43	49.97	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	75	TOC	MB5	0.0650 ppm	0.0000 ppm	0.0000%	2020/06/06 14:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0650	0.6498	3.93	7.57	3.64	50.02	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.5213 (IC) (v1394)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Check Standard --> LCS From Schedule Version 4

	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)	22.8704 ppm (PASS)	0.0000 ppm	0%	2020/06/06 14:37

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	22.8704	228.7039	146.22	149.68	3.46	50.00	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.6014 ppm	0.0000 ppm	0%	2020/06/06 14:52

							(PASS)			

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6014	246.0135	157.08	160.75	3.67	50.01	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	50 ppmC

Sample Type: Check Standard --> CCB From Schedule Version 4

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
*	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.3845 ppm (PASS)	0.0000 ppm	0%	2020/06/06 15:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3845	3.8448	5.14	8.69	3.55	50.02	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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
v1393	1.4957	1.2330	0.0000	0.0000	0.0000	2020/06/02 20:16	Fusion1 (Fusion1)
v1394	1.7607	1.0900	0.0000	0.0000	0.0000	2020/06/04 15:47	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v36	Calibration curve formula:	TOC: y = 6.913x + 3.706
Ver Creation:	2020/05/26 19:14	r^2 value:	TOC: r^2 = 0.99884
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	5.2860	0.0000		2020/05/26 17:47
0.500 ppm	7.7280	0.5000		2020/05/26 18:02
1.0 ppm	9.7320	1.0000		2020/05/26 18:16
5.0 ppm	30.7290	5.0000		2020/05/26 18:30
10 ppm	75.9880	10.0000		2020/05/26 18:45
25 ppm	182.4960	25.0000		2020/05/26 18:59
50 ppm	346.4790	50.0000		2020/05/26 19:13

Name: CAS_salt_010711 (TOC)

Version:	v37	Calibration curve formula:	TOC: y = 6.274x + 2.733
Ver Creation:	2020/06/04 17:42	r^2 value:	TOC: r^2 = 0.99796
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	6.8000	0.0000		2020/06/04 16:15
0.500 ppm	7.9000	0.5000		2020/06/04 16:30
1.0 ppm	9.1600	1.0000		2020/06/04 16:44
5.0 ppm	22.9500	5.0000		2020/06/04 16:58
10 ppm	68.0970	10.0000		2020/06/04 17:12
25 ppm	163.0030	25.0000		2020/06/04 17:26
50 ppm	315.2880	50.0000		2020/06/04 17:40

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

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

SystemFlow	500 ml/min	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	2020/06/06 15:22

ALS Environmental

StarLIMS Run: 682633, 682634, 682346, 682347, 682348

Analysis: DOC/TOC

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

CCV: 11-GEN-05-82C 50 ppm LCS: 11-GEN-05-79J 25.0 ppm

ICAL Date: 6/4/2020

ICAL ID: 19-GEN-21-H

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-08-21-G

21 % H3PO4: 19-GEN-08-21-F

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By: KP	Date Analyzed: 6/6/20
Reviewed By:	Date Reviewed: 6/8/20

June 16, 2020 Service Request No:E2000473

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

Laboratory Results for: HS20051122

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory May 29, 2020
For your reference, these analyses have been assigned our service request number **E2000473.**

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
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Phone (713)266-1599 Fax (713)266-0130
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ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000473
Project:	HS20051122	**Date Received:**	05/29/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 05/29/20.

The sample as received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000215: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits.

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

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

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

Client: ALS Environmental - US **Service Request:**E2000473
Project: HS20051122

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000473-001	LH18/24-SP650_052820_BIX	5/28/2020	1400

Service Request Summary

Folder #: **E2000473**
Client Name: ALS Environmental - US
Project Name: HS20051122
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: 05/29/20
Internal Due Date: 6/12/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20051122
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 7B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000473-001	LH18/24-SP650_052820_BIX	Water	05/28/20 1400	**IV**

Service Request Summary

Folder #:	**E2000473**
Client Name:	ALS Environmental - US
Project Name:	HS20051122
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:	05/29/20
Internal Due Date:	6/12/2020
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS20051122
EDD:	No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved

Location: EHRMS-WIC 7B

Pressure Gas:

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
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

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

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
Arkansas Department of Environmental Quality	20-030-0	3/26/2021
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID: 13985**

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:	HS20051122
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20051122-02**	**LH18/24-SP650_052820-BIX**	**Water**	**28 May 2020 14:00**
	SUB_Perch-6850			08 Jun 2020

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

QC Level: DOD IV (DoD Data Package)

E2000473 5
ALS Laboratory Group
HS20051122

Relinquished By: _____ Date/Time: _____

Received By: _____ Date/Time: 5/29/20 1336

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

ALS Environmental

Cooler Receipt Form

Project Chemist CH

Client/Project ALS - H

Thermometer ID GMU4

Date/Time Received: 5/24/20 Initials: CH

Date/Time Logged in: 5/29/20 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?
-		5/24/20	1436	CH	2.9/2.9	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label: E2000473 ALS Laboratory Group HS20051122 5

HS-HRMSCoolerReceipt R1.0

ALS Environmental - Houston HRMS

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Houston, TX 77099
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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#: 359389 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/1/20 16:00

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000473-001	LH18/24-SP650_052820_BIX	.01	6850/ClO4 DOD			Water	10mL	
2	EQ2000215-01	MB		6850/ClO4 DOD			Liquid	10mL	
3	EQ2000215-02	LCS		6850/ClO4 DOD			Liquid	10mL	
4	EQ2000215-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
5	EQ2000215-04	ICS		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

EQ2000215-02 100.00µL EQ2000215-03 100.00µL

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

E2000473-001 1.00µL EQ2000215-01 1.00µL EQ2000215-02 1.00µL EQ2000215-03 1.00µL

Preparation Steps

Step: Preparation
Started: 6/1/20 16:00
Finished: 6/1/20 16:45
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 6/5/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Collected:**	5/28/20 1400
Sample Matrix:	Water	**Date Received:**	5/29/20
Sample Name:	LH18/24-SP650_052820_BIX	**Units:**	µg/L
Lab Code:	E2000473-001	**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	6/ 1/20	6/15/20 15:28	359389	683759	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000215-01	**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			1	6/ 1/20	6/15/20 15:04	359389	683759	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20
Sample Matrix:	Water		

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	359389

	Lab Control Sample EQ2000215-02			Duplicate Lab Control Sample EQ2000215-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.115	0.100	115	0.106	0.100	106	84 - 119	8	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:**	E2000473
Project:	HS20051122	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000215-02	**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	**0.115**		0.100			1	6/ 1/20	6/15/20 15:56	359389	683759	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000215-03	**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	**0.106**		0.100			1	6/ 1/20	6/15/20 15:20	359389	683759	

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

20200602

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

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

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

PERCHLORATE1

Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

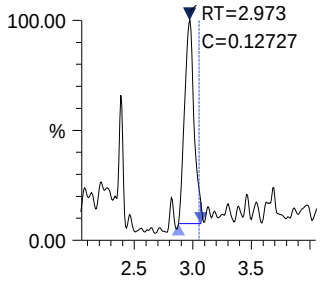
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

Perchlorate

Conc 0.12727

Area 2231

Q 99.00>83.00 (-) 4.13e2

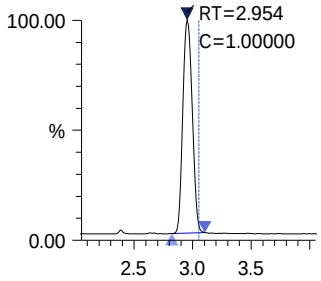


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 137060

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

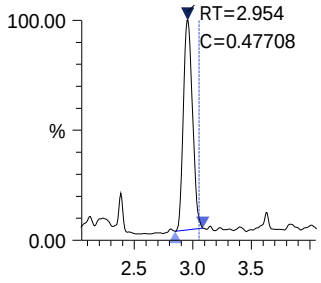
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

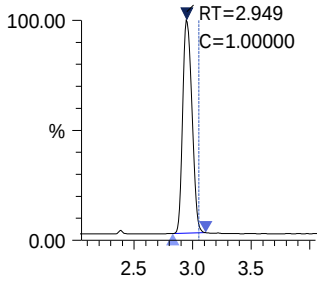
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

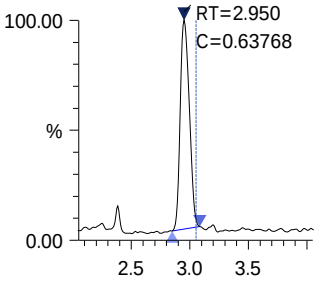
PERCHLORATE3

Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.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	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

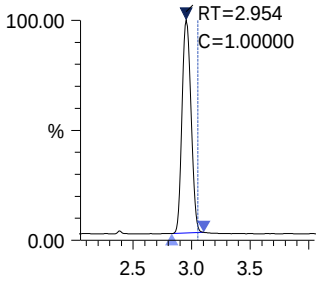
Perchlorate

Conc 0.63768
Area 11656
Q 99.00>83.00 (-) 2.17e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 142915
ISTD 107.00>89.00 (-) 2.70e4



ALS Group Houston

PERCHLORATE4

Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

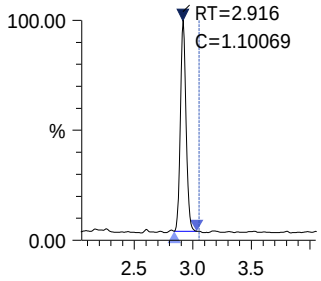
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

Perchlorate

Conc 1.10069

Area 18119

Q 99.00>83.00 (-) 5.42e3

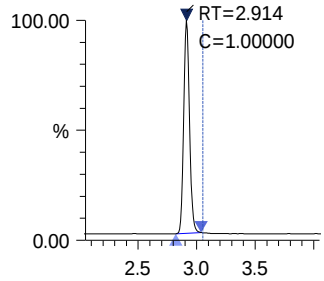


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 128706

ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

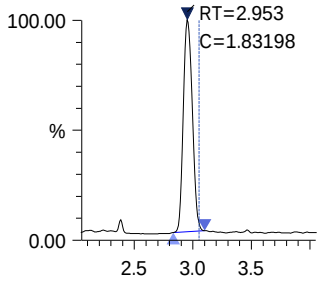
PERCHLORATE5

Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.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	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

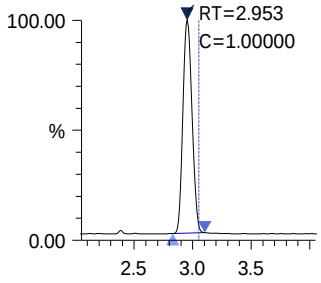
Perchlorate

Conc 1.83198
Area 33971
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982
ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

PERCHLORATE6

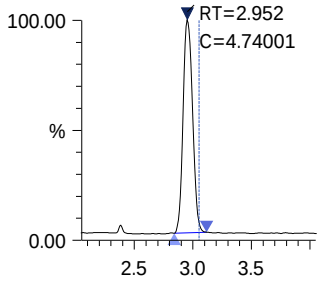
Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

Perchlorate

Conc 4.74001
Area 85178

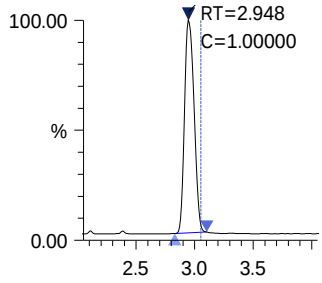
Q 99.00>83.00 (-) 1.50e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500

ISTD 107.00>89.00 (-) 2.51e4



ALS Group Houston

PERCHLORATE7

Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

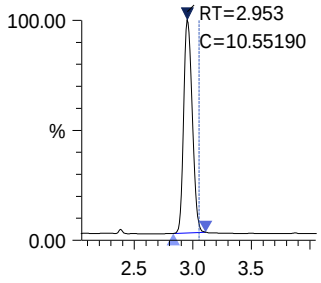
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

Perchlorate

Conc 10.55190

Area 173998

Q 99.00>83.00 (-) 3.36e4

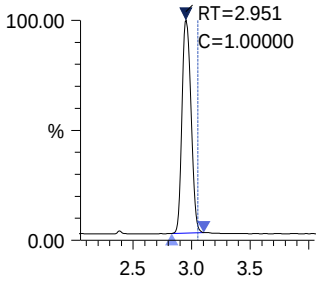


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 128928

ISTD 107.00>89.00 (-) 2.43e4



ALS Group Houston

PERCHLORATE8

Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_016.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

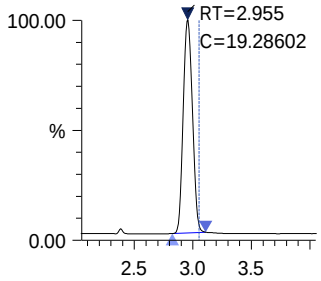
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

Perchlorate

Conc 19.28602

Area 324944

Q 99.00>83.00 (-) 5.85e4

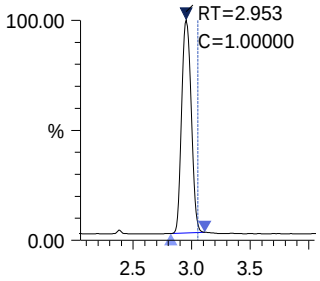


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 131734

ISTD 107.00>89.00 (-) 2.34e4



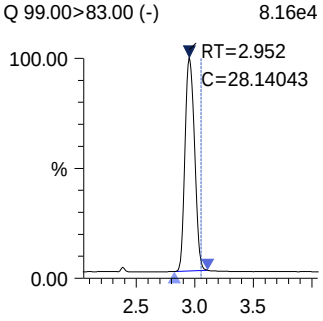
PERCHLORATE9

Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_017.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	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

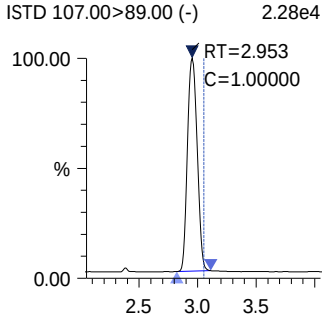
Perchlorate

Conc 28.14043
Area 469066



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327



ALS Group Houston

PERCHLORATE10

Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

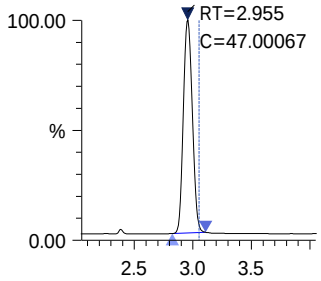
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

Perchlorate

Conc 47.00067

Area 737362

Q 99.00>83.00 (-) 1.36e5

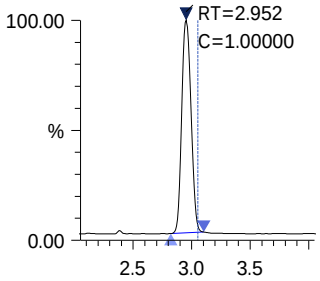


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 122661

ISTD 107.00>89.00 (-) 2.25e4



ALS Group Houston

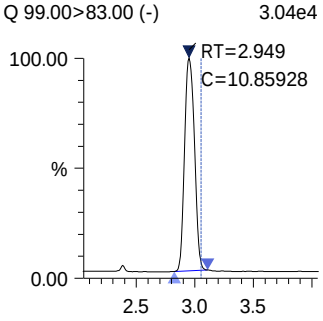
PERCHLORATEICV

Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_019.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	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

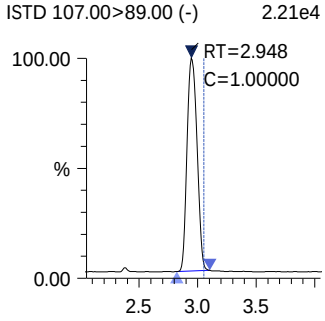
Perchlorate

Conc 10.85928
Area 180334



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 129839



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

20200615

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200615_001	Perchlorate6850b.lcm	1x	☒	
	null		20200615_002	Perchlorate6850b.lcm	1x	☒	
	null		20200615_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200615_004	Perchlorate6850b.lcm	1x	☒	
	IB		20200615_005	Perchlorate6850b.lcm	1x	☒	
	LODV		20200615_006	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-02		20200615_007	Perchlorate6850b.lcm	1x	☒	do not use
	ICAL 1		20200615_008	Perchlorate6850b.lcm	1x	☒	do not use
	LODV		20200615_009	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200615_012	Perchlorate6850b.lcm	1x	☒	do not use
	LODV		20200615_013	Perchlorate6850b.lcm	1x	☒	do not use
	LODV		20200615_014	Perchlorate6850b.lcm	1x	☒	do not use
	IB		20200615_015	Perchlorate6850b.lcm	1x	☒	
	IB		20200615_016	Perchlorate6850b.lcm	1x	☒	
	IB		20200615_017	Perchlorate6850b.lcm	1x	☒	
	LODV		20200615_018	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_019	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200615_020	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200615_021	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-02		20200615_022	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200615_023	Perchlorate6850b.lcm	1x	☒	
	E2000473-001		20200615_024	Perchlorate6850b.lcm	1x	☒	
	ICS		20200615_025	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_026	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000215-02		20200615_027	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-01		20200615_028	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200615_029	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-03		20200615_030	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-04		20200615_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-05		20200615_032	Perchlorate6850b.lcm	1x	☒	
	E2000491-001		20200615_033	Perchlorate6850b.lcm	1x	☒	
	E2000491-002		20200615_034	Perchlorate6850b.lcm	1x	☒	
	E2000491-003		20200615_035	Perchlorate6850b.lcm	1x	☒	
	E2000491-004		20200615_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000491-005		20200615_038	Perchlorate6850b.lcm	1x	☒	reanalyze @ 2X
	E2000491-006		20200615_039	Perchlorate6850b.lcm	1x	☒	reanalyze
	E2000491-007		20200615_040	Perchlorate6850b.lcm	1x	☒	
	E2000491-008		20200615_041	Perchlorate6850b.lcm	1x	☒	
	E2000491-009		20200615_042	Perchlorate6850b.lcm	1x	☒	
	E2000492-001		20200615_043	Perchlorate6850b.lcm	1x	☒	reanalyze @ 10X
	E2000492-002		20200615_044	Perchlorate6850b.lcm	1x	☒	
	E2000492-003		20200615_045	Perchlorate6850b.lcm	1x	☒	
	E2000492-004		20200615_046	Perchlorate6850b.lcm	1x	☒	
	E2000492-005		20200615_047	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_048	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000492-006		20200615_049	Perchlorate6850b.lcm	1x	☒	reanalyze @ 50X
	E2000492-007		20200615_050	Perchlorate6850b.lcm	1x	☒	reanalyze
	E2000492-008		20200615_051	Perchlorate6850b.lcm	1x	☒	reanalyze
	E2000492-009		20200615_052	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200615_053	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200615\20200615_019	**Calibration ID:**	EC2000007
		Analysis Lot:	683759
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	0.1279	0.1362	6.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200615\20200615_026	**Calibration ID:**	EC2000007
		Analysis Lot:	683759
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.9	0.1279	0.1392	8.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200615\20200615_037	**Calibration ID:**	EC2000007
		Analysis Lot:	683759
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1382	8.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20 14:48

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

File ID:	I:\LCMS01\DATA\20200615\20200615_019	**Lab Code:**	EQ2000235-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683759
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000235-01	122,177	3.04
Method Blank	EQ2000215-01	134,384	3.04
Duplicate Lab Control Sample	EQ2000215-03	141,142	3.05
LH18/24-SP650_052820_BIX	E2000473-001	153,170	3.02

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:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20 15:44

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

File ID:	I:\LCMS01\DATA\20200615\20200615_026	**Lab Code:**	EQ2000235-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683759
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000235-02	116,446	3.04
Lab Control Sample	EQ2000215-02	142,124	2.99

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:**	E2000473
Project:	HS20051122	**Date Analyzed:**	6/15/20 17:15

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200615\20200615_037	**Lab Code:**	EQ2000235-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683759
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000235-03	123,220	3.04

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

ALS Group Houston

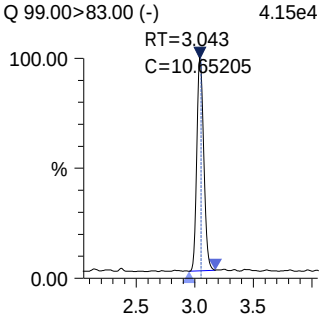
PERCHLORATE7

Date acquired: 6/15/2020 2:48:30 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_019.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	6/15/2020 2:48:30 PM	166454	10.65205	20200615_019	3.043	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/15/2020 2:48:30 PM	122177	1.00000	20200615_019	3.041	25.0000	1.0000	4

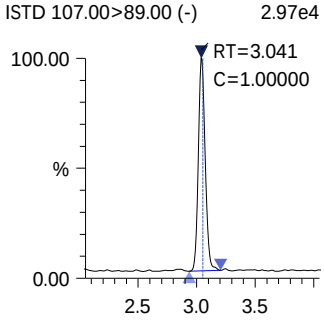
Perchlorate

Conc 10.65205
Area 166454



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 122177



ALS Group Houston

EQ2000215-01

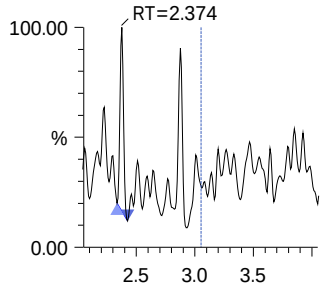
Date acquired: 6/15/2020 3:04:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_021.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000215-01	6/15/2020 3:04:51 PM	----	----	20200615_021	----	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	EQ2000215-01	6/15/2020 3:04:51 PM	134384	1.00000	20200615_021	3.041	25.0000	1.0000	5

Perchlorate

Conc ----
Area ----

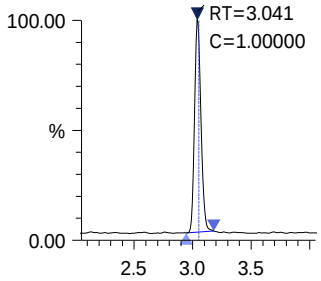
Q 99.00>83.00 (-) 6.79e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 134384

ISTD 107.00>89.00 (-) 3.49e4



ALS Group Houston

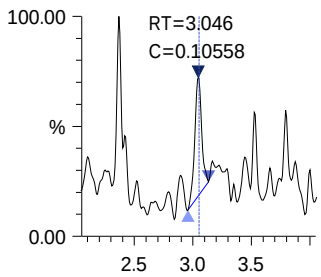
EQ2000215-03

Date acquired: 6/15/2020 3:20:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_023.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	EQ2000215-03	6/15/2020 3:20:39 PM	1906	0.10558	20200615_023	3.046	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	EQ2000215-03	6/15/2020 3:20:39 PM	141142	1.00000	20200615_023	3.045	25.0000	1.0000	7

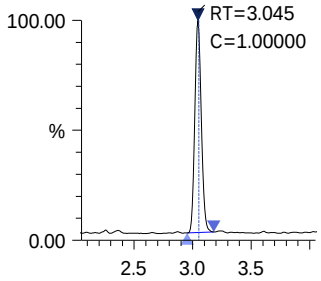
Perchlorate

Conc 0.10558
Area 1906
Q 99.00>83.00 (-) 8.50e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 141142
ISTD 107.00>89.00 (-) 3.62e4



ALS Group Houston

E2000473-001

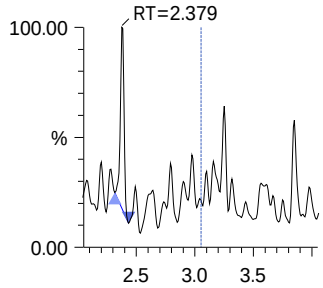
Date acquired: 6/15/2020 3:28:35 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_024.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000473-001	6/15/2020 3:28:35 PM	----	----	20200615_024	----	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	E2000473-001	6/15/2020 3:28:35 PM	153170	1.00000	20200615_024	3.020	25.0000	1.0000	8

Perchlorate

Conc ----
Area ----

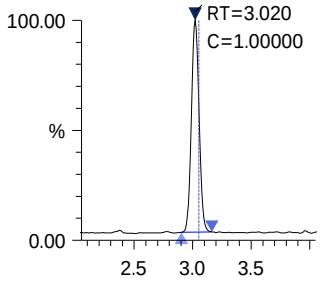
Q 99.00>83.00 (-) 1.28e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 153170

ISTD 107.00>89.00 (-) 3.34e4



ALS Group Houston

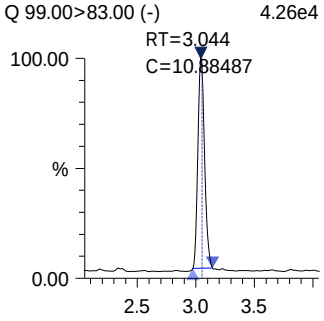
PERCHLORATE7

Date acquired: 6/15/2020 3:44:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_026.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	6/15/2020 3:44:28 PM	162113	10.88487	20200615_026	3.044	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/15/2020 3:44:28 PM	116446	1.00000	20200615_026	3.042	25.0000	1.0000	4

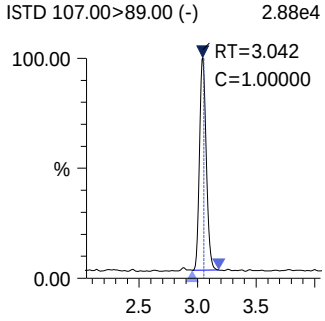
Perchlorate

Conc 10.88487
Area 162113



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 116446



ALS Group Houston

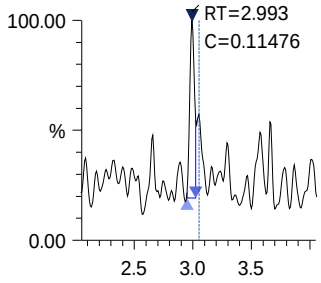
EQ2000215-02

Date acquired: 6/15/2020 3:56:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_027.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	EQ2000215-02	6/15/2020 3:56:10 PM	2086	0.11476	20200615_027	2.993	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	EQ2000215-02	6/15/2020 3:56:10 PM	142124	1.00000	20200615_027	2.993	25.0000	1.0000	6

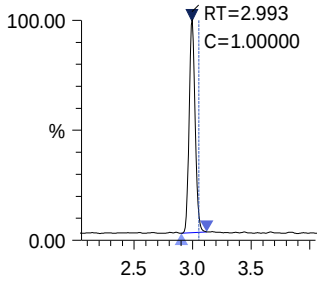
Perchlorate

Conc 0.11476
Area 2086
Q 99.00>83.00 (-) 9.07e2



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 142124
ISTD 107.00>89.00 (-) 4.01e4



ALS Group Houston

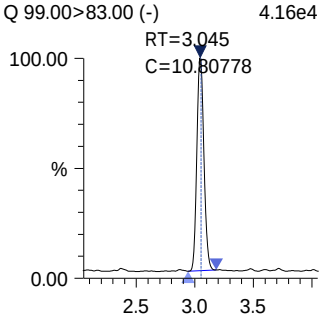
PERCHLORATE7

Date acquired: 6/15/2020 5:15:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200615\20200615_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	6/15/2020 5:15:20 PM	170329	10.80778	20200615_037	3.045	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/15/2020 5:15:20 PM	123220	1.00000	20200615_037	3.043	25.0000	1.0000	4

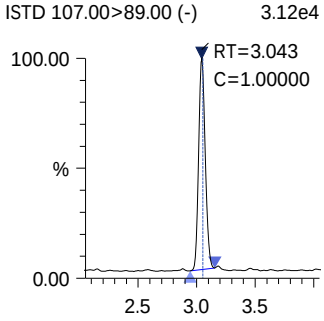
Perchlorate

Conc 10.80778
Area 170329



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 123220



10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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June 08, 2020

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

Work Order: **HS20051138**

Laboratory Results for: **Longhorn GW Treatment Plant Bi Weekly Samples**

Dear Marcia,

ALS Environmental received 2 sample(s) on May 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: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20051138

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20051138-01	LH18/24-SP650_052820	Water		28-May-2020 14:00	29-May-2020 09:00	☐
HS20051138-02	Trip Blank	Water		28-May-2020 00:00	29-May-2020 09:00	☐

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20051138

GCMS Volatiles by Method SW8260

Batch ID: R362585

Sample ID: CCV-END

- Closing CCV failed %D limits for 1,2_Dibromo_3_Chloropropane and Hexachlorobutadiene. Amount recoveries are OK.

Sample ID: LH18/24-SP650_052820 (HS20051138-01MSD)

- MS/MSD RPD was above the RPD limit for Naphthalene. The individual recoveries met acceptance criteria.

WetChemistry by Method SW9056

Batch ID: R362800

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

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20051138
Sample ID: LH18/24-SP650_052820 Lab ID:HS20051138-01
Collection Date: 28-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,2-Dichloroethane	**0.82**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	02-Jun-2020 18:57
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	02-Jun-2020 18:57
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	02-Jun-2020 18:57
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	02-Jun-2020 18:57
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	02-Jun-2020 18:57
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	02-Jun-2020 18:57
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57

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

ALS Houston, US Date: 08-Jun-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20051138

Sample ID: LH18/24-SP650_052820 Lab ID:HS20051138-01

Collection Date: 28-May-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
cis-1,2-Dichloroethene	**15**		**0.20**	**0.50**	**1.0**	**UG/L**	1	02-Jun-2020 18:57
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	02-Jun-2020 18:57
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	02-Jun-2020 18:57
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:57
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Trichloroethene	**2.7**		**0.20**	**0.50**	**1.0**	**UG/L**	1	02-Jun-2020 18:57
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:57
Surr: 1,2-Dichloroethane-d4	*88.3*			**0**	*81-118*	*%REC*	*1*	*02-Jun-2020 18:57*
Surr: 4-Bromofluorobenzene	*97.4*			**0**	*85-114*	*%REC*	*1*	*02-Jun-2020 18:57*
Surr: Dibromofluoromethane	*91.6*			**0**	*80-119*	*%REC*	*1*	*02-Jun-2020 18:57*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*02-Jun-2020 18:57*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: JHD
Chloride	**313**		**2.00**	**5.00**	**5.00**	**mg/L**	10	06-Jun-2020 19:54
Sulfate	**31.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	06-Jun-2020 19:35

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

ALS Houston, US Date: 08-Jun-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20051138

Sample ID: Trip Blank Lab ID:HS20051138-02

Collection Date: 28-May-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	02-Jun-2020 18:33
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	02-Jun-2020 18:33
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	02-Jun-2020 18:33
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	02-Jun-2020 18:33
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	02-Jun-2020 18:33
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33

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

ALS Houston, US Date: 08-Jun-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20051138

Sample ID: Trip Blank Lab ID:HS20051138-02

Collection Date: 28-May-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	02-Jun-2020 18:33
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	02-Jun-2020 18:33
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	02-Jun-2020 18:33
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	02-Jun-2020 18:33
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	02-Jun-2020 18:33
Surr: 1,2-Dichloroethane-d4	*85.5*			**0**	*81-118*	*%REC*	*1*	*02-Jun-2020 18:33*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*02-Jun-2020 18:33*
Surr: Dibromofluoromethane	*89.3*			**0**	*80-119*	*%REC*	*1*	*02-Jun-2020 18:33*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*02-Jun-2020 18:33*

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

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R362585 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20051138-01	LH18/24-SP650_052820	28 May 2020 14:00			02 Jun 2020 18:57	1
HS20051138-02	Trip Blank	28 May 2020 00:00			02 Jun 2020 18:33	1
Batch ID: R362800 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS20051138-01	LH18/24-SP650_052820	28 May 2020 14:00			06 Jun 2020 19:54	10
HS20051138-01	LH18/24-SP650_052820	28 May 2020 14:00			06 Jun 2020 19:35	1

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200602** Units: **UG/L** Analysis Date: **02-Jun-2020 18:09**
Client ID: Run ID: **VOA6_362585** SeqNo: **5605350** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200602** Units: **UG/L** Analysis Date: **02-Jun-2020 18:09**
Client ID: Run ID: **VOA6_362585** SeqNo: **5605350** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.93*	*1.0*	*50*	*0*	*87.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.99*	*1.0*	*50*	*0*	*98.0*	*85 - 114*				
Surr: Dibromofluoromethane	*45.06*	*1.0*	*50*	*0*	*90.1*	*80 - 119*				
Surr: Toluene-d8	*54.17*	*1.0*	*50*	*0*	*108*	*89 - 112*				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200602** Units: **UG/L** Analysis Date: **02-Jun-2020 16:57**
Client ID: Run ID: **VOA6_362585** SeqNo: **5605349** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.42	1.0	20	0	102	78 - 124				
1,1,1-Trichloroethane	19.31	1.0	20	0	96.6	74 - 131				
1,1,2,2-Tetrachloroethane	19.39	1.0	20	0	97.0	71 - 121				
1,1,2-Trichloroethane	20.18	1.0	20	0	101	80 - 119				
1,1-Dichloroethane	19.18	1.0	20	0	95.9	77 - 125				
1,1-Dichloroethene	18.7	1.0	20	0	93.5	71 - 131				
1,1-Dichloropropene	18.72	1.0	20	0	93.6	78 - 125				
1,2,3-Trichlorobenzene	22.73	1.0	20	0	114	69 - 129				
1,2,3-Trichloropropane	19.91	1.0	20	0	99.5	73 - 122				
1,2,4-Trichlorobenzene	21.96	1.0	20	0	110	69 - 130				
1,2,4-Trimethylbenzene	19.41	1.0	20	0	97.1	76 - 124				
1,2-Dibromo-3-chloropropane	21.78	1.0	20	0	109	62 - 128				
1,2-Dibromoethane	20.01	1.0	20	0	100	77 - 121				
1,2-Dichlorobenzene	19.87	1.0	20	0	99.4	80 - 119				
1,2-Dichloroethane	20.13	1.0	20	0	101	73 - 128				
1,2-Dichloropropane	20.73	1.0	20	0	104	78 - 122				
1,3,5-Trimethylbenzene	19.17	1.0	20	0	95.9	75 - 124				
1,3-Dichlorobenzene	19.17	1.0	20	0	95.9	80 - 119				
1,3-Dichloropropane	20.01	1.0	20	0	100	80 - 119				
1,4-Dichlorobenzene	19.21	1.0	20	0	96.1	79 - 118				
2,2-Dichloropropane	19.41	1.0	20	0	97.0	60 - 139				
2-Butanone	40.9	2.0	40	0	102	56 - 143				
2-Chlorotoluene	18.81	1.0	20	0	94.0	79 - 122				
2-Hexanone	43.35	2.0	40	0	108	57 - 139				
4-Chlorotoluene	19.11	1.0	20	0	95.6	78 - 122				
4-Isopropyltoluene	19.08	1.0	20	0	95.4	77 - 127				
4-Methyl-2-pentanone	41.42	2.0	40	0	104	67 - 130				
Acetone	48.18	2.0	40	0	120	39 - 160				
Benzene	19.77	1.0	20	0	98.8	79 - 120				
Bromobenzene	19.26	1.0	20	0	96.3	80 - 120				
Bromochloromethane	18.42	1.0	20	0	92.1	78 - 123				
Bromodichloromethane	20.18	1.0	20	0	101	79 - 125				
Bromoform	20.12	1.0	20	0	101	66 - 130				
Bromomethane	21.4	1.0	20	0	107	53 - 141				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200602** Units: **UG/L** Analysis Date: **02-Jun-2020 16:57**
Client ID: Run ID: **VOA6_362585** SeqNo: **5605349** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	38.82	2.0	40	0	97.1	64 - 133				
Carbon tetrachloride	17.92	1.0	20	0	89.6	72 - 136				
Chlorobenzene	19.4	1.0	20	0	97.0	82 - 118				
Chloroethane	19.48	1.0	20	0	97.4	60 - 138				
Chloroform	19.87	1.0	20	0	99.3	79 - 124				
Chloromethane	19.43	1.0	20	0	97.1	50 - 139				
cis-1,2-Dichloroethene	19.42	1.0	20	0	97.1	78 - 123				
cis-1,3-Dichloropropene	20.27	1.0	20	0	101	75 - 124				
Dibromochloromethane	19.75	1.0	20	0	98.7	74 - 126				
Dibromomethane	19.6	1.0	20	0	98.0	79 - 123				
Dichlorodifluoromethane	18.37	1.0	20	0	91.9	32 - 152				
Ethylbenzene	20	1.0	20	0	100	79 - 121				
Hexachlorobutadiene	23.48	1.0	20	0	117	66 - 134				
Isopropylbenzene	19.14	1.0	20	0	95.7	72 - 131				
m,p-Xylene	39.44	2.0	40	0	98.6	80 - 121				
Methylene chloride	19.82	2.0	20	0	99.1	74 - 124				
Naphthalene	21.8	1.0	20	0	109	61 - 128				
n-Butylbenzene	19.43	1.0	20	0	97.1	75 - 128				
n-Propylbenzene	19.03	1.0	20	0	95.2	76 - 126				
o-Xylene	19.99	1.0	20	0	100.0	78 - 122				
sec-Butylbenzene	18.24	1.0	20	0	91.2	77 - 126				
Styrene	19.7	1.0	20	0	98.5	78 - 123				
tert-Butylbenzene	18.33	1.0	20	0	91.7	78 - 124				
Tetrachloroethene	19.33	1.0	20	0	96.7	74 - 129				
Toluene	19.84	1.0	20	0	99.2	80 - 121				
trans-1,2-Dichloroethene	19.87	1.0	20	0	99.3	75 - 124				
trans-1,3-Dichloropropene	20.62	1.0	20	0	103	73 - 127				
Trichloroethene	19.48	1.0	20	0	97.4	79 - 123				
Trichlorofluoromethane	18.51	1.0	20	0	92.6	65 - 141				
Vinyl chloride	17.6	1.0	20	0	88.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.89*	*1.0*	*50*	*0*	*102*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.55*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*49.67*	*1.0*	*50*	*0*	*99.3*	*80 - 119*				
Surr: Toluene-d8	*48.42*	*1.0*	*50*	*0*	*96.8*	*89 - 112*				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20051138-01MS** Units: **UG/L** Analysis Date: **02-Jun-2020 20:58**
Client ID: **LH18/24-SP650_052820** Run ID: **VOA6_362585** SeqNo: **5605357** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.38	1.0	20	0	107	78 - 124				
1,1,1-Trichloroethane	19.2	1.0	20	0	96.0	74 - 131				
1,1,2,2-Tetrachloroethane	21.43	1.0	20	0	107	71 - 121				
1,1,2-Trichloroethane	21.54	1.0	20	0	108	80 - 119				
1,1-Dichloroethane	18.39	1.0	20	0	91.9	77 - 125				
1,1-Dichloroethene	18.84	1.0	20	0	94.2	71 - 131				
1,1-Dichloropropene	20.6	1.0	20	0	103	78 - 125				
1,2,3-Trichlorobenzene	17.79	1.0	20	0	88.9	69 - 129				
1,2,3-Trichloropropane	20.64	1.0	20	0	103	73 - 122				
1,2,4-Trichlorobenzene	17.8	1.0	20	0	89.0	69 - 130				
1,2,4-Trimethylbenzene	23.09	1.0	20	0	115	76 - 124				
1,2-Dibromo-3-chloropropane	19.36	1.0	20	0	96.8	62 - 128				
1,2-Dibromoethane	21.08	1.0	20	0	105	77 - 121				
1,2-Dichlorobenzene	21.22	1.0	20	0	106	80 - 119				
1,2-Dichloroethane	20.18	1.0	20	0.825	96.8	73 - 128				
1,2-Dichloropropane	20.24	1.0	20	0	101	78 - 122				
1,3,5-Trimethylbenzene	23.09	1.0	20	0	115	75 - 124				
1,3-Dichlorobenzene	21.48	1.0	20	0	107	80 - 119				
1,3-Dichloropropane	20.69	1.0	20	0	103	80 - 119				
1,4-Dichlorobenzene	21.17	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	18.1	1.0	20	0	90.5	60 - 139				
2-Butanone	32.99	2.0	40	0	82.5	56 - 143				
2-Chlorotoluene	22.12	1.0	20	0	111	79 - 122				
2-Hexanone	40.91	2.0	40	0	102	57 - 139				
4-Chlorotoluene	22.06	1.0	20	0	110	78 - 122				
4-Isopropyltoluene	23.89	1.0	20	0	119	77 - 127				
4-Methyl-2-pentanone	41.91	2.0	40	0	105	67 - 130				
Acetone	27.38	2.0	40	0	68.5	39 - 160				
Benzene	20.12	1.0	20	0	101	79 - 120				
Bromobenzene	22.04	1.0	20	0	110	80 - 120				
Bromochloromethane	18.07	1.0	20	0	90.4	78 - 123				
Bromodichloromethane	19.92	1.0	20	0	99.6	79 - 125				
Bromoform	20.98	1.0	20	0	105	66 - 130				
Bromomethane	19.27	1.0	20	0	96.4	53 - 141				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20051138-01MS** Units: **UG/L** Analysis Date: **02-Jun-2020 20:58**
Client ID: **LH18/24-SP650_052820** Run ID: **VOA6_362585** SeqNo: **5605357** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	38.56	2.0	40	0	96.4	64 - 133				
Carbon tetrachloride	20.11	1.0	20	0	101	72 - 136				
Chlorobenzene	20.93	1.0	20	0	105	82 - 118				
Chloroethane	17.89	1.0	20	0	89.4	60 - 138				
Chloroform	18.7	1.0	20	0	93.5	79 - 124				
Chloromethane	15.94	1.0	20	0	79.7	50 - 139				
cis-1,2-Dichloroethene	32.77	1.0	20	14.55	91.1	78 - 123				
cis-1,3-Dichloropropene	19.61	1.0	20	0	98.1	75 - 124				
Dibromochloromethane	20.57	1.0	20	0	103	74 - 126				
Dibromomethane	19.39	1.0	20	0	96.9	79 - 123				
Dichlorodifluoromethane	13.33	1.0	20	0	66.7	32 - 152				
Ethylbenzene	22.4	1.0	20	0	112	79 - 121				
Hexachlorobutadiene	19.59	1.0	20	0	97.9	66 - 134				
Isopropylbenzene	22.34	1.0	20	0	112	72 - 131				
m,p-Xylene	43.5	2.0	40	0	109	80 - 121				
Methylene chloride	18.27	2.0	20	0	91.4	74 - 124				
Naphthalene	16.73	1.0	20	0	83.7	61 - 128				
n-Butylbenzene	23.79	1.0	20	0	119	75 - 128				
n-Propylbenzene	23.53	1.0	20	0	118	76 - 126				
o-Xylene	22.15	1.0	20	0	111	78 - 122				
sec-Butylbenzene	23.63	1.0	20	0	118	77 - 126				
Styrene	20.96	1.0	20	0	105	78 - 123				
tert-Butylbenzene	23.34	1.0	20	0	117	78 - 124				
Tetrachloroethene	22.9	1.0	20	0	114	74 - 129				
Toluene	22.01	1.0	20	0	110	80 - 121				
trans-1,2-Dichloroethene	19.05	1.0	20	0	95.3	75 - 124				
trans-1,3-Dichloropropene	19.51	1.0	20	0	97.6	73 - 127				
Trichloroethene	22.86	1.0	20	2.674	101	79 - 123				
Trichlorofluoromethane	19.6	1.0	20	0	98.0	65 - 141				
Vinyl chloride	16.18	1.0	20	0	80.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.99*	*1.0*	*50*	*0*	*88.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.43*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*45.84*	*1.0*	*50*	*0*	*91.7*	*80 - 119*				
Surr: Toluene-d8	*53.41*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20051138-01MSD** Units: **UG/L** Analysis Date: **02-Jun-2020 21:22**
Client ID: **LH18/24-SP650_052820** Run ID: **VOA6_362585** SeqNo: **5605358** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.95	1.0	20	0	105	78 - 124	21.38	2	20	
1,1,1-Trichloroethane	18.61	1.0	20	0	93.1	74 - 131	19.2	3.12	20	
1,1,2,2-Tetrachloroethane	19.69	1.0	20	0	98.5	71 - 121	21.43	8.44	20	
1,1,2-Trichloroethane	20.76	1.0	20	0	104	80 - 119	21.54	3.73	20	
1,1-Dichloroethane	17.42	1.0	20	0	87.1	77 - 125	18.39	5.42	20	
1,1-Dichloroethene	18.1	1.0	20	0	90.5	71 - 131	18.84	4.02	20	
1,1-Dichloropropene	19.92	1.0	20	0	99.6	78 - 125	20.6	3.4	20	
1,2,3-Trichlorobenzene	20.57	1.0	20	0	103	69 - 129	17.79	14.5	20	
1,2,3-Trichloropropane	20.03	1.0	20	0	100	73 - 122	20.64	3	20	
1,2,4-Trichlorobenzene	20.33	1.0	20	0	102	69 - 130	17.8	13.3	20	
1,2,4-Trimethylbenzene	21.7	1.0	20	0	109	76 - 124	23.09	6.2	20	
1,2-Dibromo-3-chloropropane	18.14	1.0	20	0	90.7	62 - 128	19.36	6.49	20	
1,2-Dibromoethane	20.48	1.0	20	0	102	77 - 121	21.08	2.88	20	
1,2-Dichlorobenzene	20.17	1.0	20	0	101	80 - 119	21.22	5.07	20	
1,2-Dichloroethane	19.92	1.0	20	0.825	95.5	73 - 128	20.18	1.26	20	
1,2-Dichloropropane	19.73	1.0	20	0	98.6	78 - 122	20.24	2.57	20	
1,3,5-Trimethylbenzene	21.8	1.0	20	0	109	75 - 124	23.09	5.77	20	
1,3-Dichlorobenzene	20.53	1.0	20	0	103	80 - 119	21.48	4.53	20	
1,3-Dichloropropane	19.75	1.0	20	0	98.8	80 - 119	20.69	4.63	20	
1,4-Dichlorobenzene	19.53	1.0	20	0	97.7	79 - 118	21.17	8.06	20	
2,2-Dichloropropane	16.8	1.0	20	0	84.0	60 - 139	18.1	7.46	20	
2-Butanone	31.34	2.0	40	0	78.4	56 - 143	32.99	5.11	20	
2-Chlorotoluene	20.68	1.0	20	0	103	79 - 122	22.12	6.72	20	
2-Hexanone	39.65	2.0	40	0	99.1	57 - 139	40.91	3.14	20	
4-Chlorotoluene	20.45	1.0	20	0	102	78 - 122	22.06	7.56	20	
4-Isopropyltoluene	22.82	1.0	20	0	114	77 - 127	23.89	4.57	20	
4-Methyl-2-pentanone	39.9	2.0	40	0	99.8	67 - 130	41.91	4.92	20	
Acetone	26.08	2.0	40	0	65.2	39 - 160	27.38	4.86	20	
Benzene	19.41	1.0	20	0	97.0	79 - 120	20.12	3.62	20	
Bromobenzene	20.91	1.0	20	0	105	80 - 120	22.04	5.29	20	
Bromochloromethane	16.92	1.0	20	0	84.6	78 - 123	18.07	6.6	20	
Bromodichloromethane	19.26	1.0	20	0	96.3	79 - 125	19.92	3.34	20	
Bromoform	19.88	1.0	20	0	99.4	66 - 130	20.98	5.37	20	
Bromomethane	16.95	1.0	20	0	84.8	53 - 141	19.27	12.8	20	

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362585 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20051138-01MSD** Units: **UG/L** Analysis Date: **02-Jun-2020 21:22**
Client ID: **LH18/24-SP650_052820** Run ID: **VOA6_362585** SeqNo: **5605358** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	36.75	2.0	40	0	91.9	64 - 133	38.56	4.81	20	
Carbon tetrachloride	19.71	1.0	20	0	98.5	72 - 136	20.11	2.02	20	
Chlorobenzene	20.14	1.0	20	0	101	82 - 118	20.93	3.84	20	
Chloroethane	16.94	1.0	20	0	84.7	60 - 138	17.89	5.41	20	
Chloroform	17.82	1.0	20	0	89.1	79 - 124	18.7	4.82	20	
Chloromethane	15.24	1.0	20	0	76.2	50 - 139	15.94	4.46	20	
cis-1,2-Dichloroethene	31.54	1.0	20	14.55	84.9	78 - 123	32.77	3.84	20	
cis-1,3-Dichloropropene	19.22	1.0	20	0	96.1	75 - 124	19.61	2.05	20	
Dibromochloromethane	19.73	1.0	20	0	98.7	74 - 126	20.57	4.15	20	
Dibromomethane	19.06	1.0	20	0	95.3	79 - 123	19.39	1.7	20	
Dichlorodifluoromethane	12.62	1.0	20	0	63.1	32 - 152	13.33	5.49	20	
Ethylbenzene	20.99	1.0	20	0	105	79 - 121	22.4	6.49	20	
Hexachlorobutadiene	22.04	1.0	20	0	110	66 - 134	19.59	11.8	20	
Isopropylbenzene	21.39	1.0	20	0	107	72 - 131	22.34	4.37	20	
m,p-Xylene	41.82	2.0	40	0	105	80 - 121	43.5	3.94	20	
Methylene chloride	17.42	2.0	20	0	87.1	74 - 124	18.27	4.76	20	
Naphthalene	20.93	1.0	20	0	105	61 - 128	16.73	22.3	20	R
n-Butylbenzene	23.07	1.0	20	0	115	75 - 128	23.79	3.11	20	
n-Propylbenzene	22.23	1.0	20	0	111	76 - 126	23.53	5.69	20	
o-Xylene	20.75	1.0	20	0	104	78 - 122	22.15	6.52	20	
sec-Butylbenzene	22.56	1.0	20	0	113	77 - 126	23.63	4.61	20	
Styrene	20.3	1.0	20	0	101	78 - 123	20.96	3.18	20	
tert-Butylbenzene	22.29	1.0	20	0	111	78 - 124	23.34	4.58	20	
Tetrachloroethene	22.28	1.0	20	0	111	74 - 129	22.9	2.74	20	
Toluene	20.84	1.0	20	0	104	80 - 121	22.01	5.46	20	
trans-1,2-Dichloroethene	18.21	1.0	20	0	91.0	75 - 124	19.05	4.54	20	
trans-1,3-Dichloropropene	19.13	1.0	20	0	95.7	73 - 127	19.51	1.98	20	
Trichloroethene	22.36	1.0	20	2.674	98.4	79 - 123	22.86	2.24	20	
Trichlorofluoromethane	18.86	1.0	20	0	94.3	65 - 141	19.6	3.86	20	
Vinyl chloride	15.26	1.0	20	0	76.3	58 - 137	16.18	5.84	20	
Surr: 1,2-Dichloroethane-d4	*43.22*	*1.0*	*50*	*0*	*86.4*	*81 - 118*	*43.99*	*1.76*	*20*	
Surr: 4-Bromofluorobenzene	*50.45*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.43*	*0.0372*	*20*	
Surr: Dibromofluoromethane	*44.66*	*1.0*	*50*	*0*	*89.3*	*80 - 119*	*45.84*	*2.61*	*20*	
Surr: Toluene-d8	*52.93*	*1.0*	*50*	*0*	*106*	*89 - 112*	*53.41*	*0.891*	*20*	

ALS Houston, US Date: 08-Jun-20

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder:	HS20051138

QC BATCH REPORT

Batch ID:	**R362585 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20051138-01 HS20051138-02

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20051138

QC BATCH REPORT

Batch ID: R362800 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **WBLKW1-060620** Units: **mg/L** Analysis Date: **06-Jun-2020 20:12**
Client ID: Run ID: **ICS-Integrion_362800** SeqNo: **5609641** PrepDate: DF: **1**

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

LCS Sample ID: **WLCSW1-060620** Units: **mg/L** Analysis Date: **06-Jun-2020 20:30**
Client ID: Run ID: **ICS-Integrion_362800** SeqNo: **5609642** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	20.4	0.500	20	0	102	80 - 120				
Sulfate	20.24	0.500	20	0	101	80 - 120				

MS Sample ID: **HS20060163-01MS** Units: **mg/L** Analysis Date: **06-Jun-2020 18:41**
Client ID: Run ID: **ICS-Integrion_362800** SeqNo: **5609637** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	411.5	5.00	100	324.7	86.8	80 - 120				
Sulfate	192.4	5.00	100	93.55	98.9	80 - 120				

MSD Sample ID: **HS20060163-01MSD** Units: **mg/L** Analysis Date: **06-Jun-2020 18:59**
Client ID: Run ID: **ICS-Integrion_362800** SeqNo: **5609638** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	409.4	5.00	100	324.7	84.7	80 - 120	411.5	0.509	20	
Sulfate	190.9	5.00	100	93.55	97.4	80 - 120	192.4	0.788	20	

The following samples were analyzed in this batch: HS20051138-01

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: **HS20051138**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 08-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20051138

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20051138-01	LH18/24-SP650_052820	Login	5/29/2020 2:56:29 PM	PMG	WET326
HS20051138-01	LH18/24-SP650_052820	Login	5/29/2020 2:56:29 PM	PMG	VOA199
HS20051138-02	Trip Blank	Login	5/29/2020 2:56:29 PM	PMG	VOA199

ALS Houston, US Date: 08-Jun-20

Sample Receipt Checklist

Work Order ID: HS20051138 **Date/Time Received:** **29-May-2020 09:00**

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

Completed By:	/S/ Paresh M. Giga	29-May-2020 14:57	**Reviewed by:**	/S/ Corey Grandits	01-Jun-2020 11:24
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.4C U/C	IR11	
Cooler(s)/Kit(s):	44753		
Date/Time sample(s) sent to storage:	5/29/2020 15:05		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS, 10450 Stancliff Rd. Suite 210, Houston, Tx. 77099 ATTN: R.J. Modashia

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT
BI-WEEKLY SAMPLES

Prepared By:
Scott Beesinger

P.O Number

HS20051138
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant: Bi Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	Analyses: CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_052820	Water	05/28/20 / 14:00		3	3		HCL	
LH18/24-SP650_052820	Water	05/28/20 / 14:00		1		1	NONE	
Trip Blank	Water	05/28/20		2	2		HCL	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	05/28/20	14:30									

9For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Musemm	5/29/20	09:00							

Remarks

Cooler - 44753 Temp 1.4
1211
CF 0.0

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

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

44753

CUSTODY SEAL

Date: 5/28/20 Time: 1430
Name: Scott Beesinger
Company: Blitz

Seal Broken By:
Date: 05/29/20

44753

Must Deliver Next Business I
Time and Tempature Sensi

44753

RT 917

ORIGIN ID:9338 (903) 597 2450
SCOTT BEESINGER
PIPE ENVIRONMENTAL ASSOCIATES
1220-B EAST GRAND AVE.
PM9202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 28MAY20
ACTWGT: 1.00 LB MAN
CAD: 3001307/CAFE3211
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-58-BO 70650-RJ
AWA:

FedEx Express

TRK# 0221 1251 0294 9670

RETURNS MON-SAT
PRIORITY OVERNIGHT

FedEx
TRK# 0221 1251 0294 9670

FRI - 29 MAY 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX US
IAH

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

June 18, 2020

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

Work Order: **HS20060114**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Effluent Samples**

Dear Marcia,

ALS Environmental received 3 sample(s) on Jun 03, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20060114

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060114-01	LH18/24-SP650_060220	Water		02-Jun-2020 14:00	03-Jun-2020 09:05	☐
HS20060114-02	LH18/24-SP650_060220_BIX	Water		02-Jun-2020 14:00	03-Jun-2020 09:05	☐
HS20060114-03	Trip Blank	Water	CG-042320-57	02-Jun-2020 00:00	03-Jun-2020 09:05	☐

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20060114

Work Order Comments

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

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 154059

Sample ID: LH18/24-SP650_060220 (HS20060114-01)

• The surrogate recoveries could not be determined due to dilution below the calibration range.

GCMS Volatiles by Method SW8260

Batch ID: R362756

Sample ID: LH18/24-SP650_060220 (HS20060114-01MSD)

• The recovery of the Matrix Spike Duplicate (MSD) 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.

The RPD between the MS and MSD was outside of the control limit.

Sample ID: VLCSW-200605

• 1,2,3_Trichlorobenzene and Methylene Chloride exceeded QC limits for LCS. Samples are ND for these compounds.

Metals by Method SW6020

Batch ID: 154157

Sample ID: LH18/24-SP650_060220 (HS20060114-01MSD)

• Silver failed on the MSD but passed on the MS and PDS.

WetChemistry by Method SW7196

Batch ID: R362588

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

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114
Sample ID: LH18/24-SP650_060220 Lab ID:HS20060114-01
Collection Date: 02-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,2-Dichloroethane	**0.84**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	05-Jun-2020 13:00
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	05-Jun-2020 13:00
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	05-Jun-2020 13:00
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	05-Jun-2020 13:00
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	05-Jun-2020 13:00
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	05-Jun-2020 13:00
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00

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

ALS Houston, US Date: 18-Jun-20

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114

Sample ID: LH18/24-SP650_060220 Lab ID:HS20060114-01

Collection Date: 02-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
cis-1,2-Dichloroethene	**17**		**0.20**	**0.50**	**1.0**	**UG/L**	1	05-Jun-2020 13:00
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	05-Jun-2020 13:00
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	05-Jun-2020 13:00
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 13:00
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Trichloroethene	**3.2**		**0.20**	**0.50**	**1.0**	**UG/L**	1	05-Jun-2020 13:00
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 13:00
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 13:00
Surr: 1,2-Dichloroethane-d4	*87.2*			**0**	*81-118*	*%REC*	*1*	*05-Jun-2020 13:00*
Surr: 4-Bromofluorobenzene	*100*			**0**	*85-114*	*%REC*	*1*	*05-Jun-2020 13:00*
Surr: Dibromofluoromethane	*90.3*			**0**	*80-119*	*%REC*	*1*	*05-Jun-2020 13:00*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*05-Jun-2020 13:00*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 03-Jun-2020		Analyst: ACN
1,4-Dioxane	**0.48**	a	**0.010**	**0.010**	**0.010**	**ug/L**	1	17-Jun-2020 15:04
Surr: 2-Fluorobiphenyl	*0*	*S*		0	*40-140*	*%REC*	*1*	*17-Jun-2020 15:04*
Surr: 4-Terphenyl-d14	*0*	*S*		0	*40-140*	*%REC*	*1*	*17-Jun-2020 15:04*
Surr: Nitrobenzene-d5	*0*	*S*		0	*40-140*	*%REC*	*1*	*17-Jun-2020 15:04*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 05-Jun-2020		Analyst: JHD
Barium	**0.144**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	10-Jun-2020 16:14
Lead	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	10-Jun-2020 16:14
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	10-Jun-2020 16:14
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	10-Jun-2020 16:14

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

ALS Houston, US Date: 18-Jun-20

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114

Sample ID: LH18/24-SP650_060220 Lab ID:HS20060114-01

Collection Date: 02-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
HEXAVALENT CHROMIUM BY SW7196A		**Method:SW7196**						Analyst: KVL
Chromium, Hexavalent	0.0100	U	0.00600	0.0100	0.0100	mg/L	1	03-Jun-2020 12:55

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

ALS Houston, US Date: 18-Jun-20

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114

Sample ID: LH18/24-SP650_060220_BIX Lab ID:HS20060114-02

Collection Date: 02-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	18-Jun-2020 15:50

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

ALS Houston, US Date: 18-Jun-20

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114

Sample ID: Trip Blank Lab ID:HS20060114-03

Collection Date: 02-Jun-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	05-Jun-2020 12:36
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	05-Jun-2020 12:36
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	05-Jun-2020 12:36
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	05-Jun-2020 12:36
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	05-Jun-2020 12:36
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36

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

ALS Houston, US Date: 18-Jun-20

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20060114

Sample ID: Trip Blank Lab ID:HS20060114-03

Collection Date: 02-Jun-2020 00:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	05-Jun-2020 12:36
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	05-Jun-2020 12:36
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	05-Jun-2020 12:36
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	05-Jun-2020 12:36
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	05-Jun-2020 12:36
Surr: 1,2-Dichloroethane-d4	*87.3*			**0**	*81-118*	*%REC*	*1*	*05-Jun-2020 12:36*
Surr: 4-Bromofluorobenzene	*101*			**0**	*85-114*	*%REC*	*1*	*05-Jun-2020 12:36*
Surr: Dibromofluoromethane	*89.2*			**0**	*80-119*	*%REC*	*1*	*05-Jun-2020 12:36*
Surr: Toluene-d8	*109*			**0**	*89-112*	*%REC*	*1*	*05-Jun-2020 12:36*

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

ALS Houston, US Date: 18-Jun-20

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

Batch ID: 154059 **Start Date:** 03 Jun 2020 10:30 **End Date:** 03 Jun 2020 15:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060114-01	1	1000 (mL)	1 (mL)	0.001

Batch ID: 154157 **Start Date:** 05 Jun 2020 10:00 **End Date:** 05 Jun 2020 14:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060114-01		10 (mL)	10 (mL)	1

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 154059 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS20060114-01	LH18/24-SP650_060220	02 Jun 2020 14:00		03 Jun 2020 13:48	17 Jun 2020 15:04	1
Batch ID: 154157 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20060114-01	LH18/24-SP650_060220	02 Jun 2020 14:00		05 Jun 2020 14:00	10 Jun 2020 16:14	1
Batch ID: R362588 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS20060114-01	LH18/24-SP650_060220	02 Jun 2020 14:00			03 Jun 2020 12:55	1
Batch ID: R362756 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20060114-01	LH18/24-SP650_060220	02 Jun 2020 14:00			05 Jun 2020 13:00	1
HS20060114-03	Trip Blank	02 Jun 2020 00:00			05 Jun 2020 12:36	1
Batch ID: R363524 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20060114-02	LH18/24-SP650_060220_BIX	02 Jun 2020 14:00			18 Jun 2020 15:50	1

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: 154157 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-154157** Units: **mg/L** Analysis Date: **10-Jun-2020 14:34**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613660** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.00250	0.00500								U
Lead	0.00100	0.00500								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U

LCS Sample ID: **LCS-154157** Units: **mg/L** Analysis Date: **10-Jun-2020 14:40**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613662** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.04884	0.00500	0.05	0	97.7	86 - 114				
Lead	0.04804	0.00500	0.05	0	96.1	88 - 115				
Selenium	0.0533	0.00500	0.05	0	107	80 - 120				
Silver	0.04452	0.00500	0.05	0	89.0	85 - 116				

MS Sample ID: **HS20060114-01MS** Units: **mg/L** Analysis Date: **10-Jun-2020 16:19**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_362980** SeqNo: **5613909** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1983	0.00500	0.05	0.1436	109	86 - 114				
Lead	0.05012	0.00500	0.05	0	100	88 - 115				
Selenium	0.0486	0.00500	0.05	0	97.2	80 - 120				
Silver	0.04254	0.00500	0.05	0	85.1	85 - 116				

MSD Sample ID: **HS20060114-01MSD** Units: **mg/L** Analysis Date: **10-Jun-2020 16:21**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_362980** SeqNo: **5613910** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.2002	0.00500	0.05	0.1436	113	86 - 114	0.1983	0.971	20	
Lead	0.04816	0.00500	0.05	0	96.3	88 - 115	0.05012	3.99	20	
Selenium	0.04911	0.00500	0.05	0	98.2	80 - 120	0.0486	1.06	20	
Silver	0.04225	0.00500	0.05	0	84.5	85 - 116	0.04254	0.686	20	S

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: 154157 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS20060114-01PDS** Units: **mg/L** Analysis Date: **10-Jun-2020 16:23**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_362980** SeqNo: **5613911** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.2498	0.00500	0.1	0.1436	106	80 - 120				
Lead	0.09826	0.00500	0.1	0.000067	98.2	80 - 120				
Selenium	0.1008	0.00500	0.1	0.000544	100	80 - 120				

PDS Sample ID: **HS20060114-01PDS** Units: **mg/L** Analysis Date: **15-Jun-2020 16:23**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_363235** SeqNo: **5619462** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	0.08838	0.00500	0.1	0	88.4	80 - 120				

SD Sample ID: **HS20060114-01SD** Units: **mg/L** Analysis Date: **10-Jun-2020 16:16**
Client ID: **LH18/24-SP650_060220** Run ID: **ICPMS05_362980** SeqNo: **5613908** PrepDate: **05-Jun-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	0.1369	0.0250					0.1436	4.66	10	
Lead	0.00500	0.0250					0.000067	0	10	U
Selenium	0.0125	0.0250					0.000544	0	10	U
Silver	0.00250	0.0250					0.000002	0	10	U

The following samples were analyzed in this batch: HS20060114-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: 154059 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-154059** Units: **ug/L** Analysis Date: **17-Jun-2020 13:06**
Client ID: Run ID: **SV-6_363438** SeqNo: **5623614** PrepDate: **03-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.010	0.010								U
Surr: 2-Fluorobiphenyl	*0.07838*	*0*	*0.08*	*0*	*98.0*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.07859*	*0*	*0.08*	*0*	*98.2*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.0653*	*0*	*0.08*	*0*	*81.6*	*40 - 140*				

LCS Sample ID: **LCS-154059** Units: **ug/L** Analysis Date: **17-Jun-2020 13:26**
Client ID: Run ID: **SV-6_363438** SeqNo: **5623615** PrepDate: **03-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.07495	0.010	0.08	0	93.7	40 - 140				
Surr: 2-Fluorobiphenyl	*0.08185*	*0*	*0.08*	*0*	*102*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.08074*	*0*	*0.08*	*0*	*101*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.1027*	*0*	*0.08*	*0*	*128*	*40 - 140*				

LCSD Sample ID: **LCSD-154059** Units: **ug/L** Analysis Date: **17-Jun-2020 13:46**
Client ID: Run ID: **SV-6_363438** SeqNo: **5623616** PrepDate: **03-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.06747	0.010	0.08	0	84.3	40 - 140	0.07495	10.5	20	
Surr: 2-Fluorobiphenyl	*0.08446*	*0*	*0.08*	*0*	*106*	*40 - 140*	*0.08185*	*3.14*	*20*	
Surr: 4-Terphenyl-d14	*0.08149*	*0*	*0.08*	*0*	*102*	*40 - 140*	*0.08074*	*0.92*	*20*	
Surr: Nitrobenzene-d5	*0.106*	*0*	*0.08*	*0*	*133*	*40 - 140*	*0.1027*	*3.17*	*20*	

The following samples were analyzed in this batch: HS20060114-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200605** Units: **UG/L** Analysis Date: **05-Jun-2020 12:12**
Client ID: Run ID: **VOA6_362756** SeqNo: **5608818** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200605** Units: **UG/L** Analysis Date: **05-Jun-2020 12:12**
Client ID: Run ID: **VOA6_362756** SeqNo: **5608818** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.59*	*1.0*	*50*	*0*	*87.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.59*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*45.12*	*1.0*	*50*	*0*	*90.2*	*80 - 119*				
Surr: Toluene-d8	*54.1*	*1.0*	*50*	*0*	*108*	*89 - 112*				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200605** Units: **UG/L** Analysis Date: **05-Jun-2020 11:24**
Client ID: Run ID: **VOA6_362756** SeqNo: **5608817** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.1	1.0	20	0	100	78 - 124				
1,1,1-Trichloroethane	19.58	1.0	20	0	97.9	74 - 131				
1,1,2,2-Tetrachloroethane	20.17	1.0	20	0	101	71 - 121				
1,1,2-Trichloroethane	20.84	1.0	20	0	104	80 - 119				
1,1-Dichloroethane	20.04	1.0	20	0	100	77 - 125				
1,1-Dichloroethene	19.37	1.0	20	0	96.8	71 - 131				
1,1-Dichloropropene	18.37	1.0	20	0	91.8	78 - 125				
1,2,3-Trichlorobenzene	26.29	1.0	20	0	131	69 - 129				S
1,2,3-Trichloropropane	20.01	1.0	20	0	100	73 - 122				
1,2,4-Trichlorobenzene	23.72	1.0	20	0	119	69 - 130				
1,2,4-Trimethylbenzene	19.05	1.0	20	0	95.3	76 - 124				
1,2-Dibromo-3-chloropropane	21.8	1.0	20	0	109	62 - 128				
1,2-Dibromoethane	20.48	1.0	20	0	102	77 - 121				
1,2-Dichlorobenzene	19.76	1.0	20	0	98.8	80 - 119				
1,2-Dichloroethane	20.65	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	21.17	1.0	20	0	106	78 - 122				
1,3,5-Trimethylbenzene	18.22	1.0	20	0	91.1	75 - 124				
1,3-Dichlorobenzene	19.01	1.0	20	0	95.0	80 - 119				
1,3-Dichloropropane	20.47	1.0	20	0	102	80 - 119				
1,4-Dichlorobenzene	19.33	1.0	20	0	96.6	79 - 118				
2,2-Dichloropropane	20.21	1.0	20	0	101	60 - 139				
2-Butanone	39.35	2.0	40	0	98.4	56 - 143				
2-Chlorotoluene	18.15	1.0	20	0	90.7	79 - 122				
2-Hexanone	43.17	2.0	40	0	108	57 - 139				
4-Chlorotoluene	18.48	1.0	20	0	92.4	78 - 122				
4-Isopropyltoluene	18.48	1.0	20	0	92.4	77 - 127				
4-Methyl-2-pentanone	41.93	2.0	40	0	105	67 - 130				
Acetone	41.64	2.0	40	0	104	39 - 160				
Benzene	19.99	1.0	20	0	99.9	79 - 120				
Bromobenzene	19.54	1.0	20	0	97.7	80 - 120				
Bromochloromethane	20.48	1.0	20	0	102	78 - 123				
Bromodichloromethane	20.64	1.0	20	0	103	79 - 125				
Bromoform	21.14	1.0	20	0	106	66 - 130				
Bromomethane	21.94	1.0	20	0	110	53 - 141				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200605** Units: **UG/L** Analysis Date: **05-Jun-2020 11:24**
Client ID: Run ID: **VOA6_362756** SeqNo: **5608817** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	39.58	2.0	40	0	98.9	64 - 133				
Carbon tetrachloride	18.46	1.0	20	0	92.3	72 - 136				
Chlorobenzene	19.82	1.0	20	0	99.1	82 - 118				
Chloroethane	19.4	1.0	20	0	97.0	60 - 138				
Chloroform	20.27	1.0	20	0	101	79 - 124				
Chloromethane	20.05	1.0	20	0	100	50 - 139				
cis-1,2-Dichloroethene	20.21	1.0	20	0	101	78 - 123				
cis-1,3-Dichloropropene	20.53	1.0	20	0	103	75 - 124				
Dibromochloromethane	19.97	1.0	20	0	99.8	74 - 126				
Dibromomethane	20.6	1.0	20	0	103	79 - 123				
Dichlorodifluoromethane	19.02	1.0	20	0	95.1	32 - 152				
Ethylbenzene	19.23	1.0	20	0	96.2	79 - 121				
Hexachlorobutadiene	25.34	1.0	20	0	127	66 - 134				
Isopropylbenzene	18.57	1.0	20	0	92.9	72 - 131				
m,p-Xylene	38.57	2.0	40	0	96.4	80 - 121				
Methylene chloride	27.28	2.0	20	0	136	74 - 124				S
Naphthalene	22.61	1.0	20	0	113	61 - 128				
n-Butylbenzene	18.68	1.0	20	0	93.4	75 - 128				
n-Propylbenzene	18.45	1.0	20	0	92.2	76 - 126				
o-Xylene	19.69	1.0	20	0	98.5	78 - 122				
sec-Butylbenzene	17.83	1.0	20	0	89.2	77 - 126				
Styrene	19.82	1.0	20	0	99.1	78 - 123				
tert-Butylbenzene	17.64	1.0	20	0	88.2	78 - 124				
Tetrachloroethene	19.22	1.0	20	0	96.1	74 - 129				
Toluene	19.45	1.0	20	0	97.2	80 - 121				
trans-1,2-Dichloroethene	20.63	1.0	20	0	103	75 - 124				
trans-1,3-Dichloropropene	21.24	1.0	20	0	106	73 - 127				
Trichloroethene	19.67	1.0	20	0	98.3	79 - 123				
Trichlorofluoromethane	19.32	1.0	20	0	96.6	65 - 141				
Vinyl chloride	17.43	1.0	20	0	87.1	58 - 137				
Surr: 1,2-Dichloroethane-d4	*52.3*	*1.0*	*50*	*0*	*105*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.05*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*51.39*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*47.59*	*1.0*	*50*	*0*	*95.2*	*89 - 112*				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20060114-01MS** Units: **UG/L** Analysis Date: **05-Jun-2020 15:49**
Client ID: **LH18/24-SP650_060220** Run ID: **VOA6_362756** SeqNo: **5608827** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.36	1.0	20	0	112	78 - 124				
1,1,1-Trichloroethane	19.16	1.0	20	0	95.8	74 - 131				
1,1,2,2-Tetrachloroethane	22.31	1.0	20	0	112	71 - 121				
1,1,2-Trichloroethane	22.39	1.0	20	0	112	80 - 119				
1,1-Dichloroethane	18.12	1.0	20	0	90.6	77 - 125				
1,1-Dichloroethene	18.68	1.0	20	0	93.4	71 - 131				
1,1-Dichloropropene	20.14	1.0	20	0	101	78 - 125				
1,2,3-Trichlorobenzene	25.15	1.0	20	0	126	69 - 129				
1,2,3-Trichloropropane	21.25	1.0	20	0	106	73 - 122				
1,2,4-Trichlorobenzene	22.9	1.0	20	0	114	69 - 130				
1,2,4-Trimethylbenzene	21.94	1.0	20	0	110	76 - 124				
1,2-Dibromo-3-chloropropane	23.89	1.0	20	0	119	62 - 128				
1,2-Dibromoethane	22.67	1.0	20	0	113	77 - 121				
1,2-Dichlorobenzene	22.22	1.0	20	0	111	80 - 119				
1,2-Dichloroethane	21.6	1.0	20	0.8439	104	73 - 128				
1,2-Dichloropropane	21.1	1.0	20	0	106	78 - 122				
1,3,5-Trimethylbenzene	21.27	1.0	20	0	106	75 - 124				
1,3-Dichlorobenzene	21.35	1.0	20	0	107	80 - 119				
1,3-Dichloropropane	21.65	1.0	20	0	108	80 - 119				
1,4-Dichlorobenzene	21.15	1.0	20	0	106	79 - 118				
2,2-Dichloropropane	17.85	1.0	20	0	89.2	60 - 139				
2-Butanone	34.32	2.0	40	0	85.8	56 - 143				
2-Chlorotoluene	21.05	1.0	20	0	105	79 - 122				
2-Hexanone	46.56	2.0	40	0	116	57 - 139				
4-Chlorotoluene	21.12	1.0	20	0	106	78 - 122				
4-Isopropyltoluene	22.61	1.0	20	0	113	77 - 127				
4-Methyl-2-pentanone	46.19	2.0	40	0	115	67 - 130				
Acetone	29.57	2.0	40	0	73.9	39 - 160				
Benzene	20.42	1.0	20	0	102	79 - 120				
Bromobenzene	21.45	1.0	20	0	107	80 - 120				
Bromochloromethane	18.06	1.0	20	0	90.3	78 - 123				
Bromodichloromethane	20.5	1.0	20	0	102	79 - 125				
Bromoform	22.68	1.0	20	0	113	66 - 130				
Bromomethane	17.25	1.0	20	0	86.2	53 - 141				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20060114-01MS** Units: **UG/L** Analysis Date: **05-Jun-2020 15:49**
Client ID: **LH18/24-SP650_060220** Run ID: **VOA6_362756** SeqNo: **5608827** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	37.79	2.0	40	0	94.5	64 - 133				
Carbon tetrachloride	20.43	1.0	20	0	102	72 - 136				
Chlorobenzene	21.46	1.0	20	0	107	82 - 118				
Chloroethane	17.3	1.0	20	0	86.5	60 - 138				
Chloroform	18.44	1.0	20	0	92.2	79 - 124				
Chloromethane	14.86	1.0	20	0	74.3	50 - 139				
cis-1,2-Dichloroethene	35.3	1.0	20	16.85	92.2	78 - 123				
cis-1,3-Dichloropropene	20.71	1.0	20	0	104	75 - 124				
Dibromochloromethane	21.33	1.0	20	0	107	74 - 126				
Dibromomethane	20.78	1.0	20	0	104	79 - 123				
Dichlorodifluoromethane	11.65	1.0	20	0	58.3	32 - 152				
Ethylbenzene	22.34	1.0	20	0	112	79 - 121				
Hexachlorobutadiene	25.39	1.0	20	0	127	66 - 134				
Isopropylbenzene	22.33	1.0	20	0	112	72 - 131				
m,p-Xylene	44.11	2.0	40	0	110	80 - 121				
Methylene chloride	18.32	2.0	20	0	91.6	74 - 124				
Naphthalene	23.85	1.0	20	0	119	61 - 128				
n-Butylbenzene	23.36	1.0	20	0	117	75 - 128				
n-Propylbenzene	21.92	1.0	20	0	110	76 - 126				
o-Xylene	22.25	1.0	20	0	111	78 - 122				
sec-Butylbenzene	22.11	1.0	20	0	111	77 - 126				
Styrene	21.64	1.0	20	0	108	78 - 123				
tert-Butylbenzene	21.96	1.0	20	0	110	78 - 124				
Tetrachloroethene	23.34	1.0	20	0	117	74 - 129				
Toluene	21.9	1.0	20	0	109	80 - 121				
trans-1,2-Dichloroethene	18.7	1.0	20	0	93.5	75 - 124				
trans-1,3-Dichloropropene	20.64	1.0	20	0	103	73 - 127				
Trichloroethene	24.61	1.0	20	3.195	107	79 - 123				
Trichlorofluoromethane	19.35	1.0	20	0	96.7	65 - 141				
Vinyl chloride	15.55	1.0	20	0	77.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*43.2*	*1.0*	*50*	*0*	*86.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.8*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*44.92*	*1.0*	*50*	*0*	*89.8*	*80 - 119*				
Surr: Toluene-d8	*53.54*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20060114-01MSD** Units: **UG/L** Analysis Date: **05-Jun-2020 16:13**
Client ID: **LH18/24-SP650_060220** Run ID: **VOA6_362756** SeqNo: **5608828** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.16	1.0	20	0	106	78 - 124	22.36	5.53	20	
1,1,1-Trichloroethane	19.4	1.0	20	0	97.0	74 - 131	19.16	1.22	20	
1,1,2,2-Tetrachloroethane	21	1.0	20	0	105	71 - 121	22.31	6.03	20	
1,1,2-Trichloroethane	21.12	1.0	20	0	106	80 - 119	22.39	5.86	20	
1,1-Dichloroethane	18.26	1.0	20	0	91.3	77 - 125	18.12	0.78	20	
1,1-Dichloroethene	18.19	1.0	20	0	90.9	71 - 131	18.68	2.66	20	
1,1-Dichloropropene	20.93	1.0	20	0	105	78 - 125	20.14	3.86	20	
1,2,3-Trichlorobenzene	31.03	1.0	20	0	155	69 - 129	25.15	20.9	20	SR
1,2,3-Trichloropropane	21.01	1.0	20	0	105	73 - 122	21.25	1.14	20	
1,2,4-Trichlorobenzene	28.59	1.0	20	0	143	69 - 130	22.9	22.1	20	SR
1,2,4-Trimethylbenzene	21.79	1.0	20	0	109	76 - 124	21.94	0.685	20	
1,2-Dibromo-3-chloropropane	24.2	1.0	20	0	121	62 - 128	23.89	1.29	20	
1,2-Dibromoethane	21.16	1.0	20	0	106	77 - 121	22.67	6.92	20	
1,2-Dichlorobenzene	21.69	1.0	20	0	108	80 - 119	22.22	2.43	20	
1,2-Dichloroethane	20.79	1.0	20	0.8439	99.7	73 - 128	21.6	3.85	20	
1,2-Dichloropropane	20.86	1.0	20	0	104	78 - 122	21.1	1.14	20	
1,3,5-Trimethylbenzene	21.42	1.0	20	0	107	75 - 124	21.27	0.699	20	
1,3-Dichlorobenzene	20.95	1.0	20	0	105	80 - 119	21.35	1.91	20	
1,3-Dichloropropane	20.89	1.0	20	0	104	80 - 119	21.65	3.57	20	
1,4-Dichlorobenzene	20.87	1.0	20	0	104	79 - 118	21.15	1.32	20	
2,2-Dichloropropane	18.43	1.0	20	0	92.2	60 - 139	17.85	3.21	20	
2-Butanone	34.46	2.0	40	0	86.2	56 - 143	34.32	0.398	20	
2-Chlorotoluene	20.4	1.0	20	0	102	79 - 122	21.05	3.15	20	
2-Hexanone	45.58	2.0	40	0	114	57 - 139	46.56	2.14	20	
4-Chlorotoluene	20.45	1.0	20	0	102	78 - 122	21.12	3.22	20	
4-Isopropyltoluene	22.61	1.0	20	0	113	77 - 127	22.61	0.0187	20	
4-Methyl-2-pentanone	44.84	2.0	40	0	112	67 - 130	46.19	2.96	20	
Acetone	29.83	2.0	40	0	74.6	39 - 160	29.57	0.879	20	
Benzene	20.52	1.0	20	0	103	79 - 120	20.42	0.477	20	
Bromobenzene	20.51	1.0	20	0	103	80 - 120	21.45	4.48	20	
Bromochloromethane	18.17	1.0	20	0	90.9	78 - 123	18.06	0.635	20	
Bromodichloromethane	20.3	1.0	20	0	102	79 - 125	20.5	0.974	20	
Bromoform	22.17	1.0	20	0	111	66 - 130	22.68	2.27	20	
Bromomethane	16.3	1.0	20	0	81.5	53 - 141	17.25	5.67	20	

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362756 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20060114-01MSD** Units: **UG/L** Analysis Date: **05-Jun-2020 16:13**
Client ID: **LH18/24-SP650_060220** Run ID: **VOA6_362756** SeqNo: **5608828** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	38.27	2.0	40	0	95.7	64 - 133	37.79	1.26	20	
Carbon tetrachloride	20.53	1.0	20	0	103	72 - 136	20.43	0.448	20	
Chlorobenzene	20.72	1.0	20	0	104	82 - 118	21.46	3.48	20	
Chloroethane	17.46	1.0	20	0	87.3	60 - 138	17.3	0.962	20	
Chloroform	18.24	1.0	20	0	91.2	79 - 124	18.44	1.07	20	
Chloromethane	14.6	1.0	20	0	73.0	50 - 139	14.86	1.73	20	
cis-1,2-Dichloroethene	35.35	1.0	20	16.85	92.5	78 - 123	35.3	0.159	20	
cis-1,3-Dichloropropene	20.14	1.0	20	0	101	75 - 124	20.71	2.77	20	
Dibromochloromethane	20.79	1.0	20	0	104	74 - 126	21.33	2.57	20	
Dibromomethane	20.32	1.0	20	0	102	79 - 123	20.78	2.25	20	
Dichlorodifluoromethane	11.87	1.0	20	0	59.4	32 - 152	11.65	1.86	20	
Ethylbenzene	21.93	1.0	20	0	110	79 - 121	22.34	1.86	20	
Hexachlorobutadiene	28.39	1.0	20	0	142	66 - 134	25.39	11.1	20	S
Isopropylbenzene	22	1.0	20	0	110	72 - 131	22.33	1.51	20	
m,p-Xylene	42.89	2.0	40	0	107	80 - 121	44.11	2.81	20	
Methylene chloride	18.66	2.0	20	0	93.3	74 - 124	18.32	1.86	20	
Naphthalene	28.88	1.0	20	0	144	61 - 128	23.85	19.1	20	S
n-Butylbenzene	23.75	1.0	20	0	119	75 - 128	23.36	1.66	20	
n-Propylbenzene	21.72	1.0	20	0	109	76 - 126	21.92	0.936	20	
o-Xylene	21.27	1.0	20	0	106	78 - 122	22.25	4.5	20	
sec-Butylbenzene	22.41	1.0	20	0	112	77 - 126	22.11	1.36	20	
Styrene	21.09	1.0	20	0	105	78 - 123	21.64	2.55	20	
tert-Butylbenzene	21.91	1.0	20	0	110	78 - 124	21.96	0.209	20	
Tetrachloroethene	22.72	1.0	20	0	114	74 - 129	23.34	2.68	20	
Toluene	21.21	1.0	20	0	106	80 - 121	21.9	3.16	20	
trans-1,2-Dichloroethene	19.43	1.0	20	0	97.2	75 - 124	18.7	3.87	20	
trans-1,3-Dichloropropene	20.83	1.0	20	0	104	73 - 127	20.64	0.941	20	
Trichloroethene	23.99	1.0	20	3.195	104	79 - 123	24.61	2.55	20	
Trichlorofluoromethane	19.41	1.0	20	0	97.1	65 - 141	19.35	0.331	20	
Vinyl chloride	15.67	1.0	20	0	78.3	58 - 137	15.55	0.764	20	
Surr: 1,2-Dichloroethane-d4	*42.55*	*1.0*	*50*	*0*	*85.1*	*81 - 118*	*43.2*	*1.51*	*20*	
Surr: 4-Bromofluorobenzene	*50.44*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.8*	*0.718*	*20*	
Surr: Dibromofluoromethane	*45*	*1.0*	*50*	*0*	*90.0*	*80 - 119*	*44.92*	*0.181*	*20*	
Surr: Toluene-d8	*51.99*	*1.0*	*50*	*0*	*104*	*89 - 112*	*53.54*	*2.92*	*20*	

ALS Houston, US Date: 18-Jun-20

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:	HS20060114

QC BATCH REPORT

Batch ID:	**R362756 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20060114-01 HS20060114-03

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20060114

QC BATCH REPORT

Batch ID: R362588 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R362588** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: Run ID: **UV-2450_362588** SeqNo: **5605393** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.0100	0.0100								U

LCS Sample ID: **LCS-R362588** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: Run ID: **UV-2450_362588** SeqNo: **5605392** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.276	0.0100	0.25	0	110	90 - 111				

MS Sample ID: **HS20060114-01MS** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: **LH18/24-SP650_060220** Run ID: **UV-2450_362588** SeqNo: **5605395** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.277	0.0100	0.25	0	111	90 - 111				

MSD Sample ID: **HS20060114-01MSD** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: **LH18/24-SP650_060220** Run ID: **UV-2450_362588** SeqNo: **5605394** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.272	0.0100	0.25	0	109	90 - 111	0.277	1.82	20	

The following samples were analyzed in this batch: HS20060114-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: **HS20060114**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20060114

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060114-01	LH18/24-SP650_060220	Login	6/3/2020 11:45:12 AM	PMG	EXT092
HS20060114-01	LH18/24-SP650_060220	Login	6/3/2020 11:45:12 AM	PMG	WET387
HS20060114-01	LH18/24-SP650_060220	Login	6/3/2020 11:45:12 AM	PMG	MET071
HS20060114-01	LH18/24-SP650_060220	Login	6/3/2020 11:45:12 AM	PMG	VOA198
HS20060114-02	LH18/24-SP650_060220_BIX	Login	6/3/2020 11:45:12 AM	PMG	Sub
HS20060114-03	Trip Blank	Login	6/3/2020 11:45:12 AM	PMG	VOA198

ALS Houston, US Date: 18-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060114 **Date/Time Received:** **03-Jun-2020 09:05**

Client Name: Bhate Environmental **Received by:** **Paresh M. Giga**

Completed By: */S/ Paresh M. Giga* 03-Jun-2020 11:47 **Reviewed by:** */S/ RJ Modashia* 03-Jun-2020 15:02

eSignature Date/Time eSignature Date/Time

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.8C U/C	IR25
Cooler(s)/Kit(s):	44677	
Date/Time sample(s) sent to storage:	6/3/2020 12:00	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Page 1 of 1

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT MONTHLY EFFLUENT SAMPLES

Prepared By:
Scott Beesinger

P.O. Number

HS20060114

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Effluent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOLATILES	SILVER, SELENIUM, LEAD, BARIUM	HEXAVALENT CHROMIUM	1, 4 - DIOXANE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_060220	Water	06/02/20 / 14:00		3	X					HCL	
LH18/24-SP650_060220	Water	06/02/20 / 14:00		2			X	X		NONE	
LH18/24-SP650_060220_BIX	Water	06/02/20 / 14:00		1					X	NONE	
LH18/24-SP650_060220	Water	06/02/20 / 14:00		1		X				HNO3	
Trip Blank	Water	06/02/20		2	X					HCL	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/02/20	14:30		6/3/2020	09:05						

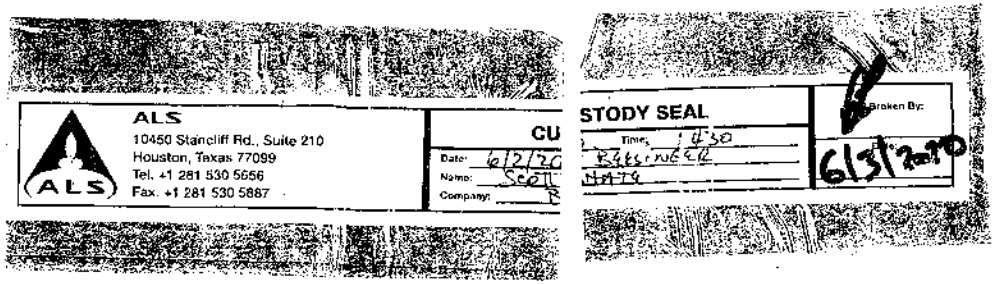
For Lab Use Only

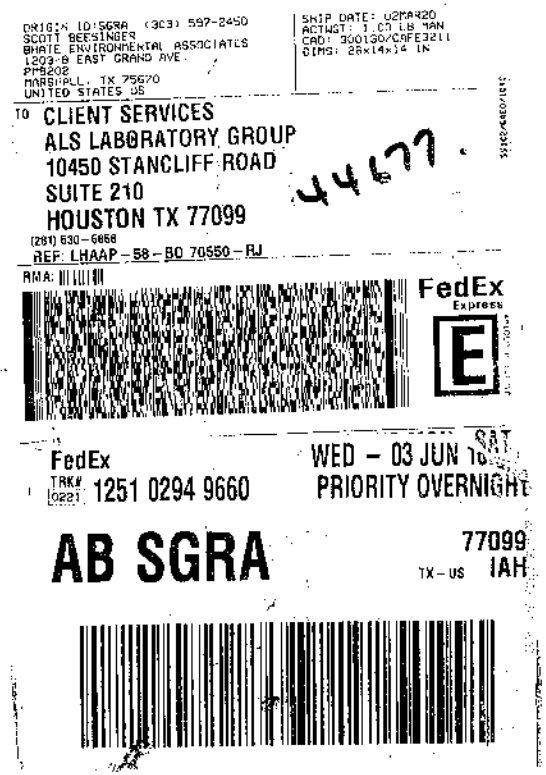
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

44677 VTC: 1.8° #25 CF 0.3°

(Word) S:\t-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
CU
Date: 6/2/20
Name: Scott
Company:
STODY SEAL
Time: 1430
Broken By:
6/3/2020


ORIGIN ID:SGRA (303) 597-2450
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1293-B EAST GRAND AVE.
PTS202
MARSHALL, TX 75670
UNITED STATES US
SHIP DATE: 02MAR20
ACTWGT: 1.00 LB MAN
CAD: 3001307CAFE3211
DIMS: 28x14x14 IN
TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-58-BO 70550-RJ
RMA:
FedEx Express
FedEx
TRK# 0221 1251 0294 9660
WED - 03 JUN 16
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US IAH

June 18, 2020 Service Request No:E2000495

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

Laboratory Results for: HS20060114

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 04, 2020
For your reference, these analyses have been assigned our service request number **E2000495.**

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.:**	E2000495
Project:	HS20060114	**Date Received:**	06/04/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 06/04/20.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000228: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits.

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

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

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

Client: ALS Environmental - US **Service Request:**E2000495
Project: HS20060114

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000495-001	LH18/24-SP650_060220_BIX	6/2/2020	1400

Service Request Summary

Folder #: **E2000495**
Client Name: ALS Environmental - US
Project Name: HS20060114
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: 06/04/20
Internal Due Date: 6/17/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060114
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000495-001	LH18/24-SP650_060220_BIX	Ground Water	06/02/20 1400	**IV**

Service Request Summary

Folder #: **E2000495**
Client Name: ALS Environmental - US
Project Name: HS20060114
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: 06/04/20
Internal Due Date: 6/17/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060114
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 6/24,level II 6/17

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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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
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

Chain of Custody

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

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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:** **14015**

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:	HS20060114
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060114-02**	**LH18/24-SP650_060220_BIX**	**Water**	**02 Jun 2020 14:00**
	SUB_Perch-6850			17 Jun 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: 6/9/20 1645

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

ALS Environmental

Cooler Receipt Form

Project Chemist: LG

Client/Project: AUS-H

Thermometer ID: IR11

Date/Time Received: 6/14/12 Initials: LG

Date/Time Logged in: 6/14/12 Initials: LG

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ ○ Courier (AUS) ○ Client

2. Samples received in: ✓ ○ Cooler ○ Box ○ Envelope ○ Other _____

3. Were custody seals on coolers? ○ Yes ✓ ○ No

If yes, how many and where?

Were they intact? ○ Yes ○ No ○ N/A

Were they signed and dated? ○ Yes ○ No ✓ ○ N/A

4. Packing Material: ○ Inserts ✓ ○ Baggies ○ Bubble Wrap ○ Gel Packs ✓ ○ Wet Ice ○ Sleeves ○ Other _____

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling: _____

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		6/14/12	1540	LG	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:

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 359781 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/9/20 09:50

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000493-001	18CPTMW12SW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000493-002	18CPTWM12DW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000493-003	MW7_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000493-004	MW9_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000493-005	18CPTMW23SW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000493-006	18CPTMW23_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000493-007	18WW24_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000493-008	18WW14_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000494-001	102_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000494-002	129_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000494-003	120_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000494-004	MW14_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000495-001	LH18/24-SP650_060220_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000496-001	LH18/24-SP140_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000497-001	LH18/24-SP650_060220_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
16	EQ2000228-01	MB		6850/ClO4 DOD			Liquid	10mL	
17	EQ2000228-02	LCS		6850/ClO4 DOD			Liquid	10mL	
18	EQ2000228-03	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

EQ2000228-02 100.00µL EQ2000228-03 100.00µL

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

E2000493-001	1.00µL	E2000493-002	1.00µL	E2000493-003	1.00µL	E2000493-004	1.00µL	E2000493-005	1.00µL	E2000493-006	1.00µL
E2000493-007	1.00µL	E2000493-008	1.00µL	E2000494-001	1.00µL	E2000494-002	1.00µL	E2000494-003	1.00µL	E2000494-004	1.00µL
E2000495-001	1.00µL	E2000496-001	1.00µL	E2000497-001	1.00µL	EQ2000228-01	1.00µL	EQ2000228-02	1.00µL	EQ2000228-03	1.00µL

Preparation Steps

Step: Preparation
Started: 6/9/20 09:50
Finished: 6/9/20 13:43
By: GRIVERA
Comments

Preparation Information Benchsheet

Prep Run#: 359781
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/9/20 09:50

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

ALS Environmental - Houston HRMS
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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:**	E2000495
Project:	HS20060114	**Date Collected:**	6/ 2/20 1400
Sample Matrix:	Ground Water	**Date Received:**	6/ 4/20
Sample Name:	LH18/24-SP650_060220_BIX	**Units:**	µg/L
Lab Code:	E2000495-001	**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	6/ 9/20	6/17/20 11:51	359781	683950	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000228-01	**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			1	6/ 9/20	6/16/20 14:31	359781	683950	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20
Sample Matrix:	Ground Water		

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	359781

	Lab Control Sample EQ2000228-02			Duplicate Lab Control Sample EQ2000228-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.114	0.100	114	0.114	0.100	114	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:**	E2000495
Project:	HS20060114	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000228-02	**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	**0.114**		0.100			1	6/ 9/20	6/16/20 14:39	359781	683950	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000228-03	**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	**0.114**		0.100			1	6/ 9/20	6/16/20 14:47	359781	683950	

Initial Calibration

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

20200602

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

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

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

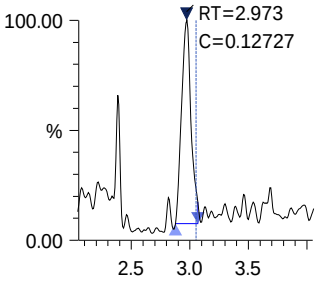
PERCHLORATE1

Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.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	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

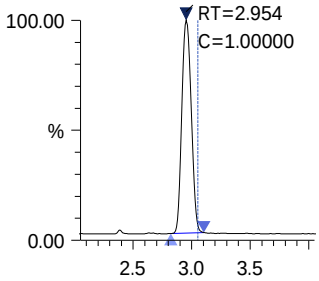
Perchlorate

Conc 0.12727
Area 2231
Q 99.00>83.00 (-) 4.13e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060
ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

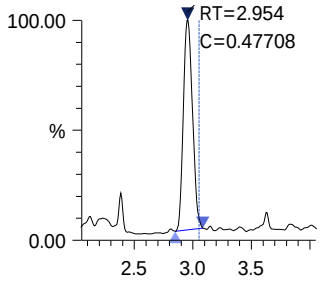
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

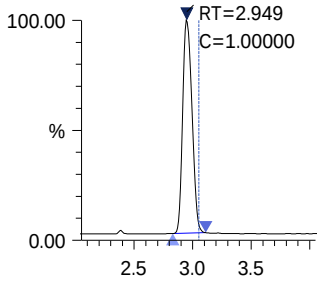
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

PERCHLORATE3

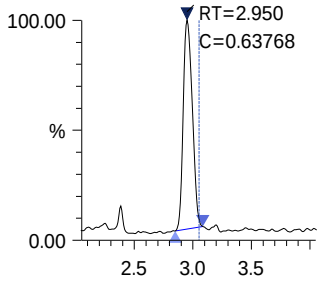
Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

Perchlorate

Conc 0.63768
Area 11656

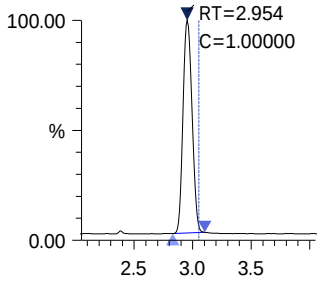
Q 99.00>83.00 (-) 2.17e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 142915

ISTD 107.00>89.00 (-) 2.70e4



ALS Group Houston

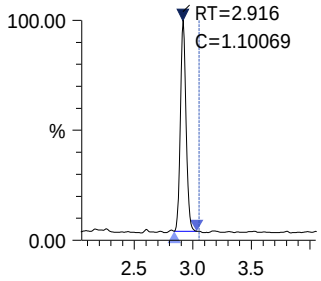
PERCHLORATE4

Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.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	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

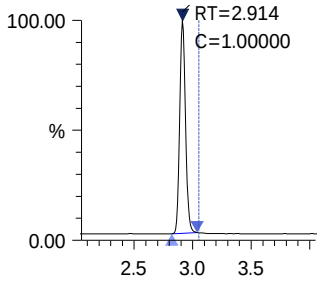
Perchlorate

Conc 1.10069
Area 18119
Q 99.00>83.00 (-) 5.42e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 128706
ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

PERCHLORATE5

Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

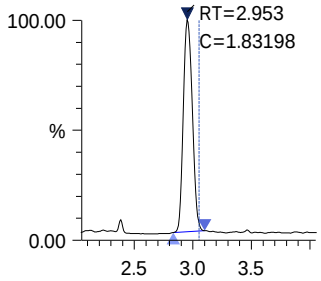
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

Perchlorate

Conc 1.83198

Area 33971

Q 99.00>83.00 (-) 6.29e3

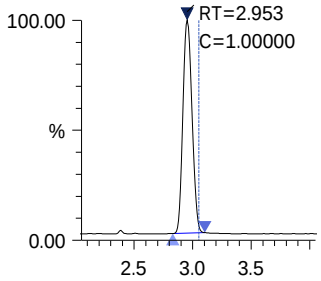


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 144982

ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

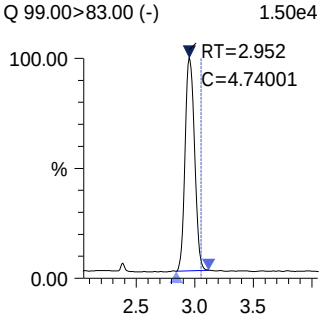
PERCHLORATE6

Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.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	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

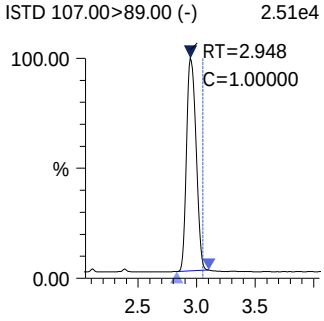
Perchlorate

Conc 4.74001
Area 85178



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500



ALS Group Houston

PERCHLORATE7

Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

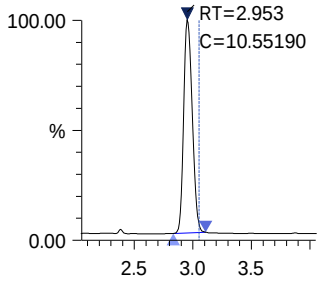
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

Perchlorate

Conc 10.55190

Area 173998

Q 99.00>83.00 (-) 3.36e4

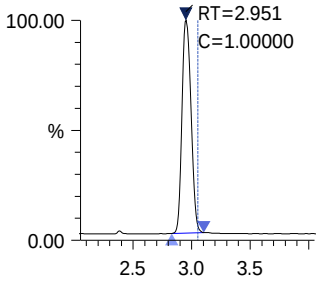


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 128928

ISTD 107.00>89.00 (-) 2.43e4



ALS Group Houston

PERCHLORATE8

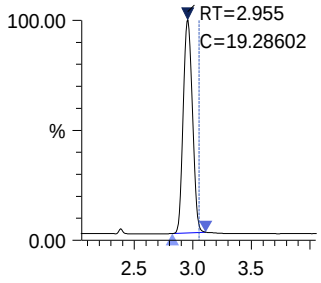
Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_016.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

Perchlorate

Conc 19.28602
Area 324944

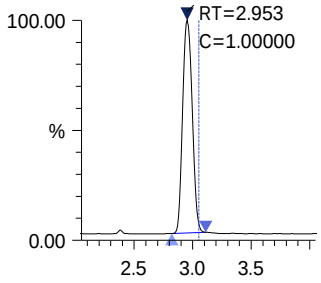
Q 99.00>83.00 (-) 5.85e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 131734

ISTD 107.00>89.00 (-) 2.34e4



ALS Group Houston

PERCHLORATE9

Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

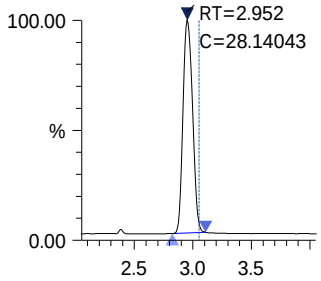
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

Perchlorate

Conc 28.14043

Area 469066

Q 99.00>83.00 (-) 8.16e4

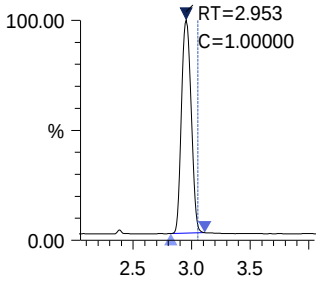


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 130327

ISTD 107.00>89.00 (-) 2.28e4



ALS Group Houston

PERCHLORATE10

Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

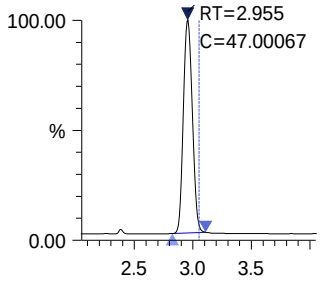
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

Perchlorate

Conc 47.00067

Area 737362

Q 99.00>83.00 (-) 1.36e5

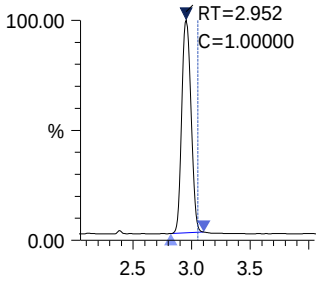


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 122661

ISTD 107.00>89.00 (-) 2.25e4



ALS Group Houston

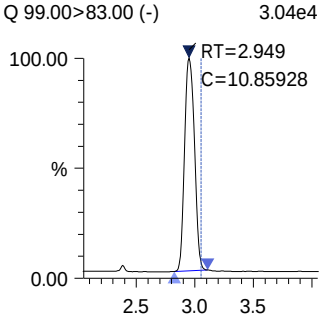
PERCHLORATEICV

Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_019.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	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

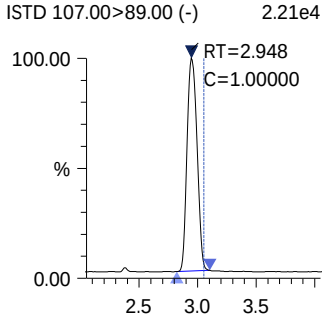
Perchlorate

Conc 10.85928
Area 180334



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 129839



Chromatograms and Selected Ion Monitoring

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20200616

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200616_001	Perchlorate6850b.lcm	1x	☒	
	null		20200616_002	Perchlorate6850b.lcm	1x	☒	
	null		20200616_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_004	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_006	Perchlorate6850b.lcm	1x	☒	
	LODV		20200616_007	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_008	Perchlorate6850b.lcm	1x	☒	3100807-04
	ICS		20200616_009	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200616_010	Perchlorate6850b.lcm	1x	☒	
	E2000491-006		20200616_011	Perchlorate6850b.lcm	1x	☒	do not use
	E2000492-004		20200616_012	Perchlorate6850b.lcm	1x	☒	
	E2000492-005		20200616_013	Perchlorate6850b.lcm	1x	☒	
	E2000492-007		20200616_014	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200616_015	Perchlorate6850b.lcm	1x	☒	
	E2000492-008		20200616_016	Perchlorate6850b.lcm	1x	☒	
	E2000491-005X2		20200616_017	Perchlorate6850b.lcm	2x	☒	
	E2000492-001X10		20200616_018	Perchlorate6850b.lcm	10x	☒	
	PERCHLORATE7		20200616_019	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000492-006X50		20200616_020	Perchlorate6850b.lcm	50x	☒	
	EQ2000228-01		20200616_021	Perchlorate6850b.lcm	1x	☒	
	EQ2000228-02		20200616_022	Perchlorate6850b.lcm	1x	☒	
	EQ2000228-03		20200616_023	Perchlorate6850b.lcm	1x	☒	
	E2000493-001		20200616_024	Perchlorate6850b.lcm	1x	☒	
	E2000493-002		20200616_025	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_026	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000493-003		20200616_027	Perchlorate6850b.lcm	1x	☒	
	E2000493-004		20200616_028	Perchlorate6850b.lcm	1x	☒	
	E2000493-005		20200616_029	Perchlorate6850b.lcm	1x	☒	
	E2000493-006		20200616_030	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_031	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000493-007		20200616_032	Perchlorate6850b.lcm	1x	☒	
	E2000493-008		20200616_033	Perchlorate6850b.lcm	1x	☒	
	E2000494-001		20200616_034	Perchlorate6850b.lcm	1x	☒	
	E2000494-002		20200616_035	Perchlorate6850b.lcm	1x	☒	
	E2000494-003		20200616_036	Perchlorate6850b.lcm	1x	☒	
	E2000494-004		20200616_037	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200616_038	Perchlorate6850b.lcm	1x	☒	
	E2000496-001		20200616_039	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200616_040	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_041	Perchlorate6850b.lcm	1x	☒	3100807-04

20200617

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200617_001	Perchlorate6850b.lcm	1x	☒	
	null		20200617_002	Perchlorate6850b.lcm	1x	☒	
	IB		20200617_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200617_004	Perchlorate6850b.lcm	1x	☒	
	LODV		20200617_005	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200617_006	Perchlorate6850b.lcm	1x	☒	3100807-04
	ICS		20200617_007	Perchlorate6850b.lcm	1x	☒	
	E2000493-005		20200617_008	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200617_009	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200617_010	Perchlorate6850b.lcm	1x	☒	
	E2000493-003X500		20200617_011	Perchlorate6850b.lcm	500x	☒	
	E2000493-004X20		20200617_012	Perchlorate6850b.lcm	20x	☒	
	E2000493-006X20		20200617_013	Perchlorate6850b.lcm	20x	☒	
	E2000494-002X100		20200617_014	Perchlorate6850b.lcm	100x	☒	
	E2000494-003X500		20200617_015	Perchlorate6850b.lcm	500x	☒	
	E2000494-004X5000		20200617_016	Perchlorate6850b.lcm	5000x	☒	
	PERCHLORATE7		20200617_017	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000496-001X200		20200617_018	Perchlorate6850b.lcm	200x	☒	
	E2000493-005		20200617_019	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200617_020	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200617_021	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200617_022	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_019	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.5	0.1279		5.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_026	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	0.1279		6.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_031	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.2	0.1279		11.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_041	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1279		13.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/17/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_006	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279		8.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/17/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_017	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.0	0.1279		10.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/17/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_022	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.1	0.1279		10.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20 14:15

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

File ID:	I:\LCMS01\DATA\20200616\20200616_019	**Lab Code:**	EQ2000242-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-01	121,207	3.04
Method Blank	EQ2000228-01	132,882	3.04
Lab Control Sample	EQ2000228-02	144,551	3.04
Duplicate Lab Control Sample	EQ2000228-03	143,510	3.04

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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20 15:23

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

File ID:	I:\LCMS01\DATA\20200616\20200616_026	**Lab Code:**	EQ2000242-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-02	116,422	2.99

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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20 16:02

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200616\20200616_031	**Lab Code:**	EQ2000242-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-03	108,679	3.04

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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/16/20 17:21

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200616\20200616_041	**Lab Code:**	EQ2000242-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-04	111,059	3.03

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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/17/20 10:00

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200617\20200617_006	**Lab Code:**	EQ2000242-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-05	164,082	3.03

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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/17/20 11:27

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200617\20200617_017	**Lab Code:**	EQ2000242-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-06	177,876	3.03
LH18/24-SP650_060220_BIX	E2000495-001	201,832	3.01

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:**	E2000495
Project:	HS20060114	**Date Analyzed:**	6/17/20 12:07

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

File ID:	I:\LCMS01\DATA\20200617\20200617_022	**Lab Code:**	EQ2000242-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-07	167,560	3.03

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

ALS Group Houston

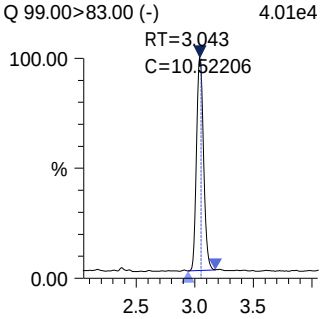
PERCHLORATE7

Date acquired: 6/16/2020 2:15:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_019.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	6/16/2020 2:15:37 PM	163116	10.52206	20200616_019	3.043	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/16/2020 2:15:37 PM	121207	1.00000	20200616_019	3.039	25.0000	1.0000	4

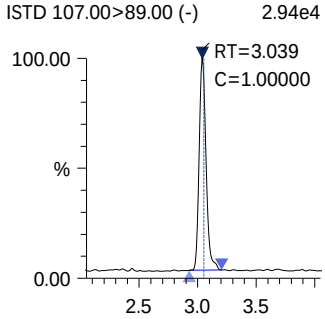
Perchlorate

Conc 10.52206
Area 163116



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 121207



ALS Group Houston

EQ2000228-01

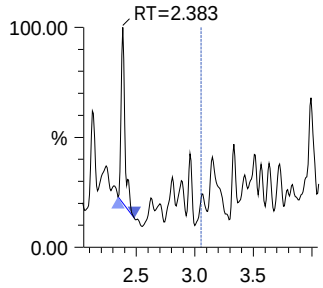
Date acquired: 6/16/2020 2:31:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_021.lcd
Vial: 33 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-01	6/16/2020 2:31:26 PM	----	----	20200616_021	----	25.0000	1.0000	33
Sodium Perchlorate-18O4_IS	EQ2000228-01	6/16/2020 2:31:26 PM	132882	1.00000	20200616_021	3.042	25.0000	1.0000	33

Perchlorate

Conc ----
Area ----

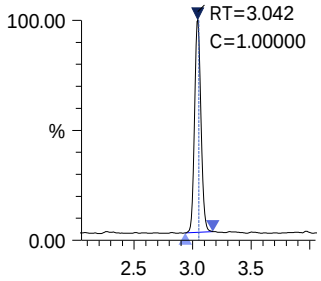
Q 99.00>83.00 (-) 8.78e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 132882

ISTD 107.00>89.00 (-) 3.46e4



ALS Group Houston

EQ2000228-02

Date acquired: 6/16/2020 2:39:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_022.lcd
Vial: 34 | Inj. Volume: 25.0000uL | Tray: 1

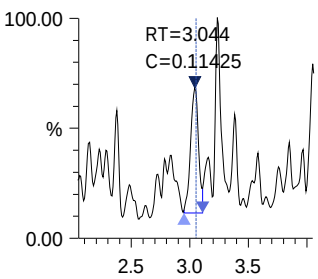
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-02	6/16/2020 2:39:18 PM	2112	0.11425	20200616_022	3.044	25.0000	1.0000	34
Sodium Perchlorate-18O4_IS	EQ2000228-02	6/16/2020 2:39:18 PM	144551	1.00000	20200616_022	3.040	25.0000	1.0000	34

Perchlorate

Conc 0.11425

Area 2112

Q 99.00>83.00 (-) 7.77e2

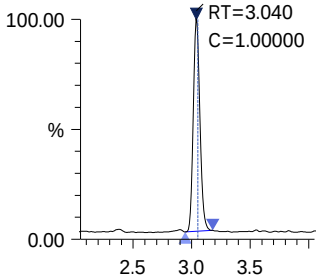


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 144551

ISTD 107.00>89.00 (-) 3.62e4



ALS Group Houston

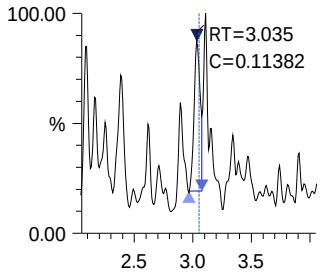
EQ2000228-03

Date acquired: 6/16/2020 2:47:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_023.lcd
Vial: 35 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-03	6/16/2020 2:47:11 PM	2089	0.11382	20200616_023	3.035	25.0000	1.0000	35
Sodium Perchlorate-18O4_IS	EQ2000228-03	6/16/2020 2:47:11 PM	143510	1.00000	20200616_023	3.041	25.0000	1.0000	35

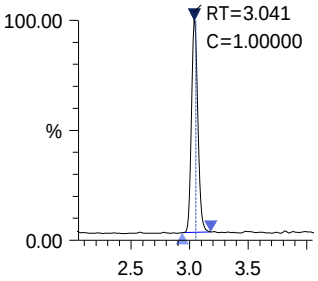
Perchlorate

Conc 0.11382
Area 2089
Q 99.00>83.00 (-) 8.57e2



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 143510
ISTD 107.00>89.00 (-) 3.73e4



ALS Group Houston

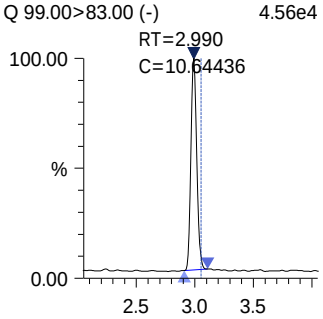
PERCHLORATE7

Date acquired: 6/16/2020 3:23:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_026.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	6/16/2020 3:23:02 PM	158498	10.64436	20200616_026	2.990	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/16/2020 3:23:02 PM	116422	1.00000	20200616_026	2.989	25.0000	1.0000	4

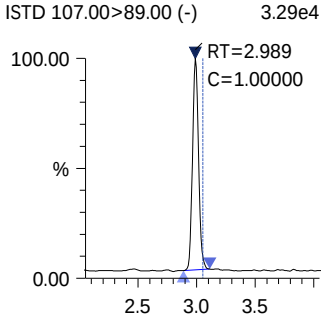
Perchlorate

Conc 10.64436
Area 158498



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 116422



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

June 18, 2020

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

Work Order: **HS20060115**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia,

ALS Environmental received 2 sample(s) on Jun 03, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060115

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060115-01	LH18/24-SP650_060220	Water		02-Jun-2020 14:00	03-Jun-2020 09:05	☐
HS20060115-02	LH18/24-SP650_060220-BIX	Water		02-Jun-2020 14:00	03-Jun-2020 09:05	☐

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060115

Work Order Comments

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

Work Order Comments

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

WetChemistry by Method E350.3

Batch ID: R362941

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

WetChemistry by Method E365.3

Batch ID: R362623

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

ALS Houston, US Date: 18-Jun-20

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

Project: Longhorn GW Treatment Plant Weekly Samples WorkOrder:HS20060115

Sample ID: LH18/24-SP650_060220 Lab ID:HS20060115-01

Collection Date: 02-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**7.8**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	09-Jun-2020 11:15
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: KVL
Phosphorus, Total Orthophosphate (As P)	**1.47**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	03-Jun-2020 16:00
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	12-Jun-2020 11:37

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

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20060115
Sample ID: LH18/24-SP650_060220-BIX
Lab ID:HS20060115-02
Collection Date: 02-Jun-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	18-Jun-2020 15:50

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

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060115

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R362623 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20060115-01	LH18/24-SP650_060220	02 Jun 2020 14:00			03 Jun 2020 16:00	10
Batch ID: R362941 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20060115-01	LH18/24-SP650_060220	02 Jun 2020 14:00			09 Jun 2020 11:15	1
Batch ID: R363132 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20060115-01	LH18/24-SP650_060220	02 Jun 2020 14:00			12 Jun 2020 11:37	1
Batch ID: R363524 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20060115-02	LH18/24-SP650_060220-BIX	02 Jun 2020 14:00			18 Jun 2020 15:50	1

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060115

QC BATCH REPORT

Batch ID: R362623 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-R362623** Units: **mg/L** Analysis Date: **03-Jun-2020 16:00**
Client ID: Run ID: **UV-2450_362623** SeqNo: **5605855** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-R362623** Units: **mg/L** Analysis Date: **03-Jun-2020 16:00**
Client ID: Run ID: **UV-2450_362623** SeqNo: **5605854** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.249	0.0250	0.25	0	99.6	85 - 115				

LCSD Sample ID: **LCSD-R362623** Units: **mg/L** Analysis Date: **03-Jun-2020 16:00**
Client ID: Run ID: **UV-2450_362623** SeqNo: **5605860** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.242	0.0250	0.25	0	96.8	85 - 115	0.249	2.85	20	

MS Sample ID: **HS20060115-01MS** Units: **mg/L** Analysis Date: **03-Jun-2020 16:00**
Client ID: **LH18/24-SP650_060220** Run ID: **UV-2450_362623** SeqNo: **5605857** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.06	0.250	2.5	1.47	104	80 - 120				

MSD Sample ID: **HS20060115-01MSD** Units: **mg/L** Analysis Date: **03-Jun-2020 16:00**
Client ID: **LH18/24-SP650_060220** Run ID: **UV-2450_362623** SeqNo: **5605856** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.04	0.250	2.5	1.47	103	80 - 120	4.06	0.494	20	

The following samples were analyzed in this batch: HS20060115-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060115

QC BATCH REPORT

Batch ID: R362941 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-362941** Units: **mg/L** Analysis Date: **09-Jun-2020 11:15**
Client ID: Run ID: **WetChem_HS_362941** SeqNo: **5612261** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.10	0.20								U

LCS Sample ID: **LCS-362941** Units: **mg/L** Analysis Date: **09-Jun-2020 11:15**
Client ID: Run ID: **WetChem_HS_362941** SeqNo: **5612262** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.45	0.20	10	0	104	80 - 120				

MS Sample ID: **HS20060344-01MS** Units: **mg/L** Analysis Date: **09-Jun-2020 11:15**
Client ID: Run ID: **WetChem_HS_362941** SeqNo: **5612264** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	8.909	0.20	10	0.88	80.3	80 - 120				

MSD Sample ID: **HS20060344-01MSD** Units: **mg/L** Analysis Date: **09-Jun-2020 11:15**
Client ID: Run ID: **WetChem_HS_362941** SeqNo: **5612265** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.09	0.20	10	0.88	92.1	80 - 120	8.909	12.4	20	

The following samples were analyzed in this batch: HS20060115-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20060115**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060115

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060115-01	LH18/24-SP650_060220	Login	6/3/2020 11:58:30 AM	PMG	WET307
HS20060115-01	LH18/24-SP650_060220	Login	6/3/2020 11:58:30 AM	PMG	WET307
HS20060115-01	LH18/24-SP650_060220	Login	6/3/2020 11:58:30 AM	PMG	Sub
HS20060115-02	LH18/24-SP650_060220-BIX	Login	6/3/2020 11:58:30 AM	PMG	Sub

ALS Houston, US Date: 18-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060115 **Date/Time Received:** 03-Jun-2020 09:05

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By:	/S/ Paresh M. Giga	03-Jun-2020 12:00	**Reviewed by:**	/S/ RJ Modashia	03-Jun-2020 15:02
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.8C U/C	IR25	
Cooler(s)/Kit(s):	44677		
Date/Time sample(s) sent to storage:	6/3/2020 12:10		
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: BHATE LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. NWO1312.0150.0 16.0001
Job: **GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES**	
Prepared By: Scott Beesinger	P.O. Number

HS20060115

Bhate Environmental Associates. Inc.

Longhorn GW Treatment Plant Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_060220	Water	06/02/20 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_060220	Water	06/02/20 / 14:00		1			X		NONE	
LH18/24–SP650_060220_BIX	Water	06/02/20 / 14:00		1				X	NONE	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/02/20	14:30		6/2/2020	08:30						

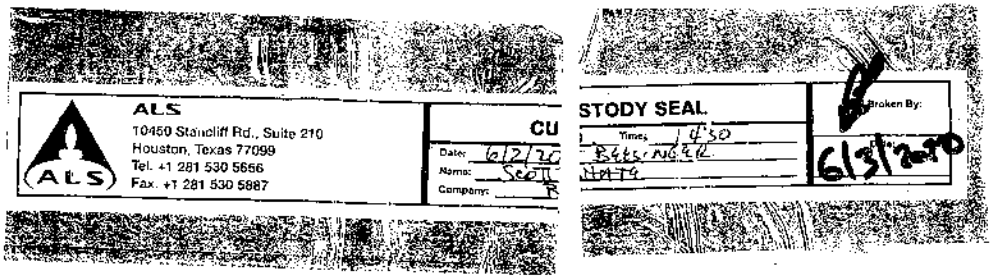
For Lab Use Only

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

Remarks:

44677 OIC. 1.8° 11.2% 21-0.3°

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



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

CU
Date: 6/2/20
Name: Scott
Company:

STODY SEAL
Time: 430
Broken By:
6/3/2020

ORIGIN ID:SGRA (303) 597-2450
SCOTT BEESINGER
GHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 02MAR20
ACTWGT: 1.00 LB MAN
CAD: 3001307/CAFE3211
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656

4477.

REF: LHAAP-58 - BO 70550 - RJ

RMA:

FedEx Express

FedEx
TRK# 1251 0294 9660

WED - 03 JUN 16
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

June 18, 2020 Service Request No:E2000497

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

Laboratory Results for: HS20060115

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 04, 2020
For your reference, these analyses have been assigned our service request number **E2000497.**

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.:**	E2000497
Project:	HS20060115	**Date Received:**	06/04/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 06/04/20.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000228: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits.

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

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

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

Client: ALS Environmental - US **Service Request:**E2000497
Project: HS20060115

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000497-001	LH18/24-SP650_060220_BIX	6/2/2020	1400

Service Request Summary

Folder #: **E2000497**
Client Name: ALS Environmental - US
Project Name: HS20060115
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: 06/04/20
Internal Due Date: 6/17/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060115
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000497-001	LH18/24-SP650_060220_BIX	Ground Water	06/02/20 1400	**IV**

Service Request Summary

Folder #: **E2000497**
Client Name: ALS Environmental - US
Project Name: HS20060115
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: 06/04/20
Internal Due Date: 6/17/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060115
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 6/24,level II 6/17

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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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
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

Chain of Custody

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Houston, TX 77099
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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14016**

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:	HS20060115
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060115-02**	**LH18/24-SP650_060220-BIX**	**Water**	**02 Jun 2020 14:00**
	SUB_Perch-6850			17 Jun 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: 6/4/20 1945

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

ALS Environmental

Cooler Receipt Form

Project Chemist: CG

Client/Project: ALS-H

Thermometer ID: IR11

Date/Time Received: 6/14/16 Initials: CG

Date/Time Logged in: 6/14/16 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

If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		6/14/16	1530	CG	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:

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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

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Preparation Information Benchsheet

Prep Run#: 359781 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/9/20 09:50

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000493-001	18CPTMW12SW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000493-002	18CPTWM12DW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000493-003	MW7_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000493-004	MW9_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000493-005	18CPTMW23SW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000493-006	18CPTMW23_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000493-007	18WW24_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000493-008	18WW14_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000494-001	102_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000494-002	129_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000494-003	120_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000494-004	MW14_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000495-001	LH18/24-SP650_060220_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000496-001	LH18/24-SP140_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000497-001	LH18/24-SP650_060220_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
16	EQ2000228-01	MB		6850/ClO4 DOD			Liquid	10mL	
17	EQ2000228-02	LCS		6850/ClO4 DOD			Liquid	10mL	
18	EQ2000228-03	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

EQ2000228-02 100.00µL EQ2000228-03 100.00µL

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

E2000493-001	1.00µL	E2000493-002	1.00µL	E2000493-003	1.00µL	E2000493-004	1.00µL	E2000493-005	1.00µL	E2000493-006	1.00µL
E2000493-007	1.00µL	E2000493-008	1.00µL	E2000494-001	1.00µL	E2000494-002	1.00µL	E2000494-003	1.00µL	E2000494-004	1.00µL
E2000495-001	1.00µL	E2000496-001	1.00µL	E2000497-001	1.00µL	EQ2000228-01	1.00µL	EQ2000228-02	1.00µL	EQ2000228-03	1.00µL

Preparation Steps

Step: Preparation
Started: 6/9/20 09:50
Finished: 6/9/20 13:43
By: GRIVERA
Comments

Preparation Information Benchsheet

Prep Run#: 359781
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/9/20 09:50

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Collected:**	6/ 2/20 1400
Sample Matrix:	Ground Water	**Date Received:**	6/ 4/20
Sample Name:	LH18/24-SP650_060220_BIX	**Units:**	µg/L
Lab Code:	E2000497-001	**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	6/ 9/20	6/17/20 11:59	359781	683950	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000228-01	**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			1	6/ 9/20	6/16/20 14:31	359781	683950	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/16/20
Sample Matrix:	Ground Water		

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	359781

	Lab Control Sample EQ2000228-02			Duplicate Lab Control Sample EQ2000228-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.114	0.100	114	0.114	0.100	114	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:**	E2000497
Project:	HS20060115	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000228-02	**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	**0.114**		0.100			1	6/ 9/20	6/16/20 14:39	359781	683950	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000228-03	**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	**0.114**		0.100			1	6/ 9/20	6/16/20 14:47	359781	683950	

Initial Calibration

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20200602

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

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

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

PERCHLORATE1

Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

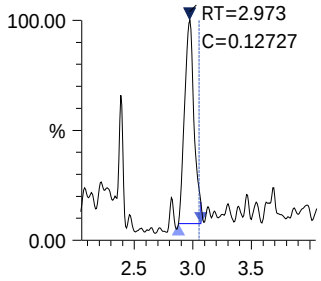
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

Perchlorate

Conc 0.12727

Area 2231

Q 99.00>83.00 (-) 4.13e2

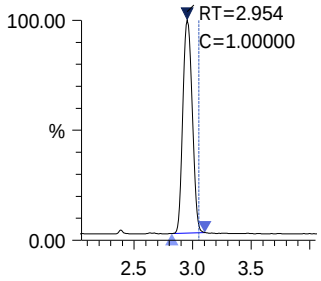


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 137060

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

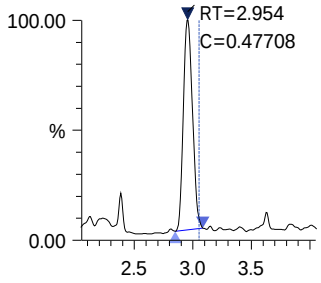
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

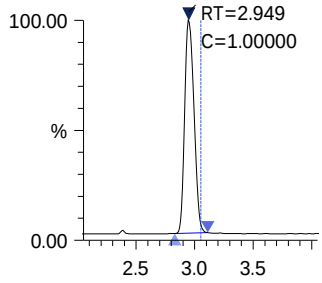
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

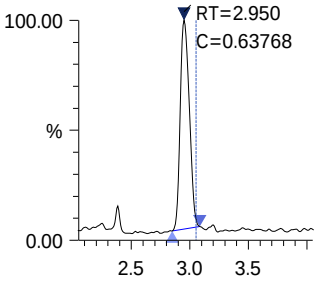
PERCHLORATE3

Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.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	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

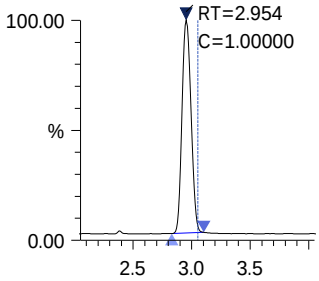
Perchlorate

Conc 0.63768
Area 11656
Q 99.00>83.00 (-) 2.17e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 142915
ISTD 107.00>89.00 (-) 2.70e4



ALS Group Houston

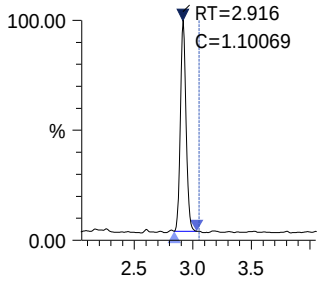
PERCHLORATE4

Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.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	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

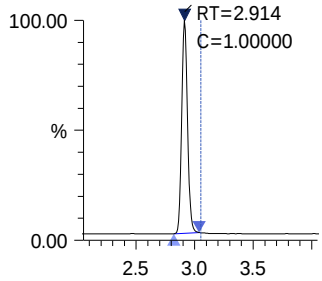
Perchlorate

Conc 1.10069
Area 18119
Q 99.00>83.00 (-) 5.42e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128706
ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

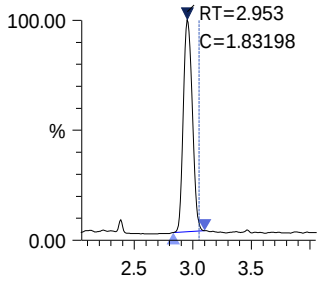
PERCHLORATE5

Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.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	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

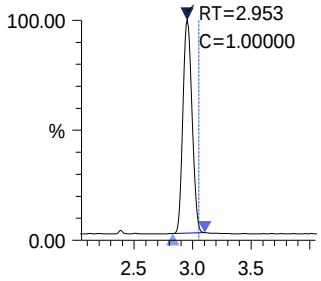
Perchlorate

Conc 1.83198
Area 33971
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982
ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

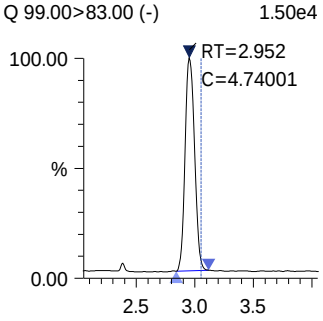
PERCHLORATE6

Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.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	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

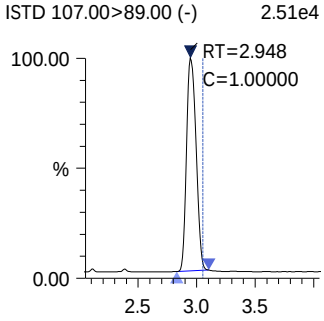
Perchlorate

Conc 4.74001
Area 85178



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500



ALS Group Houston

PERCHLORATE7

Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

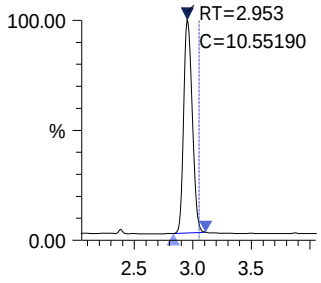
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

Perchlorate

Conc 10.55190

Area 173998

Q 99.00>83.00 (-) 3.36e4

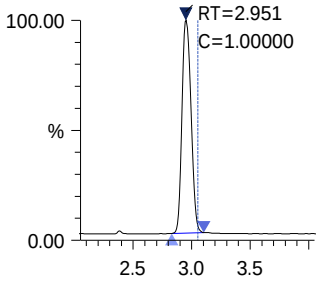


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 128928

ISTD 107.00>89.00 (-) 2.43e4



ALS Group Houston

PERCHLORATE8

Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_016.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

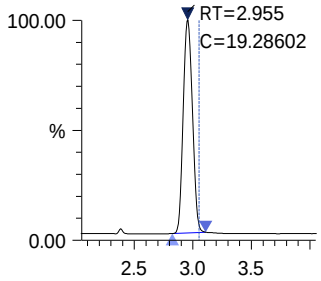
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

Perchlorate

Conc 19.28602

Area 324944

Q 99.00>83.00 (-) 5.85e4

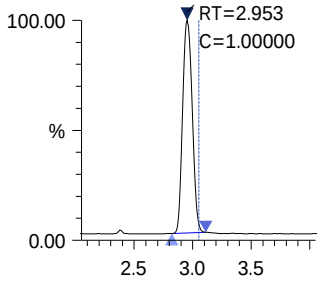


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 131734

ISTD 107.00>89.00 (-) 2.34e4



ALS Group Houston

PERCHLORATE9

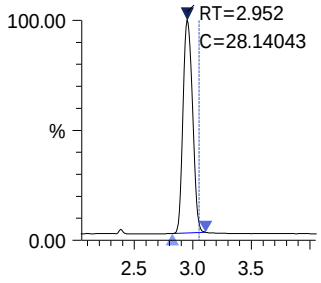
Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

Perchlorate

Conc 28.14043
Area 469066

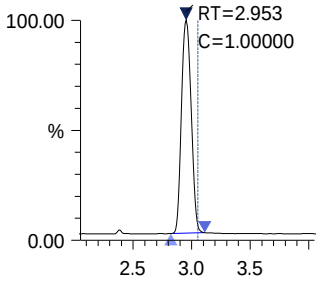
Q 99.00>83.00 (-) 8.16e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327

ISTD 107.00>89.00 (-) 2.28e4



ALS Group Houston

PERCHLORATE10

Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

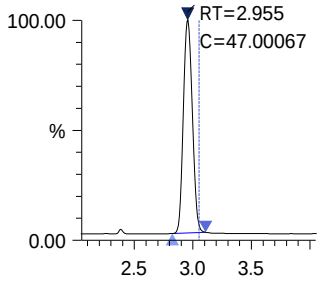
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

Perchlorate

Conc 47.00067

Area 737362

Q 99.00>83.00 (-) 1.36e5

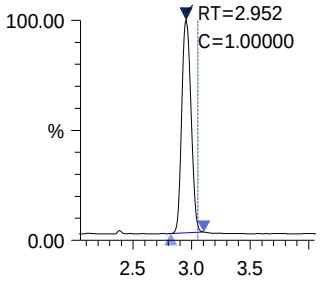


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 122661

ISTD 107.00>89.00 (-) 2.25e4



ALS Group Houston

PERCHLORATEICV

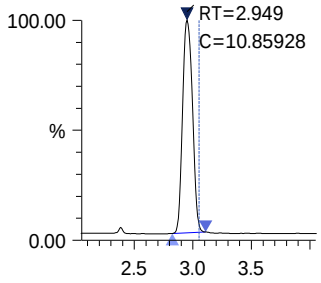
Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_019.lcd
Vial: 14 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATEICV	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

Perchlorate

Conc 10.85928
Area 180334

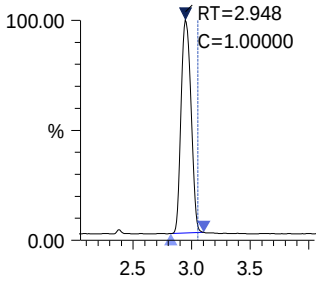
Q 99.00>83.00 (-) 3.04e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 129839

ISTD 107.00>89.00 (-) 2.21e4



Chromatograms and Selected Ion Monitoring

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

20200616

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200616_001	Perchlorate6850b.lcm	1x	☒	
	null		20200616_002	Perchlorate6850b.lcm	1x	☒	
	null		20200616_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_004	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_006	Perchlorate6850b.lcm	1x	☒	
	LODV		20200616_007	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_008	Perchlorate6850b.lcm	1x	☒	3100807-04
	ICS		20200616_009	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200616_010	Perchlorate6850b.lcm	1x	☒	
	E2000491-006		20200616_011	Perchlorate6850b.lcm	1x	☒	do not use
	E2000492-004		20200616_012	Perchlorate6850b.lcm	1x	☒	
	E2000492-005		20200616_013	Perchlorate6850b.lcm	1x	☒	
	E2000492-007		20200616_014	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200616_015	Perchlorate6850b.lcm	1x	☒	
	E2000492-008		20200616_016	Perchlorate6850b.lcm	1x	☒	
	E2000491-005X2		20200616_017	Perchlorate6850b.lcm	2x	☒	
	E2000492-001X10		20200616_018	Perchlorate6850b.lcm	10x	☒	
	PERCHLORATE7		20200616_019	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000492-006X50		20200616_020	Perchlorate6850b.lcm	50x	☒	
	EQ2000228-01		20200616_021	Perchlorate6850b.lcm	1x	☒	
	EQ2000228-02		20200616_022	Perchlorate6850b.lcm	1x	☒	
	EQ2000228-03		20200616_023	Perchlorate6850b.lcm	1x	☒	
	E2000493-001		20200616_024	Perchlorate6850b.lcm	1x	☒	
	E2000493-002		20200616_025	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_026	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000493-003		20200616_027	Perchlorate6850b.lcm	1x	☒	
	E2000493-004		20200616_028	Perchlorate6850b.lcm	1x	☒	
	E2000493-005		20200616_029	Perchlorate6850b.lcm	1x	☒	
	E2000493-006		20200616_030	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_031	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000493-007		20200616_032	Perchlorate6850b.lcm	1x	☒	
	E2000493-008		20200616_033	Perchlorate6850b.lcm	1x	☒	
	E2000494-001		20200616_034	Perchlorate6850b.lcm	1x	☒	
	E2000494-002		20200616_035	Perchlorate6850b.lcm	1x	☒	
	E2000494-003		20200616_036	Perchlorate6850b.lcm	1x	☒	
	E2000494-004		20200616_037	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200616_038	Perchlorate6850b.lcm	1x	☒	
	E2000496-001		20200616_039	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200616_040	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_041	Perchlorate6850b.lcm	1x	☒	3100807-04

20200617

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200617_001	Perchlorate6850b.lcm	1x	☒	
	null		20200617_002	Perchlorate6850b.lcm	1x	☒	
	IB		20200617_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200617_004	Perchlorate6850b.lcm	1x	☒	
	LODV		20200617_005	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200617_006	Perchlorate6850b.lcm	1x	☒	3100807-04
	ICS		20200617_007	Perchlorate6850b.lcm	1x	☒	
	E2000493-005		20200617_008	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200617_009	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200617_010	Perchlorate6850b.lcm	1x	☒	
	E2000493-003X500		20200617_011	Perchlorate6850b.lcm	500x	☒	
	E2000493-004X20		20200617_012	Perchlorate6850b.lcm	20x	☒	
	E2000493-006X20		20200617_013	Perchlorate6850b.lcm	20x	☒	
	E2000494-002X100		20200617_014	Perchlorate6850b.lcm	100x	☒	
	E2000494-003X500		20200617_015	Perchlorate6850b.lcm	500x	☒	
	E2000494-004X5000		20200617_016	Perchlorate6850b.lcm	5000x	☒	
	PERCHLORATE7		20200617_017	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000496-001X200		20200617_018	Perchlorate6850b.lcm	200x	☒	
	E2000493-005		20200617_019	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200617_020	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200617_021	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200617_022	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_019	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.5	0.1279		5.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_026	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	0.1279		6.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_031	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.2	0.1279		11.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_041	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1279		13.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/17/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_006	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279		8.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/17/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_017	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.0	0.1279		10.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/17/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_022	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.1	0.1279		10.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/16/20 14:15

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

File ID:	I:\LCMS01\DATA\20200616\20200616_019	**Lab Code:**	EQ2000242-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-01	121,207	3.04
Method Blank	EQ2000228-01	132,882	3.04
Lab Control Sample	EQ2000228-02	144,551	3.04
Duplicate Lab Control Sample	EQ2000228-03	143,510	3.04

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:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/16/20 15:23

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200616\20200616_026	**Lab Code:**	EQ2000242-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-02	116,422	2.99

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:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/16/20 16:02

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200616\20200616_031	**Lab Code:**	EQ2000242-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-03	108,679	3.04

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:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/16/20 17:21

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200616\20200616_041	**Lab Code:**	EQ2000242-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-04	111,059	3.03

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:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/17/20 10:00

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200617\20200617_006	**Lab Code:**	EQ2000242-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-05	164,082	3.03

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:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/17/20 11:27

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200617\20200617_017	**Lab Code:**	EQ2000242-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-06	177,876	3.03
LH18/24-SP650_060220_BIX	E2000497-001	192,964	3.01

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:**	E2000497
Project:	HS20060115	**Date Analyzed:**	6/17/20 12:07

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

File ID:	I:\LCMS01\DATA\20200617\20200617_022	**Lab Code:**	EQ2000242-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-07	167,560	3.03

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

ALS Group Houston

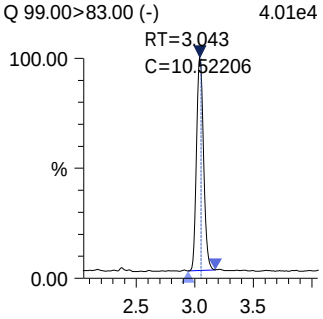
PERCHLORATE7

Date acquired: 6/16/2020 2:15:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_019.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	6/16/2020 2:15:37 PM	163116	10.52206	20200616_019	3.043	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/16/2020 2:15:37 PM	121207	1.00000	20200616_019	3.039	25.0000	1.0000	4

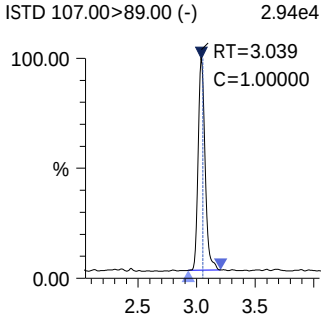
Perchlorate

Conc 10.52206
Area 163116



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 121207



ALS Group Houston

EQ2000228-01

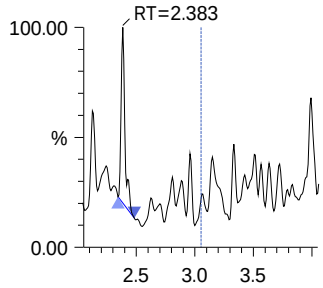
Date acquired: 6/16/2020 2:31:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_021.lcd
Vial: 33 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-01	6/16/2020 2:31:26 PM	----	----	20200616_021	----	25.0000	1.0000	33
Sodium Perchlorate-18O4_IS	EQ2000228-01	6/16/2020 2:31:26 PM	132882	1.00000	20200616_021	3.042	25.0000	1.0000	33

Perchlorate

Conc ----
Area ----

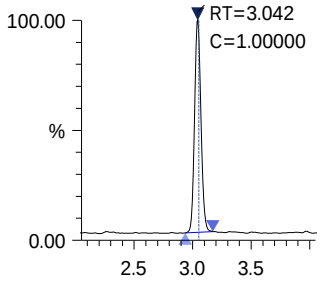
Q 99.00>83.00 (-) 8.78e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 132882

ISTD 107.00>89.00 (-) 3.46e4



ALS Group Houston

EQ2000228-02

Date acquired: 6/16/2020 2:39:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_022.lcd
Vial: 34 | Inj. Volume: 25.0000uL | Tray: 1

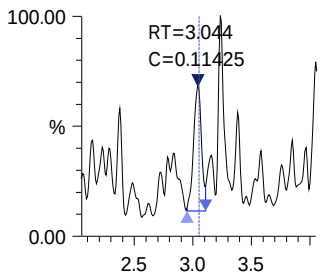
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-02	6/16/2020 2:39:18 PM	2112	0.11425	20200616_022	3.044	25.0000	1.0000	34
Sodium Perchlorate-18O4_IS	EQ2000228-02	6/16/2020 2:39:18 PM	144551	1.00000	20200616_022	3.040	25.0000	1.0000	34

Perchlorate

Conc 0.11425

Area 2112

Q 99.00>83.00 (-) 7.77e2

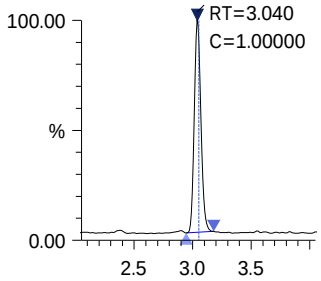


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 144551

ISTD 107.00>89.00 (-) 3.62e4



ALS Group Houston

EQ2000228-03

Date acquired: 6/16/2020 2:47:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_023.lcd
Vial: 35 | Inj. Volume: 25.0000uL | Tray: 1

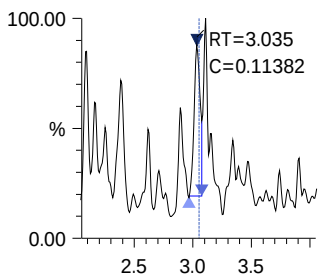
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-03	6/16/2020 2:47:11 PM	2089	0.11382	20200616_023	3.035	25.0000	1.0000	35
Sodium Perchlorate-18O4_IS	EQ2000228-03	6/16/2020 2:47:11 PM	143510	1.00000	20200616_023	3.041	25.0000	1.0000	35

Perchlorate

Conc 0.11382

Area 2089

Q 99.00>83.00 (-) 8.57e2

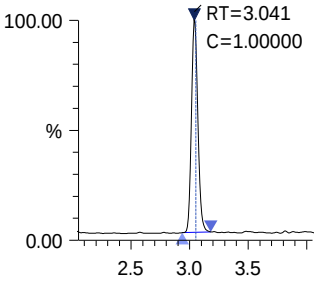


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 143510

ISTD 107.00>89.00 (-) 3.73e4



ALS Group Houston

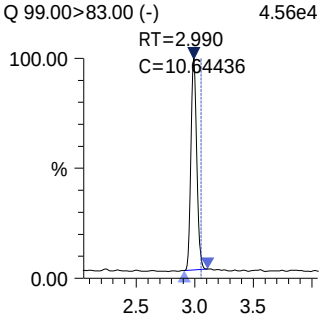
PERCHLORATE7

Date acquired: 6/16/2020 3:23:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_026.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	6/16/2020 3:23:02 PM	158498	10.64436	20200616_026	2.990	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/16/2020 3:23:02 PM	116422	1.00000	20200616_026	2.989	25.0000	1.0000	4

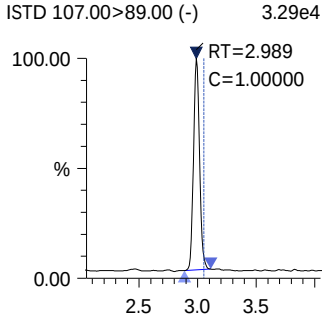
Perchlorate

Conc 10.64436
Area 158498



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 116422



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F : +1 360 636 1068
www.alsglobal.com

June 12, 2020

Analytical Report for Service Request No: K2004661

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

RE: HS20060115

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 05, 2020
For your reference, these analyses have been assigned our service request number **K2004661.**

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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Raw Data
    General Chemistry

Acronyms

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

Inorganic Data Qualifiers

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

Metals Data Qualifiers

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

Organic Data Qualifiers

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

Additional Petroleum Hydrocarbon Specific Qualifiers

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

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

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

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

Case Narrative

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

Client: ALS Environmental - US
Project: HS20060115
Sample Matrix: Water

Service Request: K2004661
Date Received: 06/05/2020

CASE NARRATIVE

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

Sample Receipt:

One water sample was received for analysis at ALS Environmental on 06/05/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was stored at minimum in accordance with the analytical method requirements.

General Chemistry:

Method SM 5310 C, 06/07/2020: The Relative Percent Difference (RPD) criterion for the replicate analysis of Total Organic Carbon in sample LHJ18/24-SP650_060220 was not applicable because the analyte concentration was not significantly greater than the Method Reporting Limit (MRL). Analytical values derived from measurements close to the detection limit are not subject to the same accuracy and precision criteria as results derived from measurements higher on the calibration range for the method.

Approved by Kelley Lovejoy Date 06/12/2020

Chain of Custody

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K200461

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14017**

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:	HS20060115
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060115-01**	**LH18/24-SP650_060220**	**Water**	**02 Jun 2020 14:00**
	TOC Analysis for DOD Level IV			17 Jun 2020

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Modashia Date/Time: 6/4/20 18:00

Received By: Date/Time: 6/5/20 0940

Cooler ID(s): Temperature(s):

PC KL

Cooler Receipt and Preservation Form

Client AK-Houston Service Request *K20* 1046661

Received: 6/15/20 Opened: 6/15/20 By: BR Unloaded: 6/15/20 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
1.2	—	—	—	—	IR02		189188773807	

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:**	K2004661
Project:	HS20060115	**Date Collected:**	06/2/20
Sample Matrix:	Water	**Date Received:**	06/5/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_060220	K2004661-001	**2.17**	0.50	0.20	0.07	1	06/07/20 04:57	
Method Blank	K2004661-MB	ND U	0.50	0.20	0.07	1	06/07/20 09:11	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2004661
Project	HS20060115	**Date Collected:**	06/02/20
Sample Matrix:	Water	**Date Received:**	06/05/20
		Date Analyzed:	06/07/20

Replicate Sample Summary

General Chemistry Parameters

Sample Name:	LH18/24-SP650_060220	**Units:**	mg/L
Lab Code:	K2004661-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2004661-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	2.17	2.90	2.53	29 *	10

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

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2004661
Project:	HS20060115	**Date Analyzed:**	06/07/20
Sample Matrix:	Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	682805

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2004661-LCS	21.6	25.0	86	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2004661
Project: HS20060115

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	682805	KQ2007656-01	06/06/20 20:43	25.0	24.8	99	90-110
CCV2	682805	KQ2007656-02	06/07/20 03:31	25.0	23.6	94	90-110
CCV3	682805	KQ2007656-03	06/07/20 08:41	25.0	23.8	95	90-110
CCV4	682805	KQ2007656-04	06/07/20 12:44	25.0	23.7	95	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2004661
Project: HS20060115

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	682805	KQ2007656-05	06/06/20 20:58	0.50	0.20	0.07	0.14	J
CCB2	682805	KQ2007656-06	06/07/20 03:45	0.50	0.20	0.07	ND	U
CCB3	682805	KQ2007656-07	06/07/20 08:56	0.50	0.20	0.07	ND	U
CCB4	682805	KQ2007656-08	06/07/20 12:58	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # Original ( ) J2002697, 4581, 4603, 4619, 4621, 4661, 4673, 4674, 4623, 4624, 4529, 4572

Tier: II II II I IV IV II II IV III II II

Date Analyzed: 6/16/2020

Analyst: BCP

Run # TOC: 682804, 682805, 682806, 682807

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
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: K2004621-1/1d, 4674-4/4d, 4624-2/2d, 4623-1/1d, 4624-5/5d, 4624-4/4d, 4572-8/8d samples have a high %RSD. However, these samples are less than 5x the MRL. K2004661-1/1d report a high %RSD due to suspected non-homogenous sample.

Final Approved by: _____ Date: 6/10/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682804 **Method/Testcode:** 9060A/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
J2002697-001	Carbon, Total Organic (TOC)	N/A		Water	44.99 mg/L	10 ml	900 mg/L	20	4	10			6/6/20 23:19	N	II
KQ2007655-01	Carbon, Total Organic (TOC)	CCV		Water	24.79 mg/L	10 ml	24.8 mg/L	1					6/6/20 20:43	N	II
KQ2007655-02	Carbon, Total Organic (TOC)	CCV		Water	23.60 mg/L	10 ml	23.6 mg/L	1					6/7/20 03:31	N	II
KQ2007655-03	Carbon, Total Organic (TOC)	CCB		Water	0.14 mg/L	10 ml	0.50 mg/L U	1		0.50			6/6/20 20:58	N	II
KQ2007655-04	Carbon, Total Organic (TOC)	CCB		Water	0.06 mg/L	10 ml	0.50 mg/L U	1		0.50			6/7/20 03:45	N	II
KQ2007655-05	Carbon, Total Organic (TOC)	MB		Water	0.03 mg/L	10 ml	0.50 mg/L U	1		0.50			6/6/20 21:13	N	II
KQ2007655-06	Carbon, Total Organic (TOC)	MB		Water	0.02 mg/L	10 ml	0.50 mg/L U	1		0.50			6/6/20 21:13	N	II
KQ2007655-07	Carbon, Total Organic (TOC)	MB		Water	-0.08 mg/L	10 ml	0.50 mg/L U	1		0.50			6/6/20 21:13	N	II
KQ2007655-08	Carbon, Total Organic (TOC)	MB		Water	0.03 mg/L	10 ml	0.50 mg/L U	1		0.50			6/6/20 21:13	N	II
KQ2007655-09	Carbon, Total Organic (TOC)	LCS		Water	22.23 mg/L	10 ml	22.2 mg/L	1		0.50	89		6/6/20 22:08	N	II
KQ2007655-10	Carbon, Total Organic (TOC)	LCS		Water	22.31 mg/L	10 ml	22.3 mg/L	1		0.50	89		6/6/20 22:08	N	II
KQ2007655-11	Carbon, Total Organic (TOC)	LCS		Water	22.11 mg/L	10 ml	22.1 mg/L	1		0.50	88		6/6/20 22:08	N	II
KQ2007655-12	Carbon, Total Organic (TOC)	LCS		Water	22.36 mg/L	10 ml	22.4 mg/L	1		0.50	89		6/6/20 22:08	N	II
KQ2007655-13	Carbon, Total Organic (TOC)	MS	J2002697-001	Water	37.57 mg/L	10 ml	3010 mg/L	80		40	105		6/7/20 00:15	N	II
KQ2007655-14	Carbon, Total Organic (TOC)	MS	J2002697-001	Water	36.90 mg/L	10 ml	2950 mg/L	80		40	103		6/7/20 00:15	N	II
KQ2007655-15	Carbon, Total Organic (TOC)	MS	J2002697-001	Water	37.06 mg/L	10 ml	2960 mg/L	80		40	103		6/7/20 00:15	N	II
KQ2007655-16	Carbon, Total Organic (TOC)	MS	J2002697-001	Water	36.91 mg/L	10 ml	2950 mg/L	80		40	103		6/7/20 00:15	N	II
KQ2007655-17	Carbon, Total Organic (TOC)	DUP	J2002697-001	Water	41.16 mg/L	10 ml	823 mg/L	20		10		9	6/6/20 23:19	N	II
KQ2007655-18	Carbon, Total Organic (TOC)	TRP	J2002697-001	Water	42.39 mg/L	10 ml	848 mg/L	20		10		5	6/6/20 23:19	N	II
KQ2007655-19	Carbon, Total Organic (TOC)	QUAD	J2002697-001	Water	39.13 mg/L	10 ml	783 mg/L	20		10		6	6/6/20 23:19	N	II

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682805 **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
K2004581-001	Carbon, Total Organic	N/A		Water	1.33 mg/L	10 ml	1.33 mg/L	1	0.07	0.50			6/7/20 05:53	N	II
K2004581-002	Carbon, Total Organic	N/A		Water	18.21 mg/L	10 ml	18.2 mg/L	1	0.07	0.50			6/7/20 06:21	N	II
K2004581-003	Carbon, Total Organic	N/A		Water	1.23 mg/L	10 ml	1.23 mg/L	1	0.07	0.50			6/7/20 06:49	N	II
K2004581-004	Carbon, Total Organic	N/A		Water	1.98 mg/L	10 ml	1.98 mg/L	1	0.07	0.50			6/7/20 07:17	N	II
K2004581-005	Carbon, Total Organic	N/A		Water	1.90 mg/L	10 ml	1.90 mg/L	1	0.07	0.50			6/7/20 07:45	N	II
K2004603-001	Carbon, Total Organic	N/A		Water	6.52 mg/L	10 ml	6.52 mg/L	1	0.07	0.50			6/7/20 08:13	N	II
K2004619-001	Carbon, Total Organic	N/A		Drinking Water	0.68 mg/L	10 ml	0.68 mg/L	1	0.07	0.50			6/7/20 04:28	N	I
K2004621-001	Carbon, Total Organic	N/A		Ground Water	0.93 mg/L	10 ml	0.93 mg/L	1	0.07	0.50			6/7/20 09:40	Y	IV
K2004661-001	Carbon, Total Organic	N/A		Water	2.17 mg/L	10 ml	2.17 mg/L	1	0.07	0.50			6/7/20 04:57	N	IV
K2004673-001	Carbon, Total Organic	N/A		Water	6.38 mg/L	10 ml	6.38 mg/L	1	0.07	0.50			6/7/20 05:24	N	II
K2004674-001	Carbon, Total Organic	N/A		Water	1.18 mg/L	10 ml	1.18 mg/L	1	0.07	0.50			6/7/20 01:38	N	II
K2004674-002	Carbon, Total Organic	N/A		Water	1.49 mg/L	10 ml	1.49 mg/L	1	0.07	0.50			6/7/20 02:06	N	II
K2004674-003	Carbon, Total Organic	N/A		Water	10.31 mg/L	10 ml	10.3 mg/L	1	0.07	0.50			6/7/20 02:34	N	II
K2004674-004	Carbon, Total Organic	N/A		Water	1.03 mg/L	10 ml	1.03 mg/L	1	0.07	0.50			6/7/20 03:02	N	II
K2004674-005	Carbon, Total Organic	N/A		Water	1.32 mg/L	10 ml	1.32 mg/L	1	0.07	0.50			6/7/20 04:00	N	II
KQ2007656-01	Carbon, Total Organic	CCV		Water	24.79 mg/L	10 ml	24.8 mg/L	1					6/6/20 20:43	N	II
KQ2007656-02	Carbon, Total Organic	CCV		Water	23.60 mg/L	10 ml	23.6 mg/L	1					6/7/20 03:31	N	II
KQ2007656-03	Carbon, Total Organic	CCV		Water	23.76 mg/L	10 ml	23.8 mg/L	1					6/7/20 08:41	N	II
KQ2007656-04	Carbon, Total Organic	CCV		Water	23.67 mg/L	10 ml	23.7 mg/L	1					6/7/20 12:44	N	II
KQ2007656-05	Carbon, Total Organic	CCB		Water	0.14 mg/L	10 ml	0.14 mg/L J	1	0.07	0.50			6/6/20 20:58	N	II
KQ2007656-06	Carbon, Total Organic	CCB		Water	0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 03:45	N	II
KQ2007656-07	Carbon, Total Organic	CCB		Water	0.01 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 08:56	N	II
KQ2007656-08	Carbon, Total Organic	CCB		Water	0.04 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 12:58	N	II
KQ2007656-09	Carbon, Total Organic	MB		Water	-0.08 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 09:11	N	II
KQ2007656-10	Carbon, Total Organic	LCS		Water	21.62 mg/L	10 ml	21.6 mg/L	1	0.07	0.50	86		6/7/20 09:25	N	II
KQ2007656-11	Carbon, Total Organic	MS	K2004621-001	Ground Water	28.54 mg/L	10 ml	28.5 mg/L	1	0.07	0.50	110		6/7/20 10:08	N	IV
KQ2007656-12	Carbon, Total Organic	DUP	K2004581-004	Water	1.93 mg/L	10 ml	1.93 mg/L	1	0.07	0.50		2	6/7/20 07:17	N	II
KQ2007656-13	Carbon, Total Organic	DUP	K2004581-005	Water	1.86 mg/L	10 ml	1.86 mg/L	1	0.07	0.50		2	6/7/20 07:45	N	II
KQ2007656-14	Carbon, Total Organic	DUP	K2004581-001	Water	1.25 mg/L	10 ml	1.25 mg/L	1	0.07	0.50		7	6/7/20 05:53	N	II
KQ2007656-15	Carbon, Total Organic	DUP	K2004581-002	Water	18.47 mg/L	10 ml	18.5 mg/L	1	0.07	0.50		1	6/7/20 06:21	N	II
KQ2007656-16	Carbon, Total Organic	DUP	K2004581-003	Water	1.19 mg/L	10 ml	1.19 mg/L	1	0.07	0.50		3	6/7/20 06:49	N	II
KQ2007656-17	Carbon, Total Organic	DUP	K2004603-001	Water	6.59 mg/L	10 ml	6.59 mg/L	1	0.07	0.50		<1	6/7/20 08:13	N	II
KQ2007656-18	Carbon, Total Organic	DUP	K2004619-001	Drinking Water	0.68 mg/L	10 ml	0.68 mg/L	1	0.07	0.50		<1	6/7/20 04:28	N	I
KQ2007656-19	Carbon, Total Organic	DUP	K2004621-001	Ground Water	0.81 mg/L	10 ml	0.81 mg/L	1	0.07	0.50		13*	6/7/20 09:40	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-03 **Analyst:** BDITZLER **Analysis Lot:** 682805 **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
KQ2007656-20	Carbon, Total Organic	DUP	K2004661-001	Water	2.90 mg/L	10 ml	2.90 mg/L	1	0.07	0.50		29*	6/7/20 04:57	N	IV
KQ2007656-21	Carbon, Total Organic	DUP	K2004673-001	Water	6.31 mg/L	10 ml	6.31 mg/L	1	0.07	0.50		1	6/7/20 05:24	N	II
KQ2007656-22	Carbon, Total Organic	DUP	K2004674-002	Water	1.39 mg/L	10 ml	1.39 mg/L	1	0.07	0.50		7	6/7/20 02:06	N	II
KQ2007656-23	Carbon, Total Organic	DUP	K2004674-003	Water	10.69 mg/L	10 ml	10.7 mg/L	1	0.07	0.50		4	6/7/20 02:34	N	II
KQ2007656-24	Carbon, Total Organic	DUP	K2004674-004	Water	0.90 mg/L	10 ml	0.90 mg/L	1	0.07	0.50		13*	6/7/20 03:02	N	II
KQ2007656-25	Carbon, Total Organic	DUP	K2004674-001	Water	1.14 mg/L	10 ml	1.14 mg/L	1	0.07	0.50		3	6/7/20 01:38	N	II
KQ2007656-26	Carbon, Total Organic	DUP	K2004674-005	Water	1.34 mg/L	10 ml	1.34 mg/L	1	0.07	0.50		1	6/7/20 04:00	N	II

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682806 **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
K2004621-002	Carbon, Total Organic	N/A		Ground Water	0.90 mg/L	10 ml	0.90 mg/L	1	0.07	0.50			6/7/20 10:37	N	IV
K2004621-003	Carbon, Total Organic	N/A		Ground Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 11:05	N	IV
K2004623-001	Carbon, Total Organic	N/A		Ground Water	0.73 mg/L	10 ml	0.73 mg/L	1	0.07	0.50			6/7/20 11:33	N	IV
K2004624-001	Carbon, Total Organic	N/A		Ground Water	0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 12:01	Y	III
K2004624-002	Carbon, Total Organic	N/A		Ground Water	0.79 mg/L	10 ml	0.79 mg/L	1	0.07	0.50			6/7/20 13:13	N	III
K2004624-003	Carbon, Total Organic	N/A		Ground Water	-0.07 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 13:41	N	III
K2004624-004	Carbon, Total Organic	N/A		Ground Water	0.70 mg/L	10 ml	0.70 mg/L	1	0.07	0.50			6/7/20 14:09	N	III
K2004624-005	Carbon, Total Organic	N/A		Ground Water	0.21 mg/L	10 ml	0.21 mg/L J	1	0.07	0.50			6/7/20 14:37	N	III
KQ2007657-01	Carbon, Total Organic	CCV		Ground Water	23.76 mg/L	10 ml	23.8 mg/L	1					6/7/20 08:41	N	IV
KQ2007657-02	Carbon, Total Organic	CCV		Ground Water	23.67 mg/L	10 ml	23.7 mg/L	1					6/7/20 12:44	N	IV
KQ2007657-03	Carbon, Total Organic	CCV		Ground Water	23.71 mg/L	10 ml	23.7 mg/L	1					6/7/20 17:27	N	IV
KQ2007657-04	Carbon, Total Organic	CCB		Ground Water	0.01 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 08:56	N	IV
KQ2007657-05	Carbon, Total Organic	CCB		Ground Water	0.04 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 12:58	N	IV
KQ2007657-06	Carbon, Total Organic	CCB		Ground Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 17:41	N	IV
KQ2007657-07	Carbon, Total Organic	MB		Ground Water	-0.15 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 17:56	N	IV
KQ2007657-08	Carbon, Total Organic	LCS		Ground Water	21.32 mg/L	10 ml	21.3 mg/L	1	0.07	0.50	85		6/7/20 18:11	N	IV
KQ2007657-09	Carbon, Total Organic	MS	K2004624-001	Ground Water	27.61 mg/L	10 ml	27.6 mg/L	1	0.07	0.50	110		6/7/20 12:29	N	III
KQ2007657-10	Carbon, Total Organic	DUP	K2004621-002	Ground Water	0.89 mg/L	10 ml	0.89 mg/L	1	0.07	0.50		2	6/7/20 10:37	N	IV
KQ2007657-11	Carbon, Total Organic	DUP	K2004621-003	Ground Water	-0.06 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	6/7/20 11:05	N	IV
KQ2007657-12	Carbon, Total Organic	DUP	K2004623-001	Ground Water	0.65 mg/L	10 ml	0.65 mg/L	1	0.07	0.50		11*	6/7/20 11:33	N	IV
KQ2007657-13	Carbon, Total Organic	DUP	K2004624-001	Ground Water	0.02 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	6/7/20 12:01	N	III
KQ2007657-14	Carbon, Total Organic	DUP	K2004624-002	Ground Water	0.70 mg/L	10 ml	0.70 mg/L	1	0.07	0.50		11*	6/7/20 13:13	N	III
KQ2007657-15	Carbon, Total Organic	DUP	K2004624-003	Ground Water	-0.10 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50		NC	6/7/20 13:41	N	III

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682806 **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
KQ2007657-16	Carbon, Total Organic	DUP	K2004624-004	Ground Water	0.62 mg/L	10 ml	0.62 mg/L	1	0.07	0.50		12*	6/7/20 14:09	N	III
KQ2007657-17	Carbon, Total Organic	DUP	K2004624-005	Ground Water	0.12 mg/L	10 ml	0.12 mg/L J	1	0.07	0.50		58*	6/7/20 14:37	N	III

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682807 **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
K2004529-001	Carbon, Dissolved Organic (DOC)	N/A		Effluent	1.83 mg/L	10 ml	1.83 mg/L	1	0.07	0.50			6/7/20 20:18	N	II
K2004529-002	Carbon, Dissolved Organic (DOC)	N/A		Water	1.95 mg/L	10 ml	1.95 mg/L	1	0.07	0.50			6/7/20 20:46	N	II
K2004572-001	Carbon, Dissolved Organic (DOC)	N/A		Water	0.35 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 15:05	N	II
K2004572-002	Carbon, Dissolved Organic (DOC)	N/A		Water	2.90 mg/L	10 ml	2.90 mg/L	1	0.07	0.50			6/7/20 15:34	N	II
K2004572-003	Carbon, Dissolved Organic (DOC)	N/A		Water	1.57 mg/L	10 ml	1.57 mg/L	1	0.07	0.50			6/7/20 16:31	N	II
K2004572-007	Carbon, Dissolved Organic (DOC)	N/A		Water	3.16 mg/L	10 ml	3.16 mg/L	1	0.07	0.50			6/7/20 16:59	N	II
K2004572-008	Carbon, Dissolved Organic (DOC)	N/A		Water	1.66 mg/L	10 ml	1.66 mg/L	1	0.07	0.50			6/7/20 18:26	N	II
K2004572-011	Carbon, Dissolved Organic (DOC)	N/A		Water	0.69 mg/L	10 ml	0.69 mg/L	1	0.07	0.50			6/7/20 18:54	N	II
K2004572-012	Carbon, Dissolved Organic (DOC)	N/A		Water	2.47 mg/L	10 ml	2.47 mg/L	1	0.07	0.50			6/7/20 19:22	N	II
K2004572-013	Carbon, Dissolved Organic (DOC)	N/A		Water	1.01 mg/L	10 ml	1.01 mg/L	1	0.07	0.50			6/7/20 19:50	N	II
KQ2007658-01	Carbon, Dissolved Organic (DOC)	CCV		Water	23.67 mg/L	10 ml	23.7 mg/L	1					6/7/20 12:44	N	II
KQ2007658-02	Carbon, Dissolved Organic (DOC)	CCV		Water	23.71 mg/L	10 ml	23.7 mg/L	1					6/7/20 17:27	N	II
KQ2007658-03	Carbon, Dissolved Organic (DOC)	CCV		Water	23.60 mg/L	10 ml	23.6 mg/L	1					6/7/20 21:44	N	II
KQ2007658-04	Carbon, Dissolved Organic (DOC)	CCB		Water	0.04 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 12:58	N	II
KQ2007658-05	Carbon, Dissolved Organic (DOC)	CCB		Water	-0.03 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 17:41	N	II
KQ2007658-06	Carbon, Dissolved Organic (DOC)	CCB		Water	-0.10 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 21:59	N	II
KQ2007658-07	Carbon, Dissolved Organic (DOC)	MB		Water	-0.18 mg/L	10 ml	0.50 mg/L U	1	0.07	0.50			6/7/20 21:14	N	II
KQ2007658-08	Carbon, Dissolved Organic (DOC)	LCS		Water	21.10 mg/L	10 ml	21.1 mg/L	1	0.07	0.50	84		6/7/20 21:29	N	II
KQ2007658-09	Carbon, Dissolved Organic (DOC)	MS	K2004572-002	Water	30.90 mg/L	10 ml	30.9 mg/L	1	0.07	0.50	112		6/7/20 16:02	N	II
KQ2007658-10	Carbon, Dissolved Organic (DOC)	DUP	K2004529-002	Water	1.89 mg/L	10 ml	1.89 mg/L	1	0.07	0.50		3	6/7/20 20:46	N	II
KQ2007658-11	Carbon, Dissolved Organic (DOC)	DUP	K2004529-001	Effluent	1.72 mg/L	10 ml	1.72 mg/L	1	0.07	0.50		6	6/7/20 20:18	N	II
KQ2007658-12	Carbon, Dissolved Organic (DOC)	DUP	K2004572-002	Water	2.82 mg/L	10 ml	2.82 mg/L	1	0.07	0.50		3	6/7/20 15:34	N	II
KQ2007658-13	Carbon, Dissolved Organic (DOC)	DUP	K2004572-001	Water	0.25 mg/L	10 ml	0.25 mg/L J	1	0.07	0.50		NC	6/7/20 15:05	N	II

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 682807 **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
KQ2007658-14	Carbon, Dissolved Organic (DOC)	DUP	K2004572-003	Water	1.52 mg/L	10 ml	1.52 mg/L	1	0.07	0.50		3	6/7/20 16:31	N	II
KQ2007658-15	Carbon, Dissolved Organic (DOC)	DUP	K2004572-007	Water	3.20 mg/L	10 ml	3.20 mg/L	1	0.07	0.50		<1	6/7/20 16:59	N	II
KQ2007658-16	Carbon, Dissolved Organic (DOC)	DUP	K2004572-008	Water	1.49 mg/L	10 ml	1.49 mg/L	1	0.07	0.50		11*	6/7/20 18:26	N	II
KQ2007658-17	Carbon, Dissolved Organic (DOC)	DUP	K2004572-011	Water	0.73 mg/L	10 ml	0.73 mg/L	1	0.07	0.50		6	6/7/20 18:54	N	II
KQ2007658-18	Carbon, Dissolved Organic (DOC)	DUP	K2004572-012	Water	2.50 mg/L	10 ml	2.50 mg/L	1	0.07	0.50		1	6/7/20 19:22	N	II
KQ2007658-19	Carbon, Dissolved Organic (DOC)	DUP	K2004572-013	Water	0.96 mg/L	10 ml	0.96 mg/L	1	0.07	0.50		6	6/7/20 19:50	N	II

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

0.588				OBSERVATIONS	12	ABOVE
0.487	0.487	0.487	0.487	STD Deviation	0.07936	0.4868
0.470	0.470	0.470	0.470	AVERAGE	0.44282	0.4698
0.374	0.374	0.374	0.374	UCL	0.52218	0.3735
0.480	0.480	0.480	0.480	LCL	0.36346	0.4798
0.512	0.512	0.512	0.512			0.5123
0.464	0.464	0.464	0.464			0.4637
0.377	0.377	0.377	0.377	OBSERVATIONS	9	0.3765
0.487	0.487	0.487	0.487	STD Deviation	0.18542	0.4874
0.418	0.418	0.418	0.418	AVERAGE	0.45198	0.418
0.305				UCL	0.63739	BELOW
0.353				LCL	0.26656	BELOW
						BELOW
						BELOW
				OBSERVATIONS	9	BELOW
				STD Deviation	0.18542	BELOW
				AVERAGE	0.45198	BELOW
				UCL	0.63739	BELOW
				LCL	0.26656	BELOW
						BELOW
						BELOW
				OBSERVATIONS	9	BELOW
				STD Deviation	0.05349	BELOW
				AVERAGE	0.45198	BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW

6/9/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	25.239	0.4520	24.7872	24.78722	24.8	6/6/2020
3	ccb	1	0.588	0.4520	0.1360	0.13602	<0.5	6/6/2020
4	mb	1	0.487	0.4520	0.0348	0.03482	<0.5	6/6/2020
5	mb	1	0.470	0.4520	0.0178	0.01782	<0.5	6/6/2020
6	mb	1	0.374	0.4520	-0.0785	-0.07848	<0.5	6/6/2020
7	mb	1	0.480	0.4520	0.0278	0.02782	<0.5	6/6/2020
8	lcs	1	22.680	0.4520	22.2279	22.22792	22	6/6/2020
9	lcs	1	22.759	0.4520	22.3065	22.30652	22.31	6/6/2020
10	lcs	1	22.566	0.4520	22.1140	22.11402	22.11	6/6/2020
11	lcs	1	22.812	0.4520	22.3596	22.35962	22.4	6/6/2020
12	J2002697-001	20	45.446	0.4520	44.9942	899.8844	899.88	6/6/2020
13	J2002697-001d	20	41.615	0.4520	41.1627	823.2544	823.25	6/6/2020
14	J2002697-001t	20	42.844	0.4520	42.3916	847.8324	847.83	6/6/2020
15	J2002697-001q	20	39.584	0.4520	39.1316	782.6324	782.6	6/6/2020
16	J2002697-001ms	80	38.019	0.4520	37.5669	3005.3536	3005.4	6/7/2020
17	J2002697-001ms2	80	37.352	0.4520	36.8998	2951.9856	2951.99	6/7/2020
18	J2002697-001ms3	80	37.513	0.4520	37.0610	2964.8816	2964.9	6/7/2020
19	J2002697-001ms4	80	37.362	0.4520	36.9100	2952.8016	2952.8	6/7/2020
20	ccv	1	24.048	0.4520	23.5961	23.59612	23.60	6/7/2020
21	ccb	1	0.512	0.4520	0.0603	0.06032	<0.5	6/7/2020
22	K2003842-007.06 doc	1	0.377	0.2169	0.1601	0.16014	<0.5	5/14/2020
23	K2003842-008.06 doc	1	0.583	0.2169	0.3663	0.36634	<0.5	5/14/2020
24	K2003842-008.06 doc	1	0.572	0.2169	0.3552	0.35524	<0.5	5/14/2020
25	K2003842-009.06 doc	1	0.621	0.2169	0.4042	0.40424	<0.5	5/14/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

		date	time
Analyzed By: BCB	Date Analyzed 6/9/20		
Reviewed By: JL	Date Reviewed 6/11/20		

Revision 1, 2010 R:\WET\ANALYSES\TOC\TEMPLATE\TOCwaterLIMS

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	25.239	0.4520	24.7872	24.78722	24.8	6/6/2020
3	ccb	1	0.588	0.4520	0.1360	0.13602	<0.5	6/6/2020
4	K2004674-001	1	1.630	0.4520	1.1781	1.17812	1.2	6/7/2020
5	K2004674-001	1	1.590	0.4520	1.1384	1.13842	1.1	6/7/2020
6	K2004674-002	1	1.941	0.4520	1.4889	1.48892	1.49	6/7/2020
7	K2004674-002	1	1.845	0.4520	1.3933	1.39332	1.4	6/7/2020
8	K2004674-003	1	10.766	0.4520	10.3138	10.31382	10	6/7/2020
9	K2004674-003	1	11.144	0.4520	10.6923	10.69232	10.69	6/7/2020
10	K2004674-004	1	1.479	0.4520	1.0265	1.02652	1.03	6/7/2020
11	K2004674-004	1	1.353	0.4520	0.9006	0.90062	0.9	6/7/2020
12	ccv	1	24.048	0.4520	23.5961	23.59612	23.60	6/7/2020
13	ccb	1	0.512	0.4520	0.0603	0.06032	<0.5	6/7/2020
14	K2004674-005	1	1.776	0.4520	1.3244	1.32442	1.32	6/7/2020
15	K2004674-005	1	1.796	0.4520	1.3436	1.34362	1.3	6/7/2020
16	K2004619-001	1	1.132	0.4520	0.6799	0.67992	0.7	6/7/2020
17	K2004619-001	1	1.128	0.4520	0.6764	0.67642	0.68	6/7/2020
18	K2004661-001	1	2.619	0.4520	2.1666	2.16662	2.2	6/7/2020
19	K2004661-001	1	3.351	0.4520	2.8994	2.89942	2.9	6/7/2020
20	K2004673-001	1	6.832	0.4520	6.3799	6.37992	6.38	6/7/2020
21	K2004673-001	1	6.762	0.4520	6.3098	6.30982	6.31	6/7/2020
22	K2004581-001	1	1.786	0.4520	1.3343	1.33432	1.3	6/7/2020
23	K2004581-001	1	1.701	0.4520	1.2490	1.24902	1.2	6/7/2020
24	K2004581-002	1	18.661	0.4520	18.2094	18.20942	18.21	6/7/2020
25	K2004581-002	1	18.923	0.4520	18.4711	18.47112	18.47	6/7/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

date time

Analyzed By:	BA	Date Analyzed	6/9/20
Reviewed By:	JC	Date Reviewed	6/10/20

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ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2004581-003	1	1.679	0.4520	1.2274	1.22742	1.23	6/7/2020
27	K2004581-003	1	1.645	0.4520	1.1934	1.19342	1.19	6/7/2020
28	K2004581-004	1	2.434	0.4520	1.9819	1.98192	2.0	6/7/2020
29	K2004581-004	1	2.387	0.4520	1.9349	1.93492	1.9	6/7/2020
30	K2004581-005	1	2.350	0.4520	1.8984	1.89842	1.9	6/7/2020
31	K2004581-005	1	2.313	0.4520	1.8605	1.86052	1.9	6/7/2020
32	K2004603-001	1	6.976	0.4520	6.5237	6.52372	6.5	6/7/2020
33	K2004603-001	1	7.041	0.4520	6.5887	6.58872	6.6	6/7/2020
34	ccv	1	24.209	0.4520	23.7569	23.75692	23.8	6/7/2020
35	ccb	1	0.464	0.4520	0.0117	0.01172	<0.5	6/7/2020
36	mb	1	0.377	0.4520	-0.0755	-0.07548	<0.5	6/7/2020
37	lcs	1	22.070	0.4520	21.6178	21.61782	21.6	6/7/2020
38	K2004621-001	1	1.379	0.4520	0.9269	0.92692	0.9	6/7/2020
39	K2004621-001	1	1.265	0.4520	0.8133	0.81332	0.8	6/7/2020
40	KQ2007656-11	1	28.990	0.4520	28.5377	28.53772	28.5	6/7/2020
41	ccv	1	24.126	0.4520	23.6736	23.67362	23.7	6/7/2020
42	ccb	1	0.487	0.4520	0.0354	0.03542	<0.5	6/7/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	BCV	Date Analyzed	6/9/20
Reviewed By:	JC	Date Reviewed	6/10/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.209	0.4520	23.7569	23.75692	23.8	6/7/2020
3	ccb	1	0.464	0.4520	0.0117	0.01172	<0.5	6/7/2020
4	K2004621-002	1	1.356	0.4520	0.9035	0.90352	0.9	6/7/2020
5	K2004621-002	1	1.341	0.4520	0.8890	0.88902	0.9	6/7/2020
6	K2004621-003	1	0.423	0.4520	-0.0291	-0.02908	<0.5	6/7/2020
7	K2004621-003	1	0.396	0.4520	-0.0559	-0.05588	<0.5	6/7/2020
8	K2004623-001	1	1.178	0.4520	0.7256	0.72562	1	6/7/2020
9	K2004623-001	1	1.101	0.4520	0.6490	0.64902	0.65	6/7/2020
10	K2004624-001	1	0.472	0.4520	0.0197	0.01972	<0.5	6/7/2020
11	K2004624-001	1	0.473	0.4520	0.0214	0.02142	<0.5	6/7/2020
12	KQ2007657-09	1	28.065	0.4520	27.6127	27.61272	27.61	6/7/2020
13	ccv	1	24.126	0.4520	23.6736	23.67362	23.67	6/7/2020
14	ccb	1	0.487	0.4520	0.0354	0.03542	<0.5	6/7/2020
15	K2004624-002	1	1.241	0.4520	0.7887	0.78872	0.8	6/7/2020
16	K2004624-002	1	1.155	0.4520	0.7030	0.70302	0.7	6/7/2020
17	K2004624-003	1	0.377	0.4520	-0.0748	-0.07478	<0.5	6/7/2020
18	K2004624-003	1	0.349	0.4520	-0.1034	-0.10338	<0.5	6/7/2020
19	K2004624-004	1	1.150	0.4520	0.6976	0.69762	0.7	6/7/2020
20	K2004624-004	1	1.073	0.4520	0.6214	0.62142	0.62	6/7/2020
21	K2004624-005	1	0.662	0.4520	0.2100	0.21002	<0.5	6/7/2020
22	K2004624-005	1	0.567	0.4520	0.1152	0.11522	<0.5	6/7/2020
23	ccv	1	24.165	0.4520	23.7126	23.71262	23.7	6/7/2020
24	ccb	1	0.418	0.4520	-0.0340	-0.03398	<0.5	6/7/2020
25	mb	1	0.305	0.4520	-0.1474	-0.14738	<0.5	6/7/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

	date	time
Analyzed By: [signature]	Date Analyzed 6/9/20	
Reviewed By: [signature]	Date Reviewed 6/10/20	

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ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	lcs	1	21.772	0.4520	21.3204	21.32042	21.32	6/7/2020
27		1			0.0000	0	<0.5	5/14/2020
28		1			0.0000	0	<0.5	5/14/2020
29		1			0.0000	0	<0.5	5/14/2020
30		1			0.0000	0	<0.5	5/14/2020
31		1			0.0000	0	<0.5	5/14/2020
32		1			0.0000	0	<0.5	5/14/2020
33		1			0.0000	0	<0.5	5/14/2020
34		1			0.0000	0	<0.5	5/14/2020
35		1			0.0000	0	<0.5	5/14/2020
36		1			0.0000	0	<0.5	5/14/2020
37		1			0.0000	0	<0.5	5/14/2020
38		1			0.0000	0	<0.5	5/14/2020
39		1			0.0000	0	<0.5	5/14/2020
40		1			0.0000	0	<0.5	5/14/2020
41		1			0.0000	0	<0.5	5/14/2020
42		1			0.0000	0	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	BW	Date Analyzed	6/9/20
Reviewed By:	JC	Date Reviewed	6/10/20

ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0	<0.5	
2	ccv	1	24.126	0.4520	23.6736	23.67362	23.7	6/7/2020
3	ccb	1	0.487	0.4520	0.0354	0.03542	<0.5	6/7/2020
4	K2004572-001	1	0.799	0.4520	0.3471	0.34712	<0.5	6/7/2020
5	K2004572-001	1	0.704	0.4520	0.2516	0.25162	<0.5	6/7/2020
6	K2004572-002	1	3.347	0.4520	2.8954	2.89542	2.90	6/7/2020
7	K2004572-002	1	3.274	0.4520	2.8217	2.82172	2.8	6/7/2020
8	KQ2007658-09	1	31.349	0.4520	30.8969	30.89692	31	6/7/2020
9	K2004572-003	1	2.023	0.4520	1.5707	1.57072	1.57	6/7/2020
10	K2004572-003	1	1.974	0.4520	1.5222	1.52222	1.52	6/7/2020
11	K2004572-007	1	3.617	0.4520	3.1646	3.16462	3.2	6/7/2020
12	K2004572-007	1	3.648	0.4520	3.1961	3.19612	3.20	6/7/2020
13	ccv	1	24.165	0.4520	23.7126	23.71262	23.71	6/7/2020
14	ccb	1	0.418	0.4520	-0.0340	-0.03398	<0.5	6/7/2020
15	K2004572-008	1	2.111	0.4520	1.6585	1.65852	1.7	6/7/2020
16	K2004572-008	1	1.943	0.4520	1.4905	1.49052	1.5	6/7/2020
17	K2004572-011	1	1.139	0.4520	0.6869	0.68692	0.69	6/7/2020
18	K2004572-011	1	1.181	0.4520	0.7294	0.72942	0.7	6/7/2020
19	K2004572-012	1	2.919	0.4520	2.4674	2.46742	2.5	6/7/2020
20	K2004572-012	1	2.950	0.4520	2.4983	2.49832	2.50	6/7/2020
21	K2004572-013	1	1.465	0.4520	1.0133	1.01332	1.01	6/7/2020
22	K2004572-013	1	1.411	0.4520	0.9586	0.95862	1.0	6/7/2020
23	K2004529-001	1	2.286	0.4520	1.8340	1.83402	1.8	6/7/2020
24	K2004529-001	1	2.172	0.4520	1.7197	1.71972	1.72	6/7/2020
25	K2004529-002	1	2.407	0.4520	1.9548	1.95482	1.95	6/7/2020

ICAL Date 10/20/16 ICAL ID#:11-GEN-05-51A

LCS =24.0 ppm APG 4013 Lot #010615 (REF# 11-GEN-05-50N)

CCV = 25.0 ppm (Ref.#11-GEN-05-52E)

Spike: 0.05 ml of 5000 ppm stock ----> 10.0 ml =25.0 ppm x Dilution Factor (Ref.# 11-GEN-05-51M)

	date	time
Analyzed By: [illegible]	Date Analyzed 6/9/20	
Reviewed By: [illegible]	Date Reviewed 6/10/20	

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ALS ENVIRONMENTAL

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc.,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	K2004529-002	1	2.346	0.4520	1.8941	1.89412	1.89	6/7/2020
27	mb	1	0.269	0.4520	-0.1826	-0.18258	<0.5	6/7/2020
28	lcs	1	21.557	0.4520	21.1046	21.10462	21.1	6/7/2020
29	ccv	1	24.056	0.4520	23.6042	23.60422	23.6	6/7/2020
30	ccb	1	0.353	0.4520	-0.0986	-0.09858	<0.5	6/7/2020
31		1			0.0000	0	<0.5	5/14/2020
32		1			0.0000	0	<0.5	5/14/2020
33		1			0.0000	0	<0.5	5/14/2020
34		1			0.0000	0	<0.5	5/14/2020
35		1			0.0000	0	<0.5	5/14/2020
36		1			0.0000	0	<0.5	5/14/2020
37		1			0.0000	0	<0.5	5/14/2020
38		1			0.0000	0	<0.5	5/14/2020
39		1			0.0000	0	<0.5	5/14/2020
40		1			0.0000	0	<0.5	5/14/2020
41		1			0.0000	0	<0.5	5/14/2020
42		1			0.0000	0	<0.5	5/14/2020
43		1			0.0000	0	<0.5	
44		1			0.0000	0	<0.5	
45		1			0.0000	0	<0.5	
46		1			0.0000	0	<0.5	
47		1			0.0000	0	<0.5	
48		1			0.0000	0	<0.5	
49		1			0.0000	0	<0.5	
50		1			0.0000	0	<0.5	

Analyzed By:	BCP	Date Analyzed	6/9/20
Reviewed By:		Date Reviewed	6/10/20

TOC: 682804, 682805, 682806
DOC: 682807

Schedule: 06062020

Version: 2
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/06/06 18:20 - Saturday

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)	4	True	Ready
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
3	Sample	J2002697-001.01 20x	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
4	Sample	J2002697-001.01 ms 80x	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
5	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2004674-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2004674-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2004674-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2004674-004.01	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	K2004674-005.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2004619-001.05	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2004661-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2004673-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2004581-001.05	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2004581-002.05	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2004581-003.05	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2004581-004.05	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2004581-005.05	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2004603-001.01	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	K2004621-001.07	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2004621-001.07 ms	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
23	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
24	Sample	K2004621-002.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2004621-003.01	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2004623-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2004624-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2004624-001.02 ms	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
29	Sample	K2004624-002.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
30	Sample	K2004624-003.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
31	Sample	K2004624-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
32	Sample	K2004624-005.02	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
33	Sample	K2004572-001.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
34	Sample	K2004572-002.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
35	Sample	K2004572-002.01 ms doc	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
36	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
37	Sample	K2004572-003.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
38	Sample	K2004572-007.01 doc	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: 06062020

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
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
40	Sample	K2004572-008.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
41	Sample	K2004572-011.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
42	Sample	K2004572-012.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
43	Sample	K2004572-013.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
44	Sample	K2004529-001.03 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
45	Sample	K2004529-002.04 doc	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
46	Sample	MB4	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
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
					False	

Fusion Report - 06062020
Saturday, June 06, 2020 06:35 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/06/09 11:07 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	06062020	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) (v2)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/06 18:35

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	10.35	14.34	3.99	49.71	05:24
2	TC Clean	3.98	7.58	3.60	49.78	07:17
3	TC Clean	1.56	5.27	3.71	49.80	07:02
4	TC Clean	1.29	4.88	3.59	49.79	07:00

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/06 19:07

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.58	4.20	3.62	49.70	05:22
2	TC Clean	2.81	6.52	3.71	49.81	07:20
3	TC Clean	1.39	5.11	3.72	50.00	03:59
4	TC Clean	1.26	4.97	3.71	49.97	03:56

Sample Type: Clean From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/06 19:32

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.66	4.15	3.49	49.75	05:24
2	TC Clean	2.99	6.43	3.44	49.98	04:07
3	TC Clean	1.75	5.14	3.39	50.00	03:53
4	TC Clean	1.38	5.02	3.64	49.93	03:54

Sample Type: Blank (Creating v1395) From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/06/06 19:54

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.57	4.16	3.59	49.65	05:23
2	TC Clean	3.08	6.75	3.68	49.94	04:03
3	TC Clean	1.85	5.46	3.61	49.95	03:56
4	TC Clean	1.65	5.42	3.78	49.98	03:55
5	Reagent Blank	4.44	8.20	3.76	49.94	05:02
6	Acid Blank	0.93	4.60	3.67	49.71	05:29

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.8011 ppm	0.0000 ppm	0.0000%	2020/06/06 20:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8011	8.0114	7.99	11.80	3.81	49.98	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	25.2392 ppm (PASS)	0.0000 ppm	0%	2020/06/06 20:43

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.2392	252.3922	161.08	164.89	3.81	50.00	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.5880 ppm (PASS)	0.0000 ppm	0%	2020/06/06 20:58

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.5880	5.8802	6.42	10.08	3.66	50.03	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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	0.4525 ppm	0.0531 ppm	11.7400%	2020/06/06 21:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4868	4.8683	6.02	9.54	3.53	50.03	10:30
2	TOC	0.4698	4.6977	5.91	9.43	3.52	50.04	10:28
3	TOC	0.3735	3.7350	5.31	9.13	3.82	50.11	10:28
4	TOC	0.4798	4.7981	5.97	9.69	3.72	50.08	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	22.7040 ppm	0.1067 ppm	0.47%	2020/06/06 22:08

						(PASS)				

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	22.6799	226.7992	145.03	148.60	3.58	50.09	10:28
C	TOC	25.0 ppm	2	22.7585	227.5850	145.52	149.08	3.56	50.11	10:30
C	TOC	25.0 ppm	3	22.5660	225.6596	144.31	147.96	3.65	50.11	10:28
C	TOC	25.0 ppm	4	22.8116	228.1158	145.85	149.72	3.86	50.12	10:23

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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	0.8537 ppm	0.0000 ppm	0.0000%	2020/06/06 23:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8537	8.5374	8.32	11.90	3.58	50.14	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	3	TOC	J2002697-001.01 20x	42.3720 ppm	2.4510 ppm	5.7800%	2020/06/06 23:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	45.4462	454.4621	288.09	291.64	3.55	50.14	10:28
2	TOC	41.6147	416.1467	264.05	267.78	3.73	50.15	10:25
3	TOC	42.8436	428.4356	271.76	275.42	3.65	50.16	10:28
4	TOC	39.5836	395.8358	251.31	254.78	3.47	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	4	TOC	J2002697-001.01 ms 80x	37.5614 ppm	0.3137 ppm	0.8400%	2020/06/07 00:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	38.0189	380.1886	241.49	244.97	3.48	50.22	10:28
2	TOC	37.3518	373.5182	237.31	240.79	3.49	50.21	10:25
3	TOC	37.5130	375.1296	238.32	242.05	3.73	50.23	10:28
4	TOC	37.3620	373.6202	237.37	240.87	3.50	50.23	10:29

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	RB	0.9133 ppm	0.2022 ppm	22.1400%	2020/06/07 01:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0563	10.5632	9.59	13.26	3.67	50.25	10:30
2	TOC	0.7704	7.7038	7.80	11.33	3.53	50.26	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2004674-001.01	1.6103 ppm	0.0281 ppm	1.7400%	2020/06/07 01:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6301	16.3012	13.19	16.85	3.66	50.23	10:27
2	TOC	1.5904	15.9043	12.94	16.58	3.64	50.22	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2004674-002.01	1.8931 ppm	0.0676 ppm	3.5700%	2020/06/07 02:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9409	19.4093	15.14	18.68	3.54	50.21	10:29
2	TOC	1.8453	18.4530	14.54	18.08	3.54	50.19	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2004674-003.01	10.9551 ppm	0.2677 ppm	2.4400%	2020/06/07 02:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.7658	107.6580	70.51	73.98	3.48	50.18	10:27
2	TOC	11.1443	111.4435	72.88	76.41	3.53	50.18	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	9	TOC	K2004674-004.01	1.4156 ppm	0.0890 ppm	6.2900%	2020/06/07 03:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4785	14.7854	12.24	15.75	3.51	50.18	10:25
2	TOC	1.3526	13.5263	11.45	15.12	3.67	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	24.0481 ppm (PASS)	0.0000 ppm	0%	2020/06/07 03:31

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.0481	240.4811	153.61	157.31	3.70	50.18	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.5123 ppm (PASS)	0.0000 ppm	0%	2020/06/07 03:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.5123	5.1231	5.95	9.57	3.62	50.17	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	10	TOC	K2004674-005.01	1.7860 ppm	0.0135 ppm	0.7600%	2020/06/07 04:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7764	17.7644	14.11	17.69	3.58	50.18	10:30
2	TOC	1.7956	17.9557	14.23	17.76	3.54	50.19	10:27

Dilution	Blank Contribution	Method	Calibration

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2004619-001.05	1.1301 ppm	0.0025 ppm	0.2200%	2020/06/07 04:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1319	11.3187	10.06	13.71	3.65	50.20	10:32
2	TOC	1.1284	11.2837	10.04	13.57	3.53	50.23	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2004661-001.01	2.9850 ppm	0.5181 ppm	17.3600%	2020/06/07 04:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6186	26.1865	19.39	22.93	3.54	50.23	10:26
2	TOC	3.3514	33.5136	23.99	27.51	3.52	50.21	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2004673-001.01	6.7969 ppm	0.0496 ppm	0.7300%	2020/06/07 05:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.8319	68.3193	45.83	49.37	3.54	50.24	10:27
2	TOC	6.7618	67.6180	45.39	49.01	3.63	50.25	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2004581-001.05	1.7437 ppm	0.0603 ppm	3.4600%	2020/06/07 05:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7863	17.8632	14.17	17.74	3.57	50.26	10:27
2	TOC	1.7010	17.0105	13.64	17.19	3.56	50.29	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2004581-002.05	18.7923 ppm	0.1851 ppm	0.9800%	2020/06/07 06:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	18.6614	186.6143	120.04	123.54	3.50	50.30	10:26
2	TOC	18.9231	189.2315	121.69	125.23	3.55	50.30	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K2004581-003.05	1.6624 ppm	0.0240 ppm	1.4400%	2020/06/07 06:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.6794	16.7937	13.50	17.13	3.63	50.28	10:30
2	TOC	1.6454	16.4542	13.29	16.85	3.56	50.30	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2004581-004.05	2.4104 ppm	0.0332 ppm	1.3800%	2020/06/07 07:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4339	24.3392	18.23	21.86	3.63	50.30	10:28
2	TOC	2.3869	23.8690	17.94	21.46	3.52	50.27	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2004581-005.05	2.3314 ppm	0.0268 ppm	1.1500%	2020/06/07 07:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3504	23.5040	17.71	21.41	3.70	50.28	10:28
2	TOC	2.3125	23.1246	17.47	21.25	3.77	50.29	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2004603-001.01	7.0082 ppm	0.0460 ppm	0.6600%	2020/06/07 08:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	6.9757	69.7570	46.73	50.47	3.75	50.27	10:30
2	TOC	7.0407	70.4073	47.14	50.59	3.45	50.27	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC)	CAS_salt_010711	CAS_salt_010711

(v1395) (v4) (v37)

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)	24.2089 ppm (PASS)	0.0000 ppm	0%	2020/06/07 08:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.2089	242.0894	154.62	158.12	3.50	50.25	10:29

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.4637 ppm (PASS)	0.0000 ppm	0%	2020/06/07 08:56

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.4637	4.6370	5.64	9.20	3.56	50.25	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.3765 ppm	0.0000 ppm	0.0000%	2020/06/07 09:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3765	3.7653	5.33	8.81	3.49	50.22	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	22.0698 ppm (PASS)	0.0000 ppm	0%	2020/06/07 09:25

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	22.0698	220.6978	141.20	144.89	3.69	50.20	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	K2004621-001.07	1.3221 ppm	0.0804 ppm	6.0800%	2020/06/07 09:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3789	13.7892	11.61	15.15	3.53	50.22	10:29
2	TOC	1.2653	12.6528	10.90	14.54	3.64	50.19	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	22	TOC	K2004621-001.07 ms	28.9897 ppm	0.0000 ppm	0.0000%	2020/06/07 10:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.9897	289.8966	184.84	188.32	3.48	50.18	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	23	TOC	RB	0.4856 ppm	0.0000 ppm	0.0000%	2020/06/07 10:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4856	4.8555	6.01	9.67	3.66	50.18	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	24	TOC	K2004621-002.01	1.3482 ppm	0.0103 ppm	0.7600%	2020/06/07 10:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3555	13.5549	11.47	15.08	3.61	50.16	10:26

2	TOC	1.3410	13.4099	11.38	14.89	3.52	50.12	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	25	TOC	K2004621-003.01	0.4095 ppm	0.0189 ppm	4.6200%	2020/06/07 11:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4229	4.2291	5.62	9.12	3.50	50.15	10:25
2	TOC	0.3961	3.9613	5.45	8.89	3.44	50.12	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	26	TOC	K2004623-001.02	1.1393 ppm	0.0542 ppm	4.7600%	2020/06/07 11:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1776	11.7762	10.35	13.83	3.48	50.12	10:27
2	TOC	1.1010	11.0095	9.87	13.38	3.51	50.12	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2004624-001.02	0.4726 ppm	0.0012 ppm	0.2600%	2020/06/07 12:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4717	4.7168	5.92	9.38	3.45	50.14	10:28
2	TOC	0.4734	4.7344	5.93	9.45	3.52	50.08	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2004624-001.02 ms	28.0647 ppm	0.0000 ppm	0.0000%	2020/06/07 12:29

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.0647	280.6472	179.04	182.44	3.40	50.07	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	24.1256 ppm (PASS)	0.0000 ppm	0%	2020/06/07 12:44

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.1256	241.2558	154.10	157.65	3.55	50.07	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.4874 ppm (PASS)	0.0000 ppm	0%	2020/06/07 12:58

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.4874	4.8745	5.79	9.39	3.60	50.05	10:34

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	29	TOC	K2004624-002.02	1.1979 ppm	0.0606 ppm	5.0600%	2020/06/07 13:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2407	12.4073	10.75	14.36	3.61	50.04	10:28
2	TOC	1.1550	11.5498	10.21	13.84	3.63	50.05	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2004624-003.02	0.3629 ppm	0.0202 ppm	5.5600%	2020/06/07 13:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3772	3.7717	5.33	8.89	3.57	50.03	10:28
2	TOC	0.3486	3.4864	5.15	8.80	3.65	50.02	10:26

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2004624-004.02	1.1115 ppm	0.0539 ppm	4.8500%	2020/06/07 14:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1496	11.4956	10.17	13.64	3.46	50.01	10:25
2	TOC	1.0734	10.7338	9.70	13.25	3.55	50.01	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2004624-005.02	0.6146 ppm	0.0671 ppm	10.9100%	2020/06/07 14:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6620	6.6199	7.12	10.68	3.57	50.01	10:27
2	TOC	0.5672	5.6716	6.52	10.12	3.60	50.02	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2004572-001.01 doc	0.7513 ppm	0.0675 ppm	8.9900%	2020/06/07 15:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7991	7.9907	7.98	11.42	3.44	50.00	10:26
2	TOC	0.7036	7.0359	7.38	10.95	3.58	50.01	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2004572-002.01 doc	3.3106 ppm	0.0521 ppm	1.5700%	2020/06/07 15:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.3474	33.4737	23.96	27.30	3.34	49.97	10:28
2	TOC	3.2737	32.7374	23.50	26.97	3.46	49.94	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2004572-002.01 ms doc	31.3489 ppm	0.0000 ppm	0.0000%	2020/06/07 16:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.3489	313.4893	199.64	203.12	3.47	49.92	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	36	TOC	RB	0.4454 ppm	0.0000 ppm	0.0000%	2020/06/07 16:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4454	4.4538	5.76	9.34	3.59	49.92	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2004572-003.01 doc	1.9985 ppm	0.0343 ppm	1.7100%	2020/06/07 16:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0227	20.2269	15.65	19.15	3.50	49.89	10:24
2	TOC	1.9742	19.7424	15.35	18.96	3.61	49.88	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	38	TOC	K2004572-007.01 doc	3.6324 ppm	0.0223 ppm	0.6100%	2020/06/07 16:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.6166	36.1658	25.65	29.05	3.40	49.87	10:28
2	TOC	3.6481	36.4814	25.85	29.28	3.43	49.87	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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)	24.1646 ppm (PASS)	0.0000 ppm	0%	2020/06/07 17:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.1646	241.6463	154.34	157.78	3.44	49.87	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.4180 ppm (PASS)	0.0000 ppm	0%	2020/06/07 17:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.4180	4.1795	5.36	8.81	3.45	49.85	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	0 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	39	TOC	MB3	0.3046 ppm	0.0000 ppm	0.0000%	2020/06/07 17:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3046	3.0464	4.87	8.58	3.71	49.84	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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 [25.0 ppm]	0 / infinity (NA / NA)	21.7724 ppm (PASS)	0.0000 ppm	0%	2020/06/07 18:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	21.7724	217.7236	139.33	142.82	3.49	49.83	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	40	TOC	K2004572-008.01 doc	2.0265 ppm	0.1188 ppm	5.8600%	2020/06/07 18:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1105	21.1052	16.20	19.60	3.40	49.84	10:29
2	TOC	1.9425	19.4252	15.15	18.70	3.55	49.78	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	41	TOC	K2004572-011.01 doc	1.1602 ppm	0.0301 ppm	2.5900%	2020/06/07 18:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1389	11.3888	10.11	13.53	3.42	49.82	10:29
2	TOC	1.1814	11.8144	10.38	13.90	3.52	49.82	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	42	TOC	K2004572-012.01 doc	2.9349 ppm	0.0219 ppm	0.7400%	2020/06/07 19:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.9194	29.1942	21.28	24.82	3.54	49.81	10:29
2	TOC	2.9503	29.5034	21.47	24.87	3.39	49.81	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	43	TOC	K2004572-013.01 doc	1.4380 ppm	0.0387 ppm	2.6900%	2020/06/07 19:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.4653	14.6531	12.16	15.64	3.49	49.82	10:30
2	TOC	1.4106	14.1064	11.81	15.26	3.45	49.83	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	44	TOC	K2004529-001.03 doc	2.2289 ppm	0.0808 ppm	3.6300%	2020/06/07 20:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2860	22.8600	17.30	20.84	3.54	49.85	10:25

2	TOC	2.1717	21.7172	16.59	20.27	3.68	49.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	45	TOC	K2004529-002.04 doc	2.3765 ppm	0.0429 ppm	1.8100%	2020/06/07 20:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4068	24.0682	18.06	21.56	3.50	49.86	10:28
2	TOC	2.3461	23.4609	17.68	21.34	3.66	49.86	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	46	TOC	MB4	0.2694 ppm	0.0000 ppm	0.0000%	2020/06/07 21:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2694	2.6942	4.65	8.28	3.63	49.88	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 2.9627 (IC) (v1395)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

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 [25.0 ppm]	0 / infinity (NA / NA)	21.5566 ppm (PASS)	0.0000 ppm	0%	2020/06/07 21:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	21.5566	215.5655	137.98	141.56	3.58	49.87	10:35

Completion State	Success Action	Method	Calibration	STD Conc - Pos C
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	25 ppmC

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)	24.0562 ppm (PASS)	0.0000 ppm	0%	2020/06/07 21:44

	Base		Rep							Run

Pos	Analysis Type	ID	#	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Time
B	TOC	25 ppm	1	24.0562	240.5624	153.66	157.27	3.61	49.90	10:32

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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)	0.3534 ppm (PASS)	0.0000 ppm	0%	2020/06/07 21:59

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.3534	3.5340	4.95	8.62	3.67	49.90	10:30

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria met.	Do Nothing	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)	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
v1394	1.7607	1.0900	0.0000	0.0000	0.0000	2020/06/04 15:47	Fusion1 (Fusion1)
v1395	1.4813	0.9310	0.0000	0.0000	0.0000	2020/06/06 20:28	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v37	Calibration curve formula:	TOC: y = 6.274x + 2.733
Ver Creation:	2020/06/04 17:42	r^2 value:	TOC: r^2 = 0.99796
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time

DI Water	6.8000	0.0000		2020/06/04 16:15
0.500 ppm	7.9000	0.5000		2020/06/04 16:30
1.0 ppm	9.1600	1.0000		2020/06/04 16:44
5.0 ppm	22.9500	5.0000		2020/06/04 16:58
10 ppm	68.0970	10.0000		2020/06/04 17:12
25 ppm	163.0030	25.0000		2020/06/04 17:26
50 ppm	315.2880	50.0000		2020/06/04 17:40

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	2020/06/07 22:14

ALS Environmental

StarLIMS Run: 682804, 682805, 682806, 682807

Analysis: DOC/TOC

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

CCV: 11-GEN-05-82C 50 ppm LCS: 11-GEN-05-79J 25.0 ppm

ICAL Date: 6/4/2020

ICAL ID: 19-GEN-21-H

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-08-21-G

21 % H3PO4: 19-GEN-08-21-F

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By:	Date Analyzed: 6/9/20
Reviewed By:	Date Reviewed: 6/10/20

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

June 18, 2020

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

Work Order: **HS20060116**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Influent Samples**

Dear Marcia Olive,

ALS Environmental received 1 sample(s) on Jun 03, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS20060116

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060116-01	LH18/24-SP140_060220	Water		02-Jun-2020 14:00	03-Jun-2020 09:05	☐

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS20060116

Work Order Comments

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

Metals by Method SW6020

Batch ID: 154157

Sample ID: HS20060114-01MSD

• MSD is for an unrelated sample

WetChemistry by Method SW7196

Batch ID: R362588

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

ALS Houston, US Date: 18-Jun-20

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

Project: Longhorn GW Treatment Plant Monthly Influent Samples WorkOrder:HS20060116

Sample ID: LH18/24-SP140_060220 Lab ID:HS20060116-01

Collection Date: 02-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 05-Jun-2020		Analyst: JHD
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	10-Jun-2020 16:07
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	10-Jun-2020 16:07
HEXAVALENT CHROMIUM BY SW7196A		**Method:SW7196**						Analyst: KVL
Chromium, Hexavalent	0.0100	U	0.00600	0.0100	0.0100	mg/L	1	03-Jun-2020 12:55
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	18-Jun-2020 15:50

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

ALS Houston, US Date: 18-Jun-20

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

Batch ID: 154157 **Start Date:** 05 Jun 2020 10:00 **End Date:** 05 Jun 2020 14:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20060116-01		10 (mL)	10 (mL)	1

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples **DATES REPORT**
WorkOrder: HS20060116

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 154157 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20060116-01	LH18/24-SP140_060220	02 Jun 2020 14:00		05 Jun 2020 14:00	10 Jun 2020 16:07	1
Batch ID: R362588 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS20060116-01	LH18/24-SP140_060220	02 Jun 2020 14:00			03 Jun 2020 12:55	1
Batch ID: R363524 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20060116-01	LH18/24-SP140_060220	02 Jun 2020 14:00			18 Jun 2020 15:50	1

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

QC BATCH REPORT

Batch ID: 154157 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-154157** Units: **mg/L** Analysis Date: **10-Jun-2020 14:34**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613660** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U

LCS Sample ID: **LCS-154157** Units: **mg/L** Analysis Date: **10-Jun-2020 14:40**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613662** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.0533	0.00500	0.05	0	107	80 - 120				
Silver	0.04452	0.00500	0.05	0	89.0	85 - 116				

MS Sample ID: **HS20060114-01MS** Units: **mg/L** Analysis Date: **10-Jun-2020 16:19**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613909** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.0486	0.00500	0.05	0	97.2	80 - 120				
Silver	0.04254	0.00500	0.05	0	85.1	85 - 116				

MSD Sample ID: **HS20060114-01MSD** Units: **mg/L** Analysis Date: **10-Jun-2020 16:21**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613910** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04911	0.00500	0.05	0	98.2	80 - 120	0.0486	1.06	20	
Silver	0.04225	0.00500	0.05	0	84.5	85 - 116	0.04254	0.686	20	S

PDS Sample ID: **HS20060114-01PDS** Units: **mg/L** Analysis Date: **10-Jun-2020 16:23**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613911** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.1008	0.00500	0.1	0.000544	100	80 - 120				

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

QC BATCH REPORT

Batch ID: 154157 (0) **Instrument: ICPMS05** **Method: METALS BY ICPMS BY SW6020A**

PDS Sample ID: **HS20060114-01PDS** Units: **mg/L** Analysis Date: **15-Jun-2020 16:23**
Client ID: Run ID: **ICPMS05_363235** SeqNo: **5619462** PrepDate: **05-Jun-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Silver	0.08838	0.00500	0.1	0	88.4	80 - 120				

SD Sample ID: **HS20060114-01SD** Units: **mg/L** Analysis Date: **10-Jun-2020 16:16**
Client ID: Run ID: **ICPMS05_362980** SeqNo: **5613908** PrepDate: **05-Jun-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Selenium	0.0125	0.0250					0.000544	0	10	U
Silver	0.00250	0.0250					0.000002	0	10	U

The following samples were analyzed in this batch: HS20060116-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20060116

QC BATCH REPORT

Batch ID: R362588 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R362588** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: Run ID: **UV-2450_362588** SeqNo: **5605393** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.0100	0.0100								U

LCS Sample ID: **LCS-R362588** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: Run ID: **UV-2450_362588** SeqNo: **5605392** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.276	0.0100	0.25	0	110	90 - 111				

MS Sample ID: **HS20060114-01MS** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: Run ID: **UV-2450_362588** SeqNo: **5605395** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.277	0.0100	0.25	0	111	90 - 111				

MSD Sample ID: **HS20060114-01MSD** Units: **mg/L** Analysis Date: **03-Jun-2020 12:55**
Client ID: Run ID: **UV-2450_362588** SeqNo: **5605394** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.272	0.0100	0.25	0	109	90 - 111	0.277	1.82	20	

The following samples were analyzed in this batch: HS20060116-01

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: **HS20060116**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 18-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS20060116

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060116-01	LH18/24-SP140_060220	Login	6/3/2020 12:09:26 PM	PMG	MET071
HS20060116-01	LH18/24-SP140_060220	Login	6/3/2020 12:09:26 PM	PMG	Sub
HS20060116-01	LH18/24-SP140_060220	Login	6/3/2020 12:09:26 PM	PMG	WET387

ALS Houston, US Date: 18-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060116 **Date/Time Received:** 03-Jun-2020 09:05

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By: /S/ Paresh M. Giga (eSignature) 03-Jun-2020 12:16 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 03-Jun-2020 14:50 (Date/Time)

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.8C U/C	IR25	
Cooler(s)/Kit(s):	44677		
Date/Time sample(s) sent to storage:	6/3/2020 12:25		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT
MONTHLY INFLUENT SAMPLES

Prepared By:
Scott Beesinger

P.O. Number

HS20060116

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Influent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: SILVER & SELENIUM	HEXAVALENT CHROMIUM	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP140_060220	Water	06/02/20 / 14:00		1	X			HNO3	
LH18/24-SP140_060220	Water	06/02/20 / 14:00		2		X	X	NONE	

Additional Remarks: **STANDARD TURN AROUND TIME**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/02/20	14:30		6/3/2020	09:05						

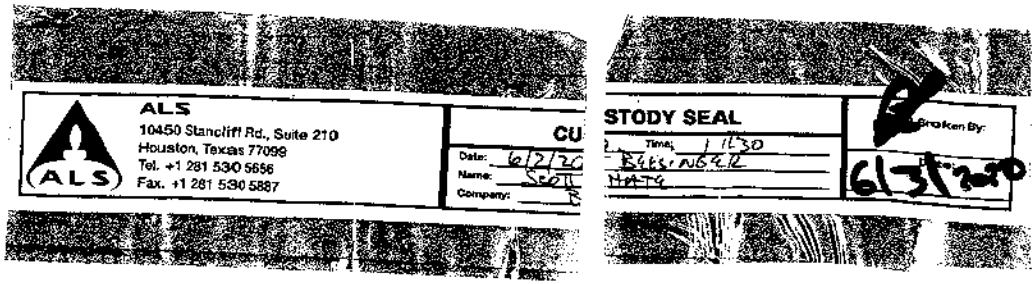
For Lab Use Only

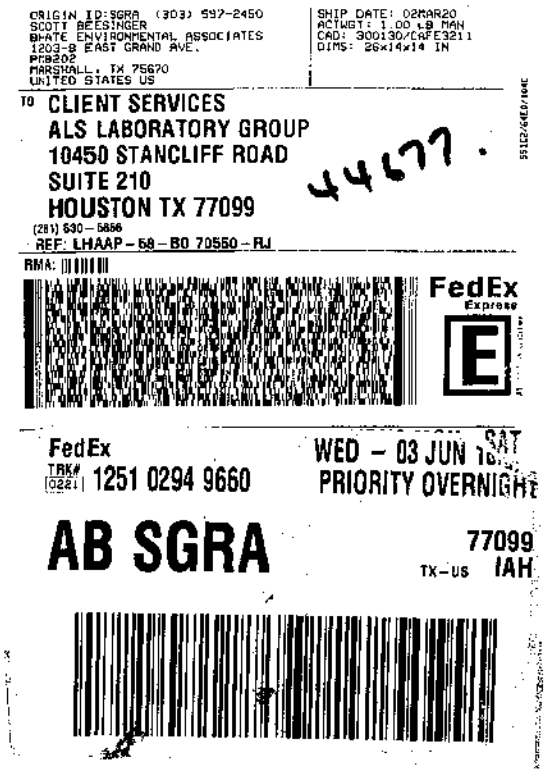
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

Remarks:

44 677 Otc. 1.8° #25 Cl: 0.5

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


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CU
Date: 6/2/20
Name:
Company:
STODY SEAL
Broken By:
Time: 1130
6/3/2020


ORIGIN ID:SGRA (303) 597-2450
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PRB202
MARSHALL, TX 75670
UNITED STATES US
SHIP DATE: 02MAR20
ACTWGT: 1.00 LB MAN
CAD: 300130/CAFE3211
DIMS: 26x14x14 IN
TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP-58-B0 70550-RJ
44677.
RMA:
FedEx
Express
FedEx
TRK# 0221 1251 0294 9660
WED - 03 JUN
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US IAH

June 18, 2020 Service Request No:E2000496

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

Laboratory Results for: HS20060116

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 04, 2020
For your reference, these analyses have been assigned our service request number **E2000496.**

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

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ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

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

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000496
Project:	HS20060116	**Date Received:**	06/04/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 06/04/20.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000228: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits.

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

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

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

Client: ALS Environmental - US **Service Request:**E2000496
Project: HS20060116

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000496-001	LH18/24-SP140_060220	6/2/2020	1400

Service Request Summary

Folder #: **E2000496**
Client Name: ALS Environmental - US
Project Name: HS20060116
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: 06/04/20
Internal Due Date: 6/17/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060116
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 5C
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000496-001	LH18/24-SP140_060220	Ground Water	06/02/20 1400	**IV**

Service Request Summary

Folder #: **E2000496**
Client Name: ALS Environmental - US
Project Name: HS20060116
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: 06/04/20
Internal Due Date: 6/17/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060116
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 5C
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 6/24,level II 6/17

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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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
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

Chain of Custody

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14018**

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: HS20060116
TSR: Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060116-01**	**LH18/24-SP140_060220**	**Water**	**02 Jun 2020 14:00**
	SUB_Perch-6850			17 Jun 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: 6/11/20 1445

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

ALS Environmental

Cooler Receipt Form

Project Chemist: LK

Client/Project: ALS-H

Thermometer ID: 1811

Date/Time Received: 6/14/16 Initials: LK

Date/Time Logged in: 6/14/16 Initials: LK

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ Courier (ALS) ○ 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?
-		6/14/16	1340	LK	1.1	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:

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SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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Preparation Information Benchsheet

Prep Run#: 359781 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/9/20 09:50

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000493-001	18CPTMW12SW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000493-002	18CPTWM12DW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000493-003	MW7_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000493-004	MW9_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000493-005	18CPTMW23SW_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000493-006	18CPTMW23_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000493-007	18WW24_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000493-008	18WW14_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000494-001	102_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000494-002	129_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000494-003	120_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000494-004	MW14_060320	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000495-001	LH18/24-SP650_060220_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000496-001	LH18/24-SP140_060220	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000497-001	LH18/24-SP650_060220_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
16	EQ2000228-01	MB		6850/ClO4 DOD			Liquid	10mL	
17	EQ2000228-02	LCS		6850/ClO4 DOD			Liquid	10mL	
18	EQ2000228-03	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

EQ2000228-02 100.00µL EQ2000228-03 100.00µL

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

E2000493-001	1.00µL	E2000493-002	1.00µL	E2000493-003	1.00µL	E2000493-004	1.00µL	E2000493-005	1.00µL	E2000493-006	1.00µL
E2000493-007	1.00µL	E2000493-008	1.00µL	E2000494-001	1.00µL	E2000494-002	1.00µL	E2000494-003	1.00µL	E2000494-004	1.00µL
E2000495-001	1.00µL	E2000496-001	1.00µL	E2000497-001	1.00µL	EQ2000228-01	1.00µL	EQ2000228-02	1.00µL	EQ2000228-03	1.00µL

Preparation Steps

Step: Preparation
Started: 6/9/20 09:50
Finished: 6/9/20 13:43
By: GRIVERA
Comments

Preparation Information Benchsheet

Prep Run#: 359781
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/9/20 09:50

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Collected:**	6/ 2/20 1400
Sample Matrix:	Ground Water	**Date Received:**	6/ 4/20
Sample Name:	LH18/24-SP140_060220	**Units:**	µg/L
Lab Code:	E2000496-001	**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	**8290**		20.0	10.0	5.00	200	6/ 9/20	6/17/20 11:35	359781	683950	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000228-01	**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			1	6/ 9/20	6/16/20 14:31	359781	683950	

Accuracy & Precision

ALS Environmental - Houston HRMS
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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/16/20
Sample Matrix:	Ground Water		

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	359781

	Lab Control Sample EQ2000228-02			Duplicate Lab Control Sample EQ2000228-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.114	0.100	114	0.114	0.100	114	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:**	E2000496
Project:	HS20060116	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000228-02	**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	**0.114**		0.100			1	6/ 9/20	6/16/20 14:39	359781	683950	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000228-03	**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	**0.114**		0.100			1	6/ 9/20	6/16/20 14:47	359781	683950	

Initial Calibration

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
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www.alsglobal.com

20200602

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

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

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

PERCHLORATE1

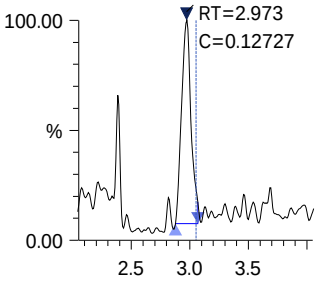
Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

Perchlorate

Conc 0.12727
Area 2231

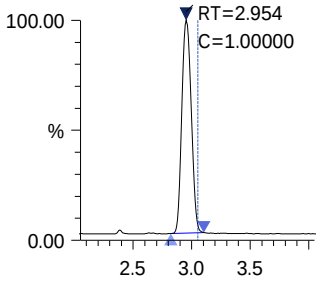
Q 99.00>83.00 (-) 4.13e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060

ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

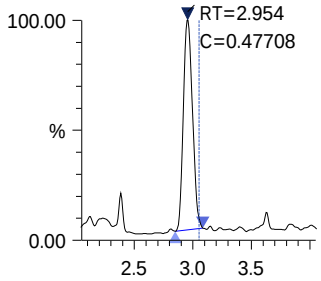
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

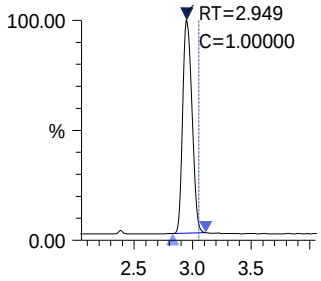
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

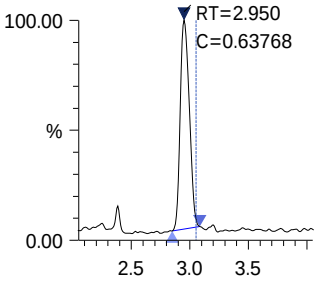
PERCHLORATE3

Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.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	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

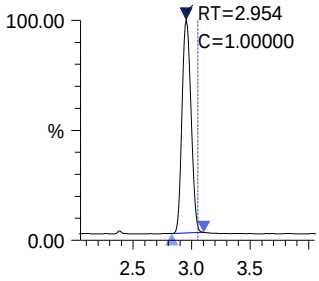
Perchlorate

Conc 0.63768
Area 11656
Q 99.00>83.00 (-) 2.17e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 142915
ISTD 107.00>89.00 (-) 2.70e4



ALS Group Houston

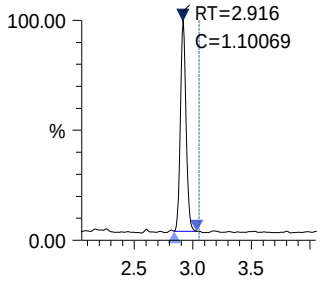
PERCHLORATE4

Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.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	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

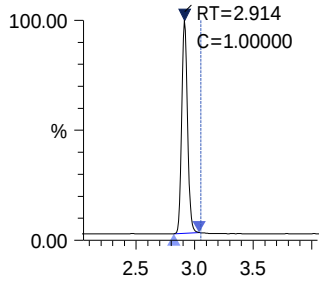
Perchlorate

Conc 1.10069
Area 18119
Q 99.00>83.00 (-) 5.42e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 128706
ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

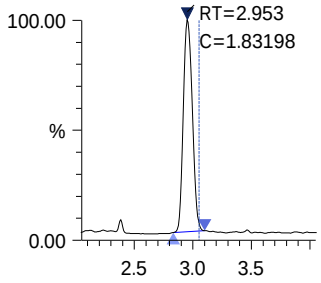
PERCHLORATE5

Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.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	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

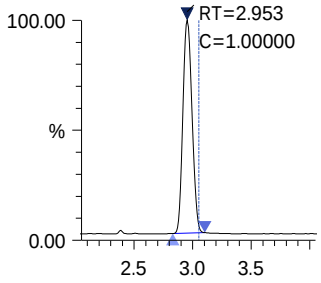
Perchlorate

Conc 1.83198
Area 33971
Q 99.00>83.00 (-) 6.29e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 144982
ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

PERCHLORATE6

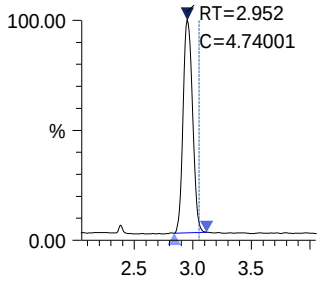
Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

Perchlorate

Conc 4.74001
Area 85178

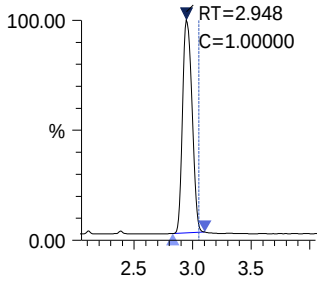
Q 99.00>83.00 (-) 1.50e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500

ISTD 107.00>89.00 (-) 2.51e4



ALS Group Houston

PERCHLORATE7

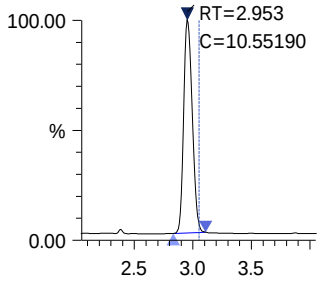
Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.lcd
Vial: 10 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

Perchlorate

Conc 10.55190
Area 173998

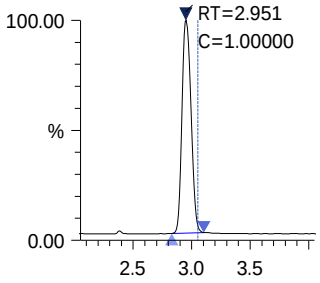
Q 99.00>83.00 (-) 3.36e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128928

ISTD 107.00>89.00 (-) 2.43e4



ALS Group Houston

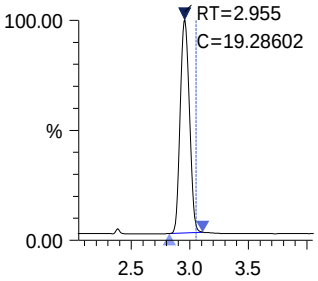
PERCHLORATE8

Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_016.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	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

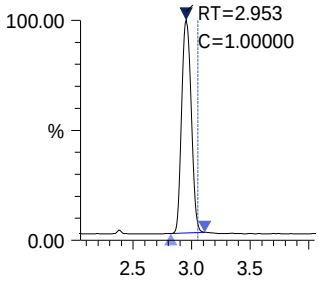
Perchlorate

Conc 19.28602
Area 324944
Q 99.00>83.00 (-) 5.85e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 131734
ISTD 107.00>89.00 (-) 2.34e4



ALS Group Houston

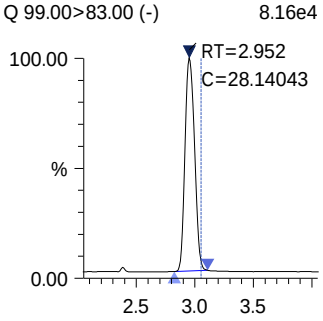
PERCHLORATE9

Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_017.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	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

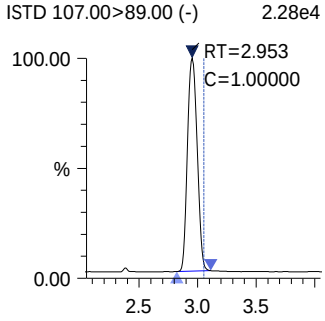
Perchlorate

Conc 28.14043
Area 469066



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327



ALS Group Houston

PERCHLORATE10

Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

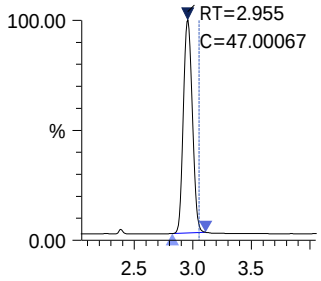
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

Perchlorate

Conc 47.00067

Area 737362

Q 99.00>83.00 (-) 1.36e5

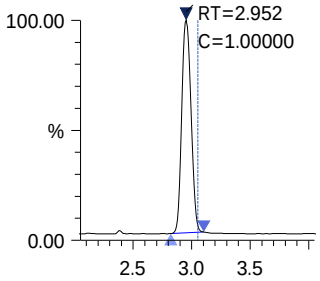


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 122661

ISTD 107.00>89.00 (-) 2.25e4



ALS Group Houston

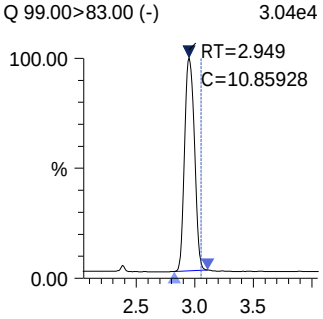
PERCHLORATEICV

Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_019.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	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

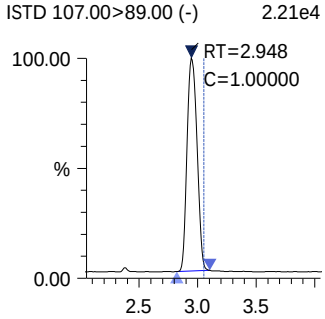
Perchlorate

Conc 10.85928
Area 180334



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 129839



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

20200616

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200616_001	Perchlorate6850b.lcm	1x	☒	
	null		20200616_002	Perchlorate6850b.lcm	1x	☒	
	null		20200616_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_004	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200616_006	Perchlorate6850b.lcm	1x	☒	
	LODV		20200616_007	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_008	Perchlorate6850b.lcm	1x	☒	3100807-04
	ICS		20200616_009	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200616_010	Perchlorate6850b.lcm	1x	☒	
	E2000491-006		20200616_011	Perchlorate6850b.lcm	1x	☒	do not use
	E2000492-004		20200616_012	Perchlorate6850b.lcm	1x	☒	
	E2000492-005		20200616_013	Perchlorate6850b.lcm	1x	☒	
	E2000492-007		20200616_014	Perchlorate6850b.lcm	1x	☒	
	EQ2000227-02		20200616_015	Perchlorate6850b.lcm	1x	☒	
	E2000492-008		20200616_016	Perchlorate6850b.lcm	1x	☒	
	E2000491-005X2		20200616_017	Perchlorate6850b.lcm	2x	☒	
	E2000492-001X10		20200616_018	Perchlorate6850b.lcm	10x	☒	
	PERCHLORATE7		20200616_019	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000492-006X50		20200616_020	Perchlorate6850b.lcm	50x	☒	
	EQ2000228-01		20200616_021	Perchlorate6850b.lcm	1x	☒	
	EQ2000228-02		20200616_022	Perchlorate6850b.lcm	1x	☒	
	EQ2000228-03		20200616_023	Perchlorate6850b.lcm	1x	☒	
	E2000493-001		20200616_024	Perchlorate6850b.lcm	1x	☒	
	E2000493-002		20200616_025	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_026	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000493-003		20200616_027	Perchlorate6850b.lcm	1x	☒	
	E2000493-004		20200616_028	Perchlorate6850b.lcm	1x	☒	
	E2000493-005		20200616_029	Perchlorate6850b.lcm	1x	☒	
	E2000493-006		20200616_030	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_031	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000493-007		20200616_032	Perchlorate6850b.lcm	1x	☒	
	E2000493-008		20200616_033	Perchlorate6850b.lcm	1x	☒	
	E2000494-001		20200616_034	Perchlorate6850b.lcm	1x	☒	
	E2000494-002		20200616_035	Perchlorate6850b.lcm	1x	☒	
	E2000494-003		20200616_036	Perchlorate6850b.lcm	1x	☒	
	E2000494-004		20200616_037	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200616_038	Perchlorate6850b.lcm	1x	☒	
	E2000496-001		20200616_039	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200616_040	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200616_041	Perchlorate6850b.lcm	1x	☒	3100807-04

20200617

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200617_001	Perchlorate6850b.lcm	1x	☒	
	null		20200617_002	Perchlorate6850b.lcm	1x	☒	
	IB		20200617_003	Perchlorate6850b.lcm	1x	☒	
	IB		20200617_004	Perchlorate6850b.lcm	1x	☒	
	LODV		20200617_005	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200617_006	Perchlorate6850b.lcm	1x	☒	3100807-04
	ICS		20200617_007	Perchlorate6850b.lcm	1x	☒	
	E2000493-005		20200617_008	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200617_009	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200617_010	Perchlorate6850b.lcm	1x	☒	
	E2000493-003X500		20200617_011	Perchlorate6850b.lcm	500x	☒	
	E2000493-004X20		20200617_012	Perchlorate6850b.lcm	20x	☒	
	E2000493-006X20		20200617_013	Perchlorate6850b.lcm	20x	☒	
	E2000494-002X100		20200617_014	Perchlorate6850b.lcm	100x	☒	
	E2000494-003X500		20200617_015	Perchlorate6850b.lcm	500x	☒	
	E2000494-004X5000		20200617_016	Perchlorate6850b.lcm	5000x	☒	
	PERCHLORATE7		20200617_017	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000496-001X200		20200617_018	Perchlorate6850b.lcm	200x	☒	
	E2000493-005		20200617_019	Perchlorate6850b.lcm	1x	☒	
	E2000495-001		20200617_020	Perchlorate6850b.lcm	1x	☒	
	E2000497-001		20200617_021	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200617_022	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_019	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.5	0.1279		5.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_026	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.6	0.1279		6.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_031	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.2	0.1279		11.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/16/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200616\20200616_041	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1279		13.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/17/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_006	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279		8.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/17/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_017	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.0	0.1279		10.1	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/17/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200617\20200617_022	**Calibration ID:**	EC2000007
		Analysis Lot:	683950
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.1	0.1279		10.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/16/20 14:15

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

File ID:	I:\LCMS01\DATA\20200616\20200616_019	**Lab Code:**	EQ2000242-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-01	121,207	3.04
Method Blank	EQ2000228-01	132,882	3.04
Lab Control Sample	EQ2000228-02	144,551	3.04
Duplicate Lab Control Sample	EQ2000228-03	143,510	3.04

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:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/16/20 15:23

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

File ID:	I:\LCMS01\DATA\20200616\20200616_026	**Lab Code:**	EQ2000242-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-02	116,422	2.99

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:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/16/20 16:02

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200616\20200616_031	**Lab Code:**	EQ2000242-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-03	108,679	3.04

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:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/16/20 17:21

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200616\20200616_041	**Lab Code:**	EQ2000242-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-04	111,059	3.03

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:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/17/20 10:00

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200617\20200617_006	**Lab Code:**	EQ2000242-05
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-05	164,082	3.03

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:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/17/20 11:27

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200617\20200617_017	**Lab Code:**	EQ2000242-06
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-06	177,876	3.03
LH18/24-SP140_060220	E2000496-001	157,568	3.03

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:**	E2000496
Project:	HS20060116	**Date Analyzed:**	6/17/20 12:07

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200617\20200617_022	**Lab Code:**	EQ2000242-07
Instrument ID:	E-LCMS-01	**Analysis Lot:**	683950
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000242-07	167,560	3.03

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

ALS Group Houston

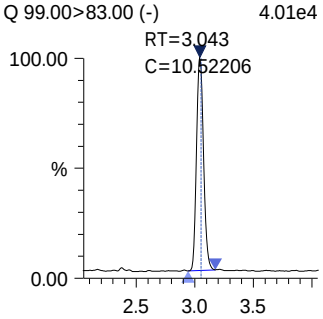
PERCHLORATE7

Date acquired: 6/16/2020 2:15:37 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_019.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	6/16/2020 2:15:37 PM	163116	10.52206	20200616_019	3.043	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/16/2020 2:15:37 PM	121207	1.00000	20200616_019	3.039	25.0000	1.0000	4

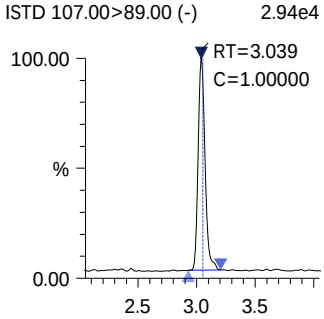
Perchlorate

Conc 10.52206
Area 163116



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 121207



ALS Group Houston

EQ2000228-01

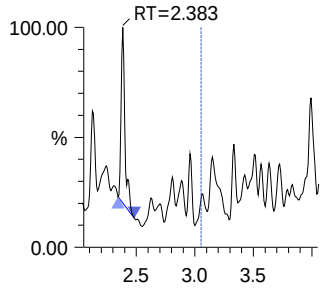
Date acquired: 6/16/2020 2:31:26 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_021.lcd
Vial: 33 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-01	6/16/2020 2:31:26 PM	----	----	20200616_021	----	25.0000	1.0000	33
Sodium Perchlorate-18O4_IS	EQ2000228-01	6/16/2020 2:31:26 PM	132882	1.00000	20200616_021	3.042	25.0000	1.0000	33

Perchlorate

Conc ----
Area ----

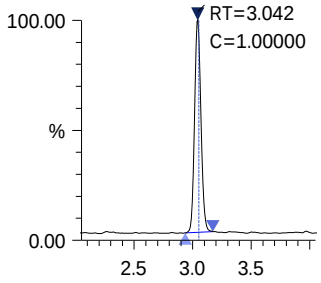
Q 99.00>83.00 (-) 8.78e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 132882

ISTD 107.00>89.00 (-) 3.46e4



ALS Group Houston

EQ2000228-02

Date acquired: 6/16/2020 2:39:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_022.lcd
Vial: 34 | Inj. Volume: 25.0000uL | Tray: 1

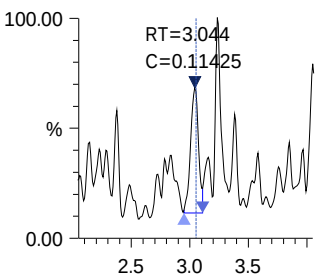
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-02	6/16/2020 2:39:18 PM	2112	0.11425	20200616_022	3.044	25.0000	1.0000	34
Sodium Perchlorate-18O4_IS	EQ2000228-02	6/16/2020 2:39:18 PM	144551	1.00000	20200616_022	3.040	25.0000	1.0000	34

Perchlorate

Conc 0.11425

Area 2112

Q 99.00>83.00 (-) 7.77e2

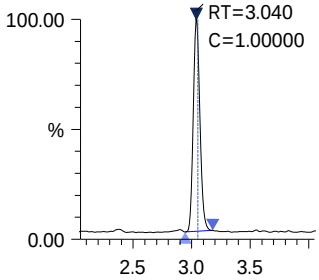


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 144551

ISTD 107.00>89.00 (-) 3.62e4



ALS Group Houston

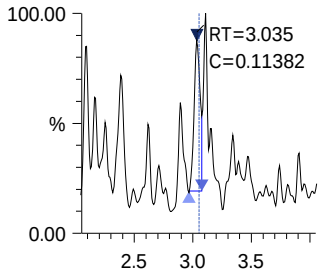
EQ2000228-03

Date acquired: 6/16/2020 2:47:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_023.lcd
Vial: 35 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000228-03	6/16/2020 2:47:11 PM	2089	0.11382	20200616_023	3.035	25.0000	1.0000	35
Sodium Perchlorate-18O4_IS	EQ2000228-03	6/16/2020 2:47:11 PM	143510	1.00000	20200616_023	3.041	25.0000	1.0000	35

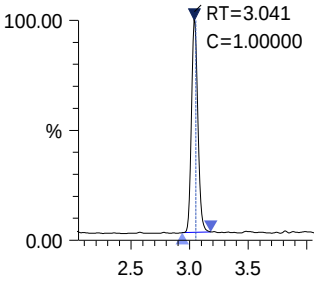
Perchlorate

Conc 0.11382
Area 2089
Q 99.00>83.00 (-) 8.57e2



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 143510
ISTD 107.00>89.00 (-) 3.73e4



ALS Group Houston

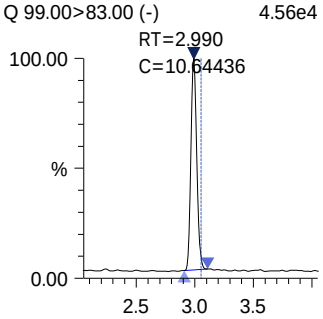
PERCHLORATE7

Date acquired: 6/16/2020 3:23:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200616\20200616_026.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	6/16/2020 3:23:02 PM	158498	10.64436	20200616_026	2.990	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/16/2020 3:23:02 PM	116422	1.00000	20200616_026	2.989	25.0000	1.0000	4

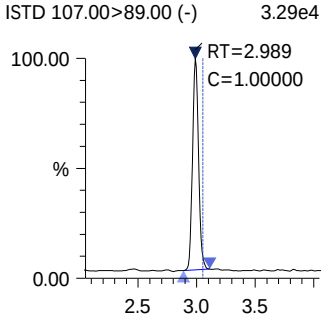
Perchlorate

Conc 10.64436
Area 158498



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 116422



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

June 24, 2020

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

Work Order: **HS20060451**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jun 10, 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: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060451

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060451-01	LH18/24-SP650_060920	Water		09-Jun-2020 14:00	10-Jun-2020 09:40	☐
HS20060451-02	LH18/24-SP650_060920-BIX	Water		09-Jun-2020 14:00	10-Jun-2020 09:40	☐

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060451

Work Order Comments

• The analysis for Perchlorate was subcontracted to ALS Houston TX, High Resolution. Laboratory. Final report attached.

Work Order Comments

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

WetChemistry by Method E350.3

Batch ID: R363292

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

WetChemistry by Method E365.3

Batch ID: R363047

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

ALS Houston, US Date: 24-Jun-20

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

Project: Longhorn GW Treatment Plant Weekly Samples WorkOrder:HS20060451

Sample ID: LH18/24-SP650_060920 Lab ID:HS20060451-01

Collection Date: 09-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**16**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	16-Jun-2020 09:30
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**2.64**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	10-Jun-2020 16:06
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	18-Jun-2020 09:43

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

ALS Houston, US Date: 24-Jun-20

Client:	Bhate Environmental Associates, Inc.	**ANALYTICAL REPORT**
Project:	Longhorn GW Treatment Plant Weekly Samples	WorkOrder:HS20060451
Sample ID:	LH18/24-SP650_060920-BIX	Lab ID:HS20060451-02
Collection Date:	09-Jun-2020 14:00	Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	24-Jun-2020 12:04

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

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060451

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R363047 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20060451-01	LH18/24-SP650_060920	09 Jun 2020 14:00			10 Jun 2020 16:06	10
Batch ID: R363292 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20060451-01	LH18/24-SP650_060920	09 Jun 2020 14:00			16 Jun 2020 09:30	1
Batch ID: R363461 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20060451-01	LH18/24-SP650_060920	09 Jun 2020 14:00			18 Jun 2020 09:43	1
Batch ID: R363823 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20060451-02	LH18/24-SP650_060920-BIX	09 Jun 2020 14:00			24 Jun 2020 12:04	1

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060451

QC BATCH REPORT

Batch ID: R363047 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-363047** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: Run ID: **UV-2450_363047** SeqNo: **5615075** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-363047** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: Run ID: **UV-2450_363047** SeqNo: **5615076** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.238	0.0250	0.25	0	95.2	85 - 115				

LCSD Sample ID: **LCSD-363047** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: Run ID: **UV-2450_363047** SeqNo: **5615077** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.248	0.0250	0.25	0	99.2	85 - 115	0.238	4.12	20	

MS Sample ID: **HS20060451-01MS** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: **LH18/24-SP650_060920** Run ID: **UV-2450_363047** SeqNo: **5615079** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.88	0.250	2.5	2.64	89.6	80 - 120				

MSD Sample ID: **HS20060451-01MSD** Units: **mg/L** Analysis Date: **10-Jun-2020 16:06**
Client ID: **LH18/24-SP650_060920** Run ID: **UV-2450_363047** SeqNo: **5615080** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.9	0.250	2.5	2.64	90.4	80 - 120	4.88	0.409	20	

The following samples were analyzed in this batch: HS20060451-01

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060451

QC BATCH REPORT

Batch ID: R363292 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-363292** Units: **mg/L** Analysis Date: **16-Jun-2020 09:30**
Client ID: Run ID: **WetChem_HS_363292** SeqNo: **5620573** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.10	0.20								U

LCS Sample ID: **LCS-363292** Units: **mg/L** Analysis Date: **16-Jun-2020 09:30**
Client ID: Run ID: **WetChem_HS_363292** SeqNo: **5620574** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	11.36	0.20	10	0	114	80 - 120				

MS Sample ID: **HS20060382-01MS** Units: **mg/L** Analysis Date: **16-Jun-2020 09:30**
Client ID: Run ID: **WetChem_HS_363292** SeqNo: **5620576** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.43	0.20	10	0.16	103	80 - 120				

MSD Sample ID: **HS20060382-01MSD** Units: **mg/L** Analysis Date: **16-Jun-2020 09:30**
Client ID: Run ID: **WetChem_HS_363292** SeqNo: **5620577** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	9.98	0.20	10	0.16	98.2	80 - 120	10.43	4.41	20	

The following samples were analyzed in this batch: HS20060451-01

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20060451**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060451

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060451-01	LH18/24-SP650_060920	Login	6/10/2020 12:21:02 PM	PMG	WET073
HS20060451-01	LH18/24-SP650_060920	Login	6/10/2020 12:21:02 PM	PMG	WET073
HS20060451-01	LH18/24-SP650_060920	Login	6/10/2020 12:21:02 PM	PMG	Sub
HS20060451-02	LH18/24-SP650_060920-BIX	Login	6/10/2020 12:21:02 PM	PMG	Sub

ALS Houston, US Date: 24-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060451 **Date/Time Received:** 10-Jun-2020 09:40

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

Completed By: /S/ Paresh M. Giga (eSignature) 10-Jun-2020 12:22 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 10-Jun-2020 14:46 (Date/Time)

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.5C U/C	IR25	
Cooler(s)/Kit(s):	24976		
Date/Time sample(s) sent to storage:	6/10/2020 12:30		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By:
Scott Beesinger

P.O. Number

HS20060451
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE							Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_060920	Water	06/09/20 / 14:00		3	X	X									H2SO4	
LH18/24-SP650_060920	Water	06/09/20 / 14:00		1			X								NONE	
LH18/24–SP650_060920_BIX	Water	06/09/20 / 14:00		1				X							NONE	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/09/20	14:30									

For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Mmmmm	6/10/20	09:40							

Remarks:
Cooler 24976 IR25
Temp 1.5°C CF 0.0

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

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

24976

CUSTODY SEAL

Date: 6/9/20 Time: 1430
Name: Scott Beesinger
Company: Battle

Seal Broken By: SM
Date: 06/10/20

24976 JUN 10 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

24976

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
APTIM ENVIRONMENTAL & INFRASTRUCTURE
1203-B EAST GRAND AVE
PMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 02DEC19
ACTWGT: 1.00 LB MAN
CAD: 300130/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16 - RJ

RMA:

FedEx Express

FedEx
TRK# 0221 1251 0292 4585

WED - 10 JUN 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

June 24, 2020 Service Request No:E2000510

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

Laboratory Results for: HS20060451

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 11, 2020
For your reference, these analyses have been assigned our service request number **E2000510.**

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.:**	E2000510
Project:	HS20060451	**Date Received:**	06/11/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 06/11/20.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000238: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS and DLCS recoveries are within QC limits; MS/MSD performed on an unrelated sample.

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:**E2000510
Project: HS20060451

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000510-001	LH18/24-SP650_060920_BIX	6/9/2020	1400

Service Request Summary

Folder #: **E2000510**
Client Name: ALS Environmental - US
Project Name: HS20060451
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: 06/11/20
Internal Due Date: 6/24/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060451
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000510-001	LH18/24-SP650_060920_BIX	Ground Water	06/09/20 1400	**IV**

Service Request Summary

Folder #: **E2000510**
Client Name: ALS Environmental - US
Project Name: HS20060451
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: 06/11/20
Internal Due Date: 6/24/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060451
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 7/1,level II 6/24

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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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
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	2020	4/30/2021
Illinois Environmental Protection Agency	2000322020-4	5/9/2021
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Department of Health and Human Services	2020016	6/5/2022
Maryland Department of the Environment	343	6/30/2020
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	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209420	4/24/2021
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

Chain of Custody

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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:** **14070**

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:	HS20060451
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060451-02**	**LH18/24-SP650_060920-BIX**	**Water**	**09 Jun 2020 14:00**
	SUB_Perch-6850			18 Jun 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: 6/11/20 1000

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

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ACH-H

Thermometer ID 4M04

Date/Time Received: 6/11/20 Initials: CG

Date/Time Logged in: 6/11/20 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

If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		6/11/20	1000	CG	3.1/3.5	☒
						☐
						☐
						☐

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:

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Houston, TX 77099
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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#: 360212 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/17/20 10:43

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000501-001	18CPTMW14_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000501-002	18CPTMW24_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000501-003	18WW25_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000501-004	18WW10_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000501-005	MW13_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000501-006	CO2_060420	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000510-001	LH18/24-SP650_060920_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000511-001	KAFB7-WW01-060820	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000535-001	18CPTMW035W_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000535-002	MW21_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000535-003	18CPTMW07_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000538-001	MW5_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000538-002	18CPTMW08DW_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000538-003	18CPTMW08SW_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000538-004	MW23_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
16	E2000538-005	CO1_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
17	E2000538-006	MW16_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
18	E2000538-007	18CPTMW18_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
19	E2000538-008	CO3_060920	.01	6850/ClO4 DOD			Ground Water	10mL	
20	EQ2000238-01	MB		6850/ClO4 DOD			Liquid	10mL	
21	EQ2000238-02	LCS		6850/ClO4 DOD			Liquid	10mL	
22	EQ2000238-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
23	EQ2000238-04	CO1_060920 MS	.01	6850/ClO4 DOD			Liquid	10mL	
24	EQ2000238-05	CO1_060920 DMS	.01	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

EQ2000238-02 100.00µL EQ2000238-03 100.00µL EQ2000238-04 100.00µL EQ2000238-05 100.00µL

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

E2000501-001 1.00µL E2000501-002 1.00µL E2000501-003 1.00µL E2000501-004 1.00µL E2000501-005 1.00µL E2000501-006 1.00µL
E2000538-005 1.00µL EQ2000238-01 1.00µL EQ2000238-02 1.00µL EQ2000238-03 1.00µL EQ2000238-04 1.00µL EQ2000238-05 1.00µL

Preparation Information Benchsheet

Prep Run#: 360212
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/17/20 10:43

Preparation Steps

Step: Preparation
Started: 6/17/20 10:43
Finished: 6/17/20 16:30
By: GRIVERA
Comments

Comments: _____

Reviewed By: _____ Date: _____

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined
Yes No

Analytical Results

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ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	6/ 9/20 1400
Sample Matrix:	Ground Water	**Date Received:**	6/11/20
Sample Name:	LH18/24-SP650_060920_BIX	**Units:**	µg/L
Lab Code:	E2000510-001	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.0890**	J	0.100	0.0500	0.0250	1	6/17/20	6/22/20 12:14	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	E2000538-005	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.887**		0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:58	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000238-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:18	360212	684542	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060451
Sample Matrix: Ground Water

Service Request: E2000510
Date Analyzed: 6/22/20

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

Analytical Method: 6850
Prep Method: Method

Units: µg/L
Basis: NA

Extraction Lot: 360212

	Lab Control Sample EQ2000238-02			Duplicate Lab Control Sample EQ2000238-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.107	0.100	107	0.114	0.100	114	84 - 119	6	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:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000238-02	**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	**0.107**		0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:26	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000238-03	**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	**0.114**		0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:34	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
		Date Analyzed:	6/22/20

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:	E2000538-005	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS **Matrix Spike** EQ2000238-04					Batch QCDMS **Duplicate Matrix Spike** EQ2000238-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**		**Result**	**Spike Amount**	**% Rec**		**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.887	0.983	0.100	96	#	0.982	0.100	95	#	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:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000238-04	**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	**0.983**		0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:42	360212	684542	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000238-05	**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	**0.982**		0.100	0.0500	0.0250	1	6/17/20	6/22/20 11:50	360212	684542	

Initial Calibration

ALS Environmental - Houston HRMS
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Phone (713)266-1599 Fax (713)266-0130
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20200602

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200602_001	Perchlorate6850b.lcm	1x	☒	
	null		20200602_002	Perchlorate6850b.lcm	1x	☒	
	null		20200602_003	Perchlorate6850b.lcm	1x	☒	
	null		20200602_004	Perchlorate6850b.lcm	1x	☒	
	null		20200602_005	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_006	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_007	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_008	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE1		20200602_009	Perchlorate6850b.lcm	1x	☒	3100806-05
	PERCHLORATE2		20200602_010	Perchlorate6850b.lcm	1x	☒	3100806-06
	PERCHLORATE3		20200602_011	Perchlorate6850b.lcm	1x	☒	3100806-07
	PERCHLORATE4		20200602_012	Perchlorate6850b.lcm	1x	☒	3100807-01
	PERCHLORATE5		20200602_013	Perchlorate6850b.lcm	1x	☒	3100807-02
	PERCHLORATE6		20200602_014	Perchlorate6850b.lcm	1x	☒	3100807-03
	PERCHLORATE7		20200602_015	Perchlorate6850b.lcm	1x	☒	3100807-04
	PERCHLORATE8		20200602_016	Perchlorate6850b.lcm	1x	☒	3100807-05
	PERCHLORATE9		20200602_017	Perchlorate6850b.lcm	1x	☒	3100807-06
	PERCHLORATE10		20200602_018	Perchlorate6850b.lcm	1x	☒	3100807-07
	PERCHLORATEICV		20200602_019	Perchlorate6850b.lcm	1x	☒	3100807-08
	null		20200602_020	Perchlorate6850b.lcm	1x	☒	
	null		20200602_021	Perchlorate6850b.lcm	1x	☒	
	IB		20200602_022	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_023	Perchlorate6850b.lcm	1x	☒	3100807-04
	LODV		20200602_024	Perchlorate6850b.lcm	1x	☒	
	EQ2000215-01		20200602_025	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-02		20200602_026	Perchlorate6850b.lcm	1x	☒	do not use
	EQ2000215-03		20200602_027	Perchlorate6850b.lcm	1x	☒	do not use
	E2000473-001		20200602_028	Perchlorate6850b.lcm	1x	☒	do not use
	ICS		20200602_029	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_030	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000202-01		20200602_031	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-02		20200602_032	Perchlorate6850b.lcm	1x	☒	
	EQ2000202-03		20200602_033	Perchlorate6850b.lcm	1x	☒	
	E2000442-001		20200602_034	Perchlorate6850b.lcm	1x	☒	
	E2000442-002		20200602_035	Perchlorate6850b.lcm	1x	☒	
	ICS		20200602_036	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200602_037	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000209-01		20200602_038	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-02		20200602_039	Perchlorate6850b.lcm	1x	☒	
	EQ2000209-03		20200602_040	Perchlorate6850b.lcm	1x	☒	
	E2000449-001		20200602_041	Perchlorate6850b.lcm	1x	☒	
	E2000451-001		20200602_042	Perchlorate6850b.lcm	1x	☒	
	E2000450-001X500		20200602_043	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_044	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000210-01		20200602_045	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-02		20200602_046	Perchlorate6850b.lcm	1x	☒	
	EQ2000210-03		20200602_047	Perchlorate6850b.lcm	1x	☒	
	E2000459-001X1000		20200602_048	Perchlorate6850b.lcm	1000x	☒	
	E2000459-002		20200602_049	Perchlorate6850b.lcm	1x	☒	
	E2000459-003X200		20200602_050	Perchlorate6850b.lcm	200x	☒	
	E2000459-004X500		20200602_051	Perchlorate6850b.lcm	500x	☒	
	PERCHLORATE7		20200602_052	Perchlorate6850b.lcm	1x	☒	3100807-04

Initial Calibration - Detailed Report

Calibration ID: EC2000007 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000007-01	PERCHLORATE1	20200602_009	06/02/2020 15:37
02	EC2000007-02	PERCHLORATE2	20200602_010	06/02/2020 15:45
03	EC2000007-03	PERCHLORATE3	20200602_011	06/02/2020 15:53
04	EC2000007-04	PERCHLORATE4	20200602_012	06/02/2020 16:05
05	EC2000007-05	PERCHLORATE5	20200602_013	06/02/2020 16:13
06	EC2000007-06	PERCHLORATE6	20200602_014	06/02/2020 16:21
07	EC2000007-07	PERCHLORATE7	20200602_015	06/02/2020 16:29
08	EC2000007-08	PERCHLORATE8	20200602_016	06/02/2020 16:37
09	EC2000007-09	PERCHLORATE9	20200602_017	06/02/2020 16:44
10	EC2000007-10	PERCHLORATE10	20200602_018	06/02/2020 16:52

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

Perchlorate **Average RF** **RSD = 11.36** **Average RF = 0.1279**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1628	02	0.5000	0.122	03	0.7000	0.1165	04	1.0000	0.1408
05	2.0000	0.1172	06	5.0000	0.1212	07	10.0000	0.135	08	20.0000	0.1233
09	30.0000	0.12	10	50.0000	0.1202						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.127	27.3	02	0.5000	0.477	-4.6	03	0.7000	0.638	-8.9
04	1.0000	1.10	10.1	05	2.0000	1.83	-8.4	06	5.0000	4.74	-5.2
07	10.0000	10.6	5.5	08	20.0000	19.3	-3.6	09	30.0000	28.1	-6.2
10	50.0000	47.0	-6.0								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000007	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200602_019	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000007-11	T	Average RF	10	10.859	ng/mL	8.6	<= 15

ALS Group Houston

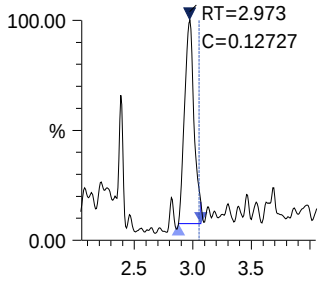
PERCHLORATE1

Date acquired: 6/2/2020 3:37:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_009.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	PERCHLORATE1	6/2/2020 3:37:49 PM	2231	0.12727	20200602_009	2.973	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/2/2020 3:37:49 PM	137060	1.00000	20200602_009	2.954	25.0000	1.0000	4

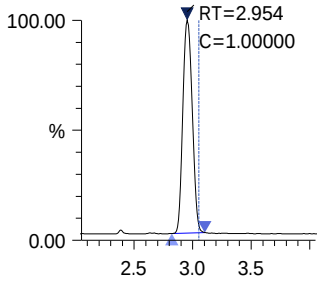
Perchlorate

Conc 0.12727
Area 2231
Q 99.00>83.00 (-) 4.13e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 137060
ISTD 107.00>89.00 (-) 2.48e4



ALS Group Houston

PERCHLORATE2

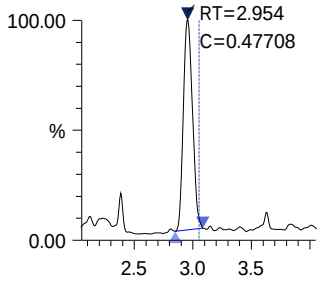
Date acquired: 6/2/2020 3:45:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_010.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	6/2/2020 3:45:42 PM	8464	0.47708	20200602_010	2.954	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/2/2020 3:45:42 PM	138722	1.00000	20200602_010	2.949	25.0000	1.0000	5

Perchlorate

Conc 0.47708
Area 8464

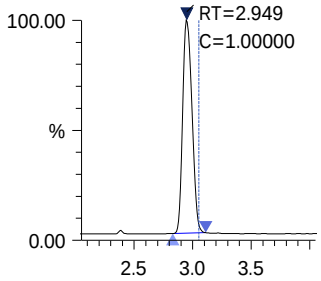
Q 99.00>83.00 (-) 1.56e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 138722

ISTD 107.00>89.00 (-) 2.53e4



ALS Group Houston

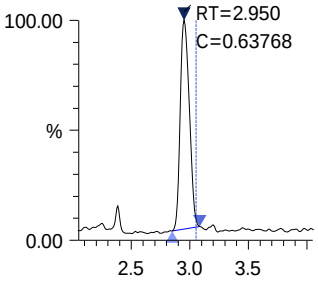
PERCHLORATE3

Date acquired: 6/2/2020 3:53:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_011.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	PERCHLORATE3	6/2/2020 3:53:36 PM	11656	0.63768	20200602_011	2.950	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/2/2020 3:53:36 PM	142915	1.00000	20200602_011	2.954	25.0000	1.0000	6

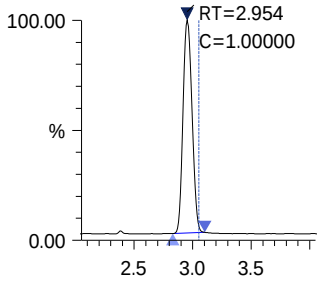
Perchlorate

Conc 0.63768
Area 11656
Q 99.00>83.00 (-) 2.17e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 142915
ISTD 107.00>89.00 (-) 2.70e4



ALS Group Houston

PERCHLORATE4

Date acquired: 6/2/2020 4:05:28 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_012.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

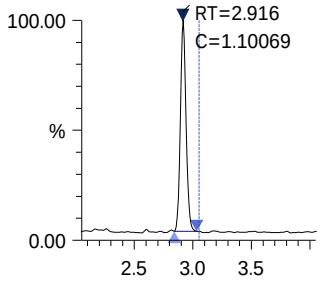
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	6/2/2020 4:05:28 PM	18119	1.10069	20200602_012	2.916	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/2/2020 4:05:28 PM	128706	1.00000	20200602_012	2.914	25.0000	1.0000	7

Perchlorate

Conc 1.10069

Area 18119

Q 99.00>83.00 (-) 5.42e3

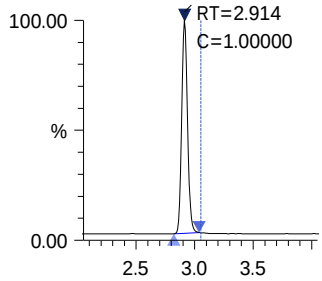


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 128706

ISTD 107.00>89.00 (-) 3.72e4



ALS Group Houston

PERCHLORATE5

Date acquired: 6/2/2020 4:13:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_013.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

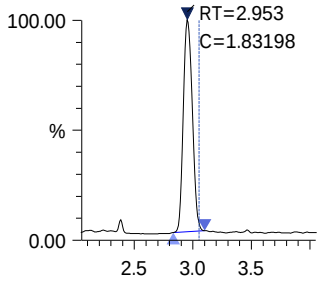
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	6/2/2020 4:13:21 PM	33971	1.83198	20200602_013	2.953	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/2/2020 4:13:21 PM	144982	1.00000	20200602_013	2.953	25.0000	1.0000	8

Perchlorate

Conc 1.83198

Area 33971

Q 99.00>83.00 (-) 6.29e3

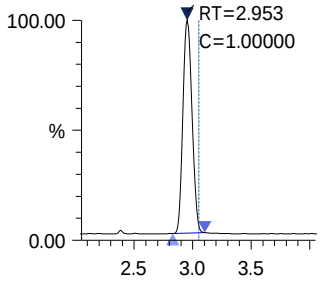


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 144982

ISTD 107.00>89.00 (-) 2.71e4



ALS Group Houston

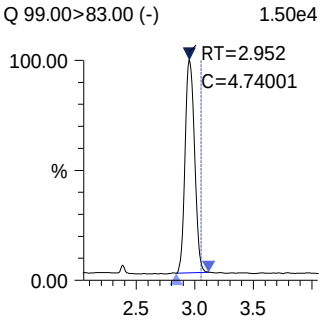
PERCHLORATE6

Date acquired: 6/2/2020 4:21:16 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_014.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	PERCHLORATE6	6/2/2020 4:21:16 PM	85178	4.74001	20200602_014	2.952	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/2/2020 4:21:16 PM	140500	1.00000	20200602_014	2.948	25.0000	1.0000	9

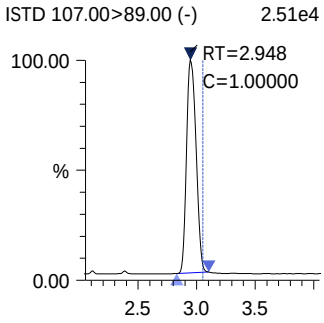
Perchlorate

Conc 4.74001
Area 85178



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 140500



ALS Group Houston

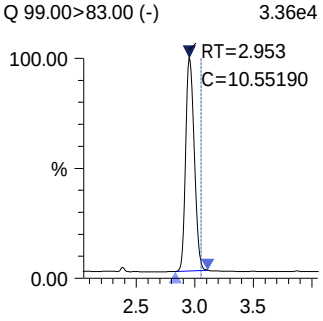
PERCHLORATE7

Date acquired: 6/2/2020 4:29:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_015.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	PERCHLORATE7	6/2/2020 4:29:10 PM	173998	10.55190	20200602_015	2.953	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/2/2020 4:29:10 PM	128928	1.00000	20200602_015	2.951	25.0000	1.0000	10

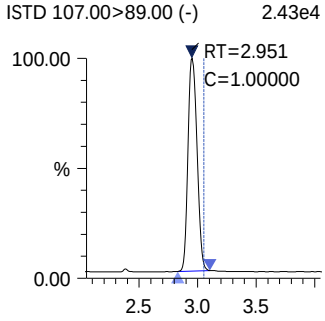
Perchlorate

Conc 10.55190
Area 173998



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 128928



ALS Group Houston

PERCHLORATE8

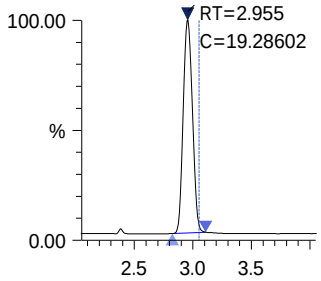
Date acquired: 6/2/2020 4:37:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_016.lcd
Vial: 11 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE8	6/2/2020 4:37:02 PM	324944	19.28602	20200602_016	2.955	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/2/2020 4:37:02 PM	131734	1.00000	20200602_016	2.953	25.0000	1.0000	11

Perchlorate

Conc 19.28602
Area 324944

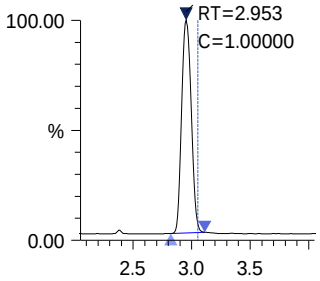
Q 99.00>83.00 (-) 5.85e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 131734

ISTD 107.00>89.00 (-) 2.34e4



ALS Group Houston

PERCHLORATE9

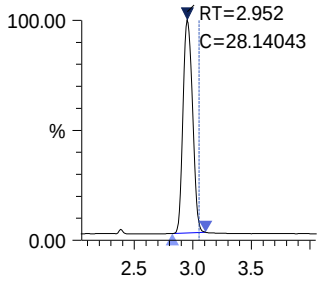
Date acquired: 6/2/2020 4:44:57 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_017.lcd
Vial: 12 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE9	6/2/2020 4:44:57 PM	469066	28.14043	20200602_017	2.952	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/2/2020 4:44:57 PM	130327	1.00000	20200602_017	2.953	25.0000	1.0000	12

Perchlorate

Conc 28.14043
Area 469066

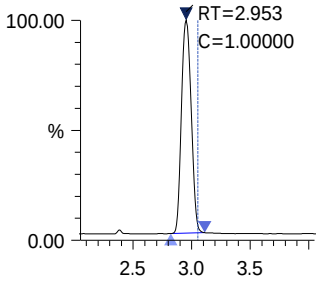
Q 99.00>83.00 (-) 8.16e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 130327

ISTD 107.00>89.00 (-) 2.28e4



ALS Group Houston

PERCHLORATE10

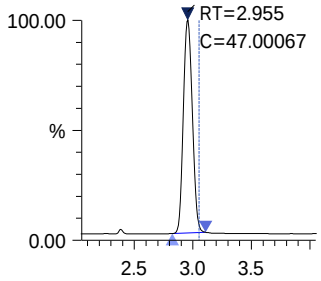
Date acquired: 6/2/2020 4:52:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_018.lcd
Vial: 13 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE10	6/2/2020 4:52:49 PM	737362	47.00067	20200602_018	2.955	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	6/2/2020 4:52:49 PM	122661	1.00000	20200602_018	2.952	25.0000	1.0000	13

Perchlorate

Conc 47.00067
Area 737362

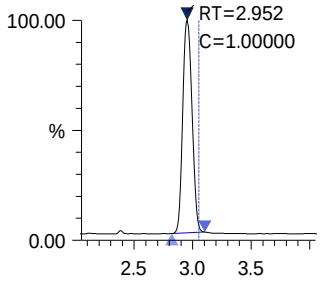
Q 99.00>83.00 (-) 1.36e5



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 122661

ISTD 107.00>89.00 (-) 2.25e4



ALS Group Houston

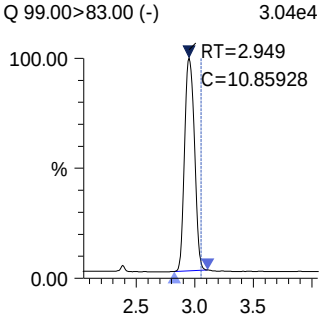
PERCHLORATEICV

Date acquired: 6/2/2020 5:00:42 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200602\20200602_019.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	6/2/2020 5:00:42 PM	180334	10.85928	20200602_019	2.949	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/2/2020 5:00:42 PM	129839	1.00000	20200602_019	2.948	25.0000	1.0000	14

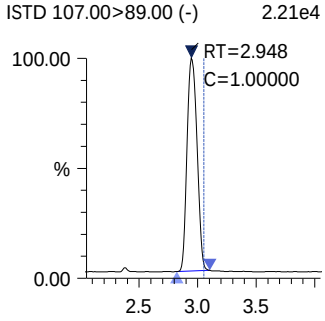
Perchlorate

Conc 10.85928
Area 180334



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 129839



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

20200622

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/2/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000007**

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

			File Name	Acquisition Method	Dilution	R	Comments
	null		20200622_001	Perchlorate6850b.lcm	1x	☒	
	null		20200622_002	Perchlorate6850b.lcm	1x	☒	
	IB		20200622_003	Perchlorate6850b.lcm	1x	☒	
	LODV		20200622_004	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200622_005	Perchlorate6850b.lcm	1x	☒	3100807-04
	EQ2000238-01		20200622_007	Perchlorate6850b.lcm	1x	☒	
	ICS		20200622_006	Perchlorate6850b.lcm	1x	☒	
	EQ2000238-02		20200622_008	Perchlorate6850b.lcm	1x	☒	
	EQ2000238-03		20200622_009	Perchlorate6850b.lcm	1x	☒	
	EQ2000238-04		20200622_010	Perchlorate6850b.lcm	1x	☒	
	EQ2000238-05		20200622_011	Perchlorate6850b.lcm	1x	☒	
	E2000538-005		20200622_012	Perchlorate6850b.lcm	1x	☒	
	E2000511-001		20200622_013	Perchlorate6850b.lcm	1x	☒	
	E2000510-001		20200622_014	Perchlorate6850b.lcm	1x	☒	
	E2000535-001		20200622_015	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200622_016	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000511-001		20200622_017	Perchlorate6850b.lcm	1x	☒	
	E2000511-001X2		20200622_018	Perchlorate6850b.lcm	2x	☒	
	E2000535-002		20200622_019	Perchlorate6850b.lcm	1x	☒	
	IB		20200622_020	Perchlorate6850b.lcm	1x	☒	
	E2000511-001X5		20200622_021	Perchlorate6850b.lcm	5x	☒	
	E2000535-002X1000		20200622_022	Perchlorate6850b.lcm	1000x	☒	
	E2000535-003		20200622_023	Perchlorate6850b.lcm	1x	☒	
	E2000538-001		20200622_024	Perchlorate6850b.lcm	1x	☒	
	E2000538-002		20200622_025	Perchlorate6850b.lcm	1x	☒	
	E2000538-003		20200622_026	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200622_027	Perchlorate6850b.lcm	1x	☒	3100807-04
	E2000538-001		20200622_028	Perchlorate6850b.lcm	1000x	☒	
	E2000538-002		20200622_029	Perchlorate6850b.lcm	100x	☒	
	E2000538-003		20200622_030	Perchlorate6850b.lcm	1000x	☒	
	E2000538-004		20200622_031	Perchlorate6850b.lcm	2000x	☒	
	E2000538-006X50		20200622_032	Perchlorate6850b.lcm	50x	☒	
	E2000538-007		20200622_033	Perchlorate6850b.lcm	1x	☒	
	E2000538-008		20200622_034	Perchlorate6850b.lcm	1x	☒	
	EQ2000239-01		20200622_035	Perchlorate6850b.lcm	1x	☒	
	EQ2000239-02		20200622_036	Perchlorate6850b.lcm	1x	☒	
	E2000538-008X5		20200622_037	Perchlorate6850b.lcm	5x	☒	
	PERCHLORATE7		20200622_038	Perchlorate6850b.lcm	1x	☒	3100807-04
	IB		20200622_039	Perchlorate6850b.lcm	1x	☒	
	IB		20200622_040	Perchlorate6850b.lcm	1x	☒	
	IB		20200622_041	Perchlorate6850b.lcm	1x	☒	
	PERCHLORATE7		20200622_042	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060451

Service Request: E2000510
Date Analyzed: 6/22/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200622\20200622_005

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 684542
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.5	0.1279	0.1348	5.4	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060451

Service Request: E2000510
Date Analyzed: 6/22/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200622\20200622_016

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 684542
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1377	7.6	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Analyzed:**	6/22/20

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

Analytical Method:	6850	**Calibration Date:**	6/2/20
File ID:	I:\LCMS01\DATA\20200622\20200622_027	**Calibration ID:**	EC2000007
		Analysis Lot:	684542
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.7	0.1279	0.1372	7.3	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20060451

Service Request: E2000510
Date Analyzed: 6/22/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200622\20200622_038

Calibration Date: 6/2/20
Calibration ID: EC2000007
Analysis Lot: 684542
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1279	0.1381	8.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Analyzed:**	6/22/20 11:03

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200622\20200622_005	**Lab Code:**	EQ2000254-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	684542
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000254-01	159,982	3.02
Method Blank	EQ2000238-01	178,948	3.01
Lab Control Sample	EQ2000238-02	197,036	3.01
Duplicate Lab Control Sample	EQ2000238-03	200,634	3.01
Batch QCMS	EQ2000238-04	174,832	2.98
Batch QCDMS	EQ2000238-05	173,812	2.98
Batch QC	E2000538-005	189,616	2.98
LH18/24-SP650_060920_BIX	E2000510-001	192,544	2.98

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Analyzed:**	6/22/20 12:29

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200622\20200622_016	**Lab Code:**	EQ2000254-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	684542
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000254-02	178,331	3.01

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:**	E2000510
Project:	HS20060451	**Date Analyzed:**	6/22/20 14:45

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200622\20200622_027	**Lab Code:**	EQ2000254-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	684542
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000254-03	184,802	2.96

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000510
Project:	HS20060451	**Date Analyzed:**	6/22/20 16:13

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200622\20200622_038	**Lab Code:**	EQ2000254-04
Instrument ID:	E-LCMS-01	**Analysis Lot:**	684542
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	134,654	2.95
	Upper Limit ==>	201,981	4.95
	Lower Limit ==>	67,327	0.95
Associated Analyses			
Continuing Calibration Verification	EQ2000254-04	199,949	3.01

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

ALS Group Houston

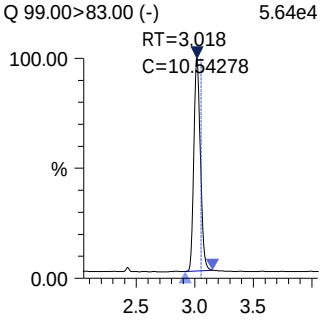
PERCHLORATE7

Date acquired: 6/22/2020 11:03:11 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_005.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	6/22/2020 11:03:11 AM	215723	10.54278	20200622_005	3.018	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/22/2020 11:03:11 AM	159982	1.00000	20200622_005	3.015	25.0000	1.0000	4

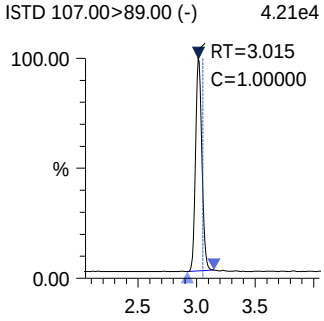
Perchlorate

Conc 10.54278
Area 215723



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 159982



ALS Group Houston

EQ2000238-01

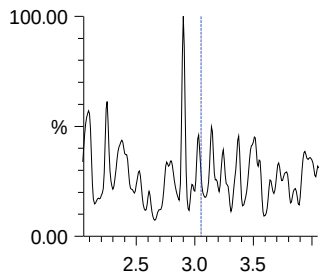
Date acquired: 6/22/2020 11:18:59 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_007.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000238-01	6/22/2020 11:18:59 AM	----	----	20200622_007	----	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	EQ2000238-01	6/22/2020 11:18:59 AM	178948	1.00000	20200622_007	3.011	25.0000	1.0000	5

Perchlorate

Conc ----
Area ----

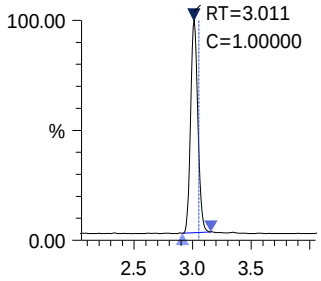
Q 99.00>83.00 (-) 4.46e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 178948

ISTD 107.00>89.00 (-) 4.15e4



ALS Group Houston

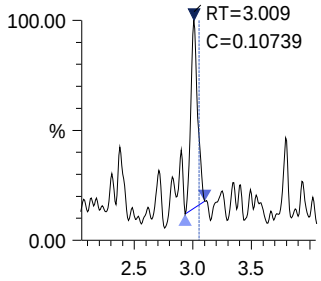
EQ2000238-02

Date acquired: 6/22/2020 11:26:53 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_008.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	EQ2000238-02	6/22/2020 11:26:53 AM	2706	0.10739	20200622_008	3.009	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	EQ2000238-02	6/22/2020 11:26:53 AM	197036	1.00000	20200622_008	3.007	25.0000	1.0000	6

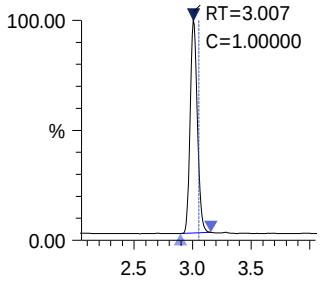
Perchlorate

Conc 0.10739
Area 2706
Q 99.00>83.00 (-) 7.58e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 197036
ISTD 107.00>89.00 (-) 4.60e4



ALS Group Houston

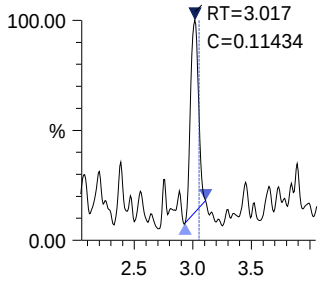
EQ2000238-03

Date acquired: 6/22/2020 11:34:45 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_009.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	EQ2000238-03	6/22/2020 11:34:45 AM	2934	0.11434	20200622_009	3.017	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	EQ2000238-03	6/22/2020 11:34:45 AM	200634	1.00000	20200622_009	3.009	25.0000	1.0000	7

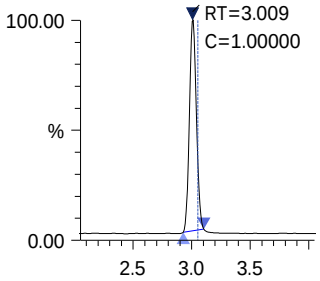
Perchlorate

Conc 0.11434
Area 2934
Q 99.00>83.00 (-) 6.89e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 200634
ISTD 107.00>89.00 (-) 4.88e4



ALS Group Houston

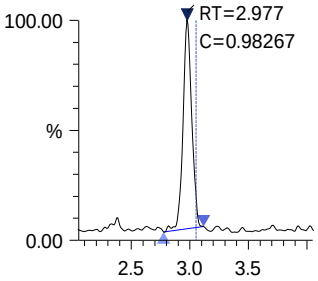
EQ2000238-04

Date acquired: 6/22/2020 11:42:37 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_010.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	EQ2000238-04	6/22/2020 11:42:37 AM	21974	0.98267	20200622_010	2.977	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	EQ2000238-04	6/22/2020 11:42:37 AM	174832	1.00000	20200622_010	2.975	25.0000	1.0000	8

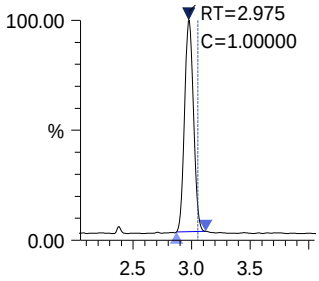
Perchlorate

Conc 0.98267
Area 21974
Q 99.00>83.00 (-) 4.31e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 174832
ISTD 107.00>89.00 (-) 3.35e4



ALS Group Houston

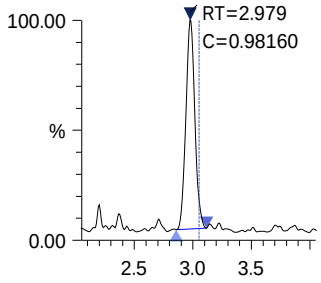
EQ2000238-05

Date acquired: 6/22/2020 11:50:29 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_011.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	EQ2000238-05	6/22/2020 11:50:29 AM	21822	0.98160	20200622_011	2.979	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	EQ2000238-05	6/22/2020 11:50:29 AM	173812	1.00000	20200622_011	2.977	25.0000	1.0000	9

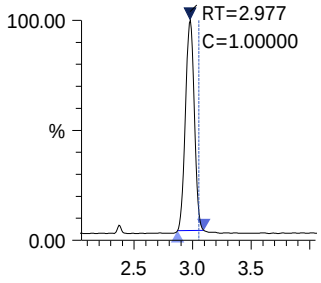
Perchlorate

Conc 0.98160
Area 21822
Q 99.00>83.00 (-) 4.14e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 173812
ISTD 107.00>89.00 (-) 3.37e4



ALS Group Houston

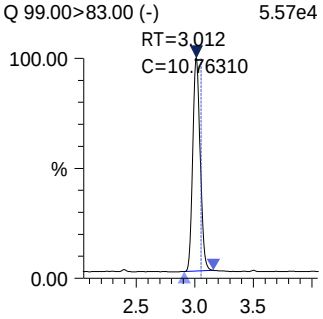
PERCHLORATE7

Date acquired: 6/22/2020 12:29:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200622\20200622_016.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	6/22/2020 12:29:56 PM	245490	10.76310	20200622_016	3.012	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/22/2020 12:29:56 PM	178331	1.00000	20200622_016	3.010	25.0000	1.0000	4

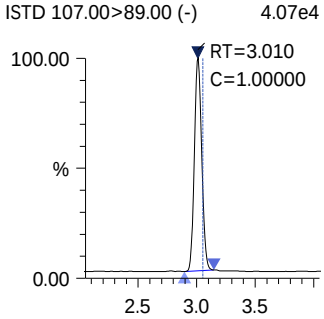
Perchlorate

Conc 10.76310
Area 245490



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 178331



ALS Environmental
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1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

June 17, 2020

Analytical Report for Service Request No: K2004871

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

RE: HS20060451

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 12, 2020
For your reference, these analyses have been assigned our service request number **K2004871.**

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

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Client: ALS Environmental - US
Project: HS20060451
Sample Matrix: Water

Service Request: K2004871
Date Received: 06/12/2020

CASE NARRATIVE

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

Sample Receipt:

One water sample was received for analysis at ALS Environmental on 06/12/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by _____ Date 06/17/2020

Chain of Custody

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K2004871

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14071**

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:	HS20060451
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060451-01**	**LH18/24-SP650_060920**	**Water**	**09 Jun 2020 14:00**
	TOC Analysis for DOD Level IV			18 Jun 2020

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Mancuso Date/Time: 6/11/20 18:00

Received By: [signature] Date/Time: 6/12/2020 0920

Cooler ID(s): Temperature(s):

RIGHT SOLUTIONS | RIGHT PARTNER

PC KL

Cooler Receipt and Preservation Form

Client ALS Houston Service Request K20 04871

Received: 6/12/2020 Opened: 6/12/2020 By: CG Unloaded: 6/12/2020 By: CG

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
1.7					IR01	14071	1891 8877 5532	

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: _____

RUSH

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2004871
Project:	HS20060451	**Date Collected:**	06/9/20
Sample Matrix:	Water	**Date Received:**	06/12/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_060920	K2004871-001	**2.01**	0.50	0.20	0.07	1	06/15/20 16:06	
Method Blank	K2004871-MB	ND U	0.50	0.20	0.07	1	06/15/20 01:55	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2004871
Project	HS20060451	**Date Collected:**	06/09/20
Sample Matrix:	Water	**Date Received:**	06/12/20
		Date Analyzed:	06/15/20

Replicate Sample Summary

General Chemistry Parameters

Sample Name:	LH18/24-SP650_060920	**Units:**	mg/L
Lab Code:	K2004871-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2004871-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	2.01	2.07	2.04	3	10

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

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2004871
Project:	HS20060451	**Date Analyzed:**	06/15/20
Sample Matrix:	Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	683425

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2004871-LCS	25.8	25.0	103	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2004871
Project: HS20060451

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	683425	KQ2007940-01	06/15/20 01:26	25.0	25.8	103	90-110
CCV2	683425	KQ2007940-02	06/15/20 05:42	25.0	25.0	100	90-110
CCV3	683425	KQ2007940-03	06/15/20 10:52	25.0	25.0	100	90-110
CCV4	683425	KQ2007940-28	06/15/20 15:09	25.0	25.1	100	90-110
CCV5	683425	KQ2007940-29	06/15/20 16:34	25.0	25.6	102	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2004871
Project: HS20060451

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	683425	KQ2007940-04	06/15/20 01:41	0.50	0.20	0.07	ND	U
CCB2	683425	KQ2007940-05	06/15/20 05:57	0.50	0.20	0.07	ND	U
CCB3	683425	KQ2007940-06	06/15/20 11:07	0.50	0.20	0.07	ND	U
CCB4	683425	KQ2007940-30	06/15/20 15:23	0.50	0.20	0.07	ND	U
CCB5	683425	KQ2007940-31	06/15/20 16:49	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # Original ( ) K2004697, 4698, 4733, 4737, 4744, 4791, 4808, 4758, 4871, 4907, 4572

Tier: III IV IV I II I I I IV II II

Date Analyzed: 6/13/20

Analyst: BOP

Analysis: TOC/DOC

TOC: 683111, 683425

Run # DOC: 683426

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: K2004698-1/1d, 4758-3 1/1d BOP 6/16/20 report a high %RSD. However, these samples are less than 5x the MRL.

K2004733-3/3d reports a high %RSD due to suspected non-homogenous sample.

Final Approved by: _____ Date: 6/16/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 683111 **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
K2004697-001	Carbon, Total Organic	N/A		Surface Water	1.58 mg/L	10 mL	1.58 mg/L	1	0.07	0.50			6/13/20 17:54:00	N	III
K2004697-002	Carbon, Total Organic	N/A		Surface Water	1.38 mg/L	10 mL	1.38 mg/L	1	0.07	0.50			6/13/20 18:22:00	Y	III
K2004697-003	Carbon, Total Organic	N/A		Surface Water	1.33 mg/L	10 mL	1.33 mg/L	1	0.07	0.50			6/13/20 19:19:00	N	III
K2004697-004	Carbon, Total Organic	N/A		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 19:47:00	N	III
K2004698-001	Carbon, Total Organic	N/A		Surface Water	0.21 mg/L	10 mL	0.21 mg/L J	1	0.07	0.50			6/13/20 22:10:00	N	IV
K2004733-001	Carbon, Total Organic	N/A		Water	10.39 mg/L	10 mL	10.4 mg/L	1	0.07	0.50			6/13/20 22:38:00	N	IV
K2004733-002	Carbon, Total Organic	N/A		Water	0.82 mg/L	10 mL	8.2 mg/L	10	0.7	5.0			6/13/20 23:06:00	N	IV
K2004733-003	Carbon, Total Organic	N/A		Water	5.59 mg/L	10 mL	5.59 mg/L	1	0.07	0.50			6/13/20 23:34:00	N	IV
K2004733-004	Carbon, Total Organic	N/A		Water	4.54 mg/L	10 mL	45.4 mg/L	10	0.7	5.0			6/14/20 00:02:00	N	IV
K2004733-005	Carbon, Total Organic	N/A		Water	12.77 mg/L	10 mL	63.9 mg/L	5	0.4	2.5			6/14/20 00:30:00	N	IV
K2004737-001	Carbon, Total Organic	N/A		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 21:12:00	N	I
K2004737-002	Carbon, Total Organic	N/A		Reagent Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 21:27:00	N	I
K2004744-001	Carbon, Total Organic	N/A		Water	0.95 mg/L	10 mL	0.95 mg/L	1	0.07	0.50			6/13/20 21:41:00	N	II
K2004791-001	Carbon, Total Organic	N/A		Water	2.98 mg/L	10 mL	298 mg/L	100	7	50			6/13/20 20:15:00	N	I
K2004808-001	Carbon, Total Organic	N/A		Water	10.18 mg/L	10 mL	10.2 mg/L	1	0.07	0.50			6/14/20 00:58:00	N	I
KQ2007938-01	Carbon, Total Organic	CCV		Surface Water	25.43 mg/L	10 mL	25.4 mg/L	1					6/13/20 16:40:00	N	III
KQ2007938-01	Carbon, Total Organic	CCV		Surface Water	25.43 mg/L	10 mL	25.4 mg/L	1					6/13/20 16:40:00	N	III
KQ2007938-02	Carbon, Total Organic	CCV		Surface Water	25.48 mg/L	10 mL	25.5 mg/L	1					6/13/20 20:43:00	N	III
KQ2007938-02	Carbon, Total Organic	CCV		Surface Water	25.48 mg/L	10 mL	25.5 mg/L	1					6/13/20 20:43:00	N	III
KQ2007938-03	Carbon, Total Organic	CCV		Surface Water	25.76 mg/L	10 mL	25.8 mg/L	1					6/14/20 01:26:00	N	III
KQ2007938-03	Carbon, Total Organic	CCV		Surface Water	25.76 mg/L	10 mL	25.8 mg/L	1					6/14/20 01:26:00	N	III
KQ2007938-04	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 16:55:00	N	III
KQ2007938-04	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 16:55:00	N	III
KQ2007938-05	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 20:57:00	N	III
KQ2007938-05	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 20:57:00	N	III
KQ2007938-06	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 01:41:00	N	III

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 683111 **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
KQ2007938-06	Carbon, Total Organic	CCB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 01:41:00	N	III
KQ2007938-07	Carbon, Total Organic	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 17:09:00	N	III
KQ2007938-07	Carbon, Total Organic	MB		Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/13/20 17:09:00	N	III
KQ2007938-08	Carbon, Total Organic	LCS		Surface Water	26.00 mg/L	10 mL	26.0 mg/L	1	0.07	0.50	104		6/13/20 17:24:00	N	III
KQ2007938-08	Carbon, Total Organic	LCS		Surface Water	26.00 mg/L	10 mL	26.0 mg/L	1	0.07	0.50	104		6/13/20 17:24:00	N	III
KQ2007938-09	Carbon, Total Organic	MS	K2004697-002	Surface Water	27.94 mg/L	10 mL	27.9 mg/L	1	0.07	0.50	106		6/13/20 18:50:00	N	III
KQ2007938-10	Carbon, Total Organic	N/A		Water	1.38 mg/L	10 mL	1.38 mg/L	1	0.07	0.50			6/14/20 18:22:00	N	I
KQ2007938-11	Carbon, Total Organic	MS	KQ2007938-10	Water	27.94 mg/L	10 mL	27.9 mg/L	1	0.07	0.50	106		6/14/20 18:50:00	N	I
KQ2007938-12	Carbon, Total Organic	DUP	K2004744-001	Water	0.94 mg/L	10 mL	0.94 mg/L	1	0.07	0.50		1	6/13/20 21:41:00	N	II
KQ2007938-13	Carbon, Total Organic	DUP	K2004697-002	Surface Water	1.35 mg/L	10 mL	1.35 mg/L	1	0.07	0.50		3	6/13/20 18:22:00	N	III
KQ2007938-14	Carbon, Total Organic	DUP	K2004808-001	Water	9.38 mg/L	10 mL	9.38 mg/L	1	0.07	0.50		8	6/14/20 00:58:00	N	I
KQ2007938-15	Carbon, Total Organic	DUP	K2004697-003	Surface Water	1.33 mg/L	10 mL	1.33 mg/L	1	0.07	0.50		<1	6/13/20 19:19:00	N	III
KQ2007938-16	Carbon, Total Organic	DUP	K2004697-004	Surface Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	6/13/20 19:47:00	N	III
KQ2007938-17	Carbon, Total Organic	DUP	K2004698-001	Surface Water	0.18 mg/L	10 mL	0.18 mg/L J	1	0.07	0.50		12*	6/13/20 22:10:00	N	IV
KQ2007938-18	Carbon, Total Organic	DUP	K2004697-001	Surface Water	1.44 mg/L	10 mL	1.44 mg/L	1	0.07	0.50		9	6/13/20 17:54:00	N	III
KQ2007938-19	Carbon, Total Organic	DUP	KQ2007938-10	Water	1.35 mg/L	10 mL	1.35 mg/L	1	0.07	0.50		3	6/14/20 18:22:00	N	I
KQ2007938-22	Carbon, Total Organic	DUP	K2004733-001	Water	10.52 mg/L	10 mL	10.5 mg/L	1	0.07	0.50		1	6/13/20 22:38:00	N	IV
KQ2007938-23	Carbon, Total Organic	DUP	K2004791-001	Water	3.00 mg/L	10 mL	300 mg/L	100	7	50		<1	6/13/20 20:15:00	N	I
KQ2007938-24	Carbon, Total Organic	DUP	K2004733-002	Water	0.79 mg/L	10 mL	7.9 mg/L	10	0.7	5.0		3	6/13/20 23:06:00	N	IV
KQ2007938-25	Carbon, Total Organic	DUP	K2004733-003	Water	6.44 mg/L	10 mL	6.44 mg/L	1	0.07	0.50		14*	6/13/20 23:34:00	N	IV
KQ2007938-26	Carbon, Total Organic	DUP	K2004733-004	Water	4.37 mg/L	10 mL	43.7 mg/L	10	0.7	5.0		4	6/14/20 00:02:00	N	IV
KQ2007938-27	Carbon, Total Organic	DUP	K2004733-005	Water	12.46 mg/L	10 mL	62.3 mg/L	5	0.4	2.5		2	6/14/20 00:30:00	N	IV

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

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Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 683425 **Method/Testcode:** 415.1/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
K2004758-001	Carbon, Total Organic	N/A		Water	1.01 mg/L	10 mL	1.01 mg/L	1	0.07	0.50			6/15/20 07:08:00	N	I
K2004758-002	Carbon, Total Organic	N/A		Water	0.44 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 07:36:00	N	I
K2004758-003	Carbon, Total Organic	N/A		Water	0.38 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 08:04:00	N	I
K2004758-004	Carbon, Total Organic	N/A		Water	3.15 mg/L	10 mL	3.15 mg/L	1	0.07	0.50			6/15/20 08:32:00	N	I
K2004758-005	Carbon, Total Organic	N/A		Water	4.41 mg/L	10 mL	4.41 mg/L	1	0.07	0.50			6/15/20 09:00:00	N	I
K2004808-002	Carbon, Total Organic	N/A		Water	9.32 mg/L	10 mL	9.32 mg/L	1	0.07	0.50			6/15/20 02:24:00	N	I
K2004808-003	Carbon, Total Organic	N/A		Water	1.88 mg/L	10 mL	1.88 mg/L	1	0.07	0.50			6/15/20 02:53:00	N	I
K2004808-004	Carbon, Total Organic	N/A		Water	16.48 mg/L	10 mL	16.5 mg/L	1	0.07	0.50			6/15/20 03:50:00	N	I
K2004808-005	Carbon, Total Organic	N/A		Water	9.19 mg/L	10 mL	9.19 mg/L	1	0.07	0.50			6/15/20 04:18:00	N	I
K2004808-006	Carbon, Total Organic	N/A		Water	29.72 mg/L	10 mL	29.7 mg/L	1	0.07	0.50			6/15/20 04:46:00	N	I
K2004808-007	Carbon, Total Organic	N/A		Water	3.82 mg/L	10 mL	38.2 mg/L	10	0.7	5.0			6/15/20 05:14:00	N	I
K2004808-008	Carbon, Total Organic	N/A		Water	12.20 mg/L	10 mL	12.2 mg/L	1	0.07	0.50			6/15/20 06:12:00	N	I
K2004808-009	Carbon, Total Organic	N/A		Water	30.87 mg/L	10 mL	30.9 mg/L	1	0.07	0.50			6/15/20 06:40:00	N	I
K2004871-001	Carbon, Total Organic	N/A		Water	2.01 mg/L	10 mL	2.01 mg/L	1	0.07	0.50			6/15/20 16:06:00	N	IV
K2004907-001	Carbon, Total Organic	N/A		Water	3.59 mg/L	10 mL	3.59 mg/L	1	0.07	0.50			6/15/20 15:38:00	N	II
KQ2007940-01	Carbon, Total Organic	CCV		Water	25.76 mg/L	10 mL	25.8 mg/L	1					6/15/20 01:26:00	N	I
KQ2007940-01	Carbon, Total Organic	CCV		Water	25.76 mg/L	10 mL	25.8 mg/L	1					6/15/20 01:26:00	N	I
KQ2007940-02	Carbon, Total Organic	CCV		Water	24.99 mg/L	10 mL	25.0 mg/L	1					6/15/20 05:42:00	N	I
KQ2007940-02	Carbon, Total Organic	CCV		Water	24.99 mg/L	10 mL	25.0 mg/L	1					6/15/20 05:42:00	N	I
KQ2007940-03	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					6/15/20 10:52:00	N	I
KQ2007940-03	Carbon, Total Organic	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					6/15/20 10:52:00	N	I
KQ2007940-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 01:41:00	N	I
KQ2007940-04	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 01:41:00	N	I
KQ2007940-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 05:57:00	N	I
KQ2007940-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 05:57:00	N	I
KQ2007940-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 11:07:00	N	I
KQ2007940-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 11:07:00	N	I
KQ2007940-07	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 01:55:00	N	I
KQ2007940-07	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 01:55:00	N	I
KQ2007940-08	Carbon, Total Organic	LCS		Water	25.79 mg/L	10 mL	25.8 mg/L	1	0.07	0.50	103		6/15/20 02:10:00	N	I
KQ2007940-08	Carbon, Total Organic	LCS		Water	25.79 mg/L	10 mL	25.8 mg/L	1	0.07	0.50	103		6/15/20 02:10:00	N	I
KQ2007940-09	Carbon, Total Organic	MS	K2004808-003	Water	22.62 mg/L	10 mL	22.6 mg/L	1	0.07	0.50	83		6/15/20 03:21:00	N	I
KQ2007940-10	Carbon, Total Organic	DUP	K2004758-002	Water	0.43 mg/L	10 mL	0.43 mg/L J	1	0.07	0.50		NC	6/15/20 07:36:00	N	I
KQ2007940-11	Carbon, Total Organic	DUP	K2004758-001	Water	0.76 mg/L	10 mL	0.76 mg/L	1	0.07	0.50		29*	6/15/20 07:08:00	N	I
KQ2007940-12	Carbon, Total Organic	DUP	K2004758-003	Water	0.31 mg/L	10 mL	0.31 mg/L J	1	0.07	0.50		NC	6/15/20 08:04:00	N	I
KQ2007940-13	Carbon, Total Organic	DUP	K2004758-004	Water	3.11 mg/L	10 mL	3.11 mg/L	1	0.07	0.50		1	6/15/20 08:32:00	N	I

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 683425 **Method/Testcode:** 415.1/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
KQ2007940-14	Carbon, Total Organic	DUP	K2004758-005	Water	4.43 mg/L	10 mL	4.43 mg/L	1	0.07	0.50		<1	6/15/20 09:00:00	N	I
KQ2007940-15	Carbon, Total Organic	DUP	K2004808-002	Water	9.24 mg/L	10 mL	9.24 mg/L	1	0.07	0.50		<1	6/15/20 02:24:00	N	I
KQ2007940-16	Carbon, Total Organic	DUP	K2004808-003	Water	1.75 mg/L	10 mL	1.75 mg/L	1	0.07	0.50		7	6/15/20 02:53:00	N	I
KQ2007940-17	Carbon, Total Organic	DUP	K2004808-004	Water	16.26 mg/L	10 mL	16.3 mg/L	1	0.07	0.50		1	6/15/20 03:50:00	N	I
KQ2007940-18	Carbon, Total Organic	DUP	K2004808-005	Water	9.10 mg/L	10 mL	9.10 mg/L	1	0.07	0.50		<1	6/15/20 04:18:00	N	I
KQ2007940-19	Carbon, Total Organic	DUP	K2004808-006	Water	29.34 mg/L	10 mL	29.3 mg/L	1	0.07	0.50		1	6/15/20 04:46:00	N	I
KQ2007940-20	Carbon, Total Organic	DUP	K2004808-007	Water	3.76 mg/L	10 mL	37.6 mg/L	10	0.7	5.0		2	6/15/20 05:14:00	N	I
KQ2007940-21	Carbon, Total Organic	DUP	K2004808-008	Water	11.73 mg/L	10 mL	11.7 mg/L	1	0.07	0.50		4	6/15/20 06:12:00	N	I
KQ2007940-22	Carbon, Total Organic	DUP	K2004808-009	Water	30.34 mg/L	10 mL	30.3 mg/L	1	0.07	0.50		2	6/15/20 06:40:00	N	I
KQ2007940-23	Carbon, Total Organic	N/A		Water	1.88 mg/L	10 mL	1.88 mg/L	1	0.07	0.50			6/15/20 02:53:00	N	I
KQ2007940-24	Carbon, Total Organic	MS	KQ2007940-23	Water	22.62 mg/L	10 mL	22.6 mg/L	1	0.07	0.50	83		6/15/20 03:21:00	N	I
KQ2007940-25	Carbon, Total Organic	DUP	KQ2007940-23	Water	1.75 mg/L	10 mL	1.75 mg/L	1	0.07	0.50		7	6/15/20 02:53:00	N	I
KQ2007940-26	Carbon, Total Organic	DUP	K2004907-001	Water	3.53 mg/L	10 mL	3.53 mg/L	1	0.07	0.50		2	6/15/20 15:38:00	N	II
KQ2007940-27	Carbon, Total Organic	DUP	K2004871-001	Water	2.07 mg/L	10 mL	2.07 mg/L	1	0.07	0.50		3	6/15/20 16:06:00	N	IV
KQ2007940-28	Carbon, Total Organic	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/15/20 15:09:00	N	I
KQ2007940-28	Carbon, Total Organic	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/15/20 15:09:00	N	I
KQ2007940-29	Carbon, Total Organic	CCV		Water	25.56 mg/L	10 mL	25.6 mg/L	1					6/15/20 16:34:00	N	I
KQ2007940-29	Carbon, Total Organic	CCV		Water	25.56 mg/L	10 mL	25.6 mg/L	1					6/15/20 16:34:00	N	I
KQ2007940-30	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 15:23:00	N	I
KQ2007940-30	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 15:23:00	N	I
KQ2007940-31	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 16:49:00	N	I
KQ2007940-31	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/15/20 16:49:00	N	I

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 683426 **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
K2004572-004	Carbon, Dissolved Organic (DOC)	N/A		Water	0.53 mg/L	10 mL	0.53 mg/L	1	0.07	0.50			6/14/20 09:56:00	N	II
K2004572-005	Carbon, Dissolved Organic (DOC)	N/A		Water	2.80 mg/L	10 mL	2.80 mg/L	1	0.07	0.50			6/14/20 10:24:00	N	II
K2004572-006	Carbon, Dissolved Organic (DOC)	N/A		Water	1.03 mg/L	10 mL	1.03 mg/L	1	0.07	0.50			6/14/20 12:20:00	N	II
K2004572-009	Carbon, Dissolved Organic (DOC)	N/A		Water	3.09 mg/L	10 mL	3.09 mg/L	1	0.07	0.50			6/14/20 12:48:00	N	II
K2004572-010	Carbon, Dissolved Organic (DOC)	N/A		Water	0.74 mg/L	10 mL	0.74 mg/L	1	0.07	0.50			6/14/20 13:16:00	N	II
K2004572-014	Carbon, Dissolved Organic (DOC)	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 13:44:00	N	II
K2004572-015	Carbon, Dissolved Organic (DOC)	N/A		Water	1.50 mg/L	10 mL	1.50 mg/L	1	0.07	0.50			6/14/20 14:13:00	N	II
K2004572-016	Carbon, Dissolved Organic (DOC)	N/A		Water	0.51 mg/L	10 mL	0.51 mg/L	1	0.07	0.50			6/14/20 14:41:00	N	II
KQ2007941-01	Carbon, Dissolved Organic (DOC)	CCV		Water	24.99 mg/L	10 mL	25.0 mg/L	1					6/14/20 05:42:00	N	II
KQ2007941-02	Carbon, Dissolved Organic (DOC)	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					6/14/20 10:52:00	N	II
KQ2007941-03	Carbon, Dissolved Organic (DOC)	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/14/20 15:09:00	N	II
KQ2007941-04	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 05:57:00	N	II
KQ2007941-05	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 11:07:00	N	II
KQ2007941-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 15:23:00	N	II
KQ2007941-07	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/14/20 11:22:00	N	II
KQ2007941-08	Carbon, Dissolved Organic (DOC)	LCS		Water	25.64 mg/L	10 mL	25.6 mg/L	1	0.07	0.50	103		6/14/20 11:36:00	N	II
KQ2007941-09	Carbon, Dissolved Organic (DOC)	MS	K2004572-005	Water	29.61 mg/L	10 mL	29.6 mg/L	1	0.07	0.50	107		6/14/20 11:51:00	N	II
KQ2007941-10	Carbon, Dissolved Organic (DOC)	DUP	K2004572-004	Water	0.53 mg/L	10 mL	0.53 mg/L	1	0.07	0.50		<1	6/14/20 09:56:00	N	II
KQ2007941-11	Carbon, Dissolved Organic (DOC)	DUP	K2004572-005	Water	2.79 mg/L	10 mL	2.79 mg/L	1	0.07	0.50		<1	6/14/20 10:24:00	N	II
KQ2007941-12	Carbon, Dissolved Organic (DOC)	DUP	K2004572-006	Water	0.98 mg/L	10 mL	0.98 mg/L	1	0.07	0.50		5	6/14/20 12:20:00	N	II
KQ2007941-13	Carbon, Dissolved Organic (DOC)	DUP	K2004572-009	Water	3.05 mg/L	10 mL	3.05 mg/L	1	0.07	0.50		1	6/14/20 12:48:00	N	II
KQ2007941-14	Carbon, Dissolved Organic (DOC)	DUP	K2004572-010	Water	0.73 mg/L	10 mL	0.73 mg/L	1	0.07	0.50		<1	6/14/20 13:16:00	N	II
KQ2007941-15	Carbon, Dissolved Organic (DOC)	DUP	K2004572-014	Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50		NC	6/14/20 13:44:00	N	II

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** BDITZLER **Analysis Lot:** 683426 **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
KQ2007941-16	Carbon, Dissolved Organic (DOC)	DUP	K2004572-015	Water	1.55 mg/L	10 mL	1.55 mg/L	1	0.07	0.50		3	6/14/20 14:13:00	N	II
KQ2007941-17	Carbon, Dissolved Organic (DOC)	DUP	K2004572-016	Water	0.48 mg/L	10 mL	0.48 mg/L J	1	0.07	0.50		6	6/14/20 14:41:00	N	II

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

TOC: 683111, 683425

DOC: 683426

Schedule: 06112020

Version: 5
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/06/13 12:52 - Saturday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use
(Clean)	Clean	Clean		1	True
(Clean)	Clean	Clean		1	True
(Clean)	Clean	Clean		1	True
(Blank)	Blank	Reagent/Acid Blank		1	True
D	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Cal Standard	[TOC] CAS_salt_010711 CAL [DI Water]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [0.500 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [1.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
A	Cal Standard	[TOC] CAS_salt_010711 CAL [5.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [10 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Cal Standard	[TOC] CAS_salt_010711 CAL [50 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
1	Sample	MB1	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
2	Sample	ICS	CAS_salt_010711 (CAS_salt_010711)	1	True
3	Sample	K2004697-001.03	CAS_salt_010711 (CAS_salt_010711)	2	True
4	Sample	K2004697-002.12	CAS_salt_010711 (CAS_salt_010711)	2	True
5	Sample	K2004697-002.12 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
6	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
7	Sample	K2004697-003.03	CAS_salt_010711 (CAS_salt_010711)	2	True
8	Sample	K2004697-004.03	CAS_salt_010711 (CAS_salt_010711)	2	True
9	Sample	K2004791-001.01 100x	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
10	Sample	K2004737-001.01	CAS_salt_010711 (CAS_salt_010711)	1	True
11	Sample	K2004737-002.01	CAS_salt_010711 (CAS_salt_010711)	1	True
12	Sample	K2004744-001.06	CAS_salt_010711 (CAS_salt_010711)	2	True
13	Sample	K2004698-001.03	CAS_salt_010711 (CAS_salt_010711)	2	True
14	Sample	K2004733-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
15	Sample	K2004733-002.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
16	Sample	K2004733-003.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
17	Sample	K2004733-004.01 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
18	Sample	K2004733-005.01 5x	CAS_salt_010711 (CAS_salt_010711)	2	True
19	Sample	K2004808-001.02	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
20	Sample	MB2	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [24.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
21	Sample	K2004808-002.02	CAS_salt_010711 (CAS_salt_010711)	2	True
22	Sample	K2004808-003.02	CAS_salt_010711 (CAS_salt_010711)	2	True
23	Sample	K2004808-003.02 ms	CAS_salt_010711 (CAS_salt_010711)	1	True
24	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
25	Sample	K2004808-004.02	CAS_salt_010711 (CAS_salt_010711)	2	True
26	Sample	K2004808-005.02	CAS_salt_010711 (CAS_salt_010711)	2	True
27	Sample	K2004808-006.02	CAS_salt_010711 (CAS_salt_010711)	2	True
28	Sample	K2004808-007.02 10x	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
29	Sample	K2004808-008.02	CAS_salt_010711 (CAS_salt_010711)	2	True
30	Sample	K2004808-009.02	CAS_salt_010711 (CAS_salt_010711)	2	True
31	Sample	K2004758-001.10	CAS_salt_010711 (CAS_salt_010711)	2	True
32	Sample	K2004758-002.10	CAS_salt_010711 (CAS_salt_010711)	2	True

Schedule: 06112020

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use
33	Sample	K2004758-003.10	CAS_salt_010711 (CAS_salt_010711)	2	True
34	Sample	K2004758-004.10	CAS_salt_010711 (CAS_salt_010711)	2	True
35	Sample	K2004758-005.10 20x	CAS_salt_010711 (CAS_salt_010711)	2	True
36	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	2	True
37	Sample	K2004572-004.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
38	Sample	K2004572-005.02 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
39	Sample	MB3	CAS_salt_010711 (CAS_salt_010711)	1	True
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
40	Sample	K2004572-005.02 ms doc	CAS_salt_010711 (CAS_salt_010711)	1	True
41	Sample	RB	CAS_salt_010711 (CAS_salt_010711)	1	True
42	Sample	K2004572-006.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
43	Sample	K2004572-009.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
44	Sample	K2004572-010.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
45	Sample	K2004572-014.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
46	Sample	K2004572-015.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
47	Sample	K2004572-016.01 doc	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
48	Sample	K2004907-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
49	Sample	K2004871-001.01	CAS_salt_010711 (CAS_salt_010711)	2	True
B	Check Standard	[TOC] CCV 25 ppm [25 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True
					False

Fusion Report - 06112020
Saturday, June 13, 2020 01:07 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/06/16 11:06 - Tuesday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	06112020	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) (v5)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/13 13:07

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	12.60	16.24	3.64	49.66	05:25
2	TC Clean	43.12	46.79	3.67	50.17	04:00
3	TC Clean	12.75	16.76	4.01	50.25	03:46
4	TC Clean	6.60	10.41	3.81	50.22	03:46

Sample Type: Clean — From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/13 13:29

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.18	4.68	3.50	49.71	05:14
2	TC Clean	10.21	13.98	3.77	50.17	04:03
3	TC Clean	4.62	8.43	3.82	50.18	03:47
4	TC Clean	4.41	8.14	3.72	50.03	03:48

Sample Type: Clean From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/13 13:50

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.04	4.66	3.62	49.58	05:14
2	TC Clean	8.38	12.07	3.69	50.33	04:02
3	TC Clean	3.61	7.54	3.93	50.39	03:46
4	TC Clean	3.62	7.57	3.95	49.94	03:46

Sample Type: Blank (Creating v1397) From Schedule Version 5

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/06/13 14:12

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.95	4.68	3.73	49.74	05:23
2	TC Clean	7.73	11.51	3.77	50.09	04:03
3	TC Clean	3.80	7.69	3.89	50.05	03:48
4	TC Clean	3.68	7.54	3.86	50.14	03:48
5	Reagent Blank	5.91	9.86	3.95	49.94	05:04
6	Acid Blank	1.10	4.98	3.88	49.45	05:27

Sample Type: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	1.3835 ppm	0.0000 ppm	0.0000%	2020/06/13 14:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3835	13.8349	12.62	16.34	3.72	50.54	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 3.9380 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v37)

Sample Type: Calibration Standard: CAS_salt_010711 CAL (Creating calibration From Schedule Version 5

CAS_salt_010711 v38)

	Pos	BAT	Concentration (ppm)	STD Conc	Dil	Sample ID	Result (Abs)	Std. Dev. (Abs)	RSD	Start Time
◆	D	TOC	0.0000	0 ppmC	1:1	[TOC] CAS_salt_010711 CAL [DI Water]	9.5750	0.0000	0%	2020/06/13 15:00
◆	A	TOC	0.5000	5 ppmC	1:10	[TOC] CAS_salt_010711 CAL [0.500 ppm]	12.9010	0.0000	0%	2020/06/13 15:14
◆	A	TOC	1.0000	5 ppmC	1:5	[TOC] CAS_salt_010711 CAL [1.0 ppm]	15.6320	0.0000	0%	2020/06/13 15:29
◆	A	TOC	5.0000	5 ppmC	1:1	[TOC] CAS_salt_010711 CAL [5.0 ppm]	43.2510	0.0000	0%	2020/06/13 15:43
◆	B	TOC	10.0000	50 ppmC	1:5	[TOC] CAS_salt_010711 CAL [10 ppm]	82.4040	0.0000	0%	2020/06/13 15:57
◆	B	TOC	25.0000	50 ppmC	1:2	[TOC] CAS_salt_010711 CAL [25 ppm]	188.6880	0.0000	0%	2020/06/13 16:12
◆	B	TOC	50.0000	50 ppmC	1:1	[TOC] CAS_salt_010711 CAL [50 ppm]	358.6500	0.0000	0%	2020/06/13 16:26

Pos	Base Analysis Type	ID	Rep #	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	DI Water	1	9.58	13.35	3.77	50.50	10:28
A	TOC	0.500 ppm	1	12.90	16.53	3.63	50.45	10:33
A	TOC	1.0 ppm	1	15.63	19.28	3.64	50.42	10:30
A	TOC	5.0 ppm	1	43.25	46.85	3.60	50.38	10:31
B	TOC	10 ppm	1	82.40	85.96	3.56	50.32	10:33
B	TOC	25 ppm	1	188.69	192.25	3.56	50.26	10:30
B	TOC	50 ppm	1	358.65	362.26	3.61	50.20	10:30

Completion State
Success - All Update Conditions met

Method
CAS_salt_010711 (v4)

Success Action
Auto (always)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.4296 ppm (PASS)	0.0000 ppm	0%	2020/06/13 16:40

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.4296	254.2956	188.28	191.81	3.54	50.16	10:32

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

Sample Type: Check Standard --> CCB From Schedule Version 5

	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%	2020/06/13 16:55

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	11.95	3.46	50.10	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 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%	2020/06/13 17:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.68	11.21	3.53	50.04	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 5

	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)	26.0039 ppm (PASS)	0.0000 ppm	0%	2020/06/13 17:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	26.0039	260.0391	192.30	195.81	3.51	50.01	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: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.9962 ppm	0.0000 ppm	0.0000%	2020/06/13 17:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9962	9.9623	16.28	19.94	3.65	49.97	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	3	TOC	K2004697-001.03	1.5111 ppm	0.1003 ppm	6.6400%	2020/06/13 17:54

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5820	15.8199	20.39	24.05	3.66	49.97	10:29
2	TOC	1.4401	14.4014	19.40	23.05	3.65	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2004697-002.12	1.3652 ppm	0.0266 ppm	1.9500%	2020/06/13 18:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3840	13.8398	19.01	22.57	3.57	49.96	10:28
2	TOC	1.3463	13.4634	18.74	22.38	3.64	49.96	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	5	TOC	K2004697-002.12 ms	27.9403 ppm	0.0000 ppm	0.0000%	2020/06/13 18:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.9403	279.4030	205.29	208.92	3.63	49.96	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	6	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/13 19:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.60	11.12	3.52	49.98	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2004697-003.03	1.3260 ppm	0.0004 ppm	0.0300%	2020/06/13 19:19

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.3257	13.2567	18.60	22.17	3.58	49.96	10:28
2	TOC	1.3262	13.2624	18.60	22.11	3.51	49.95	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2004697-004.03	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/13 19:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.43	10.94	3.51	49.94	10:28
2	TOC	0.0000	0.0000	7.34	10.93	3.59	49.95	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	9	TOC	K2004791-001.01 100x	2.9890 ppm	0.0113 ppm	0.3800%	2020/06/13 20:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.9810	29.8102	30.21	33.78	3.57	49.93	10:26
2	TOC	2.9970	29.9699	30.32	33.82	3.50	49.96	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.4750 ppm (PASS)	0.0000 ppm	0%	2020/06/13 20:43

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.4750	254.7503	188.60	191.98	3.38	49.97	10:31

Completion State	Success Action	Method	Calibration	STD Conc - Pos B
Success - Criteria	Do Nothing	CAS_salt_010711	CAS_salt_010711	50 ppmC

met.	(v4)	(v38)

Sample Type: Check Standard --> CCB From Schedule Version 5

	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%	2020/06/13 20:57

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.24	10.65	3.41	49.97	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 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	10	TOC	K2004737-001.01	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/13 21:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.57	10.00	3.43	49.99	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2004737-002.01	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/13 21:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.89	10.28	3.40	50.00	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2004744-001.06	0.9428 ppm	0.0072 ppm	0.7600%	2020/06/13 21:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9479	9.4790	15.95	19.68	3.73	50.02	10:28
2	TOC	0.9378	9.3778	15.88	19.50	3.63	50.03	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2004698-001.03	0.1963 ppm	0.0162 ppm	8.2700%	2020/06/13 22:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2078	2.0775	10.75	14.41	3.65	50.04	10:27
2	TOC	0.1848	1.8480	10.59	14.15	3.56	50.06	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2004733-001.01	10.4566 ppm	0.0915 ppm	0.8800%	2020/06/13 22:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.3919	103.9190	82.19	85.79	3.60	50.08	10:26
2	TOC	10.5213	105.2134	83.10	86.62	3.52	50.09	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2004733-002.01 10x	0.8065 ppm	0.0183 ppm	2.2700%	2020/06/13 23:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8195	8.1946	15.05	18.64	3.60	50.10	10:26
2	TOC	0.7935	7.9351	14.86	18.50	3.64	50.12	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K2004733-003.01 10x	6.0122 ppm	0.6003 ppm	9.9800%	2020/06/13 23:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.5878	55.8779	48.49	52.14	3.64	50.11	10:29
2	TOC	6.4367	64.3670	54.45	57.99	3.54	50.12	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2004733-004.01 10x	4.4592 ppm	0.1206 ppm	2.7000%	2020/06/14 00:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.5444	45.4442	41.18	44.72	3.55	50.14	10:28

2	TOC	4.3739	43.7393	39.98	43.52	3.54	50.16	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2004733-005.01 5x	12.6164 ppm	0.2225 ppm	1.7600%	2020/06/14 00:30

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.7737	127.7371	98.90	102.41	3.51	50.16	10:29
2	TOC	12.4591	124.5909	96.70	100.32	3.62	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2004808-001.02	9.7810 ppm	0.5642 ppm	5.7700%	2020/06/14 00:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	10.1799	101.7992	80.71	84.17	3.47	50.19	10:27
2	TOC	9.3820	93.8204	75.11	78.67	3.56	50.21	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.7597 ppm (PASS)	0.0000 ppm	0%	2020/06/14 01:26

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.7597	257.5972	190.59	194.19	3.59	50.22	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 5

	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%	2020/06/14 01:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.67	13.23	3.57	50.20	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 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 01:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	9.10	12.83	3.73	50.19	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 5

	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)	25.7945 ppm (PASS)	0.0000 ppm	0%	2020/06/14 02:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.7945	257.9450	190.84	194.46	3.62	50.17	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: Sample From Schedule Version 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2004808-002.02	9.2787 ppm	0.0579 ppm	0.6200%	2020/06/14 02:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.3196	93.1960	74.67	78.35	3.68	50.15	10:30
2	TOC	9.2378	92.3777	74.10	77.73	3.63	50.15	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2004808-003.02	1.8125 ppm	0.0903 ppm	4.9800%	2020/06/14 02:53

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8764	18.7636	22.46	26.03	3.57	50.15	10:25
2	TOC	1.7486	17.4863	21.56	25.12	3.55	50.16	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2004808-003.02 ms	22.6227 ppm	0.0000 ppm	0.0000%	2020/06/14 03:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	22.6227	226.2271	167.99	171.73	3.74	50.13	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 03:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.10	11.69	3.59	50.14	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2004808-004.02	16.3705 ppm	0.1534 ppm	0.9400%	2020/06/14 03:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	16.4790	164.7900	124.89	128.47	3.58	50.15	10:25
2	TOC	16.2620	162.6203	123.37	127.01	3.64	50.16	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K2004808-005.02	9.1476 ppm	0.0610 ppm	0.6700%	2020/06/14 04:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	9.1907	91.9073	73.77	77.35	3.58	50.16	10:27
2	TOC	9.1045	91.0448	73.16	76.86	3.70	50.18	10:26

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)	

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2004808-006.02	29.5301 ppm	0.2738 ppm	0.9300%	2020/06/14 04:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.7237	297.2366	217.80	221.40	3.59	50.20	10:26
2	TOC	29.3365	293.3648	215.09	218.72	3.63	50.20	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2004808-007.02 10x	3.7883 ppm	0.0450 ppm	1.1900%	2020/06/14 05:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.8201	38.2010	36.09	39.68	3.59	50.24	10:28
2	TOC	3.7565	37.5652	35.65	39.28	3.63	50.23	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	24.9881 ppm (PASS)	0.0000 ppm	0%	2020/06/14 05:42

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.9881	249.8807	185.18	188.84	3.66	50.24	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 5

	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%	2020/06/14 05:57

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

D	TOC	0 ppm	1	0.0000	0.0000	7.89	11.54	3.65	50.26	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 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	29	TOC	K2004808-008.02	11.9653 ppm	0.3355 ppm	2.8000%	2020/06/14 06:12

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	12.2025	122.0249	94.90	98.52	3.62	50.25	10:27
2	TOC	11.7281	117.2807	91.57	95.30	3.74	50.29	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2004808-009.02	30.6063 ppm	0.3733 ppm	1.2200%	2020/06/14 06:40

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	30.8702	308.7024	225.85	229.42	3.57	50.25	10:26
2	TOC	30.3424	303.4235	222.14	225.91	3.77	50.26	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2004758-001.10	0.8823 ppm	0.1783 ppm	20.2100%	2020/06/14 07:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0083	10.0834	16.37	20.03	3.66	50.25	10:25
2	TOC	0.7562	7.5616	14.60	18.23	3.62	50.26	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2004758-002.10	0.4392 ppm	0.0080 ppm	1.8100%	2020/06/14 07:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4448	4.4482	12.42	16.05	3.63	50.25	10:26
2	TOC	0.4336	4.3356	12.34	16.10	3.76	50.25	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC)	CAS_salt_010711	CAS_salt_010711

(v1397) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2004758-003.10	0.3468 ppm	0.0511 ppm	14.7400%	2020/06/14 08:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3830	3.8295	11.98	15.42	3.44	50.24	10:28
2	TOC	0.3107	3.1068	11.48	14.97	3.49	50.24	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2004758-004.10	3.1285 ppm	0.0316 ppm	1.0100%	2020/06/14 08:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.1508	31.5081	31.40	34.89	3.49	50.22	10:29
2	TOC	3.1062	31.0619	31.09	34.62	3.54	50.24	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2004758-005.10 20x	4.4198 ppm	0.0186 ppm	0.4200%	2020/06/14 09:00

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4066	44.0657	40.21	43.85	3.64	50.21	10:29
2	TOC	4.4329	44.3295	40.39	43.82	3.43	50.22	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	36	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 09:28

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.37	9.93	3.56	50.18	10:27
2	TOC	0.0000	0.0000	7.31	10.91	3.60	50.17	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	37	TOC	K2004572-004.01 doc	0.5326 ppm	0.0024 ppm	0.4500%	2020/06/14 09:56

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

#	Analysis Type			(Abs)		(Abs)	(psig)	Time
1	TOC	0.5309	5.3093	13.02	16.54	3.52	50.14	10:26
2	TOC	0.5343	5.3435	13.04	16.66	3.62	50.13	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	38	TOC	K2004572-005.02 doc	2.7951 ppm	0.0073 ppm	0.2600%	2020/06/14 10:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8003	28.0026	28.94	32.43	3.49	50.14	10:28
2	TOC	2.7900	27.9000	28.87	32.53	3.67	50.12	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.0144 ppm (PASS)	0.0000 ppm	0%	2020/06/14 10:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0144	250.1444	185.36	188.83	3.46	50.13	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 5

	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%	2020/06/14 11:07

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.87	10.20	3.33	50.14	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 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	39	TOC	MB3	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 11:22

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.08	9.55	3.47	50.08	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 5

	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)	25.6448 ppm (PASS)	0.0000 ppm	0%	2020/06/14 11:36

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	25.6448	256.4482	189.79	193.34	3.55	50.05	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 5

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	40	TOC	K2004572-005.02 ms doc	29.6142 ppm	0.0000 ppm	0.0000%	2020/06/14 11:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.6142	296.1418	217.04	220.61	3.57	50.04	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	41	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/14 12:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.10	10.58	3.48	50.01	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	42	TOC	K2004572-006.01 doc	1.0034 ppm	0.0383 ppm	3.8200%	2020/06/14 12:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0304	10.3044	16.53	20.07	3.55	50.02	10:26
2	TOC	0.9763	9.7627	16.14	19.89	3.74	50.00	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	43	TOC	K2004572-009.01 doc	3.0689 ppm	0.0255 ppm	0.8300%	2020/06/14 12:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0869	30.8694	30.95	34.36	3.41	49.97	10:26
2	TOC	3.0509	30.5087	30.70	34.37	3.67	49.99	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	44	TOC	K2004572-010.01 doc	0.7346 ppm	0.0024 ppm	0.3300%	2020/06/14 13:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7363	7.3635	14.46	17.93	3.47	49.97	10:29
2	TOC	0.7329	7.3293	14.44	17.76	3.32	49.98	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	45	TOC	K2004572-014.01 doc	0.0012 ppm	0.0016 ppm	141.4200%	2020/06/14 13:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0023	0.0233	9.31	12.84	3.53	49.99	10:26
2	TOC	0.0000	0.0000	9.26	12.64	3.38	49.97	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	46	TOC	K2004572-015.01 doc	1.5269 ppm	0.0322 ppm	2.1100%	2020/06/14 14:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5042	15.0415	19.85	23.38	3.53	49.91	10:28

2	TOC	1.5496	15.4963	20.17	23.65	3.48	49.88	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	47	TOC	K2004572-016.01 doc	0.4980 ppm	0.0204 ppm	4.0900%	2020/06/14 14:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5124	5.1239	12.89	16.38	3.49	49.85	10:27
2	TOC	0.4836	4.8360	12.69	16.22	3.53	49.85	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.0943 ppm (PASS)	0.0000 ppm	0%	2020/06/14 15:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0943	250.9427	185.92	189.44	3.51	49.85	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 5

	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%	2020/06/14 15:23

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.77	10.32	3.55	49.83	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

		Analysis			Std. Dev.		

	Pos	Type	Sample ID	Result (ppmC)	(ppmC)	RSD	Start Time
◈	48	TOC	K2004907-001.01	3.5568 ppm	0.0435 ppm	1.2200%	2020/06/14 15:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.5876	35.8759	34.46	38.16	3.70	49.80	10:29
2	TOC	3.5260	35.2601	34.03	37.74	3.71	49.80	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	49	TOC	K2004871-001.01	2.0406 ppm	0.0379 ppm	1.8600%	2020/06/14 16:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.0138	20.1378	23.42	26.93	3.51	49.78	10:31
2	TOC	2.0674	20.6739	23.80	27.37	3.57	49.77	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.2966 (IC) (v1397)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 5

	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)	25.5638 ppm (PASS)	0.0000 ppm	0%	2020/06/14 16:34

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.5638	255.6385	189.22	192.69	3.48	49.76	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 5

	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%	2020/06/14 16:49

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.54	10.14	3.61	49.75	10:33

Completion State	Success Action	Method	Calibration	STD Conc - Pos D
Success - Criteria	Do Nothing	CAS_salt_010711	CAS_salt_010711	0 ppmC

met.	(v4)	(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
v1396	1.5837	1.5160	0.0000	0.0000	0.0000	2020/06/11 17:09	Fusion1 (Fusion1)
v1397	1.9690	1.1040	0.0000	0.0000	0.0000	2020/06/13 14:45	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version:	v37	Calibration curve formula:	TOC: y = 6.274x + 2.733
Ver Creation:	2020/06/04 17:42	r^2 value:	TOC: r^2 = 0.99796
Comment:			
Operator:	Fusion1 (Fusion1)		
Basic Analysis Type	TOC		

Basic Analysis Type: TOC

Sample ID	Y Raw Value	X Expected	Message	End Time
DI Water	6.8000	0.0000		2020/06/04 16:15
0.500 ppm	7.9000	0.5000		2020/06/04 16:30
1.0 ppm	9.1600	1.0000		2020/06/04 16:44
5.0 ppm	22.9500	5.0000		2020/06/04 16:58
10 ppm	68.0970	10.0000		2020/06/04 17:12
25 ppm	163.0030	25.0000		2020/06/04 17:26
50 ppm	315.2880	50.0000		2020/06/04 17:40

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

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	2020/06/14 17:05

ALS Environmental

StarLIMS Run: 683111, 683425, 683426

Analysis: DOC/TOC

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

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-17-B 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-08-22-D

21 % H3PO4: 19-GEN-08-22-C

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By:	Date Analyzed: 6/18/20
Reviewed By:	Date Reviewed: 6/16/20

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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June 24, 2020

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

Work Order: **HS20060453**

Laboratory Results for: **Longhorn GW Treatment Plant Bi Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jun 10, 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: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20060453

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060453-01	LH18/24-SP650_060920	Water		09-Jun-2020 14:00	10-Jun-2020 09:40	☐
HS20060453-02	Trip Blank	Water	CG-042320-34	09-Jun-2020 14:00	10-Jun-2020 09:40	☐

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20060453

GCMS Volatiles by Method SW8260

Batch ID: R363462

Sample ID: VLCSW-200617

- 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, Hexachlorobutadiene and Naphthalene exceeded QC limits for LCS. Samples are ND for these compounds.

Sample ID: LH18/24-SP650_060920 (HS20060453-01MS)

- The recovery of the Matrix Spike (MS) and 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 MS/MSD may be due to sample matrix interference.

Sample ID: LH18/24-SP650_060920 (HS20060453-01MSD)

- MS/MSD RPD recovered above the RPD limit for 1,2,3-Trichlorobenzene

WetChemistry by Method SW9056

Batch ID: R363862

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

ALS Houston, US Date: 24-Jun-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20060453

Sample ID: LH18/24-SP650_060920 Lab ID:HS20060453-01

Collection Date: 09-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,2-Dichloroethane	**0.81**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	17-Jun-2020 15:13
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 15:13
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	17-Jun-2020 15:13
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	17-Jun-2020 15:13
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 15:13
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	17-Jun-2020 15:13
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	17-Jun-2020 15:13
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	17-Jun-2020 15:13
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13

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

ALS Houston, US Date: 24-Jun-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20060453

Sample ID: LH18/24-SP650_060920 Lab ID:HS20060453-01

Collection Date: 09-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
cis-1,2-Dichloroethene	**17**		**0.20**	**0.50**	**1.0**	**UG/L**	1	17-Jun-2020 15:13
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	17-Jun-2020 15:13
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	17-Jun-2020 15:13
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	17-Jun-2020 15:13
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 15:13
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
Trichloroethene	**3.4**		**0.20**	**0.50**	**1.0**	**UG/L**	1	17-Jun-2020 15:13
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 15:13
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 15:13
Surr: 1,2-Dichloroethane-d4	*82.9*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2020 15:13*
Surr: 4-Bromofluorobenzene	*98.6*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2020 15:13*
Surr: Dibromofluoromethane	*88.8*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2020 15:13*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2020 15:13*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**316**		**2.00**	**5.00**	**5.00**	**mg/L**	10	24-Jun-2020 16:30
Sulfate	**31.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	24-Jun-2020 16:15

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

ALS Houston, US Date: 24-Jun-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20060453

Sample ID: Trip Blank Lab ID:HS20060453-02

Collection Date: 09-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 14:49
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	17-Jun-2020 14:49
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	17-Jun-2020 14:49
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 14:49
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	17-Jun-2020 14:49
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	17-Jun-2020 14:49
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	17-Jun-2020 14:49
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49

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

ALS Houston, US Date: 24-Jun-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20060453

Sample ID: Trip Blank Lab ID:HS20060453-02

Collection Date: 09-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	17-Jun-2020 14:49
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	17-Jun-2020 14:49
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	17-Jun-2020 14:49
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	17-Jun-2020 14:49
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	17-Jun-2020 14:49
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	17-Jun-2020 14:49
Surr: 1,2-Dichloroethane-d4	*81.9*			**0**	*81-118*	*%REC*	*1*	*17-Jun-2020 14:49*
Surr: 4-Bromofluorobenzene	*97.1*			**0**	*85-114*	*%REC*	*1*	*17-Jun-2020 14:49*
Surr: Dibromofluoromethane	*88.5*			**0**	*80-119*	*%REC*	*1*	*17-Jun-2020 14:49*
Surr: Toluene-d8	*107*			**0**	*89-112*	*%REC*	*1*	*17-Jun-2020 14:49*

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

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R363462 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20060453-01	LH18/24-SP650_060920	09 Jun 2020 14:00			17 Jun 2020 15:13	1
HS20060453-02	Trip Blank	09 Jun 2020 14:00			17 Jun 2020 14:49	1
Batch ID: R363862 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS20060453-01	LH18/24-SP650_060920	09 Jun 2020 14:00			24 Jun 2020 16:30	10
HS20060453-01	LH18/24-SP650_060920	09 Jun 2020 14:00			24 Jun 2020 16:15	1

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

QC BATCH REPORT

Batch ID: R363462 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200617** Units: **UG/L** Analysis Date: **17-Jun-2020 14:25**
Client ID: Run ID: **VOA6_363462** SeqNo: **5624345** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

QC BATCH REPORT

Batch ID: R363462 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MBLK Sample ID: **VBLKW-200617** Units: **UG/L** Analysis Date: **17-Jun-2020 14:25**
Client ID: Run ID: **VOA6_363462** SeqNo: **5624345** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*41.2*	*1.0*	*50*	*0*	*82.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.8*	*1.0*	*50*	*0*	*97.6*	*85 - 114*				
Surr: Dibromofluoromethane	*44.57*	*1.0*	*50*	*0*	*89.1*	*80 - 119*				
Surr: Toluene-d8	*53.71*	*1.0*	*50*	*0*	*107*	*89 - 112*				

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

QC BATCH REPORT

Batch ID: R363462 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200617** Units: **UG/L** Analysis Date: **17-Jun-2020 13:37**
Client ID: Run ID: **VOA6_363462** SeqNo: **5624344** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	19.68	1.0	20	0	98.4	78 - 124				
1,1,1-Trichloroethane	18.51	1.0	20	0	92.6	74 - 131				
1,1,2,2-Tetrachloroethane	18.48	1.0	20	0	92.4	71 - 121				
1,1,2-Trichloroethane	19.61	1.0	20	0	98.1	80 - 119				
1,1-Dichloroethane	19.04	1.0	20	0	95.2	77 - 125				
1,1-Dichloroethene	18.26	1.0	20	0	91.3	71 - 131				
1,1-Dichloropropene	18.22	1.0	20	0	91.1	78 - 125				
1,2,3-Trichlorobenzene	31.23	1.0	20	0	156	69 - 129				S
1,2,3-Trichloropropane	18.52	1.0	20	0	92.6	73 - 122				
1,2,4-Trichlorobenzene	29.43	1.0	20	0	147	69 - 130				S
1,2,4-Trimethylbenzene	18.53	1.0	20	0	92.6	76 - 124				
1,2-Dibromo-3-chloropropane	21.23	1.0	20	0	106	62 - 128				
1,2-Dibromoethane	20.02	1.0	20	0	100	77 - 121				
1,2-Dichlorobenzene	19.91	1.0	20	0	99.6	80 - 119				
1,2-Dichloroethane	19.23	1.0	20	0	96.1	73 - 128				
1,2-Dichloropropane	20.29	1.0	20	0	101	78 - 122				
1,3,5-Trimethylbenzene	17.96	1.0	20	0	89.8	75 - 124				
1,3-Dichlorobenzene	18.34	1.0	20	0	91.7	80 - 119				
1,3-Dichloropropane	18.99	1.0	20	0	94.9	80 - 119				
1,4-Dichlorobenzene	18.51	1.0	20	0	92.5	79 - 118				
2,2-Dichloropropane	18.98	1.0	20	0	94.9	60 - 139				
2-Butanone	35.98	2.0	40	0	89.9	56 - 143				
2-Chlorotoluene	17.52	1.0	20	0	87.6	79 - 122				
2-Hexanone	37.91	2.0	40	0	94.8	57 - 139				
4-Chlorotoluene	17.47	1.0	20	0	87.4	78 - 122				
4-Isopropyltoluene	18.25	1.0	20	0	91.3	77 - 127				
4-Methyl-2-pentanone	38.11	2.0	40	0	95.3	67 - 130				
Acetone	31.27	2.0	40	0	78.2	39 - 160				
Benzene	19.05	1.0	20	0	95.2	79 - 120				
Bromobenzene	19.18	1.0	20	0	95.9	80 - 120				
Bromochloromethane	19.85	1.0	20	0	99.2	78 - 123				
Bromodichloromethane	19.51	1.0	20	0	97.5	79 - 125				
Bromoform	19.64	1.0	20	0	98.2	66 - 130				
Bromomethane	18.83	1.0	20	0	94.1	53 - 141				

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

QC BATCH REPORT

Batch ID: R363462 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200617** Units: **UG/L** Analysis Date: **17-Jun-2020 13:37**
Client ID: Run ID: **VOA6_363462** SeqNo: **5624344** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	37.53	2.0	40	0	93.8	64 - 133				
Carbon tetrachloride	17.59	1.0	20	0	88.0	72 - 136				
Chlorobenzene	19.21	1.0	20	0	96.1	82 - 118				
Chloroethane	18.54	1.0	20	0	92.7	60 - 138				
Chloroform	19.44	1.0	20	0	97.2	79 - 124				
Chloromethane	17.14	1.0	20	0	85.7	50 - 139				
cis-1,2-Dichloroethene	19.82	1.0	20	0	99.1	78 - 123				
cis-1,3-Dichloropropene	19.68	1.0	20	0	98.4	75 - 124				
Dibromochloromethane	19.12	1.0	20	0	95.6	74 - 126				
Dibromomethane	19.26	1.0	20	0	96.3	79 - 123				
Dichlorodifluoromethane	16.9	1.0	20	0	84.5	32 - 152				
Ethylbenzene	18.76	1.0	20	0	93.8	79 - 121				
Hexachlorobutadiene	32.03	1.0	20	0	160	66 - 134				S
Isopropylbenzene	18.46	1.0	20	0	92.3	72 - 131				
m,p-Xylene	37.55	2.0	40	0	93.9	80 - 121				
Methylene chloride	21.5	2.0	20	0	108	74 - 124				
Naphthalene	26.51	1.0	20	0	133	61 - 128				S
n-Butylbenzene	18.24	1.0	20	0	91.2	75 - 128				
n-Propylbenzene	17.73	1.0	20	0	88.6	76 - 126				
o-Xylene	19.2	1.0	20	0	96.0	78 - 122				
sec-Butylbenzene	17.46	1.0	20	0	87.3	77 - 126				
Styrene	19.09	1.0	20	0	95.4	78 - 123				
tert-Butylbenzene	18.04	1.0	20	0	90.2	78 - 124				
Tetrachloroethene	19.21	1.0	20	0	96.1	74 - 129				
Toluene	18.97	1.0	20	0	94.8	80 - 121				
trans-1,2-Dichloroethene	19.55	1.0	20	0	97.8	75 - 124				
trans-1,3-Dichloropropene	19.62	1.0	20	0	98.1	73 - 127				
Trichloroethene	18.83	1.0	20	0	94.1	79 - 123				
Trichlorofluoromethane	18.87	1.0	20	0	94.4	65 - 141				
Vinyl chloride	16.96	1.0	20	0	84.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*50.86*	*1.0*	*50*	*0*	*102*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.15*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*51.58*	*1.0*	*50*	*0*	*103*	*80 - 119*				
Surr: Toluene-d8	*47.85*	*1.0*	*50*	*0*	*95.7*	*89 - 112*				

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

QC BATCH REPORT

Batch ID: R363462 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20060453-01MS** Units: **UG/L** Analysis Date: **17-Jun-2020 17:13**
Client ID: **LH18/24-SP650_060920** Run ID: **VOA6_363462** SeqNo: **5624352** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.49	1.0	20	0	107	78 - 124				
1,1,1-Trichloroethane	17.23	1.0	20	0	86.2	74 - 131				
1,1,2,2-Tetrachloroethane	20.65	1.0	20	0	103	71 - 121				
1,1,2-Trichloroethane	21.27	1.0	20	0	106	80 - 119				
1,1-Dichloroethane	16.91	1.0	20	0	84.5	77 - 125				
1,1-Dichloroethene	15.69	1.0	20	0	78.4	71 - 131				
1,1-Dichloropropene	18.75	1.0	20	0	93.7	78 - 125				
1,2,3-Trichlorobenzene	24.86	1.0	20	0	124	69 - 129				
1,2,3-Trichloropropane	19.98	1.0	20	0	99.9	73 - 122				
1,2,4-Trichlorobenzene	24.64	1.0	20	0	123	69 - 130				
1,2,4-Trimethylbenzene	21.29	1.0	20	0	106	76 - 124				
1,2-Dibromo-3-chloropropane	24.08	1.0	20	0	120	62 - 128				
1,2-Dibromoethane	21.51	1.0	20	0	108	77 - 121				
1,2-Dichlorobenzene	21.34	1.0	20	0	107	80 - 119				
1,2-Dichloroethane	19.99	1.0	20	0.8112	95.9	73 - 128				
1,2-Dichloropropane	20.51	1.0	20	0	103	78 - 122				
1,3,5-Trimethylbenzene	20.77	1.0	20	0	104	75 - 124				
1,3-Dichlorobenzene	20.98	1.0	20	0	105	80 - 119				
1,3-Dichloropropane	20.51	1.0	20	0	103	80 - 119				
1,4-Dichlorobenzene	20.4	1.0	20	0	102	79 - 118				
2,2-Dichloropropane	17	1.0	20	0	85.0	60 - 139				
2-Butanone	30.85	2.0	40	0	77.1	56 - 143				
2-Chlorotoluene	19.98	1.0	20	0	99.9	79 - 122				
2-Hexanone	41.31	2.0	40	0	103	57 - 139				
4-Chlorotoluene	20.07	1.0	20	0	100	78 - 122				
4-Isopropyltoluene	21.57	1.0	20	0	108	77 - 127				
4-Methyl-2-pentanone	40.77	2.0	40	0	102	67 - 130				
Acetone	23.15	2.0	40	0	57.9	39 - 160				
Benzene	19.15	1.0	20	0	95.8	79 - 120				
Bromobenzene	21.09	1.0	20	0	105	80 - 120				
Bromochloromethane	17.26	1.0	20	0	86.3	78 - 123				
Bromodichloromethane	19.47	1.0	20	0	97.4	79 - 125				
Bromoform	21.1	1.0	20	0	106	66 - 130				
Bromomethane	11.88	1.0	20	0	59.4	53 - 141				

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

QC BATCH REPORT

Batch ID: R363462 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20060453-01MS** Units: **UG/L** Analysis Date: **17-Jun-2020 17:13**
Client ID: **LH18/24-SP650_060920** Run ID: **VOA6_363462** SeqNo: **5624352** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	32.78	2.0	40	0	81.9	64 - 133				
Carbon tetrachloride	18.6	1.0	20	0	93.0	72 - 136				
Chlorobenzene	20.65	1.0	20	0	103	82 - 118				
Chloroethane	13.41	1.0	20	0	67.1	60 - 138				
Chloroform	16.92	1.0	20	0	84.6	79 - 124				
Chloromethane	9.835	1.0	20	0	49.2	50 - 139				S
cis-1,2-Dichloroethene	34.85	1.0	20	17.43	87.1	78 - 123				
cis-1,3-Dichloropropene	19.28	1.0	20	0	96.4	75 - 124				
Dibromochloromethane	20.71	1.0	20	0	104	74 - 126				
Dibromomethane	19.33	1.0	20	0	96.7	79 - 123				
Dichlorodifluoromethane	5.812	1.0	20	0	29.1	32 - 152				S
Ethylbenzene	20.95	1.0	20	0	105	79 - 121				
Hexachlorobutadiene	27.62	1.0	20	0	138	66 - 134				S
Isopropylbenzene	21.14	1.0	20	0	106	72 - 131				
m,p-Xylene	42.08	2.0	40	0	105	80 - 121				
Methylene chloride	17.14	2.0	20	0	85.7	74 - 124				
Naphthalene	23.72	1.0	20	0	119	61 - 128				
n-Butylbenzene	21.88	1.0	20	0	109	75 - 128				
n-Propylbenzene	20.95	1.0	20	0	105	76 - 126				
o-Xylene	21.36	1.0	20	0	107	78 - 122				
sec-Butylbenzene	21.25	1.0	20	0	106	77 - 126				
Styrene	20.71	1.0	20	0	104	78 - 123				
tert-Butylbenzene	20.92	1.0	20	0	105	78 - 124				
Tetrachloroethene	22.38	1.0	20	0	112	74 - 129				
Toluene	20.63	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	17.29	1.0	20	0	86.4	75 - 124				
trans-1,3-Dichloropropene	19.64	1.0	20	0	98.2	73 - 127				
Trichloroethene	24.1	1.0	20	3.392	104	79 - 123				
Trichlorofluoromethane	16.04	1.0	20	0	80.2	65 - 141				
Vinyl chloride	11.75	1.0	20	0	58.7	58 - 137				
Surr: 1,2-Dichloroethane-d4	*40.84*	*1.0*	*50*	*0*	*81.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.5*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*44.22*	*1.0*	*50*	*0*	*88.4*	*80 - 119*				
Surr: Toluene-d8	*52.84*	*1.0*	*50*	*0*	*106*	*89 - 112*				

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

QC BATCH REPORT

Batch ID: R363462 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20060453-01MSD** Units: **UG/L** Analysis Date: **17-Jun-2020 17:37**
Client ID: **LH18/24-SP650_060920** Run ID: **VOA6_363462** SeqNo: **5624353** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.1	1.0	20	0	100	78 - 124	21.49	6.72	20	
1,1,1-Trichloroethane	17.9	1.0	20	0	89.5	74 - 131	17.23	3.78	20	
1,1,2,2-Tetrachloroethane	19.48	1.0	20	0	97.4	71 - 121	20.65	5.79	20	
1,1,2-Trichloroethane	20.13	1.0	20	0	101	80 - 119	21.27	5.52	20	
1,1-Dichloroethane	16.95	1.0	20	0	84.8	77 - 125	16.91	0.253	20	
1,1-Dichloroethene	16.65	1.0	20	0	83.3	71 - 131	15.69	5.96	20	
1,1-Dichloropropene	19.55	1.0	20	0	97.7	78 - 125	18.75	4.2	20	
1,2,3-Trichlorobenzene	31.95	1.0	20	0	160	69 - 129	24.86	25	20	SR
1,2,3-Trichloropropane	17.96	1.0	20	0	89.8	73 - 122	19.98	10.7	20	
1,2,4-Trichlorobenzene	28.59	1.0	20	0	143	69 - 130	24.64	14.9	20	S
1,2,4-Trimethylbenzene	20.09	1.0	20	0	100	76 - 124	21.29	5.81	20	
1,2-Dibromo-3-chloropropane	23.56	1.0	20	0	118	62 - 128	24.08	2.2	20	
1,2-Dibromoethane	20.38	1.0	20	0	102	77 - 121	21.51	5.42	20	
1,2-Dichlorobenzene	20.46	1.0	20	0	102	80 - 119	21.34	4.19	20	
1,2-Dichloroethane	19.22	1.0	20	0.8112	92.0	73 - 128	19.99	3.94	20	
1,2-Dichloropropane	19.7	1.0	20	0	98.5	78 - 122	20.51	4.04	20	
1,3,5-Trimethylbenzene	19.95	1.0	20	0	99.8	75 - 124	20.77	4.02	20	
1,3-Dichlorobenzene	19.81	1.0	20	0	99.1	80 - 119	20.98	5.75	20	
1,3-Dichloropropane	19.24	1.0	20	0	96.2	80 - 119	20.51	6.4	20	
1,4-Dichlorobenzene	19.1	1.0	20	0	95.5	79 - 118	20.4	6.58	20	
2,2-Dichloropropane	17.27	1.0	20	0	86.3	60 - 139	17	1.56	20	
2-Butanone	30.09	2.0	40	0	75.2	56 - 143	30.85	2.5	20	
2-Chlorotoluene	18.86	1.0	20	0	94.3	79 - 122	19.98	5.77	20	
2-Hexanone	38.96	2.0	40	0	97.4	57 - 139	41.31	5.85	20	
4-Chlorotoluene	18.6	1.0	20	0	93.0	78 - 122	20.07	7.64	20	
4-Isopropyltoluene	21.41	1.0	20	0	107	77 - 127	21.57	0.758	20	
4-Methyl-2-pentanone	38.82	2.0	40	0	97.0	67 - 130	40.77	4.91	20	
Acetone	22.05	2.0	40	0	55.1	39 - 160	23.15	4.86	20	
Benzene	19.22	1.0	20	0	96.1	79 - 120	19.15	0.348	20	
Bromobenzene	19.38	1.0	20	0	96.9	80 - 120	21.09	8.47	20	
Bromochloromethane	17.05	1.0	20	0	85.3	78 - 123	17.26	1.2	20	
Bromodichloromethane	18.94	1.0	20	0	94.7	79 - 125	19.47	2.78	20	
Bromoform	19.86	1.0	20	0	99.3	66 - 130	21.1	6.08	20	
Bromomethane	10.03	1.0	20	0	50.1	53 - 141	11.88	16.9	20	S

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

QC BATCH REPORT

Batch ID: R363462 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20060453-01MSD** Units: **UG/L** Analysis Date: **17-Jun-2020 17:37**
Client ID: **LH18/24-SP650_060920** Run ID: **VOA6_363462** SeqNo: **5624353** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	34.24	2.0	40	0	85.6	64 - 133	32.78	4.38	20	
Carbon tetrachloride	19.56	1.0	20	0	97.8	72 - 136	18.6	5.02	20	
Chlorobenzene	19.84	1.0	20	0	99.2	82 - 118	20.65	4.02	20	
Chloroethane	12.97	1.0	20	0	64.9	60 - 138	13.41	3.32	20	
Chloroform	17.18	1.0	20	0	85.9	79 - 124	16.92	1.54	20	
Chloromethane	9.458	1.0	20	0	47.3	50 - 139	9.835	3.91	20	S
cis-1,2-Dichloroethene	34.55	1.0	20	17.43	85.6	78 - 123	34.85	0.874	20	
cis-1,3-Dichloropropene	19.01	1.0	20	0	95.0	75 - 124	19.28	1.42	20	
Dibromochloromethane	19.64	1.0	20	0	98.2	74 - 126	20.71	5.32	20	
Dibromomethane	18.45	1.0	20	0	92.2	79 - 123	19.33	4.69	20	
Dichlorodifluoromethane	5.976	1.0	20	0	29.9	32 - 152	5.812	2.79	20	S
Ethylbenzene	20.34	1.0	20	0	102	79 - 121	20.95	2.99	20	
Hexachlorobutadiene	30.52	1.0	20	0	153	66 - 134	27.62	9.96	20	S
Isopropylbenzene	20.72	1.0	20	0	104	72 - 131	21.14	2.03	20	
m,p-Xylene	40.76	2.0	40	0	102	80 - 121	42.08	3.19	20	
Methylene chloride	16.51	2.0	20	0	82.5	74 - 124	17.14	3.74	20	
Naphthalene	27.89	1.0	20	0	139	61 - 128	23.72	16.1	20	S
n-Butylbenzene	21.99	1.0	20	0	110	75 - 128	21.88	0.484	20	
n-Propylbenzene	20.39	1.0	20	0	102	76 - 126	20.95	2.68	20	
o-Xylene	20.45	1.0	20	0	102	78 - 122	21.36	4.34	20	
sec-Butylbenzene	21.03	1.0	20	0	105	77 - 126	21.25	1.01	20	
Styrene	19.8	1.0	20	0	99.0	78 - 123	20.71	4.5	20	
tert-Butylbenzene	20.78	1.0	20	0	104	78 - 124	20.92	0.639	20	
Tetrachloroethene	22.28	1.0	20	0	111	74 - 129	22.38	0.448	20	
Toluene	20.08	1.0	20	0	100	80 - 121	20.63	2.7	20	
trans-1,2-Dichloroethene	17.43	1.0	20	0	87.2	75 - 124	17.29	0.834	20	
trans-1,3-Dichloropropene	18.95	1.0	20	0	94.8	73 - 127	19.64	3.58	20	
Trichloroethene	23.61	1.0	20	3.392	101	79 - 123	24.1	2.07	20	
Trichlorofluoromethane	16.57	1.0	20	0	82.9	65 - 141	16.04	3.3	20	
Vinyl chloride	11.85	1.0	20	0	59.3	58 - 137	11.75	0.907	20	
Surr: 1,2-Dichloroethane-d4	*40.39*	*1.0*	*50*	*0*	*80.8*	*81 - 118*	*40.84*	*1.11*	*20*	S
Surr: 4-Bromofluorobenzene	*50.27*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.5*	*0.457*	*20*	
Surr: Dibromofluoromethane	*44.17*	*1.0*	*50*	*0*	*88.3*	*80 - 119*	*44.22*	*0.105*	*20*	
Surr: Toluene-d8	*52.25*	*1.0*	*50*	*0*	*104*	*89 - 112*	*52.84*	*1.13*	*20*	

ALS Houston, US Date: 24-Jun-20

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder:	HS20060453

QC BATCH REPORT

Batch ID:	**R363462 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20060453-01 HS20060453-02

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20060453

QC BATCH REPORT

Batch ID: R363862 (0) **Instrument: ICS2100** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-062420** Units: **mg/L** Analysis Date: **24-Jun-2020 10:02**
Client ID: Run ID: **ICS2100_363862** SeqNo: **5634322** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.208	0.500								J
Sulfate	0.500	0.500								U

LCS Sample ID: **LCS-062420** Units: **mg/L** Analysis Date: **24-Jun-2020 10:16**
Client ID: Run ID: **ICS2100_363862** SeqNo: **5634323** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.14	0.500	20	0	95.7	80 - 120				
Sulfate	18.98	0.500	20	0	94.9	80 - 120				

MS Sample ID: **HS20060785-10MS** Units: **mg/L** Analysis Date: **24-Jun-2020 11:00**
Client ID: Run ID: **ICS2100_363862** SeqNo: **5634325** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	369.6	5.00	100	278.4	91.1	80 - 120				
Sulfate	204.1	5.00	100	113.5	90.6	80 - 120				

MSD Sample ID: **HS20060785-10MSD** Units: **mg/L** Analysis Date: **24-Jun-2020 11:15**
Client ID: Run ID: **ICS2100_363862** SeqNo: **5634326** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	372.7	5.00	100	278.4	94.3	80 - 120	369.6	0.852	20	
Sulfate	205.9	5.00	100	113.5	92.4	80 - 120	204.1	0.902	20	

The following samples were analyzed in this batch: HS20060453-01

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: **HS20060453**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 24-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20060453

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060453-01	LH18/24-SP650_060920	Login	6/10/2020 12:33:24 PM	PMG	WET230
HS20060453-01	LH18/24-SP650_060920	Login	6/10/2020 12:33:24 PM	PMG	VOA197
HS20060453-02	Trip Blank	Login	6/10/2020 12:33:24 PM	PMG	VOA197

ALS Houston, US Date: 24-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060453 **Date/Time Received:** 10-Jun-2020 09:40

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

Completed By: /S/ Paresh M. Giga (eSignature) 10-Jun-2020 12:35 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 10-Jun-2020 14:48 (Date/Time)

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.5C U/C	IR25	
Cooler(s)/Kit(s):	24976		
Date/Time sample(s) sent to storage:	6/10/2020 12:45		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210, Houston, Tx. 77099 ATTN: R.J. Modashia

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT
BI-WEEKLY SAMPLES

Prepared By:
Scott Beesinger

P.O Number

HS20060453
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Bi Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	Analyses: CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_060920	Water	06/09/20 / 14:00		3	3		HCL	
LH18/24-SP650_060920	Water	06/09/20 / 14:00		1		1	NONE	
Trip Blank	Water	06/09/20		2	2		HCL	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/09/20	14:30									

9For Lab Use Only

Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition
J. Mercado	6/10/20	09:40							

Remarks
Cooler 24976 1125
Temp 1.5°C CF00

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

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

24976

CUSTODY SEAL
Date: 6/9/20 Time: 1430
Name: SCOTT BEESINGER
Company: BHATE

Seal Broken By: SM
Date: 06/10/20

24976

Must Deliver Next Business Day
Time and Tempature Sensitive!

24976

ORIGIN ID:SGRA (903) 930-8193
SCOTT BEESINGER
ARCADIS ENVIRONMENTAL & INFRASTRUCTURE
1233-B EAST GRAND AVE
RMB 202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 02DEC19
ACTWGT: 1.00 LB MAN
CAD: 330139/CAFE3211
DIMS: 19x16x13 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16-RJ

RMA:

FedEx Express

FedEx
TRK# (0221) 1251 0292 4585

WED - 10 JUN 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

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

June 30, 2020

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

Work Order: **HS20060840**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jun 17, 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: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060840

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20060840-01	LH18/24-SP650_061620	Water		16-Jun-2020 14:00	17-Jun-2020 09:12	☐
HS20060840-02	LH18/24-SP650_061620-BIX	Water		16-Jun-2020 14:00	17-Jun-2020 09:12	☐

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060840

CASE NARRATIVE

Work Order Comments

• The analysis for Perchlorate was performed to ALS Houston High Resolution Lab. Final report attached.

Work Order Comments

• The analyses for TOC was subcontracted to ALS Environmental in Kelso, WA. Final Report attached.

WetChemistry by Method E350.3

Batch ID: R363665

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

WetChemistry by Method E365.3

Batch ID: R363469

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

ALS Houston, US

Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS20060840

Sample ID: LH18/24-SP650_061620

Lab ID:HS20060840-01

Collection Date: 16-Jun-2020 14:00

Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**9.0**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	22-Jun-2020 10:15
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**1.96**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	17-Jun-2020 16:15
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	29-Jun-2020 09:34

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

ALS Houston, US

Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.

ANALYTICAL REPORT

Project: Longhorn GW Treatment Plant Weekly Samples

WorkOrder:HS20060840

Sample ID: LH18/24-SP650_061620-BIX

Lab ID:HS20060840-02

Collection Date: 16-Jun-2020 14:00

Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	30-Jun-2020 10:44

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

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060840

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R363469 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20060840-01	LH18/24-SP650_061620	16 Jun 2020 14:00			17 Jun 2020 16:15	10
Batch ID: R363665 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20060840-01	LH18/24-SP650_061620	16 Jun 2020 14:00			22 Jun 2020 10:15	1
Batch ID: R364077 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20060840-01	LH18/24-SP650_061620	16 Jun 2020 14:00			29 Jun 2020 09:34	1
Batch ID: R364186 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20060840-02	LH18/24-SP650_061620-BIX	16 Jun 2020 14:00			30 Jun 2020 10:44	1

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060840

QC BATCH REPORT

Batch ID: R363469 (0) **Instrument: UV-2450** **Method: ORTHO PHOSPHATE (PO4) AS P BY E365.3**

MBLK Sample ID: **MBLK-363469** Units: **mg/L** Analysis Date: **17-Jun-2020 16:15**
Client ID: Run ID: **UV-2450_363469** SeqNo: **5624413** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-363469** Units: **mg/L** Analysis Date: **17-Jun-2020 16:15**
Client ID: Run ID: **UV-2450_363469** SeqNo: **5624414** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.264	0.0250	0.25	0	106	85 - 115				

MS Sample ID: **HS20060840-01MS** Units: **mg/L** Analysis Date: **17-Jun-2020 16:15**
Client ID: **LH18/24-SP650_061620** Run ID: **UV-2450_363469** SeqNo: **5624416** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.53	0.250	2.5	1.96	103	80 - 120				

MSD Sample ID: **HS20060840-01MSD** Units: **mg/L** Analysis Date: **17-Jun-2020 16:15**
Client ID: **LH18/24-SP650_061620** Run ID: **UV-2450_363469** SeqNo: **5624421** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.52	0.250	2.5	1.96	102	80 - 120	4.53	0.221	20	

The following samples were analyzed in this batch: HS20060840-01

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20060840

QC BATCH REPORT

Batch ID: R363665 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-R363665** Units: **mg/L** Analysis Date: **22-Jun-2020 10:15**
Client ID: Run ID: **WetChem_HS_363665** SeqNo: **5629374** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.10	0.20								U

LCS Sample ID: **LCS-R363665** Units: **mg/L** Analysis Date: **22-Jun-2020 10:15**
Client ID: Run ID: **WetChem_HS_363665** SeqNo: **5629373** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	9.846	0.20	10	0	98.5	80 - 120				

MS Sample ID: **HS20060750-01MS** Units: **mg/L** Analysis Date: **22-Jun-2020 10:15**
Client ID: Run ID: **WetChem_HS_363665** SeqNo: **5629401** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.29	0.20	10	0.294	99.9	80 - 120				

MSD Sample ID: **HS20060750-01MSD** Units: **mg/L** Analysis Date: **22-Jun-2020 10:15**
Client ID: Run ID: **WetChem_HS_363665** SeqNo: **5629402** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.69	0.20	10	0.294	104	80 - 120	10.29	3.86	20	

The following samples were analyzed in this batch: HS20060840-01

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20060840**

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

ALS Houston, US Date: 30-Jun-20

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 30-Jun-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20060840

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20060840-01	LH18/24-SP650_061620	Login	6/17/2020 3:50:46 PM	PMG	WET108
HS20060840-01	LH18/24-SP650_061620	Login	6/17/2020 3:50:46 PM	PMG	WET108
HS20060840-01	LH18/24-SP650_061620	Login	6/17/2020 3:50:46 PM	PMG	Sub
HS20060840-02	LH18/24-SP650_061620-BIX	Login	6/17/2020 3:50:46 PM	PMG	Sub

00976789

ALS Houston, US Date: 30-Jun-20

Sample Receipt Checklist

Work Order ID: HS20060840 **Date/Time Received:** 17-Jun-2020 09:12

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By: /S/ Paresh M. Giga (eSignature) 17-Jun-2020 15:53 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 17-Jun-2020 22:21 (Date/Time)

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.6C U/C	IR25
Cooler(s)/Kit(s):	42774	
Date/Time sample(s) sent to storage:	6/17/2020 16:00	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Page 1 of 1

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS20060840
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_061620	Water	06/16/20 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_061620	Water	06/16/20 / 14:00		1			X		NONE	
LH18/24–SP650_061620_BIX	Water	06/16/20 / 14:00		1				X	NONE	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/16/20	14:30		6/17/2020	08:12						

For Lab Use Only

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

Remarks:

42774 1.6 #2 C11-8-01

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

00976791

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

42774

CUSTODY SEAL

Date: 6/16/20 Time: 1430
Name: Scott Beesinger
Company: BHATL

Seal Broken By: AM
Date: 06/17/20

42774 JUN 17 2020

Must Deliver Next Business Day
Time and Tempature Sensitive!

42774

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

SHIP DATE: 17DEC19
ACTWGT: 1.00 LB MAN
CAD: 300130/CAFE3211
DIMS: 14x11x10 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP 16 - RJ

RMA:

FedEx Express

FedEx
TRK# 0221 1251 0293 0102

WED - 17 JUN 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US
IAH

F10 182785 16JUN20 GGGA SGRC1/C700/B5A2

June 30, 2020 Service Request No:E2000564

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

Laboratory Results for: HS20060840

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 19, 2020
For your reference, these analyses have been assigned our service request number **E2000564.**

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.:**	E2000564
Project:	HS20060840	**Date Received:**	06/19/20
Sample Matrix:	Water		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 06/19/20.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000251: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in addition to a MS/MSD for this extraction batch. The LCS & LCSD recoveries are within QC limits; MS/MSD performed on an unrelated sample.

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:**E2000564
Project: HS20060840

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000564-001	LH18/24-SP650_061620_BIX	6/16/2020	1400

Service Request Summary

Folder #: **E2000564**
Client Name: ALS Environmental - US
Project Name: HS20060840
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: 06/19/20
Internal Due Date: 7/1/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060840
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000564-001	LH18/24-SP650_061620_BIX	Ground Water	06/16/20 1400	**IV**

Service Request Summary

Folder #: **E2000564**
Client Name: ALS Environmental - US
Project Name: HS20060840
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: 06/19/20
Internal Due Date: 7/1/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20060840
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-AirArch 4
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 7/8,level II 7/1

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

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

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
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
Kansas Department of Health and Environment	E-10352	7/31/2020
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	TX026932019-1	7/31/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
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

E2000564
ALS Laboratory Group
HS20060840

5

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: **14142**

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:	HS20060840
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060840-02**	**LH18/24-SP650_061620-BIX**	**Water**	**16 Jun 2020 14:00**
	SUB_Perch-6850			01 Jul 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: LORETA Date/Time: 6/18/2020 1000

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

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID IR11

Date/Time Received: 6/19/20 Initials: CG

Date/Time Logged in: 6/19/20 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?
-		6/19/20	1000	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: E2000564 5

ALS Laboratory Group HS20060840

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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#: 360389 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 6/19/20 15:44

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000562-001	17WW08_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
2	E2000562-002	18CPTMW10DW_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
3	E2000562-003	18CPTMW10DW_061520_a	.01	6850/ClO4 DOD			Ground Water	10mL	
4	E2000562-004	18CPTMW10SW_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
5	E2000562-005	18WW06_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
6	E2000562-006	18WW02_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
7	E2000562-007	AWD4_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
8	E2000562-008	18WW18_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
9	E2000562-009	18WW17_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
10	E2000562-010	125_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
11	E2000562-011	18WW16_061520	.01	6850/ClO4 DOD			Ground Water	10mL	
12	E2000563-001	MW19_061620	.01	6850/ClO4 DOD			Ground Water	10mL	
13	E2000563-002	18CPTMW15_061620	.01	6850/ClO4 DOD			Ground Water	10mL	
14	E2000563-003	18CPTMW16_061720	.01	6850/ClO4 DOD			Ground Water	10mL	
15	E2000564-001	LH18/24-SP650_061620_BIX	.01	6850/ClO4 DOD			Ground Water	10mL	
16	EQ2000251-01	MB		6850/ClO4 DOD			Liquid	10mL	
17	EQ2000251-02	LCS		6850/ClO4 DOD			Liquid	10mL	
18	EQ2000251-03	DLCS		6850/ClO4 DOD			Liquid	10mL	
19	EQ2000251-04	17WW08_061520 MS	.01	6850/ClO4 DOD			Liquid	10mL	
20	EQ2000251-05	17WW08_061520 DMS	.01	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

E2000562-001	100.00µL	E2000562-002	100.00µL	E2000562-003	100.00µL	E2000562-004	100.00µL	E2000562-005	100.00µL	E2000562-006	100.00µL
E2000562-007	100.00µL	E2000562-008	100.00µL	E2000562-009	100.00µL	E2000562-010	100.00µL	E2000562-011	100.00µL	E2000563-001	100.00µL
E2000563-002	100.00µL	E2000563-003	100.00µL	E2000564-001	100.00µL	EQ2000251-01	100.00µL	EQ2000251-02	100.00µL	EQ2000251-03	100.00µL
EQ2000251-04	100.00µL	EQ2000251-05	100.00µL								

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

EQ2000251-02	1.00µL	EQ2000251-03	1.00µL	EQ2000251-04	1.00µL	EQ2000251-05	1.00µL

Preparation Information Benchsheet

Prep Run#: 360389
Team: Semivoa GCMS/GRIVERA

Prep WorkFlow: GenExt28Day
Prep Method: Method

Status: Prepped
Prep Date/Time: 6/19/20 15:44

Preparation Steps

Step: Preparation
Started: 6/19/20 15:44
Finished: 6/19/20 17:00
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
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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:**	E2000564
Project:	HS20060840	**Date Collected:**	6/16/20 1400
Sample Matrix:	Ground Water	**Date Received:**	6/19/20
Sample Name:	LH18/24-SP650_061620_BIX	**Units:**	µg/L
Lab Code:	E2000564-001	**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	6/19/20	6/27/20 17:13	360389	685428	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000251-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	6/19/20	6/27/20 14:27	360389	685428	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Analyzed:**	6/29/20
Sample Matrix:	Ground Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	360389

	Lab Control Sample EQ2000251-02			Duplicate Lab Control Sample EQ2000251-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.108	0.100	108	0.0932	0.100	93	84 - 119	15	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:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000251-02	**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	**0.108**		0.100	0.0500	0.0250	1	6/19/20	6/29/20 10:44	360389	685428	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000251-03	**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	**0.0932**	J	0.100	0.0500	0.0250	1	6/19/20	6/29/20 10:52	360389	685428	

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
		Date Analyzed:	6/27/20

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:	E2000562-001	**Basis:**	NA

Analytical Method: 6850
Prep Method: Method

		Batch QCMS **Matrix Spike** EQ2000251-04				Batch QCDMS **Duplicate Matrix Spike** EQ2000251-05					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.0450	0.159	0.100	114	0.157	0.100	112	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:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000251-04	**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	**0.159**		0.100	0.0500	0.0250	1	6/19/20	6/27/20 14:51	360389	685428	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000564
Project:	HS20060840	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Batch QC	**Units:**	µg/L
Lab Code:	EQ2000251-05	**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	**0.157**		0.100	0.0500	0.0250	1	6/19/20	6/27/20 14:59	360389	685428	

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

20200625

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200625_001	Perchlorate6850b.lcm	1x	☒		6/25/2020 16:46
	null		20200625_002	Perchlorate6850b.lcm	1x	☒		6/25/2020 16:51
	IB		20200625_003	Perchlorate6850b.lcm	1x	☒		6/25/2020 16:56
	IB		20200625_004	Perchlorate6850b.lcm	1x	☒		6/25/2020 17:06
	IB		20200625_005	Perchlorate6850b.lcm	1x	☒		6/25/2020 17:13
	PERCHLORATE1		20200625_006	Perchlorate6850b.lcm	1x	☒	3100806-05	6/25/2020 17:21
	PERCHLORATE2		20200625_007	Perchlorate6850b.lcm	1x	☒	3100806-06	6/25/2020 17:29
	PERCHLORATE3		20200625_008	Perchlorate6850b.lcm	1x	☒	3100806-07	6/25/2020 17:37
	PERCHLORATE4		20200625_009	Perchlorate6850b.lcm	1x	☒	3100807-01	6/25/2020 17:45
	PERCHLORATE5		20200625_011	Perchlorate6850b.lcm	1x	☒	3100807-03	6/25/2020 18:01
	PERCHLORATE6		20200625_012	Perchlorate6850b.lcm	1x	☒	3100807-04	6/25/2020 18:09
	PERCHLORATE7		20200625_013	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 18:17
	PERCHLORATE8		20200625_014	Perchlorate6850b.lcm	1x	☒	3100807-06	6/25/2020 18:25
	PERCHLORATE9		20200625_015	Perchlorate6850b.lcm	1x	☒	3100807-07	6/25/2020 18:33
	PERCHLORATEICV		20200625_016	Perchlorate6850b.lcm	1x	☒	3100807-08	6/25/2020 18:40
	IB		20200625_017	Perchlorate6850b.lcm	1x	☒		6/25/2020 18:48
	IB		20200625_018	Perchlorate6850b.lcm	1x	☒		6/25/2020 18:56
	LODV		20200625_019	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:04
	ICS		20200625_020	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:12
	PERCHLORATE7		20200625_021	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 19:20
	EQ2000244-01		20200625_022	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:28
	EQ2000244-02		20200625_023	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:36
	EQ2000244-03		20200625_024	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:44
	EQ2000244-04		20200625_025	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:52
	EQ2000244-05		20200625_026	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:00
	E2000537-001		20200625_027	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:08
	E2000537-002		20200625_028	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:15
	E2000537-003		20200625_029	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:23
	E2000537-004		20200625_030	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:31
	E2000537-005		20200625_031	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:39
	PERCHLORATE7		20200625_032	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 20:47
	E2000537-006		20200625_033	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:55
	E2000537-007		20200625_034	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:03
	E2000537-008		20200625_035	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:11
	E2000537-009		20200625_036	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:19
	E2000540-001		20200625_037	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:27
	E2000540-002		20200625_038	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:34
	E2000540-003		20200625_039	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:42
	E2000540-004		20200625_040	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:50
	E2000537-001		20200625_041	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:58
	E2000537-002		20200625_042	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:06
	PERCHLORATE7		20200625_043	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 22:14
	EQ2000243-01		20200625_044	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:22
	EQ2000243-02		20200625_045	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:30
	EQ2000243-03		20200625_046	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:38
	EQ2000243-04		20200625_047	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:45
	EQ2000243-05		20200625_048	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:53
	E2000541-001		20200625_049	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:01
	E2000541-002		20200625_050	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:09
	E2000541-003		20200625_051	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:17
	E2000541-004		20200625_052	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:25
	E2000541-005		20200625_053	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:33
	PERCHLORATE7		20200625_054	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 23:41
	E2000541-006		20200625_055	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:49
	E2000541-007		20200625_056	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:57
	E2000541-008		20200625_057	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:05
	E2000541-009		20200625_058	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:12
	E2000541-010		20200625_059	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:20
	E2000541-011		20200625_060	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:28
	E2000541-012		20200625_061	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:36
	E2000541-013		20200625_062	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:44
	E2000541-014		20200625_063	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:52
	E2000541-015		20200625_064	Perchlorate6850b.lcm	1x	☒		6/26/2020 1:00
	PERCHLORATE7		20200625_065	Perchlorate6850b.lcm	1x	☒	3100807-05	6/26/2020 1:08

Initial Calibration - Detailed Report

Calibration ID: EC2000009 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000009-01	PERCHLORATE1	20200625_006	06/25/2020 17:21
02	EC2000009-02	PERCHLORATE2	20200625_007	06/25/2020 17:29
03	EC2000009-03	PERCHLORATE3	20200625_008	06/25/2020 17:37
04	EC2000009-04	PERCHLORATE4	20200625_009	06/25/2020 17:45
05	EC2000009-05	PERCHLORATE5	20200625_011	06/25/2020 18:01
06	EC2000009-06	PERCHLORATE6	20200625_012	06/25/2020 18:09
07	EC2000009-07	PERCHLORATE7	20200625_013	06/25/2020 18:17
08	EC2000009-08	PERCHLORATE8	20200625_014	06/25/2020 18:25
09	EC2000009-09	PERCHLORATE9	20200625_015	06/25/2020 18:33

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

Perchlorate **Average RF** **RSD = 12.17** **Average RF = 0.1345**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.173	02	0.5000	0.1369	03	0.7000	0.1363	04	1.0000	0.1365
05	5.0000	0.1253	06	10.0000	0.1383	07	20.0000	0.126	08	30.0000	0.1197
09	50.0000	0.1184									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.129	28.6	02	0.5000	0.509	1.8	03	0.7000	0.709	1.3
04	1.0000	1.02	1.5	05	5.0000	4.66	-6.8	06	10.0000	10.3	2.9
07	20.0000	18.7	-6.3	08	30.0000	26.7	-11.0	09	50.0000	44.0	-12.0

Initial Calibration Verification Summary Report

Calibration ID:	EC2000009	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200625_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000009-10	T	Average RF	10	10.115	ng/mL	1.2	<= 15

ALS Group Houston

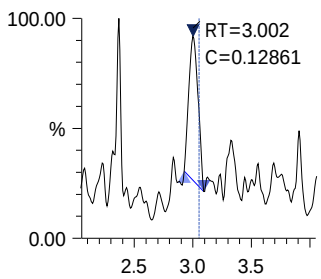
PERCHLORATE1

Date acquired: 6/25/2020 5:21:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_006.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	6/25/2020 5:21:49 PM	6704	0.12861	20200625_006	3.002	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/25/2020 5:21:49 PM	387624	1.00000	20200625_006	3.002	25.0000	1.0000	5

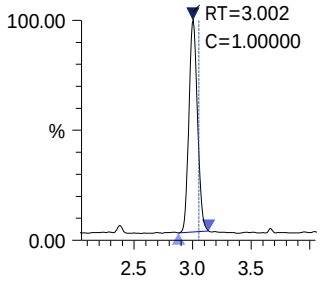
Perchlorate

Conc 0.12861
Area 6704
Q 99.00>83.00 (-) 1.79e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 387624
ISTD 107.00>89.00 (-) 7.66e4



ALS Group Houston

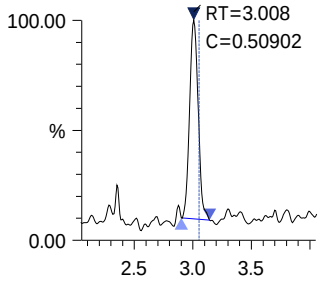
PERCHLORATE2

Date acquired: 6/25/2020 5:29:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_007.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	6/25/2020 5:29:41 PM	26486	0.50902	20200625_007	3.008	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/25/2020 5:29:41 PM	386905	1.00000	20200625_007	3.003	25.0000	1.0000	6

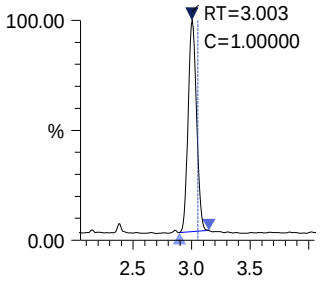
Perchlorate

Conc 0.50902
Area 26486
Q 99.00>83.00 (-) 5.58e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 386905
ISTD 107.00>89.00 (-) 7.79e4



ALS Group Houston

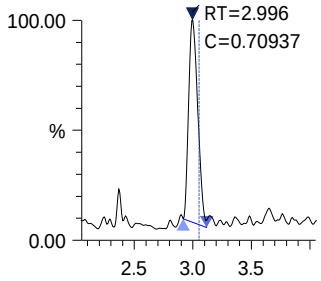
PERCHLORATE3

Date acquired: 6/25/2020 5:37:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_008.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	6/25/2020 5:37:36 PM	36977	0.70937	20200625_008	2.996	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/25/2020 5:37:36 PM	387606	1.00000	20200625_008	2.998	25.0000	1.0000	7

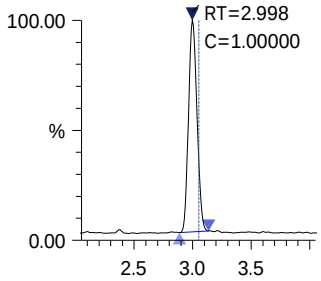
Perchlorate

Conc 0.70937
Area 36977
Q 99.00>83.00 (-) 7.15e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 387606
ISTD 107.00>89.00 (-) 7.76e4



ALS Group Houston

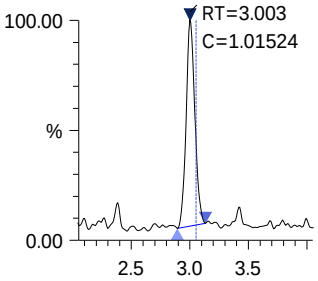
PERCHLORATE4

Date acquired: 6/25/2020 5:45:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_009.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	6/25/2020 5:45:31 PM	49004	1.01524	20200625_009	3.003	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/25/2020 5:45:31 PM	358914	1.00000	20200625_009	3.001	25.0000	1.0000	8

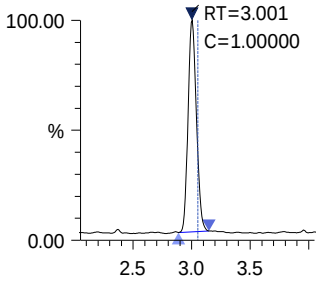
Perchlorate

Conc 1.01524
Area 49004
Q 99.00>83.00 (-) 9.81e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 358914
ISTD 107.00>89.00 (-) 7.26e4



ALS Group Houston

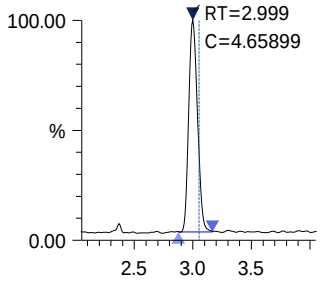
PERCHLORATE5

Date acquired: 6/25/2020 6:01:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_011.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	PERCHLORATE5	6/25/2020 6:01:22 PM	232008	4.65899	20200625_011	2.999	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/25/2020 6:01:22 PM	370291	1.00000	20200625_011	2.996	25.0000	1.0000	10

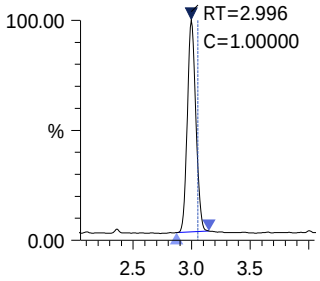
Perchlorate

Conc 4.65899
Area 232008
Q 99.00>83.00 (-) 4.49e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 370291
ISTD 107.00>89.00 (-) 7.40e4



ALS Group Houston

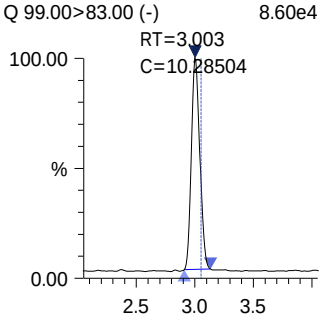
PERCHLORATE6

Date acquired: 6/25/2020 6:09:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_012.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	PERCHLORATE6	6/25/2020 6:09:15 PM	427451	10.28504	20200625_012	3.003	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/25/2020 6:09:15 PM	309038	1.00000	20200625_012	3.001	25.0000	1.0000	4

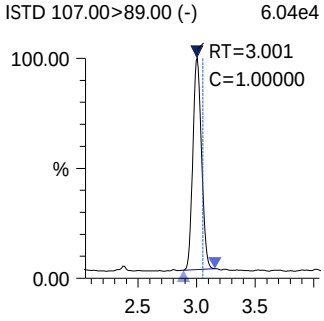
Perchlorate

Conc 10.28504
Area 427451



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 309038



ALS Group Houston

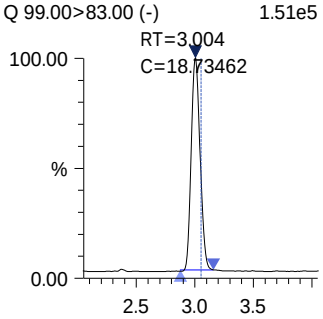
PERCHLORATE7

Date acquired: 6/25/2020 6:17:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_013.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	PERCHLORATE7	6/25/2020 6:17:10 PM	786893	18.73462	20200625_013	3.004	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/25/2020 6:17:10 PM	312322	1.00000	20200625_013	3.002	25.0000	1.0000	11

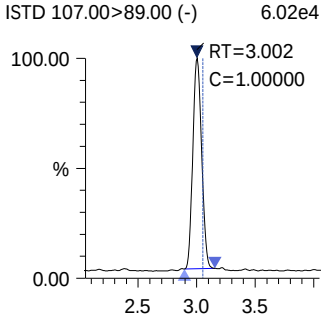
Perchlorate

Conc 18.73462
Area 786893



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 312322



ALS Group Houston

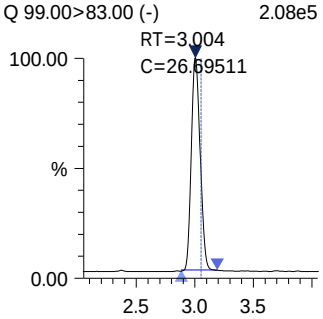
PERCHLORATE8

Date acquired: 6/25/2020 6:25:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_014.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	PERCHLORATE8	6/25/2020 6:25:06 PM	1075993	26.69511	20200625_014	3.004	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/25/2020 6:25:06 PM	299716	1.00000	20200625_014	3.004	25.0000	1.0000	12

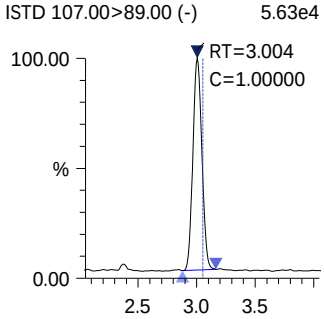
Perchlorate

Conc 26.69511
Area 1075993



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 299716



ALS Group Houston

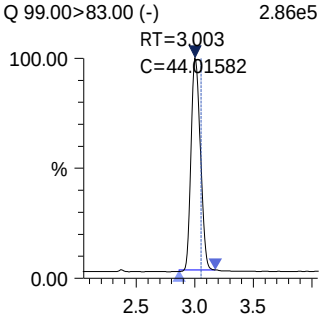
PERCHLORATE9

Date acquired: 6/25/2020 6:33:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_015.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	PERCHLORATE9	6/25/2020 6:33:01 PM	1567374	44.01582	20200625_015	3.003	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/25/2020 6:33:01 PM	264786	1.00000	20200625_015	3.002	25.0000	1.0000	13

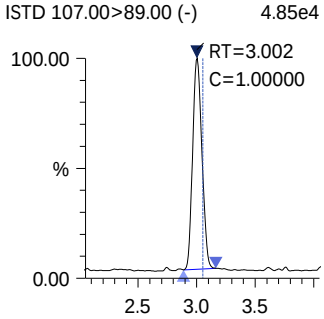
Perchlorate

Conc 44.01582
Area 1567374



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 264786



ALS Group Houston

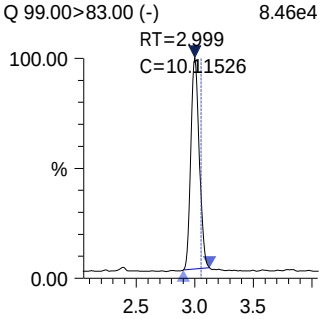
PERCHLORATEICV

Date acquired: 6/25/2020 6:40:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	6/25/2020 6:40:55 PM	420958	10.11526	20200625_016	2.999	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/25/2020 6:40:55 PM	309452	1.00000	20200625_016	2.996	25.0000	1.0000	14

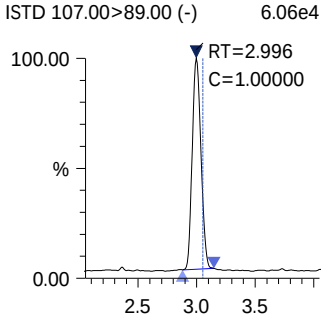
Perchlorate

Conc 10.11526
Area 420958



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 309452



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

20200627

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
1	IB		20200627_001	Perchlorate6850b.lcm	1x	☒		6/27/2020 10:30
2	IB		20200627_002	Perchlorate6850b.lcm	1x	☒		6/27/2020 10:38
3	IB		20200627_003	Perchlorate6850b.lcm	1x	☒		6/27/2020 10:46
4	LODV		20200627_004	Perchlorate6850b.lcm	1x	☒		6/27/2020 10:54
5	ICS		20200627_005	Perchlorate6850b.lcm	1x	☒		6/27/2020 11:02
6	PERCHLORATE7		20200627_006	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 11:09
7	E2000539-007X50		20200627_007	Perchlorate6850b.lcm	50x	☒		6/27/2020 11:17
8	E2000536-004X100		20200627_008	Perchlorate6850b.lcm	100x	☒	do not use	6/27/2020 11:25
9	E2000541-005		20200627_009	Perchlorate6850b.lcm	1x	☒		6/27/2020 11:33
10	E2000541-010		20200627_010	Perchlorate6850b.lcm	1x	☒		6/27/2020 11:41
11	E2000536-004X200		20200627_011	Perchlorate6850b.lcm	200x	☒		6/27/2020 11:50
12	E2000541-011		20200627_012	Perchlorate6850b.lcm	1x	☒		6/27/2020 11:58
13	E2000541-013		20200627_013	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:05
14	E2000541-014		20200627_014	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:13
15	PERCHLORATE7		20200627_015	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 12:21
16	EQ2000245-01		20200627_016	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:30
17	EQ2000245-02		20200627_017	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:37
18	EQ2000245-03		20200627_018	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:45
19	E2000542-001		20200627_019	Perchlorate6850b.lcm	1x	☒		6/27/2020 12:53
20	E2000542-002		20200627_020	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:01
21	E2000542-003		20200627_021	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:09
22	E2000542-004		20200627_022	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:17
23	E2000542-005		20200627_023	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:25
24	E2000542-006		20200627_024	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:33
25	E2000542-007		20200627_025	Perchlorate6850b.lcm	1x	☒		6/27/2020 13:41
26	PERCHLORATE7		20200627_026	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 13:49
27	E2000542-008		20200627_027	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:04
28	E2000542-009		20200627_028	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:12
29	E2000542-010		20200627_029	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:19
30	EQ2000251-01		20200627_030	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:27
31	EQ2000251-02		20200627_031	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:35
32	EQ2000251-03		20200627_032	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:43
33	EQ2000251-04		20200627_033	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:51
34	EQ2000251-05		20200627_034	Perchlorate6850b.lcm	1x	☒		6/27/2020 14:59
35	E2000562-001		20200627_035	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:07
36	E2000562-002		20200627_036	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:15
37	PERCHLORATE7		20200627_037	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 15:23
38	E2000562-003		20200627_038	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:31
39	E2000562-004		20200627_039	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:38
40	E2000562-005		20200627_040	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:46
41	E2000562-006		20200627_041	Perchlorate6850b.lcm	1x	☒		6/27/2020 15:54
42	E2000562-007		20200627_042	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:02
43	E2000562-008		20200627_043	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:10
44	E2000562-009		20200627_044	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:18
45	E2000562-010		20200627_045	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:26
46	E2000562-011		20200627_046	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:34
47	E2000563-001		20200627_047	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:41
48	PERCHLORATE7		20200627_048	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 16:49
49	E2000563-002		20200627_049	Perchlorate6850b.lcm	1x	☒		6/27/2020 16:57
50	E2000563-003		20200627_050	Perchlorate6850b.lcm	1x	☒		6/27/2020 17:05
51	E2000564-001		20200627_051	Perchlorate6850b.lcm	1x	☒		6/27/2020 17:13
52	E2000541-017X1000		20200627_052	Perchlorate6850b.lcm	1000x	☒		6/27/2020 17:21
54	E2000541-018X1000		20200627_053	Perchlorate6850b.lcm	1000x	☒		6/27/2020 17:29
55	E2000541-019X1000		20200627_054	Perchlorate6850b.lcm	1000x	☒		6/27/2020 17:37

20200627

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
56	E2000539-004X50000		20200627_055	Perchlorate6850b.lcm	50000x	☒		6/27/2020 17:45
57	E2000539-005X100000		20200627_056	Perchlorate6850b.lcm	100000x	☒		6/27/2020 17:53
58	PERCHLORATE7		20200627_057	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 18:01
59	EQ2000245-01		20200627_058	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:08
60	EQ2000245-02		20200627_059	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:16
61	EQ2000245-03		20200627_060	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:24
62	E2000542-006		20200627_061	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:32
63	E2000542-007		20200627_062	Perchlorate6850b.lcm	1x	☒		6/27/2020 18:40
64	PERCHLORATE7		20200627_065	Perchlorate6850b.lcm	1x	☒	3100807-04	6/27/2020 18:48

20200629

1st Review: Kneir
2nd Review: Hvan

ALS Environmental

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

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		20200629_001	Perchlorate6850b.lcm	1x	☒		6/29/2020 8:43
2	null		20200629_002	Perchlorate6850b.lcm	1x	☒		6/29/2020 8:48
3	IB		20200629_003	Perchlorate6850b.lcm	1x	☒		6/29/2020 8:54
4	IB		20200629_004	Perchlorate6850b.lcm	1x	☒		6/29/2020 9:01
5	LODV		20200629_005	Perchlorate6850b.lcm	1x	☒		6/29/2020 9:09
6	ICS		20200629_006	Perchlorate6850b.lcm	1x	☒		6/29/2020 9:17
7	PERCHLORATE7		20200629_007	Perchlorate6850b.lcm	1x	☒	3100807-04	6/29/2020 10:05
8	EQ2000245-01		20200629_008	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:13
9	EQ2000245-02		20200629_009	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:21
10	EQ2000245-03		20200629_010	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:29
11	EQ2000251-01		20200629_011	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:37
12	EQ2000251-02		20200629_012	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:44
13	EQ2000251-03		20200629_013	Perchlorate6850b.lcm	1x	☒		6/29/2020 10:52
14	E2000562-009		20200629_014	Perchlorate6850b.lcm	1x	☒		6/29/2020 11:00
15	E2000562-010X10		20200629_015	Perchlorate6850b.lcm	10x	☒		6/29/2020 11:08
16	EQ2000245-02		20200629_016	Perchlorate6850b.lcm	1x	☒		6/29/2020 11:17
17	EQ2000245-03		20200629_017	Perchlorate6850b.lcm	1x	☒		6/29/2020 11:25
18	PERCHLORATE7		20200629_018	Perchlorate6850b.lcm	1x	☒	3100807-04	6/29/2020 11:33
19	E2000563-002X10		20200629_019	Perchlorate6850b.lcm	10x	☒		6/29/2020 11:41
20	E2000563-003		20200629_020	Perchlorate6850b.lcm	1x	☒		6/29/2020 11:48
21	E2000562-009		20200629_021	Perchlorate6850b.lcm	1x	☒		6/29/2020 13:10
22	E2000542-004X100		20200629_022	Perchlorate6850b.lcm	100x	☒		6/29/2020 13:18
23	E2000542-005X100		20200629_023	Perchlorate6850b.lcm	100x	☒		6/29/2020 13:26
24	E2000562-009X10000		20200629_024	Perchlorate6850b.lcm	10000x	☒		6/29/2020 13:53
25	E2000562-009X20000		20200629_025	Perchlorate6850b.lcm	20000x	☒		6/29/2020 14:07
26	IB		20200629_026	Perchlorate6850b.lcm	1x	☒		6/29/2020 14:15
27	E2000512-011confirmation		20200629_027	Perchlorate6850b.lcm	1x	☒	confirmation only	6/29/2020 14:24
28	PERCHLORATE7		20200629_028	Perchlorate6850b.lcm	1x	☒	3100807-04	6/29/2020 14:32
29	EQ2000245-02		20200629_029	Perchlorate6850b.lcm	1x	☒		6/29/2020 14:40
30	EQ2000245-03		20200629_030	Perchlorate6850b.lcm	1x	☒		6/29/2020 14:48
31	PERCHLORATE7		20200629_031	Perchlorate6850b.lcm	1x	☒	3100807-04	6/29/2020 14:56

PERCHLORATE7

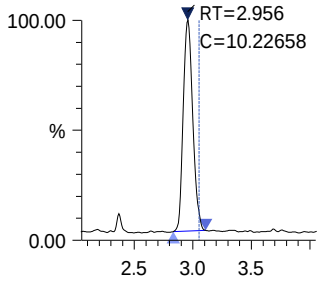
Date acquired: 6/27/2020 1:49:07 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_026.lcd
Vial: 4 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	6/27/2020 1:49:07 PM	337362	10.22658	20200627_026	2.956	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/27/2020 1:49:07 PM	242980	1.00000	20200627_026	2.954	25.0000	1.0000	4

Perchlorate

Conc 10.22658
Area 337362

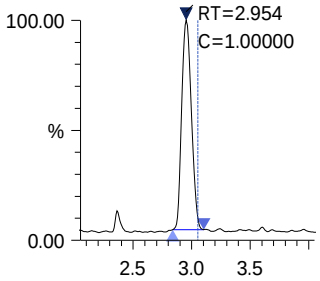
Q 99.00>83.00 (-) 5.95e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 242980

ISTD 107.00>89.00 (-) 4.36e4



ALS Group Houston

EQ2000251-01

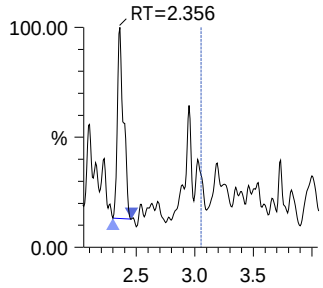
Date acquired: 6/27/2020 2:27:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_030.lcd
Vial: 32 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-01	6/27/2020 2:27:55 PM	----	----	20200627_030	----	25.0000	1.0000	32
Sodium Perchlorate-18O4_IS	EQ2000251-01	6/27/2020 2:27:55 PM	272600	1.00000	20200627_030	2.946	25.0000	1.0000	32

Perchlorate

Conc ----
Area ----

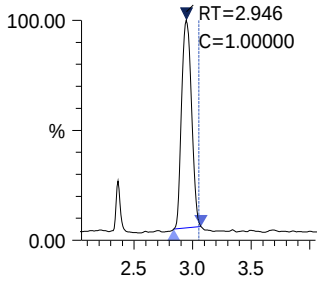
Q 99.00>83.00 (-) 2.82e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 272600

ISTD 107.00>89.00 (-) 4.78e4



ALS Group Houston

Method File: I:\LCMS01\DATA\20200629\20200625.lcm

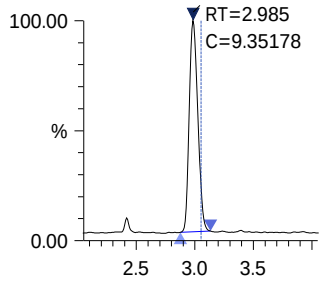
PERCHLORATE7

Date acquired: 6/29/2020 10:05:23 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200629\20200629_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	6/29/2020 10:05:23 AM	368916	9.35178	20200629_007	2.985	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/29/2020 10:05:23 AM	290562	1.00000	20200629_007	2.984	25.0000	1.0000	4

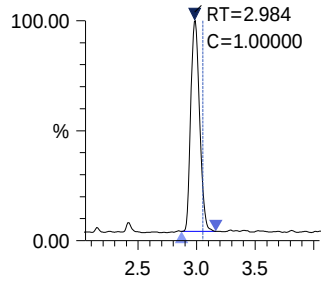
Perchlorate

Conc 9.35178
Area 368916
Q 99.00>83.00 (-) 7.26e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 290562
ISTD 107.00>89.00 (-) 5.62e4



ALS Group Houston

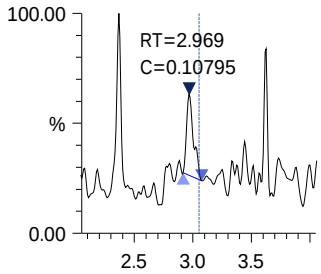
EQ2000251-02

Date acquired: 6/29/2020 10:44:56 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200629\20200629_012.lcd
Vial: 53 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-02	6/29/2020 10:44:56 AM	4814	0.10795	20200629_012	2.969	25.0000	1.0000	53
Sodium Perchlorate-18O4_IS	EQ2000251-02	6/29/2020 10:44:56 AM	331603	1.00000	20200629_012	2.964	25.0000	1.0000	53

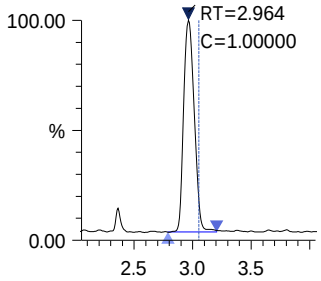
Perchlorate

Conc 0.10795
Area 4814
Q 99.00>83.00 (-) 3.04e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 331603
ISTD 107.00>89.00 (-) 5.35e4



ALS Group Houston

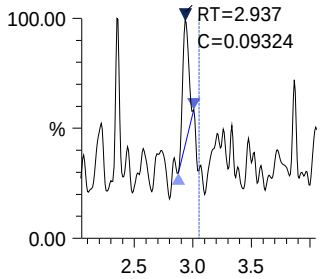
EQ2000251-03

Date acquired: 6/29/2020 10:52:51 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200629\20200629_013.lcd
Vial: 54 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-03	6/29/2020 10:52:51 AM	3988	0.09324	20200629_013	2.937	25.0000	1.0000	54
Sodium Perchlorate-18O4_IS	EQ2000251-03	6/29/2020 10:52:51 AM	318006	1.00000	20200629_013	2.948	25.0000	1.0000	54

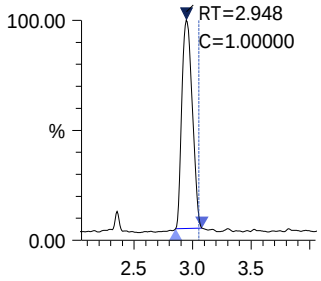
Perchlorate

Conc 0.09324
Area 3988
Q 99.00>83.00 (-) 1.93e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 318006
ISTD 107.00>89.00 (-) 5.25e4



ALS Group Houston

Method File: I:\LCMS01\DATA\20200629\20200625.lcm

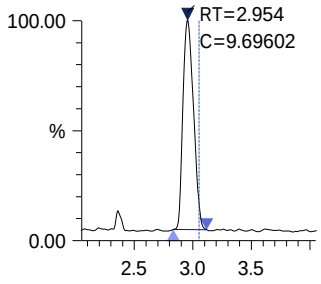
PERCHLORATE7

Date acquired: 6/29/2020 11:33:08 AM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200629\20200629_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	6/29/2020 11:33:08 AM	366974	9.69602	20200629_018	2.954	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/29/2020 11:33:08 AM	278770	1.00000	20200629_018	2.953	25.0000	1.0000	4

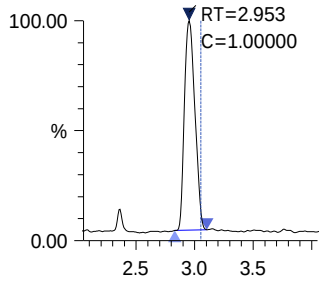
Perchlorate

Conc 9.69602
Area 366974
Q 99.00>83.00 (-) 5.89e4



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 278770
ISTD 107.00>89.00 (-) 4.60e4



ALS Group Houston

EQ2000251-04

Date acquired: 6/27/2020 2:51:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_033.lcd
Vial: 35 | Inj. Volume: 25.0000uL | Tray: 1

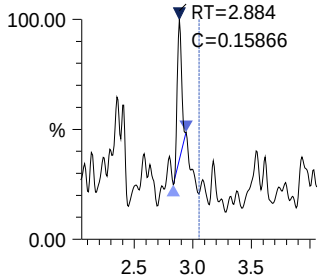
Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-04	6/27/2020 2:51:33 PM	4142	0.15866	20200627_033	2.884	25.0000	1.0000	35
Sodium Perchlorate-18O4_IS	EQ2000251-04	6/27/2020 2:51:33 PM	192307	1.00000	20200627_033	2.905	25.0000	1.0000	35

Perchlorate

Conc 0.15866

Area 4142

Q 99.00>83.00 (-) 2.57e3

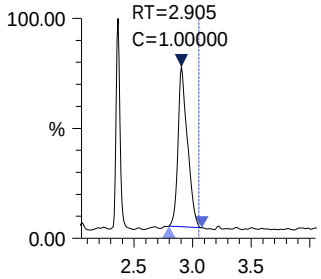


Sodium Perchlorate-18O4_IS

Conc 1.00000

Area 192307

ISTD 107.00>89.00 (-) 4.58e4



ALS Group Houston

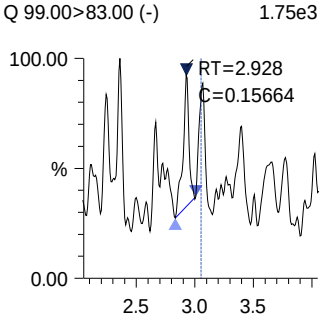
EQ2000251-05

Date acquired: 6/27/2020 2:59:24 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_034.lcd
Vial: 36 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000251-05	6/27/2020 2:59:24 PM	3816	0.15664	20200627_034	2.928	25.0000	1.0000	36
Sodium Perchlorate-18O4_IS	EQ2000251-05	6/27/2020 2:59:24 PM	179413	1.00000	20200627_034	2.903	25.0000	1.0000	36

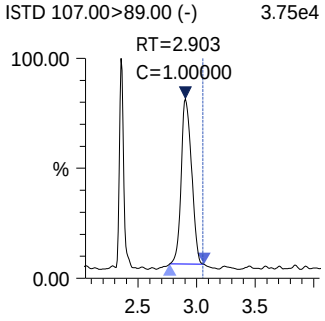
Perchlorate

Conc 0.15664
Area 3816



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 179413



ALS Group Houston

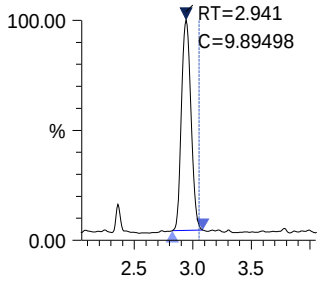
PERCHLORATE7

Date acquired: 6/27/2020 3:23:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200627\20200627_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	6/27/2020 3:23:09 PM	324365	9.89498	20200627_037	2.941	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/27/2020 3:23:09 PM	241448	1.00000	20200627_037	2.938	25.0000	1.0000	4

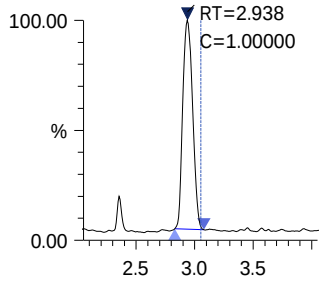
Perchlorate

Conc 9.89498
Area 324365
Q 99.00>83.00 (-) 5.74e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 241448
ISTD 107.00>89.00 (-) 4.23e4



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June 26, 2020

Analytical Report for Service Request No: K2005155

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

RE: HS20060840

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 19, 2020
For your reference, these analyses have been assigned our service request number **K2005155.**

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

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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: HS20060840
Sample Matrix: Water

Service Request: K2005155
Date Received: 06/19/2020

CASE NARRATIVE

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

Sample Receipt:

One water sample was received for analysis at ALS Environmental on 06/19/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Noe D. Dan Date 06/26/2020

Chain of Custody

ALS Environmental—Kelso Laboratory
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K20025155

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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:** **14143**

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:	HS20060840
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20060840-01**	**LH18/24-SP650_061620**	**Water**	**16 Jun 2020 14:00**
	TOC Analysis for DOD Level IV			01 Jul 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: 6/18/2020

Received By: RJ Modashia ALS Kelso Date/Time: 6/19/20 0930

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

PC KL

Cooler Receipt and Preservation Form

Client ALS- Houston Service Request K2005155

Received: 6/19/20 Opened: 6/19/20 By: K Unloaded: 6/19/20 By: K

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

   If present, were custody seals intact? (Y) N If present, were they signed and dated? Y N

Temp Blank	Sample 1	Sample 2	Sample 3	Sample 4	IR GUN	Cooler / COC ID NA	Tracking Number NA	Filed
1.2	—	—	—	—	IR01	1443	1891 8877 7421	

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
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www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2005155
Project:	HS20060840	**Date Collected:**	06/16/20
Sample Matrix:	Water	**Date Received:**	06/19/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_061620	K2005155-001	**1.82**	0.50	0.20	0.07	1	06/25/20 15:24	
Method Blank	K2005155-MB1	ND U	0.50	0.20	0.07	1	06/24/20 15:24	
Method Blank	K2005155-MB2	ND U	0.50	0.20	0.07	1	06/25/20 15:24	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2005155
Project	HS20060840	**Date Collected:**	06/16/20
Sample Matrix:	Water	**Date Received:**	06/19/20
		Date Analyzed:	06/25/20

Replicate Sample Summary

General Chemistry Parameters

Sample Name:	LH18/24-SP650_061620	**Units:**	mg/L
Lab Code:	K2005155-001	**Basis:**	NA

Analyte Name	Analysis Method	LOQ	LOD	MDL	Sample Result	Duplicate Sample K2005155-001DUP Result	Average	RPD	RPD Limit
Carbon, Total Organic	SM 5310 C	0.50	0.20	0.07	1.82	1.80	1.81	1	10

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

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2005155
Project:	HS20060840	**Date Collected:**	06/16/20
Sample Matrix:	Water	**Date Received:**	06/19/20
		Date Analyzed:	06/25/20
		Date Extracted:	NA

Matrix Spike Summary
Carbon, Total Organic

Sample Name:	LH18/24-SP650_061620	**Units:**	mg/L
Lab Code:	K2005155-001	**Basis:**	NA
Analysis Method:	SM 5310 C		
Prep Method:	None		

Matrix Spike
K2005155-001MS

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Carbon, Total Organic	1.82	28.1	25.0	105	83-117

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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2005155
Project:	HS20060840	**Date Analyzed:**	06/24/20
Sample Matrix:	Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	685090

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2005155-LCS1	21.3	25.0	85	83-117
Lab Control Sample	K2005155-LCS2	21.2	25.0	85	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2005155
Project: HS20060840

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	685090	KQ2008586-01	06/24/20 15:24	25.0	25.2	101	90-110
CCV2	685090	KQ2008586-02	06/24/20 15:24	25.0	25.5	102	90-110
CCV3	685090	KQ2008586-03	06/24/20 15:24	25.0	25.3	101	90-110
CCV4	685090	KQ2008586-04	06/25/20 15:24	25.0	25.1	100	90-110
CCV5	685090	KQ2008586-05	06/25/20 15:24	25.0	25.1	100	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2005155
Project: HS20060840

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	685090	KQ2008586-06	06/24/20 15:24	0.50	0.20	0.07	ND	U
CCB2	685090	KQ2008586-07	06/24/20 15:24	0.50	0.20	0.07	ND	U
CCB3	685090	KQ2008586-08	06/24/20 15:24	0.50	0.20	0.07	ND	U
CCB4	685090	KQ2008586-09	06/25/20 15:24	0.50	0.20	0.07	ND	U
CCB5	685090	KQ2008586-10	06/25/20 15:24	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 # Original (6033) 5155 4931

Tier: II II IV

Date Analyzed: 6/24/20

Analyst: MK Run # 685090

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: 6/25/20

DQREPORT

C:\Documents and Settings\adam.bradbury\My Documents\DATAQUAL.DOC

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MKANALY **Analysis Lot:** 685090 **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
K2004931-001	Carbon, Total Organic	N/A		Water	19.88 mg/L	10 mL	19.9 mg/L	1	0.07	0.50			6/25/20 15:24:00	N	IV
K2004931-002	Carbon, Total Organic	N/A		Water	3.00 mg/L	10 mL	30.0 mg/L	10	0.7	5.0			6/25/20 15:24:00	N	IV
K2004931-003	Carbon, Total Organic	N/A		Water	1.17 mg/L	10 mL	5.8 mg/L	5	0.4	2.5			6/25/20 15:24:00	N	IV
K2005033-001	Carbon, Dissolved Organic (DOC)	N/A		Water	3.66 mg/L	10 mL	3.66 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-002	Carbon, Dissolved Organic (DOC)	N/A		Water	1.95 mg/L	10 mL	1.95 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-003	Carbon, Dissolved Organic (DOC)	N/A		Water	0.11 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-004	Carbon, Dissolved Organic (DOC)	N/A		Water	2.68 mg/L	10 mL	2.68 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-005	Carbon, Dissolved Organic (DOC)	N/A		Water	1.70 mg/L	10 mL	1.70 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-006	Carbon, Dissolved Organic (DOC)	N/A		Water	2.20 mg/L	10 mL	2.20 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-007	Carbon, Dissolved Organic (DOC)	N/A		Water	0.26 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-008	Carbon, Dissolved Organic (DOC)	N/A		Water	1.59 mg/L	10 mL	1.59 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-009	Carbon, Dissolved Organic (DOC)	N/A		Water	0.19 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-010	Carbon, Dissolved Organic (DOC)	N/A		Water	2.14 mg/L	10 mL	2.14 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-011	Carbon, Dissolved Organic (DOC)	N/A		Water	2.93 mg/L	10 mL	2.93 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-012	Carbon, Dissolved Organic (DOC)	N/A		Water	2.40 mg/L	10 mL	2.40 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-013	Carbon, Dissolved Organic (DOC)	N/A		Water	2.70 mg/L	10 mL	2.70 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-014	Carbon, Dissolved Organic (DOC)	N/A		Water	1.87 mg/L	10 mL	1.87 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-015	Carbon, Dissolved Organic (DOC)	N/A		Water	1.07 mg/L	10 mL	1.07 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005033-016	Carbon, Dissolved Organic (DOC)	N/A		Water	0.63 mg/L	10 mL	0.63 mg/L	1	0.07	0.50			6/24/20 15:24:00	N	II
K2005155-001	Carbon, Total Organic	N/A		Water	1.82 mg/L	10 mL	1.82 mg/L	1	0.07	0.50			6/25/20 15:24:00	N	IV
KQ2008586-01	Carbon, Dissolved Organic (DOC)	CCV		Water	25.19 mg/L	10 mL	25.2 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-01	Carbon, Total Organic	CCV		Water	25.19 mg/L	10 mL	25.2 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-02	Carbon, Dissolved Organic (DOC)	CCV		Water	25.49 mg/L	10 mL	25.5 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-02	Carbon, Total Organic	CCV		Water	25.49 mg/L	10 mL	25.5 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-03	Carbon, Dissolved Organic (DOC)	CCV		Water	25.26 mg/L	10 mL	25.3 mg/L	1					6/24/20 15:24:00	N	II
KQ2008586-03	Carbon, Total Organic	CCV		Water	25.26 mg/L	10 mL	25.3 mg/L	1					6/24/20 15:24:00	N	II

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MKANALY **Analysis Lot:** 685090 **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
KQ2008586-04	Carbon, Dissolved Organic (DOC)	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/25/20 15:24:00	N	II
KQ2008586-04	Carbon, Total Organic	CCV		Water	25.09 mg/L	10 mL	25.1 mg/L	1					6/25/20 15:24:00	N	II
KQ2008586-05	Carbon, Dissolved Organic (DOC)	CCV		Water	25.10 mg/L	10 mL	25.1 mg/L	1					6/25/20 15:24:00	N	II
KQ2008586-05	Carbon, Total Organic	CCV		Water	25.10 mg/L	10 mL	25.1 mg/L	1					6/25/20 15:24:00	N	II
KQ2008586-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-07	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-08	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-09	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II
KQ2008586-09	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II
KQ2008586-10	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/5/20 15:24:00	N	II
KQ2008586-10	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II
KQ2008586-11	Carbon, Dissolved Organic (DOC)	DUP	K2005033-001	Water	3.46 mg/L	10 mL	3.46 mg/L	1	0.07	0.50		6	6/24/20 15:24:00	N	II
KQ2008586-12	Carbon, Dissolved Organic (DOC)	MS	K2005033-001	Water	29.95 mg/L	10 mL	30.0 mg/L	1	0.07	0.50	105		6/24/20 15:24:00	N	II
KQ2008586-13	Carbon, Total Organic	DUP	K2005155-001	Water	1.80 mg/L	10 mL	1.80 mg/L	1	0.07	0.50		1	6/25/20 15:24:00	N	IV
KQ2008586-14	Carbon, Total Organic	MS	K2005155-001	Water	28.10 mg/L	10 mL	28.1 mg/L	1	0.07	0.50	105		6/25/20 15:24:00	N	IV
KQ2008586-15	Carbon, Dissolved Organic (DOC)	LCS		Water	21.27 mg/L	10 mL	21.3 mg/L	1	0.07	0.50	85		6/24/20 15:24:00	N	II
KQ2008586-15	Carbon, Total Organic	LCS		Water	21.27 mg/L	10 mL	21.3 mg/L	1	0.07	0.50	85		6/24/20 15:24:00	N	II
KQ2008586-16	Carbon, Dissolved Organic (DOC)	LCS		Water	21.23 mg/L	10 mL	21.2 mg/L	1	0.07	0.50	85		6/25/20 15:24:00	N	II
KQ2008586-16	Carbon, Total Organic	LCS		Water	21.23 mg/L	10 mL	21.2 mg/L	1	0.07	0.50	85		6/25/20 15:24:00	N	II
KQ2008586-17	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-17	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/24/20 15:24:00	N	II
KQ2008586-18	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II
KQ2008586-18	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 15:24:00	N	II

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

685091D

Schedule: 062420

Version: 3
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/06/24 12:57 - Wednesday

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	K2005033-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2005033-001D	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2005033-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2005033-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2005033-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2005033-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2005033-005	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
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2005033-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2005033-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2005033-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2005033-009	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2005033-010	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2005033-011	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2005033-012	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2005033-013	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2005033-014	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2005033-015	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	K2005033-016	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
22	Sample	K2005055-001 5155-1	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2005055-001D ID	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2005055-001MS IMS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2004931-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2004931-002 10X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2004931-003 5X	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	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
29	Sample	IPR1	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
30	Sample	IPR2	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
31	Sample	IPR3	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
32	Sample	IPR4	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
					False	

Printed on: June 25, 2020 08:29:22

Page 1

Fusion Report - 062420
Wednesday, June 24, 2020 01:08 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/06/25 08:33 - Thursday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	062420	Engine Version:	1.1.5.1
Instrument Name:	Fusion1	Firmware Version:	1.2.0696
Report Version:	1 of 1	Connection:	RS232 COM1
Report Creation by Operators (schedule version):	Fusion1 (Fusion1) (v3)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/24 13:08

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	13.14	21.43	8.29	49.74	07:58
2	TC Clean	16.86	20.40	3.54	49.56	07:15
3	TC Clean	4.24	7.92	3.68	49.69	07:01
4	TC Clean	3.14	6.85	3.71	49.56	07:03

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/24 13:43

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.76	5.30	3.53	49.70	07:58
2	TC Clean	6.48	10.27	3.79	49.74	07:17
3	TC Clean	2.78	6.27	3.49	49.61	06:58
4	TC Clean	2.62	6.15	3.53	49.68	07:00

Sample Type: Clean

From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2020/06/24 14:17

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.29	4.78	3.49	50.02	07:59
2	TC Clean	6.02	9.41	3.39	49.90	07:15
3	TC Clean	2.82	6.39	3.57	49.92	06:59
4	TC Clean	2.34	5.96	3.62	49.99	07:02

Sample Type: Blank (Creating v1399)

From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◈	(blank)		Reagent/Acid Blank	2020/06/24 14:51

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	1.08	4.53	3.45	49.62	05:09
2	TC Clean	5.16	8.69	3.53	50.04	04:08
3	TC Clean	2.27	5.80	3.53	49.99	03:44
4	TC Clean	2.06	5.56	3.50	49.99	03:43
5	Reagent Blank	4.00	7.57	3.58	50.06	05:05
6	Acid Blank	1.35	4.87	3.52	49.56	05:25

Sample Type: Sample

From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	D	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/24 15:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.28	12.12	3.84	50.26	10:32

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	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)	25.1875 ppm (PASS)	0.0000 ppm	0%	2020/06/24 15:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.1875	251.8750	186.58	190.40	3.82	50.36	10:32

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

Sample Type: Check Standard --> CCB

From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/24 15:54

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.15	10.87	3.72	50.42	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC	MB1	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/24 16:08

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.34	10.03	3.69	50.54	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS

From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	21.2699 ppm (PASS)	0.0000 ppm	0%	2020/06/24 16:23

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

	Type									
C	TOC	25.0 ppm	1	21.2699	212.6994	159.10	162.58	3.48	50.61	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	2	TOC	ICS	0.0946 ppm	0.0000 ppm	0.0000%	2020/06/24 16:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0946	0.9459	9.83	13.28	3.45	50.53	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	3	TOC	K2005033-001	3.6621 ppm	0.0124 ppm	0.3400%	2020/06/24 16:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.6709	36.7088	34.92	38.46	3.54	50.51	10:27
2	TOC	3.6533	36.5334	34.80	38.39	3.59	50.53	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	4	TOC	K2005033-001D	3.4551 ppm	0.0144 ppm	0.4200%	2020/06/24 17:21

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.4449	34.4493	33.34	36.90	3.56	50.48	10:28
2	TOC	3.4653	34.6531	33.48	37.04	3.57	50.46	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2005033-001MS	29.9525 ppm	0.0990 ppm	0.3300%	2020/06/24 17:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	29.8825	298.8250	218.79	222.32	3.53	50.42	10:28
2	TOC	30.0225	300.2249	219.77	223.35	3.58	50.41	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC)	CAS_salt_010711	CAS_salt_010711

(v1399) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2005033-002	1.9501 ppm	0.0177 ppm	0.9100%	2020/06/24 18:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.9626	19.6264	22.94	26.51	3.57	50.41	10:31
2	TOC	1.9375	19.3755	22.76	26.30	3.54	50.41	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	7	TOC	K2005033-003	0.1059 ppm	0.0328 ppm	30.9300%	2020/06/24 18:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1291	1.2909	10.07	13.57	3.49	50.32	10:28
2	TOC	0.0828	0.8276	9.75	13.35	3.60	50.27	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	8	TOC	K2005033-004	2.6768 ppm	0.0133 ppm	0.5000%	2020/06/24 19:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.6862	26.8625	28.01	31.42	3.41	50.19	10:27
2	TOC	2.6674	26.6743	27.88	31.45	3.57	50.11	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	9	TOC	K2005033-005	1.6968 ppm	0.0392 ppm	2.3100%	2020/06/24 19:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7246	17.2457	21.27	24.54	3.27	50.02	10:27
2	TOC	1.6691	16.6911	20.88	24.30	3.42	50.00	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	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)	25.4913 ppm (PASS)	0.0000 ppm	0%	2020/06/24 20:09

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.4913	254.9129	188.71	192.19	3.48	49.91	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%	2020/06/24 20:24

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.96	10.50	3.55	49.87	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	10	TOC	K2005033-006	2.2030 ppm	0.0417 ppm	1.8900%	2020/06/24 20:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.2325	22.3249	24.83	28.49	3.66	49.81	10:26
2	TOC	2.1735	21.7348	24.42	27.93	3.51	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2005033-007	0.2617 ppm	0.0152 ppm	5.8200%	2020/06/24 21:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2725	2.7250	11.08	14.69	3.60	49.89	10:28
2	TOC	0.2510	2.5098	10.93	14.50	3.57	49.86	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	K2005033-008	1.5918 ppm	0.0075 ppm	0.4700%	2020/06/24 21:34

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.5866	15.8658	20.30	23.83	3.53	49.84	10:27
2	TOC	1.5971	15.9712	20.37	23.89	3.51	49.83	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2005033-009	0.1906 ppm	0.0124 ppm	6.5000%	2020/06/24 22:02

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1994	1.9937	10.57	14.19	3.63	49.82	10:32
2	TOC	0.1818	1.8184	10.44	14.01	3.57	49.82	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	14	TOC	K2005033-010	2.1362 ppm	0.0231 ppm	1.0800%	2020/06/24 22:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1525	21.5252	24.27	27.90	3.63	49.80	10:30
2	TOC	2.1199	21.1987	24.04	27.65	3.61	49.78	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	15	TOC	K2005033-011	2.9340 ppm	0.0000 ppm	0.0000%	2020/06/24 22:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.9340	29.3401	29.75	33.15	3.40	49.80	10:28
2	TOC	2.9340	29.3401	29.75	33.36	3.61	49.81	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	16	TOC	K2005033-012	2.4029 ppm	0.0467 ppm	1.9400%	2020/06/24 23:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4359	24.3592	26.26	29.83	3.57	49.80	10:28

2	TOC	2.3699	23.6992	25.79	29.40	3.61	49.81	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	K2005033-013	2.7039 ppm	0.0345 ppm	1.2700%	2020/06/24 23:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7283	27.2830	28.31	31.91	3.60	49.80	10:27
2	TOC	2.6795	26.7955	27.97	31.56	3.60	49.83	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2005033-014	1.8721 ppm	0.0032 ppm	0.1700%	2020/06/25 00:23

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8698	18.6983	22.29	25.96	3.67	49.84	10:32
2	TOC	1.8744	18.7439	22.32	26.06	3.74	49.84	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2005033-015	1.0671 ppm	0.0226 ppm	2.1200%	2020/06/25 00:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.0831	10.8307	16.77	20.33	3.56	49.86	10:29
2	TOC	1.0511	10.5114	16.54	20.02	3.47	49.86	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	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)	25.2625 ppm (PASS)	0.0000 ppm	0%	2020/06/25 01:20

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.2625	252.6248	187.10	190.70	3.60	49.87	10:31

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

Sample Type: Check Standard --> CCB — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/25 01:34

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.19	9.80	3.61	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/25 01:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	5.78	9.36	3.58	49.89	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	21.2267 ppm (PASS)	0.0000 ppm	0%	2020/06/25 02:04

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	21.2267	212.2675	158.79	162.22	3.42	49.90	10:32

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

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2005033-016	0.6296 ppm	0.0460 ppm	7.3000%	2020/06/25 02:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.6621	6.6210	13.81	17.30	3.48	49.92	10:30
2	TOC	0.5971	5.9710	13.36	16.89	3.53	49.92	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	S155 K2005055-001 MC 6/26/20	1.8225 ppm	0.0325 ppm	1.7800%	2020/06/25 02:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8455	18.4546	22.12	25.55	3.44	49.93	10:26
2	TOC	1.7996	17.9955	21.79	25.35	3.56	49.94	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2005055-001D S155 MC 6/26/20	1.8038 ppm	0.0456 ppm	2.5300%	2020/06/25 03:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.8360	18.3605	22.05	25.52	3.47	49.94	10:30
2	TOC	1.7716	17.7161	21.60	25.20	3.61	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	MC 6/26/20 K2005055-001MS S155	28.0975 ppm	0.0078 ppm	0.0300%	2020/06/25 03:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.0920	280.9201	206.23	209.94	3.71	49.95	10:28
2	TOC	28.1030	281.0298	206.31	209.88	3.57	49.95	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2004931-001	19.8779 ppm	0.4176 ppm	2.1000%	2020/06/25 04:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	19.5826	195.8260	146.54	150.22	3.68	49.95	10:28

2	TOC	20.1732	201.7321	150.68	154.38	3.70	49.96	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K2004931-002 10X	2.9962 ppm	0.0651 ppm	2.1700%	2020/06/25 04:39

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.0422	30.4221	30.51	34.24	3.73	49.95	10:26
2	TOC	2.9501	29.5012	29.86	33.58	3.71	49.94	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	27	TOC	K2004931-003 5X	1.1662 ppm	0.0292 ppm	2.5100%	2020/06/25 05:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.1869	11.8685	17.50	21.02	3.53	49.93	10:26
2	TOC	1.1455	11.4551	17.20	20.81	3.61	49.94	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	28	TOC	RB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/25 05:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.14	11.80	3.66	49.92	10:28
2	TOC	0.0000	0.0000	7.95	11.65	3.70	49.93	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	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)	25.0883 ppm (PASS)	0.0000 ppm	0%	2020/06/25 06:03

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0883	250.8828	185.88	189.40	3.52	49.94	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 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%	2020/06/25 06:17

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.55	11.06	3.51	49.93	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	IPR1	26.2288 ppm	0.0000 ppm	0.0000%	2020/06/25 06:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.2288	262.2881	193.16	196.69	3.53	49.93	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	30	TOC	IPR2	26.3111 ppm	0.0000 ppm	0.0000%	2020/06/25 06:47

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.3111	263.1106	193.74	197.32	3.58	49.94	10:34

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	31	TOC	IPR3	26.2508 ppm	0.0000 ppm	0.0000%	2020/06/25 07:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.2508	262.5076	193.31	196.87	3.55	49.92	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC)	CAS_salt_010711	CAS_salt_010711

(v1399) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	IPR4	26.2325 ppm	0.0000 ppm	0.0000%	2020/06/25 07:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	26.2325	262.3252	193.19	196.74	3.56	49.92	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.1694 (IC) (v1399)	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)	25.0998 ppm (PASS)	0.0000 ppm	0%	2020/06/25 07:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0998	250.9983	185.96	189.54	3.57	49.90	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 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%	2020/06/25 07:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.01	10.66	3.65	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

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1398	1.1570	1.0000	0.0000	0.0000	0.0000	2020/06/17 19:22	Fusion1 (Fusion1)
v1399	1.3330	1.3500	0.0000	0.0000	0.0000	2020/06/24 15:24	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

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

Basic Analysis Type: TOC

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

Methods

Name: CAS_salt_010711 (TOC)

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

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

Advanced Parameter	Value
NeedleRinseVolume	5.0 ml
VialPrimeVolume	2.0 ml
ICSamplePrimeVolume	2.0 ml
ICSpargeRinseVolume	12.0 ml
BaselineStabilizeTime	0.70 min
DetectorPressureFlow	150 ml/min
SyringeSpeedWaste	10
SyringeSpeedAcid	7
SyringeSpeedReagent	7
SyringeSpeedDIWater	7
NDIRPressurization	60 psig
SyringeSpeedSampleDispense	5
SyringeSpeedSampleAspirate	4

SyringeSpeedUVDispense	5
SyringeSpeedUVAspirate	5
SyringeSpeedICDispense	5
SyringeSpeedICAspirate	5
NDIRPressureStabilize	1.75 min
SampleMixing	Off
SampleMixingCycles	1
SampleMixingVolume	10.0
LowLevelFilterNDIR	Off

Acceptance / Approval

Electronic Signatures

Report Version	User Name	Acceptance	Reason	Date

Report History

Report History

Report Version	User Name	System Reason	User Reason	Date
1	Fusion1 (Fusion1)	Schedule completed	Schedule completed	2020/06/25 08:00

ALS Environmental

StarLIMS Run: 685090

Analysis: DOC/TOC

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

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-17-B 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-08-22-D

21 % H3PO4: 19-GEN-08-22-C

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By: mk	Date Analyzed: 6/24/2020
Reviewed By:	Date Reviewed: 6/25/20

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

July 09, 2020

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

Work Order: **HS20061177**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jun 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: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20061177

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20061177-01	LH18/24-SP650_062320	Water		23-Jun-2020 14:00	24-Jun-2020 09:30	☐
HS20061177-02	LH18/24-SP650_062320-BIX	Water		23-Jun-2020 14:00	24-Jun-2020 09:30	☐

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20061177

Work Order Comments

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

Work Order Comments

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

WetChemistry by Method E350.3

Batch ID: R364216

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

WetChemistry by Method E365.3

Batch ID: R363866

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

ALS Houston, US Date: 09-Jul-20

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

Project: Longhorn GW Treatment Plant Weekly Samples WorkOrder:HS20061177

Sample ID: LH18/24-SP650_062320 Lab ID:HS20061177-01

Collection Date: 23-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**14**	a	**0.20**	**0.10**	**0.20**	**mg/L**	1	30-Jun-2020 12:15
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: KVL
Phosphorus, Total Orthophosphate (As P)	**1.83**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	24-Jun-2020 17:50
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	01-Jul-2020 10:12

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

ALS Houston, US Date: 09-Jul-20

Client:	Bhate Environmental Associates, Inc.	**ANALYTICAL REPORT**
Project:	Longhorn GW Treatment Plant Weekly Samples	WorkOrder:HS20061177
Sample ID:	LH18/24-SP650_062320-BIX	Lab ID:HS20061177-02
Collection Date:	23-Jun-2020 14:00	Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	09-Jul-2020 15:43

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

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20061177

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R363866 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20061177-01	LH18/24-SP650_062320	23 Jun 2020 14:00			24 Jun 2020 17:50	10
Batch ID: R364216 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20061177-01	LH18/24-SP650_062320	23 Jun 2020 14:00			30 Jun 2020 12:15	1
Batch ID: R364297 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20061177-01	LH18/24-SP650_062320	23 Jun 2020 14:00			01 Jul 2020 10:12	1
Batch ID: R364809 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20061177-02	LH18/24-SP650_062320-BIX	23 Jun 2020 14:00			09 Jul 2020 15:43	1

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20061177

QC BATCH REPORT

Batch ID: R363866 (0) **Instrument:** UV-2450 **Method:** ORTHO PHOSPHATE (PO4) AS P BY E365.3

MBLK Sample ID: **MBLK-R363866** Units: **mg/L** Analysis Date: **24-Jun-2020 17:50**
Client ID: Run ID: **UV-2450_363866** SeqNo: **5634406** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-R363866** Units: **mg/L** Analysis Date: **24-Jun-2020 17:50**
Client ID: Run ID: **UV-2450_363866** SeqNo: **5634405** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.28	0.0250	0.25	0	112	85 - 115				

MS Sample ID: **HS20061177-01MS** Units: **mg/L** Analysis Date: **24-Jun-2020 17:50**
Client ID: **LH18/24-SP650_062320** Run ID: **UV-2450_363866** SeqNo: **5634408** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.63	0.250	2.5	1.83	112	80 - 120				

MSD Sample ID: **HS20061177-01MSD** Units: **mg/L** Analysis Date: **24-Jun-2020 17:50**
Client ID: **LH18/24-SP650_062320** Run ID: **UV-2450_363866** SeqNo: **5634407** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.58	0.250	2.5	1.83	110	80 - 120	4.63	1.09	20	

The following samples were analyzed in this batch: HS20061177-01

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20061177

QC BATCH REPORT

Batch ID: R364216 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-364216** Units: **mg/L** Analysis Date: **30-Jun-2020 12:15**
Client ID: Run ID: **WetChem_HS_364216** SeqNo: **5643984** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.10	0.20								U

LCS Sample ID: **LCS-364216** Units: **mg/L** Analysis Date: **30-Jun-2020 12:15**
Client ID: Run ID: **WetChem_HS_364216** SeqNo: **5643985** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.39	0.20	10	0	104	80 - 120				

MS Sample ID: **HS20061119-01MS** Units: **mg/L** Analysis Date: **30-Jun-2020 12:15**
Client ID: Run ID: **WetChem_HS_364216** SeqNo: **5643988** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	11.34	0.20	10	0.809	105	80 - 120				

MSD Sample ID: **HS20061119-01MSD** Units: **mg/L** Analysis Date: **30-Jun-2020 12:15**
Client ID: Run ID: **WetChem_HS_364216** SeqNo: **5643989** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	11.1	0.20	10	0.809	103	80 - 120	11.34	2.22	20	

The following samples were analyzed in this batch: HS20061177-01

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20061177**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 09-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20061177

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20061177-01	LH18/24-SP650_062320	Login	6/24/2020 3:54:23 PM	PMG	WET158
HS20061177-01	LH18/24-SP650_062320	Login	6/24/2020 3:54:23 PM	PMG	WET158
HS20061177-01	LH18/24-SP650_062320	Login	6/24/2020 3:54:23 PM	PMG	Sub
HS20061177-02	LH18/24-SP650_062320-BIX	Login	6/24/2020 3:54:23 PM	PMG	Sub

ALS Houston, US Date: 09-Jul-20

Sample Receipt Checklist

Work Order ID: HS20061177 **Date/Time Received:** 24-Jun-2020 09:30

Client Name: Bhate Environmental **Received by:** Nilesh D. Ranchod

Completed By:	/S/ Paresh M. Giga	24-Jun-2020 15:55	**Reviewed by:**	/S/ RJ Modashia	24-Jun-2020 22:08
	eSignature	Date/Time		eSignature	Date/Time

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.2C U/c	IR25	
Cooler(s)/Kit(s):	43078		
Date/Time sample(s) sent to storage:	6/24/2020 16:05		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

Page 1 of 1

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES

Prepared By:
Scott Beesinger

P.O. Number

HS20061177
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_062320	Water	06/23/20 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_062320	Water	06/23/20 / 14:00		1			X		NONE	
LH18/24-SP650_062320_BIX	Water	06/23/20 / 14:00		1				X	NONE	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/23/20	14:30	AL	6/24/20	04:30						

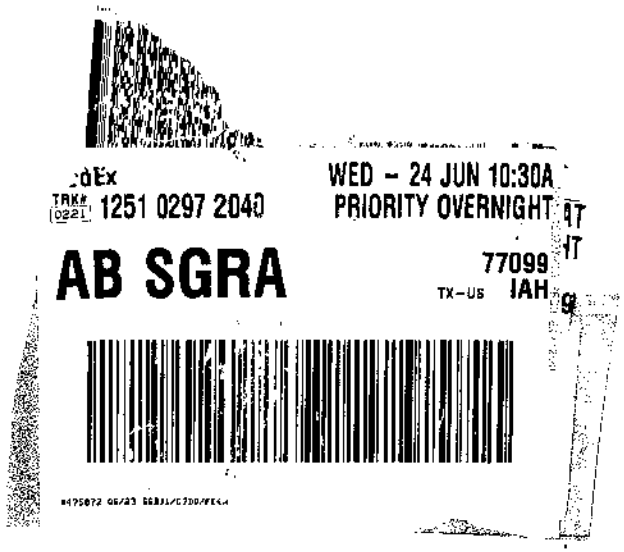
For Lab Use Only

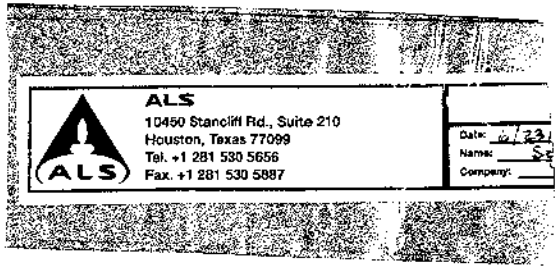
Received At Lab By:	Date	Time	Airbill No.	Opened By:	Date	Time	Temp of Container	Seal No.	Condition

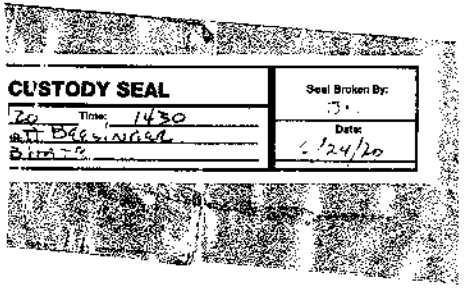
Remarks:

43073 Temp 4°C 2.2
IRAS 4100

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


FedEx
TRK# 0221 1251 0297 2040
WED - 24 JUN 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US IAH


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


CUSTODY SEAL
Time: 1430
Seal Broken By:
Date:
6/24/20

July 09, 2020 Service Request No:E2000588

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

Laboratory Results for: HS20061177

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 25, 2020
For your reference, these analyses have been assigned our service request number **E2000588.**

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.:**	E2000588
Project:	HS20061177	**Date Received:**	06/25/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 06/25/20.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000288: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS & DLCS 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:**E2000588
Project: HS20061177

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000588-001	LH18/24-SP650_062320-BIX	6/23/2020	1400

Service Request Summary

Folder #: **E2000588**
Client Name: ALS Environmental - US
Project Name: HS20061177
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: 06/25/20
Internal Due Date: 7/9/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20061177
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 8A
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000588-001	LH18/24-SP650_062320-BIX	Water	06/23/20 1400	**IV**

Service Request Summary

Folder #: **E2000588**
Client Name: ALS Environmental - US
Project Name: HS20061177
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: 06/25/20
Internal Due Date: 7/9/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20061177
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 8A
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 7/9,level II 7/16

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

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

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01 2020	11/30/2021
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
Kansas Department of Health and Environment	E-10352	7/31/2020
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	TX026932019-1	7/31/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
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www.alsglobal.com

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F: +1 281 530 5887
www.alsglobal.com

Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14185**

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:	HS20061177
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20061177-02**	**LH18/24-SP650_062320-BIX**	**Water**	**23 Jun 2020 14:00**
	SUB_Perch-6850			09 Jul 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: S. Hussain Date/Time: 6/25/20 09:30

Received By: Date/Time: 6/26/20 09:30

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist CG

Client/Project ALS-H

Thermometer ID IR1

Date/Time Received: 6/25/20 Initials: CG Date/Time Logged in: 6/25/20 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 — If yes, how many and where?
   Were they intact? ○ Yes ○ No ✓ N/A
   Were they signed and dated? ○ Yes ○ No ✓ N/A
4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other
5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		6/25/20	0930	CG	2.1	☒
						☐
						☐
						☐

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:

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 361280 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/8/20 14:51

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000588-001	LH18/24-SP650_062320-BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000606-001	LH18/24-SP650_063020-BIX	.01	6850/ClO4 DOD			Water	10mL	
3	EQ2000288-01	MB		6850/ClO4 DOD			Liquid	10mL	
4	EQ2000288-02	LCS		6850/ClO4 DOD			Liquid	10mL	
5	EQ2000288-03	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

E2000588-001 100.00µL E2000606-001 100.00µL EQ2000288-01 100.00µL EQ2000288-02 100.00µL EQ2000288-03 100.00µL

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

EQ2000288-02 1.00µL EQ2000288-03 1.00µL

Preparation Steps

Step: Preparation
Started: 7/8/20 14:51
Finished: 7/8/20 16:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 7/9/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000588
Project:	HS20061177	**Date Collected:**	6/23/20 1400
Sample Matrix:	Water	**Date Received:**	6/25/20
Sample Name:	LH18/24-SP650_062320-BIX	**Units:**	µg/L
Lab Code:	E2000588-001	**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	7/ 8/20	7/8/20 18:29	361280	686082	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000588
Project:	HS20061177	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000288-01	**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/ 8/20	7/8/20 18:05	361280	686082	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000588
Project:	HS20061177	**Date Analyzed:**	7/ 8/20
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	361280

	Lab Control Sample EQ2000288-02			Duplicate Lab Control Sample EQ2000288-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.102	0.100	102	0.107	0.100	107	84 - 119	6	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:**	E2000588
Project:	HS20061177	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000288-02	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.102**		0.100	0.0500	0.0250	1	7/ 8/20	7/8/20 18:13	361280	686082	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000588
Project:	HS20061177	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000288-03	**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	**0.107**		0.100	0.0500	0.0250	1	7/ 8/20	7/8/20 18:21	361280	686082	

ALS Environmental
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June 30, 2020

Analytical Report for Service Request No: K2005296

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

RE: HS20061177

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory June 25, 2020
For your reference, these analyses have been assigned our service request number **K2005296.**

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
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www.alsglobal.com

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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: HS20061177
Sample Matrix: Water

Service Request: K2005296
Date Received: 06/25/2020

CASE NARRATIVE

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

Sample Receipt:

One water sample was received for analysis at ALS Environmental on 06/25/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 06/30/2020

Chain of Custody

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K20052966

10450 Stancliff Rd, Ste 210
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F: +1 281 530 5887
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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14186**

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:	HS20061177
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20061177-01**	**LH18/24-SP650_062320**	**Water**	**23 Jun 2020 14:00**
	TOC Analysis for DOD Level IV			09 Jul 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: [signature] Date/Time: 6/24/2020 1800.

Received By: [signature] Date/Time: 6/25/20 0935

Cooler ID(s): Temperature(s):

PC KL

Cooler Receipt and Preservation Form

Client AIS - Houston Service Request K2005296

Received: 6/25/20 Opened: 6/25/20 By: BR Unloaded: 6/25/20 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
1.3	—	—	—	—	18.02		189188778603	

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:**	K2005296
Project:	HS20061177	**Date Collected:**	06/23/20
Sample Matrix:	Water	**Date Received:**	06/25/20
Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_062320	K2005296-001	**2.10**	0.50	0.20	0.07	1	06/26/20 16:56	
Method Blank	K2005296-MB1	ND U	0.50	0.20	0.07	1	06/25/20 16:56	
Method Blank	K2005296-MB2	ND U	0.50	0.20	0.07	1	06/26/20 16:56	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2005296
Project:	HS20061177	**Date Analyzed:**	06/25/20
Sample Matrix:	Water	**Date Extracted:**	NA

Lab Control Sample Summary
Carbon, Total Organic

Analysis Method:	SM 5310 C	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	685091

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2005296-LCS1	21.2	25.0	85	83-117
Lab Control Sample	K2005296-LCS2	21.1	25.0	84	83-117

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2005296
Project: HS20061177

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	685091	KQ2008648-01	06/25/20 16:56	25.0	25.3	101	90-110
CCV2	685091	KQ2008648-02	06/25/20 16:56	25.0	25.1	101	90-110
CCV3	685091	KQ2008648-03	06/25/20 16:56	25.0	25.7	103	90-110
CCV4	685091	KQ2008648-04	06/26/20 16:56	25.0	24.7	99	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2005296
Project: HS20061177

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	685091	KQ2008648-05	06/25/20 16:56	0.50	0.20	0.07	ND	U
CCB2	685091	KQ2008648-06	06/25/20 16:56	0.50	0.20	0.07	ND	U
CCB3	685091	KQ2008648-07	06/25/20 16:56	0.50	0.20	0.07	ND	U
CCB4	685091	KQ2008648-08	06/26/20 16:56	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # Original (4984) 5020 5185 5260 5295 5296 5111 5174

Tier: II II I II N N II II

Date Analyzed: 6/25/20

Analyst: MK/GB Run # 1685091 1685092

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
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:

Rerun 5174 DOC DIL
Rerun 5295-2,3 DIL
Rerun 5020-2,4 DOC Due to carryover

Final Approved by: [signature] Date: 6/30/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MKANALY **Analysis Lot:** 685091 **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
K2004984-001	Carbon, Total Organic	N/A		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-002	Carbon, Total Organic	N/A		Water	0.48 mg/L	10 mL	0.48 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-003	Carbon, Total Organic	N/A		Water	0.50 mg/L	10 mL	0.50 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-004	Carbon, Total Organic	N/A		Water	0.40 mg/L	10 mL	0.40 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-005	Carbon, Total Organic	N/A		Water	0.50 mg/L	10 mL	0.50 mg/L	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-006	Carbon, Total Organic	N/A		Water	0.19 mg/L	10 mL	0.19 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-007	Carbon, Total Organic	N/A		Water	0.96 mg/L	10 mL	0.96 mg/L	1	0.07	0.50			6/25/20 16:56:00	N	II
K2004984-008	Carbon, Total Organic	N/A		Water	0.41 mg/L	10 mL	0.41 mg/L J	1	0.07	0.50			6/25/20 16:56:00	N	II
K2005020-001	Carbon, Total Organic	N/A		Water	3.97 mg/L	10 mL	3.97 mg/L	1	0.07	0.50			6/25/20 16:56:00	N	II
K2005020-003	Carbon, Total Organic	N/A		Water	2.87 mg/L	10 mL	2.87 mg/L	1	0.07	0.50			6/25/20 16:56:00	N	II
K2005185-002	Carbon, Total Organic	N/A		Drinking Water	0.45 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 16:56:00	N	I
K2005260-001	Carbon, Total Organic	N/A		Water	2.10 mg/L	10 mL	2.10 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	II
K2005295-001	Carbon, Total Organic	N/A		Ground Water	3.17 mg/L	10 mL	3.17 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
K2005295-002.R01	Carbon, Total Organic	N/A		Ground Water	50.22 mg/L	10 mL	50.2 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
K2005295-003.R01	Carbon, Total Organic	N/A		Ground Water	57.82 mg/L	10 mL	57.8 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
K2005295-004	Carbon, Total Organic	N/A		Ground Water	7.28 mg/L	10 mL	7.28 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
K2005296-001	Carbon, Total Organic	N/A		Water	2.10 mg/L	10 mL	2.10 mg/L	1	0.07	0.50			6/26/20 16:56:00	N	IV
KQ2008648-01	Carbon, Total Organic	CCV		Water	25.34 mg/L	10 mL	25.3 mg/L	1					6/25/20 16:56:00	N	II
KQ2008648-02	Carbon, Total Organic	CCV		Water	25.13 mg/L	10 mL	25.1 mg/L	1					6/25/20 16:56:00	N	II
KQ2008648-03	Carbon, Total Organic	CCV		Water	25.73 mg/L	10 mL	25.7 mg/L	1					6/25/20 16:56:00	N	II
KQ2008648-04	Carbon, Total Organic	CCV		Water	24.66 mg/L	10 mL	24.7 mg/L	1					6/26/20 16:56:00	N	II
KQ2008648-05	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
KQ2008648-06	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
KQ2008648-07	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
KQ2008648-08	Carbon, Total Organic	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 16:56:00	N	II
KQ2008648-09	Carbon, Total Organic	LCS		Water	21.24 mg/L	10 mL	21.2 mg/L	1	0.07	0.50	85		6/25/20 16:56:00	N	II
KQ2008648-10	Carbon, Total Organic	LCS		Water	21.07 mg/L	10 mL	21.1 mg/L	1	0.07	0.50	84		6/26/20 16:56:00	N	II
KQ2008648-11	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/25/20 16:56:00	N	II
KQ2008648-12	Carbon, Total Organic	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 16:56:00	N	II
KQ2008648-13	Carbon, Total Organic	DUP	K2004984-001	Water	0.47 mg/L	10 mL	0.47 mg/L J	1	0.07	0.50		NC	6/25/20 16:56:00	N	II
KQ2008648-14	Carbon, Total Organic	MS	K2004984-001	Water	27.49 mg/L	10 mL	27.5 mg/L	1	0.07	0.50	110		6/25/20 16:56:00	N	II

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MKANALY **Analysis Lot:** 685092 **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
K2005020-002.R01	Carbon, Dissolved Organic (DOC)	N/A		Water	14.51 mg/L	10 mL	14.5 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
K2005020-004.R01	Carbon, Dissolved Organic (DOC)	N/A		Water	4.42 mg/L	10 mL	4.42 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
K2005111-001	Carbon, Dissolved Organic (DOC)	N/A		Water	5.11 mg/L	10 mL	5.11 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
K2005111-002	Carbon, Dissolved Organic (DOC)	N/A		Water	2.15 mg/L	10 mL	2.15 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
K2005174-001.R01	Carbon, Dissolved Organic (DOC)	N/A		Water	61.16 mg/L	10 mL	61.2 mg/L	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-01	Carbon, Dissolved Organic (DOC)	CCV		Water	25.73 mg/L	10 mL	25.7 mg/L	1					6/26/20 2 :27:00	N	II
KQ2008788-02	Carbon, Dissolved Organic (DOC)	CCV		Water	24.66 mg/L	10 mL	24.7 mg/L	1					6/26/20 2 :27:00	N	II
KQ2008788-03	Carbon, Dissolved Organic (DOC)	CCV		Water	25.01 mg/L	10 mL	25.0 mg/L	1					6/26/20 2 :27:00	N	II
KQ2008788-04	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-05	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-06	Carbon, Dissolved Organic (DOC)	CCB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-07	Carbon, Dissolved Organic (DOC)	MB		Water	0.00 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			6/26/20 2 :27:00	N	II
KQ2008788-08	Carbon, Dissolved Organic (DOC)	LCS		Water	21.07 mg/L	10 mL	21.1 mg/L	1	0.07	0.50	84		6/26/20 2 :27:00	N	II
KQ2008788-09	Carbon, Dissolved Organic (DOC)	DUP	K2005111-002	Water	2.27 mg/L	10 mL	2.27 mg/L	1	0.07	0.50		5	6/26/20 2 :27:00	N	II
KQ2008788-10	Carbon, Dissolved Organic (DOC)	MS	K2005111-002	Water	28.50 mg/L	10 mL	28.5 mg/L	1	0.07	0.50	105		6/26/20 2 :27:00	N	II

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

685091
685092

Schedule: 062520

Version: 2
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/06/25 15:21 - Thursday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(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	K2004984-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2004984-00DD	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
5	Sample	K2004984-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
6	Sample	K2004984-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
7	Sample	K2004984-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
8	Sample	K2004984-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
9	Sample	K2004984-005	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
D	Check Standard	[TOC] CCB [0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
10	Sample	K2004984-006	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2004984-007	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	K2004984-008	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2005020-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
14	Sample	K2005020-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
15	Sample	K2005185-002	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
16	Sample	K2005296-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
17	Sample	K2005260-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
18	Sample	K2005295-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
19	Sample	K2005295-002	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
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	IB	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
22	Sample	K2005295-003	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
23	Sample	K2005295-004	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
24	Sample	K2005174-001 DOC	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
25	Sample	K2005020-002 DOC	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
26	Sample	K2005020-004 DOC	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
27	Sample	K2005111-002 DOC	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
28	Sample	K2005111-002D DOC	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	K2005111-002MS DOC	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
30	Sample	K2005211-001 10X DOC	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
31	Sample	FILTER BLANK	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
32	Sample	IB	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		CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
					False	

Fusion Report - 062520
Thursday, June 25, 2020 03:24 PM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/06/26 10:19 - Friday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	062520	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) (v2) Fusion1 (Fusion1) (v3)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/25 15:24

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	14.94	19.26	4.32	49.76	05:21
2	TC Clean	8.82	12.52	3.70	50.02	04:04
3	TC Clean	2.22	6.13	3.90	50.04	03:47
4	TC Clean	1.89	5.61	3.72	50.02	03:56

Sample Type: Clean — From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(clean)		Clean	2020/06/25 15:46

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.76	4.31	3.55	49.48	05:20
2	TC Clean	4.53	7.90	3.37	49.87	04:00
3	TC Clean	1.94	5.54	3.60	49.99	03:52
4	TC Clean	1.69	5.47	3.78	49.91	03:54

Sample Type: Blank (Creating v1400) From Schedule Version 2

	Pos	Analysis Type	Sample ID	Start Time
◆	(blank)		Reagent/Acid Blank	2020/06/25 16:08

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.91	4.46	3.55	49.55	05:20
2	TC Clean	4.31	7.97	3.66	50.02	04:01
3	TC Clean	2.02	5.68	3.67	49.96	03:45
4	TC Clean	1.71	5.49	3.78	49.97	03:44
5	Reagent Blank	2.82	6.71	3.90	50.00	05:06
6	Acid Blank	0.73	4.31	3.58	49.69	05:29

Sample Type: Sample From Schedule Version 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.0055 ppm	0.0000 ppm	0.0000%	2020/06/25 16:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0055	0.0547	9.13	12.70	3.58	49.98	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	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)	25.3442 ppm (PASS)	0.0000 ppm	0%	2020/06/25 16:56

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.3442	253.4417	187.68	191.37	3.70	50.02	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 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%	2020/06/25 17:11

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.17	10.77	3.60	49.94	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 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%	2020/06/25 17:26

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.44	10.00	3.56	49.95	10:35

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	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)	21.2411 ppm (PASS)	0.0000 ppm	0%	2020/06/25 17:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	21.2411	212.4114	158.89	162.69	3.79	50.01	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 2

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	2	TOC	ICS	0.0926 ppm	0.0000 ppm	0.0000%	2020/06/25 17:55

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

1	TOC	0.0926	0.9257	9.74	13.21	3.47	49.99	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	3	TOC	K2004984-001	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/25 18:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.50	9.96	3.46	50.00	10:27
2	TOC	0.0000	0.0000	5.98	9.59	3.62	50.06	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	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
◈	4	TOC	K2004984-00DD	0.4748 ppm	0.0104 ppm	2.1900%	2020/06/25 18:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4675	4.6749	12.37	15.79	3.42	49.98	10:28
2	TOC	0.4822	4.8217	12.47	15.95	3.48	50.09	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	5	TOC	K2004984-001MS	27.4888 ppm	0.1546 ppm	0.5600%	2020/06/25 19:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	27.3795	273.7949	201.15	204.74	3.59	50.08	10:31
2	TOC	27.5982	275.9817	202.69	206.30	3.61	49.99	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	6	TOC	K2004984-002	0.4829 ppm	0.0931 ppm	19.2900%	2020/06/25 19:35

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5487	5.4875	12.94	16.57	3.63	50.08	10:26
2	TOC	0.4170	4.1702	12.02	15.65	3.64	49.98	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC)	CAS_salt_010711	CAS_salt_010711

(v1400) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	7	TOC	K2004984-003	0.4982 ppm	0.0350 ppm	7.0200%	2020/06/25 20:03

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5229	5.2294	12.76	16.42	3.66	49.98	10:25
2	TOC	0.4735	4.7348	12.41	16.10	3.69	49.95	10:22

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	8	TOC	K2004984-004	0.3952 ppm	0.0381 ppm	9.6400%	2020/06/25 20:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4222	4.2216	12.05	15.77	3.72	49.95	10:26
2	TOC	0.3683	3.6827	11.67	15.34	3.67	49.88	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	K2004984-005	0.5046 ppm	0.0254 ppm	5.0300%	2020/06/25 20:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5225	5.2251	12.76	16.12	3.36	49.92	10:25
2	TOC	0.4866	4.8659	12.50	15.94	3.44	49.85	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	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)	25.1288 ppm (PASS)	0.0000 ppm	0%	2020/06/25 21:27

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.1288	251.2877	186.17	189.68	3.51	49.93	10:28

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%	2020/06/25 21:41

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	6.67	10.19	3.52	49.85	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	10	TOC	K2004984-006	0.1907 ppm	0.0027 ppm	1.4300%	2020/06/25 21:56

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1926	1.9264	10.44	13.96	3.51	49.79	10:26
2	TOC	0.1888	1.8879	10.42	13.98	3.57	49.94	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	11	TOC	K2004984-007	0.9631 ppm	0.0021 ppm	0.2200%	2020/06/25 22:24

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9616	9.6158	15.84	19.48	3.65	49.87	10:28
2	TOC	0.9646	9.6458	15.86	19.55	3.70	49.84	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	12	TOC	K2004984-008	0.4122 ppm	0.0103 ppm	2.4900%	2020/06/25 22:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4194	4.1945	12.03	15.85	3.82	49.79	10:28
2	TOC	0.4049	4.0491	11.93	15.64	3.71	49.78	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	13	TOC	K2005020-001	3.9743 ppm	0.0053 ppm	0.1300%	2020/06/25 23:20

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.9781	39.7805	37.00	40.60	3.60	49.78	10:30
2	TOC	3.9705	39.7050	36.94	40.62	3.67	49.77	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	14	TOC	K2005020-003	2.8653 ppm	0.0288 ppm	1.0100%	2020/06/25 23:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8857	28.8565	29.33	32.82	3.49	49.79	10:26
2	TOC	2.8449	28.4488	29.05	32.63	3.58	49.79	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	15	TOC	K2005185-002	0.4475 ppm	0.0095 ppm	2.1200%	2020/06/26 00:17

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4542	4.5423	12.28	15.97	3.70	49.79	10:29
2	TOC	0.4408	4.4083	12.18	15.68	3.50	49.81	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	16	TOC	K2005296-001	2.0951 ppm	0.0493 ppm	2.3500%	2020/06/26 00:45

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1300	21.2997	24.03	27.63	3.60	49.83	10:26
2	TOC	2.0603	20.6026	23.54	27.20	3.66	49.83	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◉	17	TOC	K2005260-001	2.2722 ppm	0.0678 ppm	2.9900%	2020/06/26 01:13

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3201	23.2014	25.37	29.04	3.67	49.85	10:29

2	TOC	2.2242	22.2420	24.69	28.35	3.66	49.87	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	18	TOC	K2005295-001	3.1720 ppm	0.1152 ppm	3.6300%	2020/06/26 01:41

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.2534	32.5344	31.91	35.57	3.65	49.87	10:26
2	TOC	3.0905	30.9050	30.77	34.40	3.63	49.89	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	19	TOC	K2005295-002	50.2197 ppm	0.3945 ppm	0.7900%	2020/06/26 02:09

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	50.4987	504.9866	363.33	366.83	3.50	49.91	10:29
2	TOC	49.9407	499.4070	359.42	363.12	3.71	49.91	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	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)	25.7335 ppm (PASS)	0.0000 ppm	0%	2020/06/26 02:37

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.7335	257.3349	190.41	194.00	3.60	49.92	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%	2020/06/26 02:52

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	8.30	12.00	3.70	49.93	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	20	TOC	MB2	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/26 03:06

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.33	11.06	3.74	49.94	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	21.0675 ppm (PASS)	0.0000 ppm	0%	2020/06/26 03:21

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	21.0675	210.6751	157.68	161.41	3.74	49.94	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: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	21	TOC	IB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/26 03:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	6.71	10.50	3.79	49.96	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◈	22	TOC	K2005295-003	67.8166 ppm	1.4457 ppm	2.1300%	2020/06/26 03:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	68.8388	688.3882	491.98	495.74	3.76	49.98	10:28
2	TOC	66.7943	667.9429	477.64	481.82	4.18	49.97	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2005295-004	7.2813 ppm	1.5161 ppm	20.8200%	2020/06/26 04:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.3534	83.5336	67.69	71.69	4.00	50.00	10:29
2	TOC	6.2093	62.0933	52.65	56.38	3.73	50.00	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2005174-001 DOC	61.1599 ppm	1.2078 ppm	1.9700%	2020/06/26 04:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	60.3059	603.0589	432.13	435.72	3.59	50.00	10:27
2	TOC	62.0140	620.1399	444.11	448.93	4.82	50.02	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2005020-002 DOC	14.5105 ppm	7.9724 ppm	54.9400%	2020/06/26 05:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	20.1478	201.4780	150.42	154.82	4.39	50.00	10:29
2	TOC	8.8731	88.7311	71.33	75.08	3.75	50.02	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K2005020-004 DOC	4.4208 ppm	0.8373 ppm	18.9400%	2020/06/26 05:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.0129	50.1286	44.26	47.98	3.72	50.01	10:30
2	TOC	3.8288	38.2880	35.95	39.70	3.75	50.01	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	27	TOC	K2005111-002 DOC	2.1483 ppm	0.2378 ppm	11.0700%	2020/06/26 06:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.3164	23.1643	25.34	28.97	3.63	50.03	10:31
2	TOC	1.9801	19.8014	22.98	26.61	3.63	50.02	10:23

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	28	TOC	K2005111-002D DOC	2.2685 ppm	0.1670 ppm	7.3600%	2020/06/26 06:38

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1504	21.5035	24.17	27.84	3.66	50.00	10:27
2	TOC	2.3866	23.8657	25.83	29.51	3.67	49.98	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	B	TOC	25.0000	1:2	[TOC] CCV 25 ppm [25 ppm]	0 / infinity (NA / NA)	24.6638 ppm (PASS)	0.0000 ppm	0%	2020/06/26 07:07

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6638	246.6375	182.90	186.48	3.58	49.99	10:31

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

Sample Type: Check Standard --> CCB From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.0000 ppm (PASS)	0.0000 ppm	0%	2020/06/26 07:21

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

	Type									
D	TOC	0 ppm	1	0.0000	0.0000	8.34	12.02	3.69	49.98	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	29	TOC	K2005111-002MS DOC	28.4988 ppm	0.2181 ppm	0.7700%	2020/06/26 07:36

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	28.3446	283.4459	207.92	211.83	3.91	49.99	10:29
2	TOC	28.6531	286.5308	210.09	213.86	3.78	49.96	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2005211-001 10X DOC	5.1054 ppm	0.2121 ppm	4.1500%	2020/06/26 08:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.2553	52.5535	45.96	49.55	3.59	49.95	10:27
2	TOC	4.9554	49.5541	43.85	47.49	3.64	49.94	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	FILTER BLANK	0.0985 ppm	0.1392 ppm	141.4200%	2020/06/26 08:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	8.96	12.59	3.63	49.96	10:28
2	TOC	0.1969	1.9692	10.47	13.90	3.43	49.95	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	IB	0.0000 ppm	0.0000 ppm	0.0000%	2020/06/26 09:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.18	10.77	3.59	49.93	10:29
2	TOC	0.0000	0.0000	6.76	10.33	3.57	49.90	10:31

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	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)	25.0070 ppm (PASS)	0.0000 ppm	0%	2020/06/26 09:29

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.0070	250.0703	185.31	188.55	3.24	49.86	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 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%	2020/06/26 09:43

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	7.25	10.86	3.61	49.81	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	1	TOC		0.0000 ppm	0.0000 ppm	0.0000%	2020/06/26 09:58

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0000	0.0000	7.33	10.70	3.37	49.76	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.0906 (IC) (v1400)	CAS_salt_010711 (v4)	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
v1399	1.3330	1.3500	0.0000	0.0000	0.0000	2020/06/24 15:24	Fusion1 (Fusion1)
v1400	0.9390	0.7310	0.0000	0.0000	0.0000	2020/06/25 16:42	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38

Ver Creation: 2020/06/13 16:40

Comment:

Operator: Fusion1 (Fusion1)

Basic Analysis Type: TOC

Calibration curve formula: TOC: y = 7.015x + 9.892

r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

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

Methods

Name: CAS_salt_010711 (TOC)

Version: v4

Ver Creation: 2019/02/21 17:57

Comment:

Operator: Fusion1 (Fusion1)

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

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

PreSpargeTime	2.00 mins	SyringeSpeedDIWater	7
SystemFlow	500 ml/min	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	2020/06/26 10:13

10450 Stancliff Rd. Suite 210
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July 08, 2020

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

Work Order: **HS20061179**

Laboratory Results for: **Longhorn GW Treatment Plant Bi Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jun 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: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20061179

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20061179-01	LH18/24-SP650_062320	Water		23-Jun-2020 14:00	24-Jun-2020 09:30	☐
HS20061179-02	Trip Blank	Water		23-Jun-2020 14:00	24-Jun-2020 09:30	☐

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20061179

GCMS Volatiles by Method SW8260

Batch ID: R364080

Sample ID: VLCSW-200626

- 1,2,4-Trichlorobenzene, 1,2,3-Trichlorobenzene, Hexachlorobutadiene and Naphthalene exceeded QC limits for LCS. Samples are ND for these compounds.

Sample ID: HS20061206-02MS

- MS and MSD are for an unrelated sample

WetChemistry by Method SW9056

Batch ID: R364738

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

ALS Houston, US Date: 08-Jul-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20061179

Sample ID: LH18/24-SP650_062320 Lab ID:HS20061179-01

Collection Date: 23-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,2-Dichloroethane	**0.84**	J	**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Jun-2020 19:55
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	26-Jun-2020 19:55
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	26-Jun-2020 19:55
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	26-Jun-2020 19:55
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	26-Jun-2020 19:55
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	26-Jun-2020 19:55
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55

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

ALS Houston, US Date: 08-Jul-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20061179

Sample ID: LH18/24-SP650_062320 Lab ID:HS20061179-01

Collection Date: 23-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
cis-1,2-Dichloroethene	**20**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Jun-2020 19:55
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	26-Jun-2020 19:55
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Jun-2020 19:55
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:55
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Trichloroethene	**3.8**		**0.20**	**0.50**	**1.0**	**UG/L**	1	26-Jun-2020 19:55
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:55
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:55
Surr: 1,2-Dichloroethane-d4	*99.8*			**0**	*81-118*	*%REC*	*1*	*26-Jun-2020 19:55*
Surr: 4-Bromofluorobenzene	*102*			**0**	*85-114*	*%REC*	*1*	*26-Jun-2020 19:55*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*26-Jun-2020 19:55*
Surr: Toluene-d8	*108*			**0**	*89-112*	*%REC*	*1*	*26-Jun-2020 19:55*
ANIONS BY SW9056A		**Method:SW9056**						Analyst: YP
Chloride	**354**		**2.00**	**5.00**	**5.00**	**mg/L**	10	08-Jul-2020 05:55
Sulfate	**31.5**		**0.200**	**0.500**	**0.500**	**mg/L**	1	08-Jul-2020 05:36

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

ALS Houston, US Date: 08-Jul-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20061179

Sample ID: Trip Blank Lab ID:HS20061179-02

Collection Date: 23-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,1-Dichloropropene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	26-Jun-2020 19:07
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
2-Hexanone	2.0	U	1.0	2.0	2.0	UG/L	1	26-Jun-2020 19:07
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
4-Methyl-2-pentanone	2.0	U	0.70	2.0	2.0	UG/L	1	26-Jun-2020 19:07
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	26-Jun-2020 19:07
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	26-Jun-2020 19:07
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07

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

ALS Houston, US Date: 08-Jul-20

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

Project: Longhorn GW Treatment Plant Bi Weekly Samples WorkOrder:HS20061179

Sample ID: Trip Blank Lab ID:HS20061179-02

Collection Date: 23-Jun-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	26-Jun-2020 19:07
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	26-Jun-2020 19:07
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	26-Jun-2020 19:07
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	26-Jun-2020 19:07
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	26-Jun-2020 19:07
Surr: 1,2-Dichloroethane-d4	*98.3*			**0**	*81-118*	*%REC*	*1*	*26-Jun-2020 19:07*
Surr: 4-Bromofluorobenzene	*99.3*			**0**	*85-114*	*%REC*	*1*	*26-Jun-2020 19:07*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*26-Jun-2020 19:07*
Surr: Toluene-d8	*106*			**0**	*89-112*	*%REC*	*1*	*26-Jun-2020 19:07*

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

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R364080 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20061179-01	LH18/24-SP650_062320	23 Jun 2020 14:00			26 Jun 2020 19:55	1
HS20061179-02	Trip Blank	23 Jun 2020 14:00			26 Jun 2020 19:07	1
Batch ID: R364738 (0)	**Test Name :** ANIONS BY SW9056A				**Matrix:** Water	
HS20061179-01	LH18/24-SP650_062320	23 Jun 2020 14:00			08 Jul 2020 05:55	10
HS20061179-01	LH18/24-SP650_062320	23 Jun 2020 14:00			08 Jul 2020 05:36	1

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200626** Units: **UG/L** Analysis Date: **26-Jun-2020 13:57**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640386** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	1.0	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	2.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	2.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200626** Units: **UG/L** Analysis Date: **26-Jun-2020 13:57**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640386** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.16*	*1.0*	*50*	*0*	*90.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.9*	*1.0*	*50*	*0*	*95.8*	*85 - 114*				
Surr: Dibromofluoromethane	*46.98*	*1.0*	*50*	*0*	*94.0*	*80 - 119*				
Surr: Toluene-d8	*50.93*	*1.0*	*50*	*0*	*102*	*89 - 112*				

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200626** Units: **UG/L** Analysis Date: **26-Jun-2020 13:09**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640385** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.62	1.0	20	0	103	78 - 124				
1,1,1-Trichloroethane	20.51	1.0	20	0	103	74 - 131				
1,1,2,2-Tetrachloroethane	21.5	1.0	20	0	107	71 - 121				
1,1,2-Trichloroethane	20.94	1.0	20	0	105	80 - 119				
1,1-Dichloroethane	19.96	1.0	20	0	99.8	77 - 125				
1,1-Dichloroethene	20.16	1.0	20	0	101	71 - 131				
1,1-Dichloropropene	19.74	1.0	20	0	98.7	78 - 125				
1,2,3-Trichlorobenzene	28.29	1.0	20	0	141	69 - 129				S
1,2,3-Trichloropropane	20.77	1.0	20	0	104	73 - 122				
1,2,4-Trichlorobenzene	27.16	1.0	20	0	136	69 - 130				S
1,2,4-Trimethylbenzene	20.02	1.0	20	0	100	76 - 124				
1,2-Dibromo-3-chloropropane	22.91	1.0	20	0	115	62 - 128				
1,2-Dibromoethane	21.07	1.0	20	0	105	77 - 121				
1,2-Dichlorobenzene	21.17	1.0	20	0	106	80 - 119				
1,2-Dichloroethane	20.76	1.0	20	0	104	73 - 128				
1,2-Dichloropropane	21.32	1.0	20	0	107	78 - 122				
1,3,5-Trimethylbenzene	20.06	1.0	20	0	100	75 - 124				
1,3-Dichlorobenzene	20.4	1.0	20	0	102	80 - 119				
1,3-Dichloropropane	20.91	1.0	20	0	105	80 - 119				
1,4-Dichlorobenzene	20.62	1.0	20	0	103	79 - 118				
2,2-Dichloropropane	20.85	1.0	20	0	104	60 - 139				
2-Butanone	39.78	2.0	40	0	99.4	56 - 143				
2-Chlorotoluene	19.91	1.0	20	0	99.6	79 - 122				
2-Hexanone	43.6	2.0	40	0	109	57 - 139				
4-Chlorotoluene	20.03	1.0	20	0	100	78 - 122				
4-Isopropyltoluene	19.43	1.0	20	0	97.1	77 - 127				
4-Methyl-2-pentanone	43.56	2.0	40	0	109	67 - 130				
Acetone	48.89	2.0	40	0	122	39 - 160				
Benzene	20.8	1.0	20	0	104	79 - 120				
Bromobenzene	20.36	1.0	20	0	102	80 - 120				
Bromochloromethane	20.02	1.0	20	0	100	78 - 123				
Bromodichloromethane	21.09	1.0	20	0	105	79 - 125				
Bromoform	21.31	1.0	20	0	107	66 - 130				
Bromomethane	20.25	1.0	20	0	101	53 - 141				

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

LCS Sample ID: **VLCSW-200626** Units: **UG/L** Analysis Date: **26-Jun-2020 13:09**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640385** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	40.74	2.0	40	0	102	64 - 133				
Carbon tetrachloride	19.47	1.0	20	0	97.4	72 - 136				
Chlorobenzene	20.65	1.0	20	0	103	82 - 118				
Chloroethane	20.94	1.0	20	0	105	60 - 138				
Chloroform	20.36	1.0	20	0	102	79 - 124				
Chloromethane	19.95	1.0	20	0	99.8	50 - 139				
cis-1,2-Dichloroethene	20.49	1.0	20	0	102	78 - 123				
cis-1,3-Dichloropropene	21.03	1.0	20	0	105	75 - 124				
Dibromochloromethane	20.94	1.0	20	0	105	74 - 126				
Dibromomethane	21.13	1.0	20	0	106	79 - 123				
Dichlorodifluoromethane	18.76	1.0	20	0	93.8	32 - 152				
Ethylbenzene	20.3	1.0	20	0	101	79 - 121				
Hexachlorobutadiene	26.97	1.0	20	0	135	66 - 134				S
Isopropylbenzene	20.14	1.0	20	0	101	72 - 131				
m,p-Xylene	41.63	2.0	40	0	104	80 - 121				
Methylene chloride	19.93	2.0	20	0	99.7	74 - 124				
Naphthalene	25.75	1.0	20	0	129	61 - 128				S
n-Butylbenzene	19.68	1.0	20	0	98.4	75 - 128				
n-Propylbenzene	19.92	1.0	20	0	99.6	76 - 126				
o-Xylene	20.52	1.0	20	0	103	78 - 122				
sec-Butylbenzene	19.52	1.0	20	0	97.6	77 - 126				
Styrene	21.25	1.0	20	0	106	78 - 123				
tert-Butylbenzene	19.39	1.0	20	0	96.9	78 - 124				
Tetrachloroethene	20.21	1.0	20	0	101	74 - 129				
Toluene	20.59	1.0	20	0	103	80 - 121				
trans-1,2-Dichloroethene	21.3	1.0	20	0	106	75 - 124				
trans-1,3-Dichloropropene	21.37	1.0	20	0	107	73 - 127				
Trichloroethene	21.06	1.0	20	0	105	79 - 123				
Trichlorofluoromethane	21.27	1.0	20	0	106	65 - 141				
Vinyl chloride	18.9	1.0	20	0	94.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.11*	*1.0*	*50*	*0*	*96.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*46.89*	*1.0*	*50*	*0*	*93.8*	*85 - 114*				
Surr: Dibromofluoromethane	*49.3*	*1.0*	*50*	*0*	*98.6*	*80 - 119*				
Surr: Toluene-d8	*48.51*	*1.0*	*50*	*0*	*97.0*	*89 - 112*				

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20061206-02MS** Units: **UG/L** Analysis Date: **26-Jun-2020 17:56**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640396** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.36	1.0	20	0	107	78 - 124				
1,1,1-Trichloroethane	21.44	1.0	20	0	107	74 - 131				
1,1,2,2-Tetrachloroethane	22.21	1.0	20	0	111	71 - 121				
1,1,2-Trichloroethane	21.56	1.0	20	0	108	80 - 119				
1,1-Dichloroethane	20.02	1.0	20	0	100	77 - 125				
1,1-Dichloroethene	20.48	1.0	20	0	102	71 - 131				
1,1-Dichloropropene	20.34	1.0	20	0	102	78 - 125				
1,2,3-Trichlorobenzene	17.55	1.0	20	0	87.7	69 - 129				
1,2,3-Trichloropropane	21.02	1.0	20	0	105	73 - 122				
1,2,4-Trichlorobenzene	18.32	1.0	20	0	91.6	69 - 130				
1,2,4-Trimethylbenzene	21.35	1.0	20	0	107	76 - 124				
1,2-Dibromo-3-chloropropane	22.35	1.0	20	0	112	62 - 128				
1,2-Dibromoethane	21.8	1.0	20	0	109	77 - 121				
1,2-Dichlorobenzene	21.56	1.0	20	0	108	80 - 119				
1,2-Dichloroethane	20.52	1.0	20	0	103	73 - 128				
1,2-Dichloropropane	20.74	1.0	20	0	104	78 - 122				
1,3,5-Trimethylbenzene	21.87	1.0	20	0	109	75 - 124				
1,3-Dichlorobenzene	21.31	1.0	20	0	107	80 - 119				
1,3-Dichloropropane	20.94	1.0	20	0	105	80 - 119				
1,4-Dichlorobenzene	21.08	1.0	20	0	105	79 - 118				
2,2-Dichloropropane	19.81	1.0	20	0	99.1	60 - 139				
2-Butanone	93.02	2.0	40	68.16	62.2	56 - 143				
2-Chlorotoluene	21.28	1.0	20	0	106	79 - 122				
2-Hexanone	44.02	2.0	40	0	110	57 - 139				
4-Chlorotoluene	21.22	1.0	20	0	106	78 - 122				
4-Isopropyltoluene	21.75	1.0	20	0	109	77 - 127				
4-Methyl-2-pentanone	44.14	2.0	40	0	110	67 - 130				
Acetone	45.03	2.0	40	6.281	96.9	39 - 160				
Benzene	20.73	1.0	20	0	104	79 - 120				
Bromobenzene	20.9	1.0	20	0	105	80 - 120				
Bromochloromethane	19.04	1.0	20	0	95.2	78 - 123				
Bromodichloromethane	20.9	1.0	20	0	105	79 - 125				
Bromoform	21.37	1.0	20	0	107	66 - 130				
Bromomethane	18.34	1.0	20	0	91.7	53 - 141				

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument: VOA6** **Method: VOLATILES ORGANICS BY METHOD 8260C**

MS Sample ID: **HS20061206-02MS** Units: **UG/L** Analysis Date: **26-Jun-2020 17:56**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640396** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	40.19	2.0	40	0	100	64 - 133				
Carbon tetrachloride	20.25	1.0	20	0	101	72 - 136				
Chlorobenzene	20.87	1.0	20	0	104	82 - 118				
Chloroethane	19.41	1.0	20	0	97.1	60 - 138				
Chloroform	20.75	1.0	20	0	104	79 - 124				
Chloromethane	16.41	1.0	20	0	82.0	50 - 139				
cis-1,2-Dichloroethene	21.22	1.0	20	0	106	78 - 123				
cis-1,3-Dichloropropene	20.71	1.0	20	0	104	75 - 124				
Dibromochloromethane	21.47	1.0	20	0	107	74 - 126				
Dibromomethane	20.3	1.0	20	0	101	79 - 123				
Dichlorodifluoromethane	13.65	1.0	20	0	68.2	32 - 152				
Ethylbenzene	21.46	1.0	20	0	107	79 - 121				
Hexachlorobutadiene	19.91	1.0	20	0	99.5	66 - 134				
Isopropylbenzene	22.03	1.0	20	0	110	72 - 131				
m,p-Xylene	43.76	2.0	40	0	109	80 - 121				
Methylene chloride	19.24	2.0	20	0	96.2	74 - 124				
Naphthalene	19.92	1.0	20	0	99.6	61 - 128				
n-Butylbenzene	21.52	1.0	20	0	108	75 - 128				
n-Propylbenzene	21.72	1.0	20	0	109	76 - 126				
o-Xylene	21.19	1.0	20	0	106	78 - 122				
sec-Butylbenzene	21.91	1.0	20	0	110	77 - 126				
Styrene	21.67	1.0	20	0	108	78 - 123				
tert-Butylbenzene	22.07	1.0	20	0	110	78 - 124				
Tetrachloroethene	22.52	1.0	20	0	113	74 - 129				
Toluene	21.88	1.0	20	0	109	80 - 121				
trans-1,2-Dichloroethene	21.24	1.0	20	0	106	75 - 124				
trans-1,3-Dichloropropene	20.05	1.0	20	0	100	73 - 127				
Trichloroethene	23.11	1.0	20	1.465	108	79 - 123				
Trichlorofluoromethane	20.59	1.0	20	0	103	65 - 141				
Vinyl chloride	18.79	1.0	20	0	93.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*54.5*	*1.0*	*50*	*0*	*109*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*53.82*	*1.0*	*50*	*0*	*108*	*85 - 114*				
Surr: Dibromofluoromethane	*54.3*	*1.0*	*50*	*0*	*109*	*80 - 119*				
Surr: Toluene-d8	*56.24*	*1.0*	*50*	*0*	*112*	*89 - 112*				S

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20061206-02MDS** Units: **UG/L** Analysis Date: **26-Jun-2020 18:19**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640397** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	21.46	1.0	20	0	107	78 - 124	21.36	0.483	20	
1,1,1-Trichloroethane	21.19	1.0	20	0	106	74 - 131	21.44	1.16	20	
1,1,2,2-Tetrachloroethane	21.93	1.0	20	0	110	71 - 121	22.21	1.31	20	
1,1,2-Trichloroethane	21.3	1.0	20	0	107	80 - 119	21.56	1.22	20	
1,1-Dichloroethane	19.39	1.0	20	0	97.0	77 - 125	20.02	3.2	20	
1,1-Dichloroethene	20.9	1.0	20	0	105	71 - 131	20.48	2.03	20	
1,1-Dichloropropene	20.85	1.0	20	0	104	78 - 125	20.34	2.46	20	
1,2,3-Trichlorobenzene	23.49	1.0	20	0	117	69 - 129	17.55	29	20	R
1,2,3-Trichloropropane	20.22	1.0	20	0	101	73 - 122	21.02	3.89	20	
1,2,4-Trichlorobenzene	21.45	1.0	20	0	107	69 - 130	18.32	15.7	20	
1,2,4-Trimethylbenzene	21.84	1.0	20	0	109	76 - 124	21.35	2.24	20	
1,2-Dibromo-3-chloropropane	21.26	1.0	20	0	106	62 - 128	22.35	5.01	20	
1,2-Dibromoethane	21.08	1.0	20	0	105	77 - 121	21.8	3.32	20	
1,2-Dichlorobenzene	21.36	1.0	20	0	107	80 - 119	21.56	0.941	20	
1,2-Dichloroethane	20.06	1.0	20	0	100	73 - 128	20.52	2.24	20	
1,2-Dichloropropane	20.96	1.0	20	0	105	78 - 122	20.74	1.04	20	
1,3,5-Trimethylbenzene	22.51	1.0	20	0	113	75 - 124	21.87	2.87	20	
1,3-Dichlorobenzene	21.43	1.0	20	0	107	80 - 119	21.31	0.526	20	
1,3-Dichloropropane	20.78	1.0	20	0	104	80 - 119	20.94	0.793	20	
1,4-Dichlorobenzene	21.25	1.0	20	0	106	79 - 118	21.08	0.819	20	
2,2-Dichloropropane	19.1	1.0	20	0	95.5	60 - 139	19.81	3.65	20	
2-Butanone	84.04	2.0	40	68.16	39.7	56 - 143	93.02	10.1	20	S
2-Chlorotoluene	21.26	1.0	20	0	106	79 - 122	21.28	0.102	20	
2-Hexanone	43.18	2.0	40	0	108	57 - 139	44.02	1.93	20	
4-Chlorotoluene	21.19	1.0	20	0	106	78 - 122	21.22	0.104	20	
4-Isopropyltoluene	22.72	1.0	20	0	114	77 - 127	21.75	4.39	20	
4-Methyl-2-pentanone	42.64	2.0	40	0	107	67 - 130	44.14	3.45	20	
Acetone	42.11	2.0	40	6.281	89.6	39 - 160	45.03	6.71	20	
Benzene	20.71	1.0	20	0	104	79 - 120	20.73	0.0882	20	
Bromobenzene	20.98	1.0	20	0	105	80 - 120	20.9	0.345	20	
Bromochloromethane	19.2	1.0	20	0	96.0	78 - 123	19.04	0.794	20	
Bromodichloromethane	20.73	1.0	20	0	104	79 - 125	20.9	0.842	20	
Bromoform	21.13	1.0	20	0	106	66 - 130	21.37	1.12	20	
Bromomethane	18.29	1.0	20	0	91.4	53 - 141	18.34	0.318	20	

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364080 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20061206-02MDS** Units: **UG/L** Analysis Date: **26-Jun-2020 18:19**
Client ID: Run ID: **VOA6_364080** SeqNo: **5640397** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	39.84	2.0	40	0	99.6	64 - 133	40.19	0.873	20	
Carbon tetrachloride	21.26	1.0	20	0	106	72 - 136	20.25	4.87	20	
Chlorobenzene	21.17	1.0	20	0	106	82 - 118	20.87	1.43	20	
Chloroethane	19.28	1.0	20	0	96.4	60 - 138	19.41	0.711	20	
Chloroform	19.92	1.0	20	0	99.6	79 - 124	20.75	4.11	20	
Chloromethane	16.2	1.0	20	0	81.0	50 - 139	16.41	1.25	20	
cis-1,2-Dichloroethene	20.34	1.0	20	0	102	78 - 123	21.22	4.25	20	
cis-1,3-Dichloropropene	19.98	1.0	20	0	99.9	75 - 124	20.71	3.6	20	
Dibromochloromethane	20.94	1.0	20	0	105	74 - 126	21.47	2.5	20	
Dibromomethane	20.12	1.0	20	0	101	79 - 123	20.3	0.869	20	
Dichlorodifluoromethane	14.23	1.0	20	0	71.1	32 - 152	13.65	4.15	20	
Ethylbenzene	22.06	1.0	20	0	110	79 - 121	21.46	2.77	20	
Hexachlorobutadiene	21.99	1.0	20	0	110	66 - 134	19.91	9.92	20	
Isopropylbenzene	23.08	1.0	20	0	115	72 - 131	22.03	4.67	20	
m,p-Xylene	44.4	2.0	40	0	111	80 - 121	43.76	1.45	20	
Methylene chloride	18.47	2.0	20	0	92.3	74 - 124	19.24	4.09	20	
Naphthalene	24.21	1.0	20	0	121	61 - 128	19.92	19.5	20	
n-Butylbenzene	23.06	1.0	20	0	115	75 - 128	21.52	6.92	20	
n-Propylbenzene	22.81	1.0	20	0	114	76 - 126	21.72	4.9	20	
o-Xylene	21.29	1.0	20	0	106	78 - 122	21.19	0.473	20	
sec-Butylbenzene	23.55	1.0	20	0	118	77 - 126	21.91	7.23	20	
Styrene	21.75	1.0	20	0	109	78 - 123	21.67	0.387	20	
tert-Butylbenzene	23.13	1.0	20	0	116	78 - 124	22.07	4.7	20	
Tetrachloroethene	23.12	1.0	20	0	116	74 - 129	22.52	2.64	20	
Toluene	22.06	1.0	20	0	110	80 - 121	21.88	0.824	20	
trans-1,2-Dichloroethene	20.51	1.0	20	0	103	75 - 124	21.24	3.47	20	
trans-1,3-Dichloropropene	19.52	1.0	20	0	97.6	73 - 127	20.05	2.67	20	
Trichloroethene	23.51	1.0	20	1.465	110	79 - 123	23.11	1.72	20	
Trichlorofluoromethane	20.61	1.0	20	0	103	65 - 141	20.59	0.111	20	
Vinyl chloride	17.67	1.0	20	0	88.3	58 - 137	18.79	6.13	20	
Surr: 1,2-Dichloroethane-d4	*49.58*	*1.0*	*50*	*0*	*99.2*	*81 - 118*	*54.5*	*9.44*	*20*	
Surr: 4-Bromofluorobenzene	*53.37*	*1.0*	*50*	*0*	*107*	*85 - 114*	*53.82*	*0.839*	*20*	
Surr: Dibromofluoromethane	*51.38*	*1.0*	*50*	*0*	*103*	*80 - 119*	*54.3*	*5.52*	*20*	
Surr: Toluene-d8	*55.93*	*1.0*	*50*	*0*	*112*	*89 - 112*	*56.24*	*0.55*	*20*	

ALS Houston, US Date: 08-Jul-20

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder:	HS20061179

QC BATCH REPORT

Batch ID:	**R364080 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20061179-01 HS20061179-02

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: HS20061179

QC BATCH REPORT

Batch ID: R364738 (0) **Instrument: ICS-Integrion** **Method: ANIONS BY SW9056A**

MBLK Sample ID: **MBLK-070820** Units: **mg/L** Analysis Date: **08-Jul-2020 00:29**
Client ID: Run ID: **ICS-Integrion_364738** SeqNo: **5655203** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	0.500	0.500								U
Sulfate	0.225	0.500								J

LCS Sample ID: **LCS-070820** Units: **mg/L** Analysis Date: **08-Jul-2020 01:23**
Client ID: Run ID: **ICS-Integrion_364738** SeqNo: **5655206** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.83	0.500	20	0	99.2	80 - 120				
Sulfate	19.61	0.500	20	0	98.0	80 - 120				

MS Sample ID: **HS20061283-02MS** Units: **mg/L** Analysis Date: **08-Jul-2020 07:25**
Client ID: Run ID: **ICS-Integrion_364738** SeqNo: **5655221** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	49.3	0.500	10	39.16	101	80 - 120				
Sulfate	33.07	0.500	10	23.77	93.0	80 - 120				

MSD Sample ID: **HS20061283-02MSD** Units: **mg/L** Analysis Date: **08-Jul-2020 07:43**
Client ID: Run ID: **ICS-Integrion_364738** SeqNo: **5655222** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	48.93	0.500	10	39.16	97.7	80 - 120	49.3	0.753	20	
Sulfate	32.91	0.500	10	23.77	91.5	80 - 120	33.07	0.475	20	

The following samples were analyzed in this batch: HS20061179-01

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
WorkOrder: **HS20061179**

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
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 08-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Bi Weekly Samples
Work Order: HS20061179

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20061179-01	LH18/24-SP650_062320	Login	6/24/2020 4:55:07 PM	PMG	WET108
HS20061179-01	LH18/24-SP650_062320	Login	6/24/2020 4:55:07 PM	PMG	VOA136
HS20061179-02	Trip Blank	Login	6/24/2020 4:55:07 PM	PMG	VOA136

ALS Houston, US Date: 08-Jul-20

Sample Receipt Checklist

Work Order ID: HS20061179 **Date/Time Received:** 24-Jun-2020 09:30

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

Completed By: /S/ Paresh M. Giga (eSignature) 24-Jun-2020 16:57 (Date/Time) **Reviewed by:** /S/ RJ Modashia (eSignature) 24-Jun-2020 22:10 (Date/Time)

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.2C U/C	IR25	
Cooler(s)/Kit(s):	43078		
Date/Time sample(s) sent to storage:	6/24/2020 17:00		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

Name Of Lab Shipping To: ALS 10450 Stancliff Rd. Suite 210, Houston, Tx. 77099 ATTN: R.J. Modashia

Page 1 of 1

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

Project No.
NWO1312.0150.0
16.0001

Job:
GROUNDWATER TREATMENT PLANT
BI-WEEKLY SAMPLES

Prepared By:
Scott Beesinger

P.O Number

HS20061179
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Bi Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOC	Analyses: CHLORIDE, SULFATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_062320	Water	06/23/20 / 14:00		3	3		HCL	
LH18/24-SP650_062320	Water	06/23/20 / 14:00		1		1	NONE	
Trip Blank	Water	06/23/20		2	2		HCL	

Additional Remarks: **Standard TAT**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/23/20	14:30	NA	6/24/20	09:30						

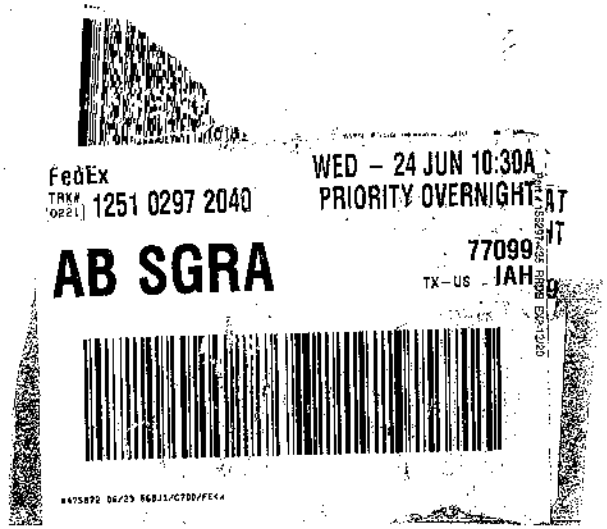
For Lab Use Only

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

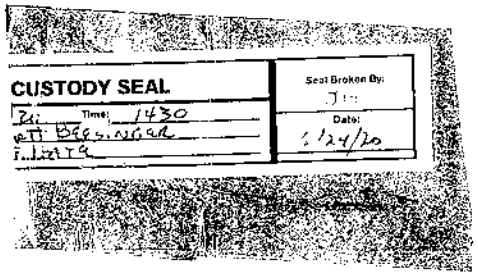
Remarks

43078 Temp 4 C 2 C
MAX 6 C

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


FedEx
TRK# (0221) 1251 0297 2040
WED – 24 JUN 10:30A
PRIORITY OVERNIGHT
AB SGRA
77099
TX-US IAH

ALS
10450 Stanclif Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
ALS
Date:
Name:
Company:


CUSTODY SEAL
Time: 1430
Seal Broken By:
Date:
5/24/20

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

July 21, 2020

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

Work Order: **HS20070018**

Laboratory Results for: **Longhorn GW Treatment Plant Weekly Samples**

Dear Marcia Olive,

ALS Environmental received 2 sample(s) on Jul 01, 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-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20070018

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20070018-01	LH18/24-SP650_063020	Water		30-Jun-2020 14:00	01-Jul-2020 09:40	☐
HS20070018-02	LH18/24-SP650_063020-BIX	Water		30-Jun-2020 14:00	01-Jul-2020 09:40	☐

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20070018

CASE NARRATIVE

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

WetChemistry by Method E350.3

Batch ID: R364692

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

WetChemistry by Method E365.3

Batch ID: R364336

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

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder:HS20070018
Sample ID: LH18/24-SP650_063020
Lab ID:HS20070018-01
Collection Date: 30-Jun-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
AMMONIA AS N BY E350.3(ISE)		**Method:E350.3**						Analyst: MZD
Nitrogen, Ammonia (As N)	**8.9**	a	**0.20**	**0.20**	**0.20**	**mg/L**	1	08-Jul-2020 09:15
ORTHO PHOSPHATE (PO4) AS P BY E365.3		**Method:E365.3**						Analyst: MZD
Phosphorus, Total Orthophosphate (As P)	**1.64**	a	**0.100**	**0.250**	**0.250**	**mg/L**	10	01-Jul-2020 14:36
SUBCONTRACT ANALYSIS - TOC ANALYSIS		**Method:NA**						Analyst: SUBK
Subcontract Analysis	See Attached		0	0		NA	1	21-Jul-2020 13:29

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

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Sample ID: LH18/24-SP650_063020-BIX
Collection Date: 30-Jun-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20070018
Lab ID:HS20070018-02
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: GR
Subcontract Analysis	See Attached		0	0		NA	1	09-Jul-2020 15:43

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

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20070018

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R364336 (0)	**Test Name :** ORTHO PHOSPHATE (PO4) AS P BY E365.3				**Matrix:** Water	
HS20070018-01	LH18/24-SP650_063020	30 Jun 2020 14:00			01 Jul 2020 14:36	10
Batch ID: R364692 (0)	**Test Name :** AMMONIA AS N BY E350.3(ISE)				**Matrix:** Water	
HS20070018-01	LH18/24-SP650_063020	30 Jun 2020 14:00			08 Jul 2020 09:15	1
Batch ID: R364809 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20070018-02	LH18/24-SP650_063020-BIX	30 Jun 2020 14:00			09 Jul 2020 15:43	1
Batch ID: R365370 (0)	**Test Name :** SUBCONTRACT ANALYSIS - TOC ANALYSIS				**Matrix:** Water	
HS20070018-01	LH18/24-SP650_063020	30 Jun 2020 14:00			21 Jul 2020 13:29	1

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20070018

QC BATCH REPORT

Batch ID: R364336 (0) **Instrument: UV-2450** **Method: ORTHO PHOSPHATE (PO4) AS P BY E365.3**

MBLK Sample ID: **MBLK-364336** Units: **mg/L** Analysis Date: **01-Jul-2020 14:36**
Client ID: Run ID: **UV-2450_364336** SeqNo: **5646660** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.0250	0.0250								U

LCS Sample ID: **LCS-364336** Units: **mg/L** Analysis Date: **01-Jul-2020 14:36**
Client ID: Run ID: **UV-2450_364336** SeqNo: **5646661** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	0.261	0.0250	0.25	0	104	85 - 115				

MS Sample ID: **HS20070018-01MS** Units: **mg/L** Analysis Date: **01-Jul-2020 14:36**
Client ID: **LH18/24-SP650_063020** Run ID: **UV-2450_364336** SeqNo: **5646663** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.3	0.250	2.5	1.64	106	80 - 120				

MSD Sample ID: **HS20070018-01MSD** Units: **mg/L** Analysis Date: **01-Jul-2020 14:36**
Client ID: **LH18/24-SP650_063020** Run ID: **UV-2450_364336** SeqNo: **5646664** PrepDate: DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Phosphorus, Total Orthophosphate (As P)	4.04	0.250	2.5	1.64	96.0	80 - 120	4.3	6.24	20	

The following samples were analyzed in this batch: HS20070018-01

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: HS20070018

QC BATCH REPORT

Batch ID: R364692 (0) **Instrument: WetChem_HS** **Method: AMMONIA AS N BY E350.3(ISE)**

MBLK Sample ID: **MBLK-364692** Units: **mg/L** Analysis Date: **08-Jul-2020 09:15**
Client ID: Run ID: **WetChem_HS_364692** SeqNo: **5654268** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	0.20	0.20								U

LCS Sample ID: **LCS-364692** Units: **mg/L** Analysis Date: **08-Jul-2020 09:15**
Client ID: Run ID: **WetChem_HS_364692** SeqNo: **5654269** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.16	0.20	10	0	102	80 - 120				

MS Sample ID: **HS20061351-01MS** Units: **mg/L** Analysis Date: **08-Jul-2020 09:15**
Client ID: Run ID: **WetChem_HS_364692** SeqNo: **5654270** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	11.06	0.20	10	0.128	109	80 - 120				

MSD Sample ID: **HS20061351-01MSD** Units: **mg/L** Analysis Date: **08-Jul-2020 09:15**
Client ID: Run ID: **WetChem_HS_364692** SeqNo: **5654271** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Nitrogen, Ammonia (As N)	10.79	0.20	10	0.128	107	80 - 120	11.06	2.47	20	

The following samples were analyzed in this batch: HS20070018-01

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
WorkOrder: **HS20070018**

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

ALS Houston, US Date: 21-Jul-20

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	20-030-0	26-Mar-2021
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Illinois	2000322020-4	09-May-2021
Kansas	E-10352 2019-2020	31-Jul-2020
North Carolina	624-2020	31-Dec-2020
Oklahoma	2019-141	31-Aug-2020
Texas	T104704231-20-26	30-Apr-2021

ALS Houston, US Date: 21-Jul-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Weekly Samples
Work Order: HS20070018

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20070018-01	LH18/24-SP650_063020	Login	7/1/2020 12:13:51 PM	PMG	WET281
HS20070018-01	LH18/24-SP650_063020	Login	7/1/2020 12:13:51 PM	PMG	WET281
HS20070018-01	LH18/24-SP650_063020	Login	7/1/2020 12:13:51 PM	PMG	Sub
HS20070018-02	LH18/24-SP650_063020-BIX	Login	7/1/2020 12:13:51 PM	PMG	Sub

00976993

ALS Houston, US Date: 21-Jul-20

Sample Receipt Checklist

Work Order ID: HS20070018 **Date/Time Received:** 01-Jul-2020 09:40

Client Name: Bhate Environmental **Received by:** Paresh M. Giga

Completed By: /S/ Paresh M. Giga 01-Jul-2020 12:15 **Reviewed by:** /S/ RJ Modashia 01-Jul-2020 15:17

eSignature Date/Time eSignature Date/Time

Matrices: **Water** Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:none
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.5C U/c	IR25
Cooler(s)/Kit(s):	43292	
Date/Time sample(s) sent to storage:	7/1/2020 12:25	

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

Login Notes:

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: BHATE LONGHORN ARMY AMMN. PLANT (LHAAP) GROUNDWATER TREATMENT PLANT (GWTP) KARNACK, TEXAS	Project No. NWO1312.0150.0 16.0001
Job: **GROUNDWATER TREATMENT PLANT WEEKLY SAMPLES**	
Prepared By: Scott Beesinger	P.O. Number

HS20070018

Bhate Environmental Associates, Inc.

Longhorn GW Treatment Plan: Weekly Samples

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: AMMONIA-N	TOTAL ORGANIC CARBON	ORTHO-PHOSPHATE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_063020	Water	06/30/20 / 14:00		3	X	X			H2SO4	
LH18/24-SP650_063020	Water	06/30/20 / 14:00		1			X		NONE	
LH18/24–SP650_063020_BIX	Water	06/30/20 / 14:00		1				X	NONE	

Additional Remarks: **Standard TAT on all parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	06/30/20	14:30		7/1/2020	8:40						

For Lab Use Only

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

Remarks:

etc.

43282 1.5°

#2

(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

43292

CUSTODY SEAL

Date: 6/30/20 Time: 1430
Name: Scott Beesinger
Company: BHATE

Seal Broken By:
Date: 07/01/20

43292

Must Deliver Next Business Day
Time and Tempature Sensitive!

43292

ORIGIN ID:SGRA (903) 930-6193
SCOTT BEESINGER
BHATE ENVIRONMENTAL ASSOCIATES
1203-B EAST GRAND AVE.
PMB202
MARSHALL, TX 75670
UNITED STATES US

SHIP DATE: 18MAY20
ACTWGT: 1.00 LB MAN
CAD: 3001130/CAFE3211
DIMS: 26x14x14 IN

TO CLIENT SERVICES
ALS LABORATORY GROUP
10450 STANCLIFF ROAD
SUITE 210
HOUSTON TX 77099
(281) 530-5656
REF: LHAAP - 18/24 - RJ - BO 71931

RMA:

FedEx Express

FedEx
TRK# 0221 1251 0297 2061

WED - 01 JUL 10:30A
PRIORITY OVERNIGHT

AB SGRA

77099
TX-US IAH

July 09, 2020 Service Request No:E2000606

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

Laboratory Results for: hs20070018

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 02, 2020
For your reference, these analyses have been assigned our service request number **E2000606.**

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
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ALS Group USA, Corp.
dba ALS Environmental

Certificate of Analysis

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ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000608
Project:	HS20070018	**Date Received:**	07/02/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 07/02/20.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000288: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of a MS/MSD for this extraction batch. The LCS & DLCS 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:**E2000606
Project: hs20070018

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000606-001	LH18/24-SP650_063020-BIX	6/30/2020	1400

Service Request Summary

Folder #: **E2000606**
Client Name: ALS Environmental - US
Project Name: hs20070018
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: 07/02/20
Internal Due Date: 7/16/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: hs20070018
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000606-001	LH18/24-SP650_063020-BIX	Water	06/30/20 1400	**IV**

Service Request Summary

Folder #: **E2000606**
Client Name: ALS Environmental - US
Project Name: hs20070018
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: 07/02/20
Internal Due Date: 7/16/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: hs20070018
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 2B
Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	ClO4 DOD/6850	1	Level IV due 7/23,level II 7/16

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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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
Kansas Department of Health and Environment	E-10352	7/31/2020
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	TX026932019-1	7/31/2020
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
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020

Chain of Custody

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E2000606 5
ALS Laboratory Group
hs20070018

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Subcontract Chain of Custody

SAMPLING STATE: **Dept of Defense** **COC ID:** **14225**

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:	HS20070018
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20070018-02**	**LH18/24-SP650_063020-BIX**	**Water**	**30 Jun 2020 14:00**
	SUB_Perch-6850			16 Jul 2020

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

QC Level: DOD IV (DoD Data Package)

Relinquished By: J. Modashia Date/Time: 07/02/20

Received By: [illegible] Date/Time: 7/2/20 0900

Cooler ID(s): Temperature(s):

ALS Environmental

Cooler Receipt Form

Project Chemist: LH

Client/Project: ALS-H

Thermometer ID: 1225

Date/Time Received: 7/2/20 Initials: LH Date/Time Logged in: 7/2/20 Initials: LH

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?
-		7/2/20	0900	LH	0.4	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label: E2000606 5
ALS Laboratory Group
hs20070018

HS-HRMSCoolerReceipt R1.0

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SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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Preparation Information Benchsheet

Prep Run#: 361280 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/GRIVERA **Prep Method:** Method **Prep Date/Time:** 7/8/20 14:51

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000588-001	LH18/24-SP650_062320-BIX	.01	6850/ClO4 DOD			Water	10mL	
2	E2000606-001	LH18/24-SP650_063020-BIX	.01	6850/ClO4 DOD			Water	10mL	
3	EQ2000288-01	MB		6850/ClO4 DOD			Liquid	10mL	
4	EQ2000288-02	LCS		6850/ClO4 DOD			Liquid	10mL	
5	EQ2000288-03	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

E2000588-001 100.00µL E2000606-001 100.00µL EQ2000288-01 100.00µL EQ2000288-02 100.00µL EQ2000288-03 100.00µL

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

EQ2000288-02 1.00µL EQ2000288-03 1.00µL

Preparation Steps

Step: Preparation
Started: 7/8/20 14:51
Finished: 7/8/20 16:00
By: GRIVERA
Comments

Comments: _____

Reviewed By: GR Date: 7/9/20

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:**	E2000606
Project:	hs20070018	**Date Collected:**	6/30/20 1400
Sample Matrix:	Water	**Date Received:**	7/ 2/20
Sample Name:	LH18/24-SP650_063020-BIX	**Units:**	µg/L
Lab Code:	E2000606-001	**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	7/ 8/20	7/8/20 18:37	361280	686082	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000288-01	**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/ 8/20	7/8/20 18:05	361280	686082	

Accuracy & Precision

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ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Analyzed:**	7/ 8/20
Sample Matrix:	Water		

Lab Control Sample Summary

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

Analytical Method:	6850	**Units:**	µg/L
Prep Method:	Method	**Basis:**	NA
		Extraction Lot:	361280

	Lab Control Sample EQ2000288-02			Duplicate Lab Control Sample EQ2000288-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.102	0.100	102	0.107	0.100	107	84 - 119	6	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:**	E2000606
Project:	hs20070018	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000288-02	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.102**		0.100	0.0500	0.0250	1	7/ 8/20	7/8/20 18:13	361280	686082	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000288-03	**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	**0.107**		0.100	0.0500	0.0250	1	7/ 8/20	7/8/20 18:21	361280	686082	

Initial Calibration

ALS Environmental - Houston HRMS
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www.alsglobal.com

20200625

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

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

			File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200625_001	Perchlorate6850b.lcm	1x	☒		6/25/2020 16:46
	null		20200625_002	Perchlorate6850b.lcm	1x	☒		6/25/2020 16:51
	IB		20200625_003	Perchlorate6850b.lcm	1x	☒		6/25/2020 16:56
	IB		20200625_004	Perchlorate6850b.lcm	1x	☒		6/25/2020 17:06
	IB		20200625_005	Perchlorate6850b.lcm	1x	☒		6/25/2020 17:13
	PERCHLORATE1		20200625_006	Perchlorate6850b.lcm	1x	☒	3100806-05	6/25/2020 17:21
	PERCHLORATE2		20200625_007	Perchlorate6850b.lcm	1x	☒	3100806-06	6/25/2020 17:29
	PERCHLORATE3		20200625_008	Perchlorate6850b.lcm	1x	☒	3100806-07	6/25/2020 17:37
	PERCHLORATE4		20200625_009	Perchlorate6850b.lcm	1x	☒	3100807-01	6/25/2020 17:45
	PERCHLORATE5		20200625_011	Perchlorate6850b.lcm	1x	☒	3100807-03	6/25/2020 18:01
	PERCHLORATE6		20200625_012	Perchlorate6850b.lcm	1x	☒	3100807-04	6/25/2020 18:09
	PERCHLORATE7		20200625_013	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 18:17
	PERCHLORATE8		20200625_014	Perchlorate6850b.lcm	1x	☒	3100807-06	6/25/2020 18:25
	PERCHLORATE9		20200625_015	Perchlorate6850b.lcm	1x	☒	3100807-07	6/25/2020 18:33
	PERCHLORATEICV		20200625_016	Perchlorate6850b.lcm	1x	☒	3100807-08	6/25/2020 18:40
	IB		20200625_017	Perchlorate6850b.lcm	1x	☒		6/25/2020 18:48
	IB		20200625_018	Perchlorate6850b.lcm	1x	☒		6/25/2020 18:56
	LODV		20200625_019	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:04
	ICS		20200625_020	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:12
	PERCHLORATE7		20200625_021	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 19:20
	EQ2000244-01		20200625_022	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:28
	EQ2000244-02		20200625_023	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:36
	EQ2000244-03		20200625_024	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:44
	EQ2000244-04		20200625_025	Perchlorate6850b.lcm	1x	☒		6/25/2020 19:52
	EQ2000244-05		20200625_026	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:00
	E2000537-001		20200625_027	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:08
	E2000537-002		20200625_028	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:15
	E2000537-003		20200625_029	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:23
	E2000537-004		20200625_030	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:31
	E2000537-005		20200625_031	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:39
	PERCHLORATE7		20200625_032	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 20:47
	E2000537-006		20200625_033	Perchlorate6850b.lcm	1x	☒		6/25/2020 20:55
	E2000537-007		20200625_034	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:03
	E2000537-008		20200625_035	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:11
	E2000537-009		20200625_036	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:19
	E2000540-001		20200625_037	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:27
	E2000540-002		20200625_038	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:34
	E2000540-003		20200625_039	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:42
	E2000540-004		20200625_040	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:50
	E2000537-001		20200625_041	Perchlorate6850b.lcm	1x	☒		6/25/2020 21:58
	E2000537-002		20200625_042	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:06
	PERCHLORATE7		20200625_043	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 22:14
	EQ2000243-01		20200625_044	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:22
	EQ2000243-02		20200625_045	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:30
	EQ2000243-03		20200625_046	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:38
	EQ2000243-04		20200625_047	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:45
	EQ2000243-05		20200625_048	Perchlorate6850b.lcm	1x	☒		6/25/2020 22:53
	E2000541-001		20200625_049	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:01
	E2000541-002		20200625_050	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:09
	E2000541-003		20200625_051	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:17
	E2000541-004		20200625_052	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:25
	E2000541-005		20200625_053	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:33
	PERCHLORATE7		20200625_054	Perchlorate6850b.lcm	1x	☒	3100807-05	6/25/2020 23:41
	E2000541-006		20200625_055	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:49
	E2000541-007		20200625_056	Perchlorate6850b.lcm	1x	☒		6/25/2020 23:57
	E2000541-008		20200625_057	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:05
	E2000541-009		20200625_058	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:12
	E2000541-010		20200625_059	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:20
	E2000541-011		20200625_060	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:28
	E2000541-012		20200625_061	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:36
	E2000541-013		20200625_062	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:44
	E2000541-014		20200625_063	Perchlorate6850b.lcm	1x	☒		6/26/2020 0:52
	E2000541-015		20200625_064	Perchlorate6850b.lcm	1x	☒		6/26/2020 1:00
	PERCHLORATE7		20200625_065	Perchlorate6850b.lcm	1x	☒	3100807-05	6/26/2020 1:08

Initial Calibration - Detailed Report

Calibration ID: EC2000009 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
01	EC2000009-01	PERCHLORATE1	20200625_006	06/25/2020 17:21
02	EC2000009-02	PERCHLORATE2	20200625_007	06/25/2020 17:29
03	EC2000009-03	PERCHLORATE3	20200625_008	06/25/2020 17:37
04	EC2000009-04	PERCHLORATE4	20200625_009	06/25/2020 17:45
05	EC2000009-05	PERCHLORATE5	20200625_011	06/25/2020 18:01
06	EC2000009-06	PERCHLORATE6	20200625_012	06/25/2020 18:09
07	EC2000009-07	PERCHLORATE7	20200625_013	06/25/2020 18:17
08	EC2000009-08	PERCHLORATE8	20200625_014	06/25/2020 18:25
09	EC2000009-09	PERCHLORATE9	20200625_015	06/25/2020 18:33

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

Perchlorate **Average RF** **RSD = 12.17** **Average RF = 0.1345**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.173	02	0.5000	0.1369	03	0.7000	0.1363	04	1.0000	0.1365
05	5.0000	0.1253	06	10.0000	0.1383	07	20.0000	0.126	08	30.0000	0.1197
09	50.0000	0.1184									

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.129	28.6	02	0.5000	0.509	1.8	03	0.7000	0.709	1.3
04	1.0000	1.02	1.5	05	5.0000	4.66	-6.8	06	10.0000	10.3	2.9
07	20.0000	18.7	-6.3	08	30.0000	26.7	-11.0	09	50.0000	44.0	-12.0

Initial Calibration Verification Summary Report

Calibration ID:	EC2000009	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200625_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000009-10	T	Average RF	10	10.115	ng/mL	1.2	<= 15

ALS Group Houston

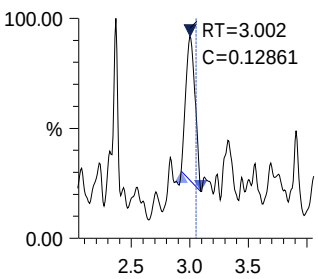
PERCHLORATE1

Date acquired: 6/25/2020 5:21:49 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_006.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	6/25/2020 5:21:49 PM	6704	0.12861	20200625_006	3.002	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	6/25/2020 5:21:49 PM	387624	1.00000	20200625_006	3.002	25.0000	1.0000	5

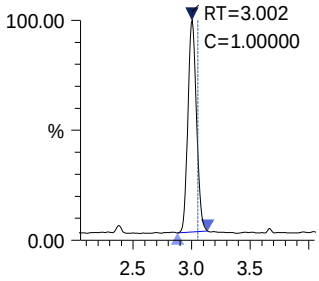
Perchlorate

Conc 0.12861
Area 6704
Q 99.00>83.00 (-) 1.79e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 387624
ISTD 107.00>89.00 (-) 7.66e4



ALS Group Houston

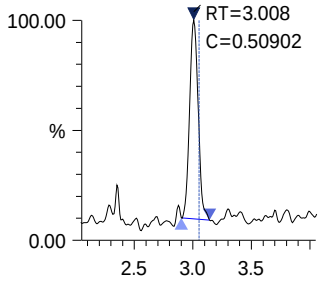
PERCHLORATE2

Date acquired: 6/25/2020 5:29:41 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_007.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	6/25/2020 5:29:41 PM	26486	0.50902	20200625_007	3.008	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	6/25/2020 5:29:41 PM	386905	1.00000	20200625_007	3.003	25.0000	1.0000	6

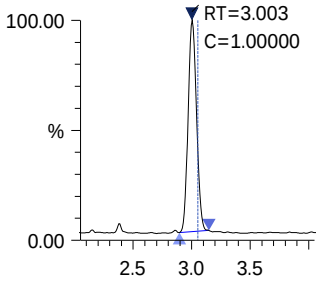
Perchlorate

Conc 0.50902
Area 26486
Q 99.00>83.00 (-) 5.58e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 386905
ISTD 107.00>89.00 (-) 7.79e4



ALS Group Houston

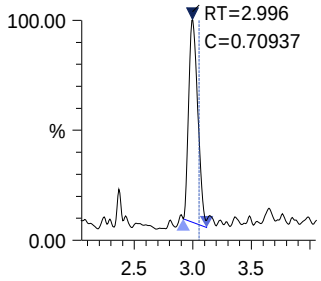
PERCHLORATE3

Date acquired: 6/25/2020 5:37:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_008.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	6/25/2020 5:37:36 PM	36977	0.70937	20200625_008	2.996	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	6/25/2020 5:37:36 PM	387606	1.00000	20200625_008	2.998	25.0000	1.0000	7

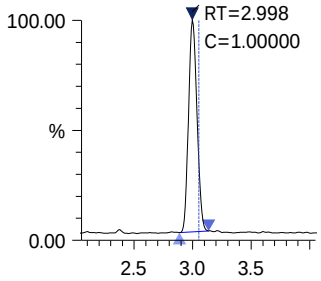
Perchlorate

Conc 0.70937
Area 36977
Q 99.00>83.00 (-) 7.15e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 387606
ISTD 107.00>89.00 (-) 7.76e4



ALS Group Houston

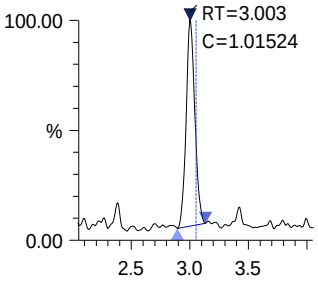
PERCHLORATE4

Date acquired: 6/25/2020 5:45:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_009.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	6/25/2020 5:45:31 PM	49004	1.01524	20200625_009	3.003	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	6/25/2020 5:45:31 PM	358914	1.00000	20200625_009	3.001	25.0000	1.0000	8

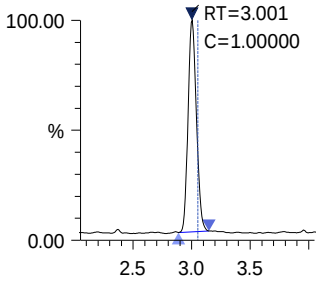
Perchlorate

Conc 1.01524
Area 49004
Q 99.00>83.00 (-) 9.81e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 358914
ISTD 107.00>89.00 (-) 7.26e4



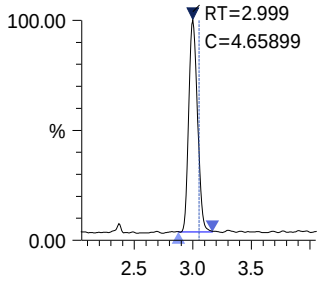
PERCHLORATE5

Date acquired: 6/25/2020 6:01:22 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_011.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	PERCHLORATE5	6/25/2020 6:01:22 PM	232008	4.65899	20200625_011	2.999	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE5	6/25/2020 6:01:22 PM	370291	1.00000	20200625_011	2.996	25.0000	1.0000	10

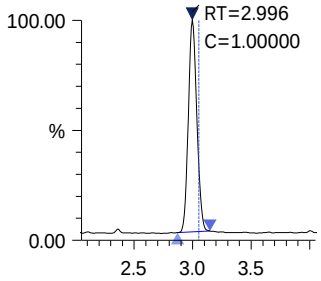
Perchlorate

Conc 4.65899
Area 232008
Q 99.00>83.00 (-) 4.49e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 370291
ISTD 107.00>89.00 (-) 7.40e4



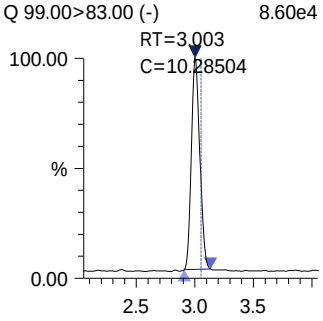
PERCHLORATE6

Date acquired: 6/25/2020 6:09:15 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_012.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	PERCHLORATE6	6/25/2020 6:09:15 PM	427451	10.28504	20200625_012	3.003	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE6	6/25/2020 6:09:15 PM	309038	1.00000	20200625_012	3.001	25.0000	1.0000	4

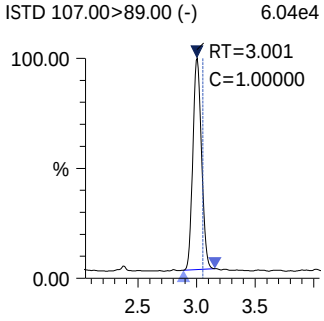
Perchlorate

Conc 10.28504
Area 427451



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 309038



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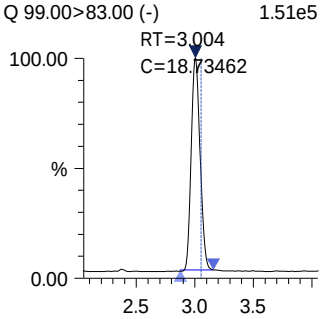
PERCHLORATE7

Date acquired: 6/25/2020 6:17:10 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_013.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	PERCHLORATE7	6/25/2020 6:17:10 PM	786893	18.73462	20200625_013	3.004	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE7	6/25/2020 6:17:10 PM	312322	1.00000	20200625_013	3.002	25.0000	1.0000	11

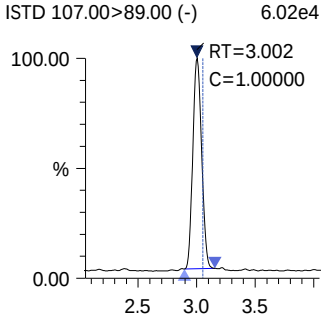
Perchlorate

Conc 18.73462
Area 786893



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 312322



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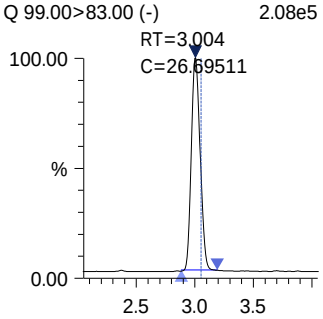
PERCHLORATE8

Date acquired: 6/25/2020 6:25:06 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_014.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	PERCHLORATE8	6/25/2020 6:25:06 PM	1075993	26.69511	20200625_014	3.004	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE8	6/25/2020 6:25:06 PM	299716	1.00000	20200625_014	3.004	25.0000	1.0000	12

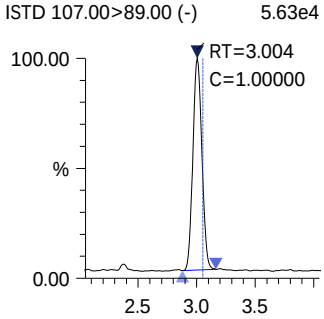
Perchlorate

Conc 26.69511
Area 1075993



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 299716



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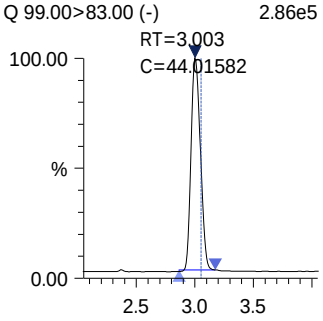
PERCHLORATE9

Date acquired: 6/25/2020 6:33:01 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_015.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	PERCHLORATE9	6/25/2020 6:33:01 PM	1567374	44.01582	20200625_015	3.003	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE9	6/25/2020 6:33:01 PM	264786	1.00000	20200625_015	3.002	25.0000	1.0000	13

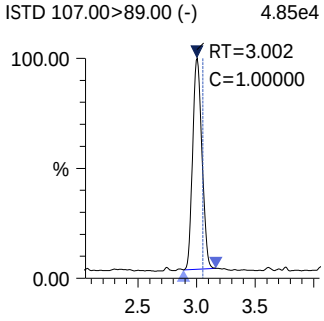
Perchlorate

Conc 44.01582
Area 1567374



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 264786



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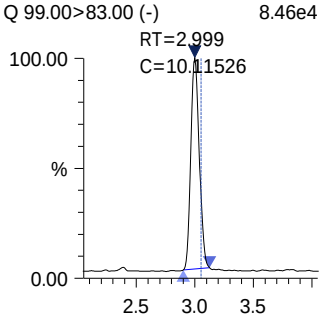
PERCHLORATEICV

Date acquired: 6/25/2020 6:40:55 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200625A\20200625_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	6/25/2020 6:40:55 PM	420958	10.11526	20200625_016	2.999	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	6/25/2020 6:40:55 PM	309452	1.00000	20200625_016	2.996	25.0000	1.0000	14

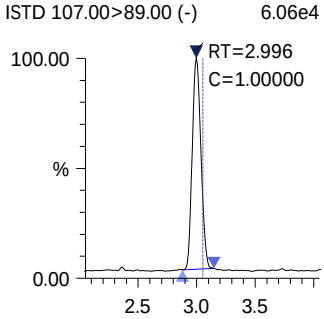
Perchlorate

Conc 10.11526
Area 420958



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 309452



Chromatograms and Selected Ion Monitoring

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www.alsglobal.com

20200708

ALS Environmental

1st Review: Kneir
2nd Review: Hvan

Injection Log
LCMS01 -Shimadzu 8050

ICAL Date: 6/25/2020
Cal. Std. xp: 11/18/2020
ICAL ID: **EC2000009**

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

			File Name	Acquisition Method	Dilutio	R	Comments
1	null		20200708_001	Perchlorate6850b.lcm	1x	☒	
2	null		20200708_002	Perchlorate6850b.lcm	1x	☒	
3	IB		20200708_003	Perchlorate6850b.lcm	1x	☒	
4	IB		20200708_004	Perchlorate6850b.lcm	1x	☒	
5	LODV		20200708_005	Perchlorate6850b.lcm	1x	☒	
6	ICS		20200708_006	Perchlorate6850b.lcm	1x	☒	
7	PERCHLORATE7		20200708_007	Perchlorate6850b.lcm	1x	☒	3100807-04
8	EQ2000288-01		20200708_008	Perchlorate6850b.lcm	1x	☒	
9	EQ2000288-02		20200708_009	Perchlorate6850b.lcm	1x	☒	
10	EQ2000288-03		20200708_010	Perchlorate6850b.lcm	1x	☒	
11	E2000588-001		20200708_011	Perchlorate6850b.lcm	1x	☒	
12	E2000606-001		20200708_012	Perchlorate6850b.lcm	1x	☒	
13	PERCHLORATE7		20200708_013	Perchlorate6850b.lcm	1x	☒	3100807-04
14	EQ2000287-01		20200708_014	Perchlorate6850b.lcm	1x	☒	
15	EQ2000287-02		20200708_015	Perchlorate6850b.lcm	1x	☒	
16	EQ2000287-03		20200708_016	Perchlorate6850b.lcm	1x	☒	
17	EQ2000287-04		20200708_017	Perchlorate6850b.lcm	1x	☒	
18	EQ2000287-05		20200708_018	Perchlorate6850b.lcm	1x	☒	
19	E2000607-001		20200708_019	Perchlorate6850b.lcm	1x	☒	
20	E2000607-002		20200708_020	Perchlorate6850b.lcm	1x	☒	
21	E2000607-003		20200708_021	Perchlorate6850b.lcm	1x	☒	
22	E2000607-004		20200708_022	Perchlorate6850b.lcm	1x	☒	
23	E2000607-005		20200708_023	Perchlorate6850b.lcm	1x	☒	
24	PERCHLORATE7		20200708_024	Perchlorate6850b.lcm	1x	☒	3100807-04
25	E2000607-006		20200708_025	Perchlorate6850b.lcm	1x	☒	
26	E2000607-007		20200708_026	Perchlorate6850b.lcm	1x	☒	
27	E2000607-008		20200708_027	Perchlorate6850b.lcm	1x	☒	
28	E2000607-009		20200708_028	Perchlorate6850b.lcm	1x	☒	
29	E2000607-010		20200708_029	Perchlorate6850b.lcm	1x	☒	
30	E2000607-011		20200708_030	Perchlorate6850b.lcm	1x	☒	
31	E2000607-012		20200708_031	Perchlorate6850b.lcm	1x	☒	
32	E2000607-013		20200708_032	Perchlorate6850b.lcm	1x	☒	
33	E2000607-014		20200708_033	Perchlorate6850b.lcm	1x	☒	
34	E2000607-015		20200708_034	Perchlorate6850b.lcm	1x	☒	
35	PERCHLORATE7		20200708_035	Perchlorate6850b.lcm	1x	☒	3100807-04
36	E2000607-016		20200708_036	Perchlorate6850b.lcm	1x	☒	
37	E2000607-017		20200708_037	Perchlorate6850b.lcm	1x	☒	
38	E2000607-018		20200708_038	Perchlorate6850b.lcm	1x	☒	
39	E2000607-019		20200708_039	Perchlorate6850b.lcm	1x	☒	
40	PERCHLORATE7		20200708_040	Perchlorate6850b.lcm	1x	☒	3100807-04

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Analyzed:**	7/ 8/20

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

Analytical Method:	6850	**Calibration Date:**	6/25/20
File ID:	I:\LCMS01\DATA\20200708\20200708_007	**Calibration ID:**	EC2000009
		Analysis Lot:	686082
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.69	0.1345	0.1316	-2.2	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Analyzed:**	7/ 8/20

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

Analytical Method:	6850	**Calibration Date:**	6/25/20
File ID:	I:\LCMS01\DATA\20200708\20200708_013	**Calibration ID:**	EC2000009
		Analysis Lot:	686082
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.82	0.1345	0.1333	-0.9	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Analyzed:**	7/ 8/20

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

Analytical Method:	6850	**Calibration Date:**	6/25/20
File ID:	I:\LCMS01\DATA\20200708\20200708_024	**Calibration ID:**	EC2000009
		Analysis Lot:	686082
		Units:	ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	9.98	0.1345	0.1355	0.8	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	E2000606
Project:	hs20070018	**Date Analyzed:**	7/8/20 17:57

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

File ID:	I:\LCMS01\DATA\20200708\20200708_007	**Lab Code:**	EQ2000292-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	686082
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	341,911	3.00
	Upper Limit ==>	512,867	5.00
	Lower Limit ==>	170,956	1.00
Associated Analyses			
Continuing Calibration Verification	EQ2000292-01	315,436	2.93
Method Blank	EQ2000288-01	346,303	2.94
Lab Control Sample	EQ2000288-02	385,389	2.93
Duplicate Lab Control Sample	EQ2000288-03	391,382	2.93
LH18/24-SP650_063020-BIX	E2000606-001	225,634	2.90

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:**	E2000606
Project:	hs20070018	**Date Analyzed:**	7/8/20 18:45

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

File ID:	I:\LCMS01\DATA\20200708\20200708_013	**Lab Code:**	EQ2000292-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	686082
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	341,911	3.00
	Upper Limit ==>	512,867	5.00
	Lower Limit ==>	170,956	1.00
Associated Analyses			
Continuing Calibration Verification	EQ2000292-02	308,199	2.93

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:**	E2000606
Project:	hs20070018	**Date Analyzed:**	7/8/20 20:12

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

File ID:	I:\LCMS01\DATA\20200708\20200708_024	**Lab Code:**	EQ2000292-03
Instrument ID:	E-LCMS-01	**Analysis Lot:**	686082
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	341,911	3.00
	Upper Limit ==>	512,867	5.00
	Lower Limit ==>	170,956	1.00
Associated Analyses			
Continuing Calibration Verification	EQ2000292-03	303,219	2.94

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

ALS Group Houston

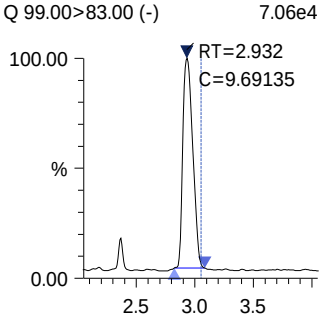
PERCHLORATE7

Date acquired: 7/8/2020 5:57:52 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_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	7/8/2020 5:57:52 PM	415042	9.69135	20200708_007	2.932	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	7/8/2020 5:57:52 PM	315436	1.00000	20200708_007	2.929	25.0000	1.0000	4

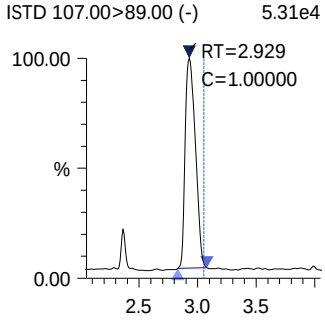
Perchlorate

Conc 9.69135
Area 415042



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 315436



ALS Group Houston

EQ2000288-01

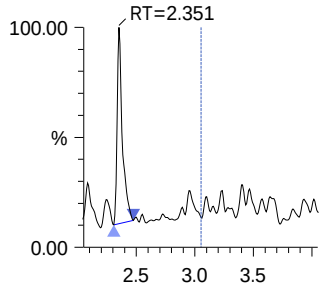
Date acquired: 7/8/2020 6:05:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_008.lcd
Vial: 1 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000288-01	7/8/2020 6:05:45 PM	----	----	20200708_008	----	25.0000	1.0000	1
Sodium Perchlorate-18O4_IS	EQ2000288-01	7/8/2020 6:05:45 PM	346303	1.00000	20200708_008	2.937	25.0000	1.0000	1

Perchlorate

Conc ----
Area ----

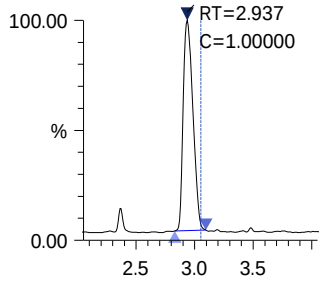
Q 99.00>83.00 (-) 3.54e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 346303

ISTD 107.00>89.00 (-) 6.14e4



ALS Group Houston

EQ2000288-02

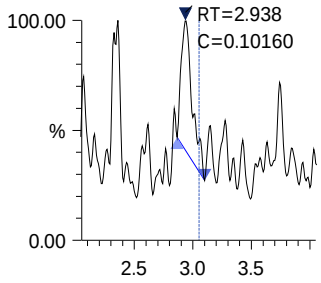
Date acquired: 7/8/2020 6:13:38 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_009.lcd
Vial: 2 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000288-02	7/8/2020 6:13:38 PM	5316	0.10160	20200708_009	2.938	25.0000	1.0000	2
Sodium Perchlorate-18O4_IS	EQ2000288-02	7/8/2020 6:13:38 PM	385389	1.00000	20200708_009	2.928	25.0000	1.0000	2

Perchlorate

Conc 0.10160
Area 5316

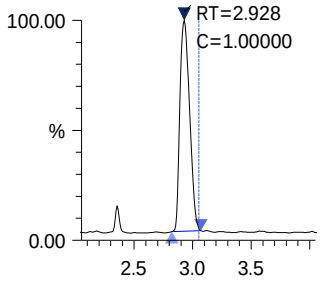
Q 99.00>83.00 (-) 1.32e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 385389

ISTD 107.00>89.00 (-) 6.80e4



ALS Group Houston

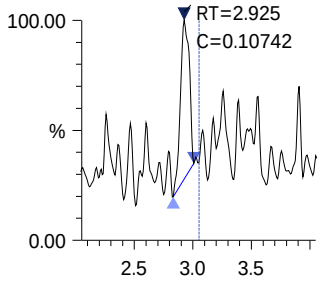
EQ2000288-03

Date acquired: 7/8/2020 6:21:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_010.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	EQ2000288-03	7/8/2020 6:21:31 PM	5708	0.10742	20200708_010	2.925	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	EQ2000288-03	7/8/2020 6:21:31 PM	391382	1.00000	20200708_010	2.932	25.0000	1.0000	3

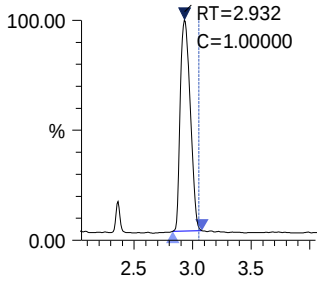
Perchlorate

Conc 0.10742
Area 5708
Q 99.00>83.00 (-) 1.45e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 391382
ISTD 107.00>89.00 (-) 6.68e4



ALS Group Houston

E2000606-001

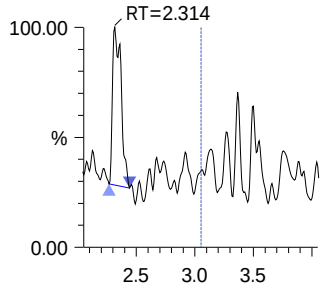
Date acquired: 7/8/2020 6:37:18 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_012.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 2

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000606-001	7/8/2020 6:37:18 PM	----	----	20200708_012	----	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	E2000606-001	7/8/2020 6:37:18 PM	225634	1.00000	20200708_012	2.904	25.0000	1.0000	5

Perchlorate

Conc ----
Area ----

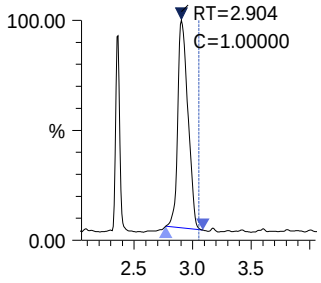
Q 99.00>83.00 (-) 1.38e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 225634

ISTD 107.00>89.00 (-) 3.82e4



ALS Group Houston

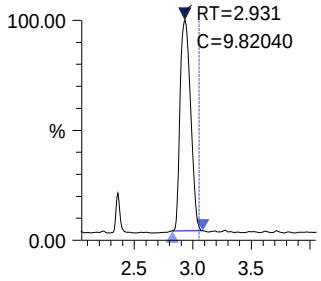
PERCHLORATE7

Date acquired: 7/8/2020 6:45:13 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200708\20200708_013.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	7/8/2020 6:45:13 PM	410918	9.82040	20200708_013	2.931	25.0000	1.0000	4
Sodium Perchlorate-18O4_IS	PERCHLORATE7	7/8/2020 6:45:13 PM	308199	1.00000	20200708_013	2.929	25.0000	1.0000	4

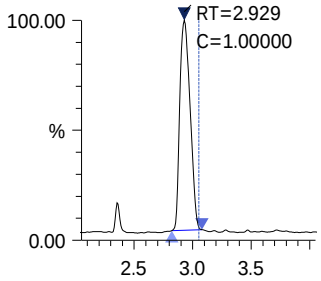
Perchlorate

Conc 9.82040
Area 410918
Q 99.00>83.00 (-) 6.59e4



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 308199
ISTD 107.00>89.00 (-) 5.14e4



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July 20, 2020

Analytical Report for Service Request No: K2005527

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

RE: ALS Houston DOD TOC / HS20070018

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory July 02, 2020
For your reference, these analyses have been assigned our service request number **K2005527.**

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.

00977050

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: ALS Houston DOD TOC
Sample Matrix: Water

Service Request: K2005527
Date Received: 07/02/2020

CASE NARRATIVE

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

Sample Receipt:

One water sample was received for analysis at ALS Environmental on 07/02/2020. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The sample was stored at minimum in accordance with the analytical method requirements.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by Kelley Lovejoy Date 07/20/2020

Chain of Custody

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K2005527

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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:** **14226**

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:	HS20070018
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20070018-01**	**LH18/24-SP650_063020**	**Water**	**30 Jun 2020 14:00**
	TOC Analysis for DOD Level IV			16 Jul 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: D. Newsom Date/Time: 07/01/20 18:00

Received By: Date/Time: 7/2/20 0930

Cooler ID(s): Temperature(s):

PC KL

Cooler Receipt and Preservation Form

Client A18 - Houston Service Request K20 05507

Received: 7/2/20 Opened: 7/2/20 By: BR Unloaded: 7/2/20 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 & BACK

   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
NA	3.3	3.0	-	-	IR01		1891 8878 0071	

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: Ø temp Blank

General Chemistry

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ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	K2005527
Project:	ALS Houston DOD TOC/HS20070018	**Date Collected:**	06/30/20
Sample Matrix:	Water	**Date Received:**	07/2/20
Analysis Method:	9060A	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA

Carbon, Total Organic (TOC)

Sample Name	Lab Code	Result	LOQ	LOD	MDL	Dil.	Date Analyzed	Q
LH18/24-SP650_063020	K2005527-001	**2.56**	0.50	0.20	0.07	1	07/15/20 15:10	
Method Blank	K2005527-MB	ND U	0.50	0.20	0.07	1	07/15/20 15:10	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	ALS Environmental - US	**Service Request:**	K2005527
Project:	ALS Houston DOD TOC/HS20070018	**Date Analyzed:**	07/15/20
Sample Matrix:	Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method:	9060A	**Units:**	mg/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	687240

	Lab Control Sample K2005527-LCS			Duplicate Lab Control Sample K2005527-DLCS					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Carbon, Total Organic (TOC)	27.1	25.0	108	26.7	25.0	107	83-117	1	20

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:** K2005527
Project: ALS Houston DOD TOC/HS20070018

Continuing Calibration Verification (CCV) Summary

Carbon, Total Organic (TOC)

Analysis Method: 9060A **Units:** mg/L

	Analysis Lot	Lab Code	Date Analyzed	True Value	Measured Value	Percent Recovery	Acceptance Limits
CCV1	687240	KQ2009653-04	07/15/20 15:10	25.0	24.9	100	90-110
CCV2	687240	KQ2009653-05	07/15/20 15:10	25.0	24.4	98	90-110

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US **Service Request:**K2005527
Project: ALS Houston DOD TOC/HS20070018

Continuing Calibration Blank (CCB) Summary
Carbon, Total Organic (TOC)

Analysis Method: 9060A **Units:**mg/L

	Analysis Lot	Lab Code	Date Analyzed	LOQ	LOD	MDL	Result	Q
CCB1	687240	KQ2009653-06	07/15/20 15:10	0.50	0.20	0.07	ND	U
CCB2	687240	KQ2009653-07	07/15/20 15:10	0.50	0.20	0.07	ND	U

Raw Data

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General Chemistry

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Work Request # Original (5527) 5525 5668 5287

Tier: IV II II IV

Date Analyzed: 7/15/20

Analyst: MK Run # 687240/687239/687238

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
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: 7/28/20

DQREPORT

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MKANALY **Analysis Lot:** 687240 **Method/Testcode:** 9060A/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
K2005527-001	Carbon, Total Organic (TOC)	N/A		Water	2.56 mg/L	10 mL	2.56 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009653-01	Carbon, Total Organic (TOC)	LCS		Water	27.06 mg/L	10 mL	27.1 mg/L	1	0.07	0.50	108		7/15/20 15:10:00	N	IV
KQ2009653-02	Carbon, Total Organic (TOC)	DLCS		Water	26.66 mg/L	10 mL	26.7 mg/L	1	0.07	0.50	107	1	7/15/20 15:10:00	N	IV
KQ2009653-03	Carbon, Total Organic (TOC)	MB		Water	-0.12 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009653-04	Carbon, Total Organic (TOC)	CCV		Water	24.93 mg/L	10 mL	24.9 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009653-05	Carbon, Total Organic (TOC)	CCV		Water	24.43 mg/L	10 mL	24.4 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009653-06	Carbon, Total Organic (TOC)	CCB		Water	0.04 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009653-07	Carbon, Total Organic (TOC)	CCB		Water	-0.14 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	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-03 **Analyst:** MKANALY **Analysis Lot:** 687239 **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
K2005525-001	Carbon, Total Organic	N/A		Water	-0.02 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	II
K2005668-001	Carbon, Total Organic	N/A		Water	2.31 mg/L	10 mL	2.31 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	II
KQ2009652-01	Carbon, Total Organic	LCS		Water	27.18 mg/L	10 mL	27.2 mg/L	1	0.07	0.50	109		7/15/20 15:10:00	N	II
KQ2009652-02	Carbon, Total Organic	DLCS		Water	27.90 mg/L	10 mL	27.9 mg/L	1	0.07	0.50	112	3	7/15/20 15:10:00	N	II
KQ2009652-03	Carbon, Total Organic	MB		Water	-0.12 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	II
KQ2009652-04	Carbon, Total Organic	CCV		Water	25.18 mg/L	10 mL	25.2 mg/L	1					7/15/20 15:10:00	N	II
KQ2009652-05	Carbon, Total Organic	CCV		Water	24.93 mg/L	10 mL	24.9 mg/L	1					7/15/20 15:10:00	N	II
KQ2009652-06	Carbon, Total Organic	CCB		Water	-0.01 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	II
KQ2009652-07	Carbon, Total Organic	CCB		Water	0.04 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	II
KQ2009652-08	Carbon, Total Organic	DUP	K2005668-001	Water	2.22 mg/L	10 mL	2.22 mg/L	1	0.07	0.50		4	7/15/20 15:10:00	N	II
KQ2009652-09	Carbon, Total Organic	MS	K2005668-001	Water	30.69 mg/L	10 mL	30.7 mg/L	1	0.07	0.50	114		7/15/20 15:10:00	N	II
KQ2009652-10	Carbon, Total Organic	CCV		Water	24.43 mg/L	10 mL	24.4 mg/L	1					7/15/20 15:10:00	N	II
KQ2009652-11	Carbon, Total Organic	CCB		Water	-0.14 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	II

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

Analytical Results Summary

Instrument Name: K-TOC-03 **Analyst:** MKANALY **Analysis Lot:** 687238 **Method/Testcode:** 9060A/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
K2005287-001	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	8.65 mg/L	10 mL	8.65 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-002	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	2.55 mg/L	10 mL	2.55 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-003	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	1.46 mg/L	10 mL	1.46 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-004	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	4.73 mg/L	10 mL	4.73 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-005	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	1.99 mg/L	10 mL	1.99 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-006	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	1.57 mg/L	10 mL	1.57 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-008	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	3.35 mg/L	10 mL	3.35 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-009	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	4.34 mg/L	10 mL	4.34 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-010	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	5.62 mg/L	10 mL	5.62 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-011	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	0.27 mg/L	10 mL	0.27 mg/L J	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-012	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	-0.13 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-013	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	0.71 mg/L	10 mL	0.71 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-014	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	1.00 mg/L	10 mL	1.00 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-015	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	2.31 mg/L	10 mL	2.31 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-016	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	0.65 mg/L	10 mL	0.65 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-017	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	2.19 mg/L	10 mL	2.19 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-018	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	0.52 mg/L	10 mL	0.52 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-019	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	7.16 mg/L	10 mL	7.16 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
K2005287-020	Carbon, Dissolved Organic (DOC)	N/A		Pore Water	5.67 mg/L	10 mL	5.67 mg/L	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-01	Carbon, Dissolved Organic (DOC)	LCS		Pore Water	27.06 mg/L	10 mL	27.1 mg/L	1	0.07	0.50	108		7/15/20 15:10:00	N	IV
KQ2009654-02	Carbon, Dissolved Organic (DOC)	DLCS		Pore Water	26.66 mg/L	10 mL	26.7 mg/L	1	0.07	0.50	107	1	7/15/20 15:10:00	N	IV
KQ2009654-03	Carbon, Dissolved Organic (DOC)	MB		Pore Water	-0.12 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-04	Carbon, Dissolved Organic (DOC)	CCV		Pore Water	24.93 mg/L	10 mL	24.9 mg/L	1					7/15/20 15:10:00	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-03 **Analyst:** MKANALY **Analysis Lot:** 687238 **Method/Testcode:** 9060A/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
KQ2009654-05	Carbon, Dissolved Organic (DOC)	CCV		Pore Water	24.43 mg/L	10 mL	24.4 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009654-06	Carbon, Dissolved Organic (DOC)	CCV		Pore Water	24.22 mg/L	10 mL	24.2 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009654-07	Carbon, Dissolved Organic (DOC)	CCV		Pore Water	24.36 mg/L	10 mL	24.4 mg/L	1					7/15/20 15:10:00	N	IV
KQ2009654-08	Carbon, Dissolved Organic (DOC)	CCB		Pore Water	0.04 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-09	Carbon, Dissolved Organic (DOC)	CCB		Pore Water	-0.14 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-10	Carbon, Dissolved Organic (DOC)	CCB		Pore Water	-0.22 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV
KQ2009654-11	Carbon, Dissolved Organic (DOC)	CCB		Pore Water	-0.22 mg/L	10 mL	0.50 mg/L U	1	0.07	0.50			7/15/20 15:10:00	N	IV

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

COLUMBIA ANALYTICAL SERVICES, INC.

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060/5310C

Printout	Sample #	Dil. Factor	Solution Conc. ,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
CBA	RB	1			0.0000	0.0000	<0.5	
2	CCV	1	25.3932	0.2167	25.1765	25.1765	25.2	
3	CCB	1	0.2028	0.2167	-0.0139	-0.0139	<0.5	
4	MB	1	0.0000	0.2167	-0.2167	-0.2167	<0.5	
5	LCS	1	8.8879	0.2167	8.6712	8.6712	NR	
6	ICS	1	0.5289	0.2167	0.3122	0.3122	<0.5	
7	K2005525-001	1	0.1961	0.2167	-0.0206	-0.0206	<0.5	
8	K2005668-001	1	2.5249	0.2167	2.3082	2.3082	2.3	
9	LCS	1	27.3948	0.2167	27.1781	27.1781	27.2	
10	DLCS	1	28.1122	0.2167	27.8955	27.8955	27.9	
11	IB	1	0.2306	0.2167	0.0139	0.0139	<0.5	
12	CCV	1	25.1469	0.2167	24.9302	24.9302	24.9	
13	CCB	1	0.2614	0.2167	0.0447	0.0447	<0.5	
14	K2005668-001DUI	1	2.4346	0.2167	2.2179	2.2179	2.2	
15	K2005668-001M	1	30.9113	0.2167	30.6946	30.6946	30.7	
16	IB	1	0.3163	0.2167	0.0996	0.0996	<0.5	
17	K2005527-001	1	2.7723	0.2167	2.5556	2.5556	2.6	
18	LCS	1	27.2730	0.2167	27.0563	27.0563	27.1	
19	DLCS	1	26.8766	0.2167	26.6599	26.6599	26.7	
20	BEADS	1	0.3559	0.2167	0.1392	0.1392	<0.5	
21	MB	1	0.0924	0.2167	-0.1243	-0.1243	<0.5	
22	K2005287-001	1	8.8640	0.2167	8.6473	8.6473	8.65	
23	K2005287-002	1	2.7697	0.2167	2.5530	2.553	2.55	
24	CCV	1	24.644	0.2167	24.4268	24.4268	24.4	
25	CCB	1	0.073	0.2167	-0.1437	-0.1437	<0.5	

date time

Analyzed By:	[signature]	Date Analyzed	7/17/20
Reviewed By:	[signature]	Date Reviewed	7/18/20

COLUMBIA ANALYTICAL SERVICES, INC.

Matrix: WATER

Analysis: Total Organic Carbon (WATER) Method:Oxidation EPA 415.1/9060

Printout	Sample #	Dil. Factor	Solution Conc. ,mg/L	Blank Correction, mg/L	Net mg/L	TOC mg/L	Reported TOC mg/L	
26	MB	1	0.013	0.2167	-0.2034	-0.2034	<0.5	
27	LCS	1	26.128	0.2167	25.9115	25.9115	25.9	
28	K2005287-003	1	1.634	0.2167	1.4169	1.4169	1.4	
29	K2005287-004	1	4.945	0.2167	4.7284	4.7284	4.7	
30	K2005287-005	1	2.211	0.2167	1.9943	1.9943	2.0	
31	K2005287-006	1	1.786	0.2167	1.5693	1.5693	1.57	
32	K2005287-008	1	3.568	0.2167	3.3516	3.3516	3.35	
33	K2005287-009	1	4.556	0.2167	4.3389	4.3389	4.3	
34	K2005287-010	1	5.840	0.2167	5.6235	5.6235	5.62	
35	K2005287-011	1	0.486	0.2167	0.2693	0.2693	<0.5	
36	CCV	1	24.437	0.2167	24.2201	24.2201	24.22	
37	CCB	1	0.000	0.2167	-0.2167	-0.2167	<0.5	
38	K2005287-012	1	0.082	0.2167	-0.1343	-0.1343	<0.5	
39	K2005287-013	1	0.925	0.2167	0.7081	0.7081	0.71	
40	K2005287-014	1	1.218	0.2167	1.0017	1.0017	1.0	
41	K2005287-015	1	2.526	0.2167	2.3096	2.3096	2.3	
42	K2005287-016	1	0.868	0.2167	0.6511	0.6511	0.65	
43	K2005287-017	1	2.410	0.2167	2.1932	2.1932	2.19	
44	K2005287-018	1	0.733	0.2167	0.5163	0.5163	0.52	
45	K2005287-019	1	7.377	0.2167	7.1598	7.1598	7.16	
46	K2005287-020	1	5.884	0.2167	5.6668	5.6668	5.67	
47	CCV	1	24.579	0.2167	24.3622	24.3622	24.36	
48	CCB	1	0.000	0.2167	-0.2167	-0.2167	<0.5	
49		1						
50		1						

Analyzed By:	MK	Date Analyzed	7/15/20
Reviewed By:		Date Reviewed	7/18/20

0.203	0.203	0.203	0.203	OBSERVATIONS	7	0.2028
0.140	0.140	0.140		STD Deviation	0.09903	0.1395
0.231	0.231	0.231	0.231	AVERAGE	0.13609	0.2306
0.261				UCL	0.23512	ABOVE
0.027				LCL	0.03705	BELOW
0.073	0.073					0.073
0.019						BELOW
				OBSERVATIONS	4	BELOW
				STD Deviation	0.07023	BELOW
				AVERAGE	0.16148	BELOW
				UCL	0.23170	BELOW
				LCL	0.09125	BELOW
						BELOW
						BELOW
				OBSERVATIONS	3	BELOW
				STD Deviation	0.04669	BELOW
				AVERAGE	0.19097	BELOW
				UCL	0.23766	BELOW
				LCL	0.14428	BELOW
						BELOW
						BELOW
				OBSERVATIONS	2	BELOW
				STD Deviation	0.02780	BELOW
				AVERAGE	0.21670	BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW
						BELOW

Schedule: 071520

Version: 19
Instrument: Fusion1
Last Saved by: Fusion1 (Fusion1)
Last Saved on: 2020/07/16 08:36 - Thursday

Position	Sample Type	Sample ID	Method ID (Calibration ID)	Reps	Use	State
(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	K2005525-001	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
4	Sample	K2005668-001	CAS_salt_010711 (CAS_salt_010711)	2	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
9	Sample	IB	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	K2005668-001DUP	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
11	Sample	K2005668-001MS	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
12	Sample	IB	CAS_salt_010711 (CAS_salt_010711)	2	True	Ready
13	Sample	K2005527-001	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
16	Sample	BEADS	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
17	Sample	MB	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
18	Sample	K2005287-001	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
19	Sample	K2005287-002	CAS_salt_010711 (CAS_salt_010711)	4	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)	2	True	Ready
C	Check Standard	[TOC] LCS [25.0 ppm]	CAS_salt_010711 (CAS_salt_010711)	1	True	Ready
21	Sample	K2005287-003	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
22	Sample	K2005287-004	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
23	Sample	K2005287-005	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
24	Sample	K2005287-006	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
25	Sample	K2005287-008	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
26	Sample	K2005287-009	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
27	Sample	K2005287-010	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
28	Sample	K2005287-011	CAS_salt_010711 (CAS_salt_010711)	4	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	K2005287-012	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
30	Sample	K2005287-013	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
31	Sample	K2005287-014	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
32	Sample	K2005287-015	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
33	Sample	K2005287-016	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
34	Sample	K2005287-017	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
35	Sample	K2005287-018	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
36	Sample	K2005287-019	CAS_salt_010711 (CAS_salt_010711)	4	True	Ready
37	Sample	K2005287-020	CAS_salt_010711 (CAS_salt_010711)	4	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
					False	

Fusion Report - 071520
Wednesday, July 15, 2020 08:35 AM

(View - Reps, Unused Reps, Meta-Data, Signature, History)
Printed on 2020/07/16 15:00 - Thursday

Report Summary Information

Company Location:	Gen Chem Lab		
Schedule Name:	071520	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) (v4) Fusion1 (Fusion1) (v7) Fusion1 (Fusion1) (v8) Fusion1 (Fusion1) (v9) Fusion1 (Fusion1) (v10) Fusion1 (Fusion1) (v12) Fusion1 (Fusion1) (v14) Fusion1 (Fusion1) (v15) Fusion1 (Fusion1) (v16) Fusion1 (Fusion1) (v17) Fusion1 (Fusion1) (v19)		
Comment:			

Report Results

Sample Type: Clean — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◈	(clean)		Clean	2020/07/15 08:35

Rep #	Base Analysis Type	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	12.60	27.55	14.95	49.58	05:26
2	TC Clean	8.76	22.99	14.23	49.94	04:07
3	TC Clean	1.32	15.46	14.14	50.08	03:53
4	TC Clean	0.38	14.58	14.20	50.04	03:53

Sample Type: Blank (Creating v1411) — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Start Time
◈	(blank)		Reagent/Acid Blank	2020/07/15 08:57

Rep	Base	Adjusted				

#	Analysis Type	(Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	IC Clean	0.54	14.50	13.96	49.60	05:15
2	TC Clean	3.28	17.33	14.04	49.93	04:05
3	TC Clean	0.88	14.97	14.09	50.03	03:49
4	TC Clean	0.41	14.64	14.23	50.02	03:50
5	Reagent Blank	11.05	25.22	14.17	49.94	05:04
6	Acid Blank	1.93	15.68	13.75	49.64	05:32

Sample Type: Sample — From Schedule Version 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	D	TOC	RB	0.5088 ppm	0.0000 ppm	0.0000%	2020/07/15 09:31

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5088	5.0885	13.21	27.19	13.98	50.16	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	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)	25.3932 ppm (PASS)	0.0000 ppm	0%	2020/07/15 09:45

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.3932	253.9321	188.02	201.92	13.90	50.22	10:31

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

Sample Type: Check Standard --> CCB — From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◆	D	TOC	0.0000	1:1	[TOC] CCB [0 ppm]	0 / infinity (NA / NA)	0.2028 ppm (PASS)	0.0000 ppm	0%	2020/07/15 10:00

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2028	2.0285	11.31	25.31	13.99	50.19	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 3

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	1	TOC	MB1	0.1395 ppm	0.0000 ppm	0.0000%	2020/07/15 10:15

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1395	1.3949	10.62	24.65	14.03	50.29	10:33

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 3

	Pos	BAT	Concentration (ppm)	Dil	Sample ID	Min / Max (% dev)	Result	Std. Dev.	RSD	Start Time
◈	C	TOC	25.0000	1:1	[TOC] LCS [24.0 ppm]	0 / infinity (NA / NA)	8.8879 ppm (PASS)	0.0000 ppm	0%	2020/07/15 10:30

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	8.8879	88.8788	72.24	86.13	13.89	50.22	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: Sample From Schedule Version 4

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	2	TOC	ICS	0.5289 ppm	0.0000 ppm	0.0000%	2020/07/15 10:44

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.5289	5.2895	13.35	27.33	13.98	50.22	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time

◆	3	TOC	K2005525-001	0.1961 ppm	0.0419 ppm	21.3900%	2020/07/15 10:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.1664	1.6643	10.81	24.92	14.12	50.29	10:29
2	TOC	0.2257	2.2573	11.22	25.21	13.99	50.23	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample — From Schedule Version 7

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	4	TOC	K2005668-001	2.5249 ppm	0.0039 ppm	0.1600%	2020/07/15 11:27

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.5277	25.2772	27.37	41.27	13.90	50.28	10:29
2	TOC	2.5222	25.2216	27.33	41.40	14.07	50.26	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 8

	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)	27.3948 ppm (PASS)	0.0000 ppm	0%	2020/07/15 11:55

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	27.3948	273.9483	202.06	215.88	13.81	50.20	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 8

	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)	28.1122 ppm (PASS)	0.0000 ppm	0%	2020/07/15 12:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	28.1122	281.1216	207.09	220.89	13.79	50.24	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)	25 ppmC

Sample Type: Sample From Schedule Version 9

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	9	TOC	IB	0.2306 ppm	0.0645 ppm	27.9800%	2020/07/15 12:51

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.2762	2.7620	11.58	25.55	13.97	50.13	10:29
2	TOC	0.1850	1.8496	10.94	24.99	14.05	50.15	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	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)	25.1469 ppm (PASS)	0.0000 ppm	0%	2020/07/15 13:19

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	25.1469	251.4687	186.29	200.06	13.77	50.17	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)	0.2614 ppm (PASS)	0.0000 ppm	0%	2020/07/15 13:34

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.2614	2.6144	11.73	25.59	13.86	50.15	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
◈	10	TOC	K2005668-001DUP	2.4346 ppm	0.0332 ppm	1.3600%	2020/07/15 13:49

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4111	24.1111	26.55	40.51	13.96	50.16	10:28
2	TOC	2.4580	24.5801	26.88	40.79	13.91	50.22	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 12

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	11	TOC	K2005668-001MS	30.9113 ppm	0.2365 ppm	0.7700%	2020/07/15 14:18

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	31.0785	310.7853	227.65	241.54	13.89	50.19	10:26
2	TOC	30.7441	307.4409	225.30	239.27	13.97	50.19	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 14

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	12	TOC	IB	0.3163 ppm	0.0333 ppm	10.5200%	2020/07/15 14:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3398	3.3978	12.02	25.81	13.79	50.20	10:26
2	TOC	0.2927	2.9273	11.69	25.52	13.83	50.18	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	13	TOC	K2005527-001	2.7723 ppm	0.0393 ppm	1.4200%	2020/07/15 15:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.7200	27.2002	28.72	42.30	13.58	50.24	10:27
2	TOC	2.7953	27.9529	29.25	42.94	13.69	50.23	10:30
3	TOC	2.8085	28.0855	29.34	43.06	13.72	50.28	10:26
4	TOC	2.7654	27.6535	29.04	43.02	13.98	50.23	10:26

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS From Schedule Version 15

	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)	27.2730 ppm (PASS)	0.2041 ppm	0.75%	2020/07/15 16:10

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	27.3271	273.2711	201.59	215.34	13.75	50.21	10:29
C	TOC	25.0 ppm	2	27.0362	270.3616	199.55	213.38	13.84	50.12	10:28
C	TOC	25.0 ppm	3	27.5214	275.2141	202.95	216.85	13.90	50.31	10:27
C	TOC	25.0 ppm	4	27.2075	272.0751	200.75	214.67	13.92	50.20	10:25

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 15

	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)	26.8766 ppm (PASS)	0.2130 ppm	0.79%	2020/07/15 17:06

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
C	TOC	25.0 ppm	1	27.0188	270.1876	199.42	213.61	14.18	50.26	10:27
C	TOC	25.0 ppm	2	27.0135	270.1349	199.39	213.16	13.77	50.20	10:27
C	TOC	25.0 ppm	3	26.5664	265.6644	196.25	210.16	13.91	50.28	10:27
C	TOC	25.0 ppm	4	26.9079	269.0786	198.65	212.57	13.92	50.22	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: Sample From Schedule Version 16

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	16	TOC	BEADS	0.3559 ppm	0.0000 ppm	0.0000%	2020/07/15 18:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.3559	3.5589	12.14	26.10	13.97	50.25	10:33

Dilution	Blank Contribution	Method	Calibration

1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	17	TOC	MB	0.0924 ppm	0.0265 ppm	28.6300%	2020/07/15 18:16

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0635	0.6351	10.08	24.02	13.94	50.26	10:28
2	TOC	0.1230	1.2295	10.50	24.34	13.83	50.24	10:29
3	TOC	0.1046	1.0456	10.37	24.35	13.98	50.25	10:29
4	TOC	0.0788	0.7876	10.19	24.08	13.89	50.32	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	18	TOC	K2005287-001	8.8640 ppm	0.0406 ppm	0.4600%	2020/07/15 19:11

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	8.8051	88.0513	71.41	85.38	13.98	50.32	10:26
2	TOC	8.8912	88.9124	72.01	85.76	13.75	50.34	10:25
3	TOC	8.8689	88.6886	71.85	85.83	13.98	50.35	10:28
4	TOC	8.8910	88.9095	72.01	86.04	14.03	50.37	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	19	TOC	K2005287-002	2.7697 ppm	0.0674 ppm	2.4400%	2020/07/15 20:07

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.8646	28.6457	29.73	43.51	13.78	50.40	10:25
2	TOC	2.7568	27.5680	28.98	43.06	14.08	50.43	10:25
3	TOC	2.7524	27.5238	28.95	42.98	14.03	50.45	10:28
4	TOC	2.7051	27.0505	28.62	42.67	14.06	50.42	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	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)	24.6435 ppm (PASS)	0.0000 ppm	0%	2020/07/15 21:02

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.6435	246.4351	182.76	196.95	14.19	50.46	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 17

	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)	0.0730 ppm (PASS)	0.0000 ppm	0%	2020/07/15 21:17

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0730	0.7298	10.40	24.50	14.10	50.41	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 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	20	TOC	MB2	0.0133 ppm	0.0188 ppm	141.4200%	2020/07/15 21:32

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.0266	0.2658	9.83	23.89	14.07	50.46	10:30
2	TOC	0.0000	0.0000	9.49	23.79	14.30	50.37	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> LCS — From Schedule Version 17

	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)	26.1282 ppm (PASS)	0.0000 ppm	0%	2020/07/15 22:00

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

C	TOC	25.0 ppm	1	26.1282	261.2822	193.18	207.24	14.06	50.42	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: Sample From Schedule Version 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	21	TOC	K2005287-003	1.6336 ppm	0.0504 ppm	3.0800%	2020/07/15 22:14

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7053	17.0531	21.60	35.62	14.02	50.45	10:27
2	TOC	1.5917	15.9170	20.80	34.92	14.11	50.33	10:29
3	TOC	1.6070	16.0695	20.91	35.11	14.20	50.40	10:25
4	TOC	1.6305	16.3047	21.08	35.18	14.10	50.45	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	22	TOC	K2005287-004	4.9451 ppm	0.0902 ppm	1.8200%	2020/07/15 23:10

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.0260	50.2600	44.90	59.00	14.10	50.35	10:27
2	TOC	4.9252	49.2521	44.19	58.27	14.08	50.40	10:29
3	TOC	5.0029	50.0290	44.73	58.95	14.21	50.46	10:26
4	TOC	4.8263	48.2628	43.50	57.76	14.27	50.38	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	23	TOC	K2005287-005	2.2110 ppm	0.0228 ppm	1.0300%	2020/07/16 00:05

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.1903	21.9029	25.00	39.17	14.17	50.43	10:27
2	TOC	2.1986	21.9856	25.06	39.28	14.22	50.37	10:29
3	TOC	2.2422	22.4218	25.37	39.41	14.04	50.28	10:26
4	TOC	2.2128	22.1281	25.16	39.40	14.24	50.36	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	24	TOC	K2005287-006	1.7860 ppm	0.0198 ppm	1.1100%	2020/07/16 01:01

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.7727	17.7274	22.07	36.32	14.25	50.26	10:27
2	TOC	1.8090	18.0895	22.33	36.24	13.91	50.35	10:30
3	TOC	1.7958	17.9584	22.24	36.34	14.11	50.27	10:24
4	TOC	1.7666	17.6661	22.03	36.21	14.18	50.21	10:29

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	25	TOC	K2005287-008	3.5683 ppm	0.0316 ppm	0.8800%	2020/07/16 01:57

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	3.5935	35.9346	34.85	48.72	13.88	50.33	10:25
2	TOC	3.5913	35.9132	34.83	48.86	14.02	50.26	10:25
3	TOC	3.5260	35.2603	34.37	48.47	14.10	50.19	10:25
4	TOC	3.5622	35.6224	34.63	48.46	13.83	50.31	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	26	TOC	K2005287-009	4.5556 ppm	0.0641 ppm	1.4100%	2020/07/16 02:52

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	4.4756	44.7559	41.04	55.03	14.00	50.22	10:28
2	TOC	4.5842	45.8422	41.80	55.82	14.02	50.17	10:28
3	TOC	4.5377	45.3774	41.47	55.62	14.15	50.27	10:28
4	TOC	4.6248	46.2484	42.08	56.01	13.93	50.19	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	27	TOC	K2005287-010	5.8402 ppm	0.0839 ppm	1.4400%	2020/07/16 03:48

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.8753	58.7534	50.85	64.66	13.81	50.14	10:25
2	TOC	5.7421	57.4205	49.92	64.12	14.20	50.26	10:25
3	TOC	5.9361	59.3607	51.28	65.34	14.06	50.18	10:26
4	TOC	5.8073	58.0734	50.38	64.49	14.11	50.16	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis	Sample ID	Result (ppmC)	Std. Dev.	RSD	Start Time

		Type			(ppmC)		
◆	28	TOC	K2005287-011	0.4860 ppm	0.0164 ppm	3.3800%	2020/07/16 04:43

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.4935	4.9345	13.10	27.24	14.14	50.24	10:27
2	TOC	0.5057	5.0571	13.19	27.28	14.10	50.17	10:26
3	TOC	0.4731	4.7307	12.96	27.09	14.13	50.16	10:26
4	TOC	0.4719	4.7193	12.95	27.13	14.18	50.23	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 17

	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)	24.4368 ppm (PASS)	0.0000 ppm	0%	2020/07/16 05:39

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.4368	244.3680	181.31	195.26	13.95	50.16	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 17

	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%	2020/07/16 05:54

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.55	23.71	14.16	50.08	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 17

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	29	TOC	K2005287-012	7.5005 ppm	0.0824 ppm	1.1000%	2020/07/16 06:08

Rep	Base			Adjusted		Baseline	Pressure	Run

#	Analysis Type	ppm	µg	(Abs)	NDIR (Abs)	(Abs)	(psig)	Time
1	TOC	7.4758	74.7581	62.08	76.16	14.08	50.21	10:26
2	TOC	7.5804	75.8044	62.82	76.88	14.07	50.16	10:25
3	TOC	7.3960	73.9598	61.52	75.53	14.00	50.10	10:26
4	TOC	7.5498	75.4979	62.60	76.69	14.09	50.04	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	30	TOC	K2005287-013	0.9248 ppm	0.0486 ppm	5.2600%	2020/07/16 07:04

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.9761	9.7614	16.49	30.66	14.17	50.00	10:27
2	TOC	0.9552	9.5519	16.34	30.27	13.93	49.96	10:24
3	TOC	0.8744	8.7436	15.77	29.73	13.96	49.97	10:26
4	TOC	0.8935	8.9346	15.91	29.72	13.81	49.93	10:24

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	31	TOC	K2005287-014	1.2184 ppm	0.0227 ppm	1.8600%	2020/07/16 07:59

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	1.2181	12.1806	18.18	31.94	13.76	49.90	10:26
2	TOC	1.2467	12.4671	18.39	32.29	13.91	50.06	10:29
3	TOC	1.2178	12.1778	18.18	32.02	13.84	49.96	10:27
4	TOC	1.1911	11.9112	17.99	31.83	13.84	49.95	10:25

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Sample From Schedule Version 19

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	32	TOC	K2005287-015	2.5263 ppm	0.0141 ppm	0.5600%	2020/07/16 08:55

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.5187	25.1873	27.31	40.88	13.57	49.95	10:29
2	TOC	2.5290	25.2900	27.38	41.13	13.75	49.93	10:24
3	TOC	2.5448	25.4482	27.49	41.36	13.87	50.08	10:29
4	TOC	2.5125	25.1246	27.26	41.09	13.83	49.97	10:27

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC)	CAS_salt_010711	CAS_salt_010711

(v1411) (v4) (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	33	TOC	K2005287-016	0.8678 ppm	0.0488 ppm	5.6200%	2020/07/16 09:50

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.8962	8.9617	15.93	29.71	13.79	49.97	10:27
2	TOC	0.9193	9.1927	16.09	29.84	13.76	50.08	10:26
3	TOC	0.8434	8.4343	15.56	29.38	13.83	49.97	10:28
4	TOC	0.8122	8.1221	15.34	29.19	13.85	49.91	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	34	TOC	K2005287-017	2.4099 ppm	0.0087 ppm	0.3600%	2020/07/16 10:46

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	2.4077	24.0768	26.53	40.02	13.49	49.98	10:28
2	TOC	2.4094	24.0939	26.54	40.16	13.62	49.90	10:29
3	TOC	2.4217	24.2165	26.63	40.08	13.45	50.00	10:27
4	TOC	2.4007	24.0070	26.48	39.95	13.47	49.89	10:28

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	35	TOC	K2005287-018	0.7330 ppm	0.0284 ppm	3.8700%	2020/07/16 11:42

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	0.7652	7.6516	15.01	28.54	13.53	49.95	10:26
2	TOC	0.7349	7.3494	14.80	28.53	13.74	49.92	10:28
3	TOC	0.7358	7.3580	14.80	28.44	13.64	49.90	10:25
4	TOC	0.6960	6.9602	14.52	28.27	13.75	49.98	10:26

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◈	36	TOC	K2005287-019	7.3765 ppm	0.1335 ppm	1.8100%	2020/07/16 12:37

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	7.2048	72.0481	60.18	73.77	13.59	49.95	10:28
2	TOC	7.3411	73.4109	61.14	74.97	13.83	50.06	10:25
3	TOC	7.4551	74.5514	61.94	75.54	13.60	49.95	10:26
4	TOC	7.5050	75.0503	62.29	75.92	13.63	49.99	10:26

	Pos	Analysis Type	Sample ID	Result (ppmC)	Std. Dev. (ppmC)	RSD	Start Time
◆	37	TOC	K2005287-020	5.8835 ppm	0.0680 ppm	1.1600%	2020/07/16 13:33

Rep #	Base Analysis Type	ppm	µg	Adjusted (Abs)	NDIR (Abs)	Baseline (Abs)	Pressure (psig)	Run Time
1	TOC	5.9053	59.0528	51.06	64.93	13.86	50.07	10:28
2	TOC	5.7823	57.8225	50.20	64.15	13.95	49.96	10:25
3	TOC	5.9205	59.2053	51.17	64.91	13.73	50.00	10:25
4	TOC	5.9258	59.2580	51.21	64.88	13.67	50.10	10:30

Dilution	Blank Contribution	Method	Calibration
1:10	(TC) 9.6395 (IC) (v1411)	CAS_salt_010711 (v4)	CAS_salt_010711 (v38)

Sample Type: Check Standard --> CCV 25 ppm From Schedule Version 19

	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)	24.5789 ppm (PASS)	0.0000 ppm	0%	2020/07/16 14:28

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
B	TOC	25 ppm	1	24.5789	245.7893	182.31	196.13	13.82	50.02	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 19

	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%	2020/07/16 14:43

Pos	Base Analysis Type	ID	Rep #	ppm	µg	Adjusted	NDIR	Baseline	Pressure	Run Time
D	TOC	0 ppm	1	0.0000	0.0000	9.48	22.97	13.50	50.09	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

Meta Data Used in this Report

Blanks

Version	Reagent (Abs)	Acid (Abs)	DI IC (Abs)	DI TC (Abs)	DI TOC (Abs)	Save Time	Operator
v1410	1.5490	0.4140	0.0000	0.0000	0.0000	2020/07/14 12:55	Fusion1 (Fusion1)
v1411	3.6833	1.9320	0.0000	0.0000	0.0000	2020/07/15 09:31	Fusion1 (Fusion1)

Calibrations

Name: CAS_salt_010711 (TOC)

Version: v38

Ver Creation: 2020/06/13 16:40

Comment:

Operator: Fusion1 (Fusion1)

Basic Analysis Type: TOC

Calibration curve formula: TOC: y = 7.015x + 9.892

r^2 value: TOC: r^2 = 0.99974

Basic Analysis Type: TOC

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

Methods

Name: CAS_salt_010711 (TOC)

Version: v4

Ver Creation: 2019/02/21 17:57

Comment:

Operator: Fusion1 (Fusion1)

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

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

PreSpargeTime	2.00 mins	SyringeSpeedDIWater	7
SystemFlow	500 ml/min	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	2020/07/16 14:58

ALS Environmental

StarLIMS Run: 687240/687239/687238

Analysis: DOC/TOC

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

CCV: 19-GEN-8-15-C 50 ppm LCS: 19-GEN-8-25J 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-08-24I

21 % H3PO4: 19-GEN-08-25A

Equipment ID: K-TOC-03

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

FILTER ID: 16967789

Analyzed By:	MK	Date Analyzed:	7/15/20
Reviewed By:		Date Reviewed:	7/18/20

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WorkOrder: HS20040284

Longhorn GW Treatment Plant Monthly Effluent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

05-May-2020

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HS20040284

ALS WO# HS20040284

HS20040284 Longhorn GW Treatment Plant Monthly Effluent Samples Final

ALS WO# HS20040284

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April 23, 2020

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

Work Order: **HS20040284**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Effluent Samples**

Dear Marcia,

ALS Environmental received 3 sample(s) on Apr 08, 2020 for the analysis presented in the following report.

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

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

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

Sincerely,

Generated By: JUMOKE.LAWAL
RJ Modashia
Project Manager

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20040284

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20040284-01	LH18/24-SP650_040720	Water		07-Apr-2020 14:00	08-Apr-2020 08:22	☐
HS20040284-02	LH18/24-SP650_040720_BIX	Water		07-Apr-2020 14:00	08-Apr-2020 08:22	☐
HS20040284-03	Trip Blank	Water	CG-011520-99	07-Apr-2020 14:00	08-Apr-2020 08:22	☐

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20040284

Work Order Comments

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

GCMS Semivolatiles by Method SW8270SIM

Batch ID: 152586

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

GCMS Volatiles by Method SW8260

Batch ID: R359664

Sample ID: LH18/24-SP650_040720 (HS20040284-01MSD)

- The RPD between the MS and MSD was outside of the control limit. Bromomethane

Sample ID: LH18/24-SP650_040720(HS20040284-01MS)

- 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 failed recovery of the MS may be due to sample matrix interference. 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene

Metals by Method SW6020

Batch ID: 152654

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

WetChemistry by Method SW7196

Batch ID: R359757

Sample ID: HS20040287-01MS

- MS and MSD are for an unrelated sample (Chromium, Hexavalent)

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20040284
Sample ID: LH18/24-SP650_040720 Lab ID:HS20040284-01
Collection Date: 07-Apr-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	08-Apr-2020 12:18
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,2-Dichloroethane	**1.0**		**0.20**	**0.50**	**1.0**	**UG/L**	1	08-Apr-2020 12:18
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 12:18
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	08-Apr-2020 12:18
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	08-Apr-2020 12:18
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 12:18
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	08-Apr-2020 12:18
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	08-Apr-2020 12:18
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	08-Apr-2020 12:18
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18

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

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20040284
Sample ID: LH18/24-SP650_040720 Lab ID:HS20040284-01
Collection Date: 07-Apr-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
cis-1,2-Dichloroethene	**23**		**0.20**	**0.50**	**1.0**	**UG/L**	1	08-Apr-2020 12:18
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	08-Apr-2020 12:18
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	08-Apr-2020 12:18
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	08-Apr-2020 12:18
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 12:18
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
Trichloroethene	**4.4**		**0.20**	**0.50**	**1.0**	**UG/L**	1	08-Apr-2020 12:18
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 12:18
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 12:18
Surr: 1,2-Dichloroethane-d4	*88.1*			**0**	*81-118*	*%REC*	*1*	*08-Apr-2020 12:18*
Surr: 4-Bromofluorobenzene	*94.7*			**0**	*85-114*	*%REC*	*1*	*08-Apr-2020 12:18*
Surr: Dibromofluoromethane	*93.7*			**0**	*80-119*	*%REC*	*1*	*08-Apr-2020 12:18*
Surr: Toluene-d8	*103*			**0**	*89-112*	*%REC*	*1*	*08-Apr-2020 12:18*
SEMIVOLATILES SIM		**Method:SW8270SIM**				Prep:SW3510 / 09-Apr-2020		Analyst: LG
1,4-Dioxane	**33**	a	**1.0**	**1.0**	**1.0**	**ug/L**	100	15-Apr-2020 10:02
Surr: 2-Fluorobiphenyl	*119*			**0**	*40-140*	*%REC*	*100*	*15-Apr-2020 10:02*
Surr: 4-Terphenyl-d14	*98.2*			**0**	*40-140*	*%REC*	*100*	*15-Apr-2020 10:02*
Surr: Nitrobenzene-d5	*106*			**0**	*40-140*	*%REC*	*100*	*15-Apr-2020 10:02*
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 13-Apr-2020		Analyst: JHD
Barium	**0.0926**		**0.00190**	**0.00250**	**0.00500**	**mg/L**	1	14-Apr-2020 22:26
Lead	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	14-Apr-2020 22:26
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	14-Apr-2020 22:26
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	14-Apr-2020 22:26

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

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
ANALYTICAL REPORT
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:HS20040284
Sample ID: LH18/24-SP650_040720
Lab ID:HS20040284-01
Collection Date: 07-Apr-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
HEXAVALENT CHROMIUM BY SW7196A	**Method:SW7196**							Analyst: KVL
Chromium, Hexavalent	0.0100	U	0.00600	0.0100	0.0100	mg/L	1	08-Apr-2020 13:00

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

ALS Houston, US Date: 23-Apr-20

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

Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20040284

Sample ID: LH18/24-SP650_040720_BIX Lab ID:HS20040284-02

Collection Date: 07-Apr-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: CGG
Subcontract Analysis	**0**		**0**	**0**	**0**	**NA**	1	22-Apr-2020 15:35

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

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20040284
Sample ID: Trip Blank Lab ID:HS20040284-03
Collection Date: 07-Apr-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
1,1,2,2-Tetrachloroethane	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,1,2-Trichloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	UG/L	1	08-Apr-2020 11:54
1,2,3-Trichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,2,3-Trichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,2,4-Trichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,2,4-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
1,2-Dichlorobenzene	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
1,2-Dichloropropane	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,3,5-Trimethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,3-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,3-Dichloropropane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
1,4-Dichlorobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 11:54
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
2-Butanone	1.0	U	0.50	1.0	2.0	UG/L	1	08-Apr-2020 11:54
2-Chlorotoluene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
2-Hexanone	1.0	U	1.0	1.0	2.0	UG/L	1	08-Apr-2020 11:54
4-Chlorotoluene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 11:54
4-Isopropyltoluene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	UG/L	1	08-Apr-2020 11:54
Acetone	1.0	U	0.40	1.0	2.0	UG/L	1	08-Apr-2020 11:54
Benzene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
Bromobenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Bromochloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
Bromodichloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
Bromoform	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Bromomethane	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Carbon disulfide	1.0	U	0.60	1.0	2.0	UG/L	1	08-Apr-2020 11:54
Carbon tetrachloride	1.0	U	0.50	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Chlorobenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Chloroethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Chloroform	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54

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

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc. **ANALYTICAL REPORT**
Project: Longhorn GW Treatment Plant Monthly Effluent Samples WorkOrder:HS20040284
Sample ID: Trip Blank Lab ID:HS20040284-03
Collection Date: 07-Apr-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloromethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	UG/L	1	08-Apr-2020 11:54
Dibromochloromethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Dibromomethane	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
Dichlorodifluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Ethylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Isopropylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
m,p-Xylene	1.0	U	0.50	1.0	2.0	UG/L	1	08-Apr-2020 11:54
Methylene chloride	1.0	U	0.40	1.0	2.0	UG/L	1	08-Apr-2020 11:54
n-Butylbenzene	1.0	U	0.40	1.0	1.0	UG/L	1	08-Apr-2020 11:54
n-Propylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Naphthalene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
o-Xylene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
sec-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Styrene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
tert-Butylbenzene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Tetrachloroethene	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Toluene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
Trichloroethene	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
Trichlorofluoromethane	1.0	U	0.30	1.0	1.0	UG/L	1	08-Apr-2020 11:54
Vinyl chloride	0.50	U	0.20	0.50	1.0	UG/L	1	08-Apr-2020 11:54
Surr: 1,2-Dichloroethane-d4	*86.2*			**0**	*81-118*	*%REC*	*1*	*08-Apr-2020 11:54*
Surr: 4-Bromofluorobenzene	*97.7*			**0**	*85-114*	*%REC*	*1*	*08-Apr-2020 11:54*
Surr: Dibromofluoromethane	*92.7*			**0**	*80-119*	*%REC*	*1*	*08-Apr-2020 11:54*
Surr: Toluene-d8	*104*			**0**	*89-112*	*%REC*	*1*	*08-Apr-2020 11:54*

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

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Batch ID: 152586 **Start Date:** 09 Apr 2020 08:59 **End Date:** 09 Apr 2020 15:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_SIM

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20040284-01	1	1000 (mL)	1 (mL)	0.001

Batch ID: 152654 **Start Date:** 13 Apr 2020 08:00 **End Date:** 13 Apr 2020 12:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20040284-01		10 (mL)	10 (mL)	1

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 152586 (0)	**Test Name :** SEMIVOLATILES SIM				**Matrix:** Water	
HS20040284-01	LH18/24-SP650_040720	07 Apr 2020 14:00		09 Apr 2020 08:59	15 Apr 2020 10:02	100
Batch ID: 152654 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20040284-01	LH18/24-SP650_040720	07 Apr 2020 14:00		13 Apr 2020 12:00	14 Apr 2020 22:26	1
Batch ID: R359664 (0)	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C				**Matrix:** Water	
HS20040284-01	LH18/24-SP650_040720	07 Apr 2020 14:00			08 Apr 2020 12:18	1
HS20040284-03	Trip Blank	07 Apr 2020 14:00			08 Apr 2020 11:54	1
Batch ID: R359757 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS20040284-01	LH18/24-SP650_040720	07 Apr 2020 14:00			08 Apr 2020 13:00	1
Batch ID: R360393 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20040284-02	LH18/24-SP650_040720_BIX	07 Apr 2020 14:00			22 Apr 2020 15:35	1

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: 152654 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-152654** Units: **mg/L** Analysis Date: **14-Apr-2020 22:22**
Client ID: Run ID: **ICPMS06_359908** SeqNo: **5554534** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.00250	0.00500								U
Lead	0.00100	0.00500								U
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U

LCS Sample ID: **LCS-152654** Units: **mg/L** Analysis Date: **14-Apr-2020 22:24**
Client ID: Run ID: **ICPMS06_359908** SeqNo: **5554535** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.0444	0.00500	0.05	0	88.8	86 - 114				
Lead	0.04745	0.00500	0.05	0	94.9	88 - 115				
Selenium	0.04924	0.00500	0.05	0	98.5	80 - 120				
Silver	0.04991	0.00500	0.05	0	99.8	85 - 116				

MS Sample ID: **HS20040284-01MS** Units: **mg/L** Analysis Date: **14-Apr-2020 22:30**
Client ID: **LH18/24-SP650_040720** Run ID: **ICPMS06_359908** SeqNo: **5554538** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1467	0.00500	0.05	0.0926	108	86 - 114				
Lead	0.04767	0.00500	0.05	0.000112	95.1	88 - 115				
Selenium	0.04839	0.00500	0.05	0.000472	95.8	80 - 120				
Silver	0.04859	0.00500	0.05	0.00001	97.2	85 - 116				

MSD Sample ID: **HS20040284-01MSD** Units: **mg/L** Analysis Date: **14-Apr-2020 22:31**
Client ID: **LH18/24-SP650_040720** Run ID: **ICPMS06_359908** SeqNo: **5554539** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1459	0.00500	0.05	0.0926	107	86 - 114	0.1467	0.551	20	
Lead	0.04695	0.00500	0.05	0.000112	93.7	88 - 115	0.04767	1.51	20	
Selenium	0.04864	0.00500	0.05	0.000472	96.3	80 - 120	0.04839	0.501	20	
Silver	0.04748	0.00500	0.05	0.00001	94.9	85 - 116	0.04859	2.31	20	

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: 152654 (0) **Instrument:** ICPMS06 **Method:** METALS BY ICPMS BY SW6020A

PDS Sample ID: **HS20040284-01PDS** Units: **mg/L** Analysis Date: **14-Apr-2020 22:33**
Client ID: **LH18/24-SP650_040720** Run ID: **ICPMS06_359908** SeqNo: **5554540** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Barium	0.1983	0.00500	0.1	0.0926	106	80 - 120				
Lead	0.1037	0.00500	0.1	0.000112	104	80 - 120				
Selenium	0.1063	0.00500	0.1	0.000472	106	80 - 120				
Silver	0.08769	0.00500	0.1	0.00001	87.7	80 - 120				

SD Sample ID: **HS20040284-01SD** Units: **mg/L** Analysis Date: **14-Apr-2020 22:28**
Client ID: **LH18/24-SP650_040720** Run ID: **ICPMS06_359908** SeqNo: **5554537** PrepDate: **13-Apr-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Barium	0.09081	0.0250					0.0926	1.93	10	
Lead	0.00500	0.0250					0.000112	0	10	U
Selenium	0.0125	0.0250					0.000472	0	10	U
Silver	0.00250	0.0250					0.00001	0	10	U

The following samples were analyzed in this batch: HS20040284-01

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: 152586 (0) **Instrument: SV-6** **Method: SEMIVOLATILES SIM**

MBLK Sample ID: **MBLK-152586** Units: **ug/L** Analysis Date: **15-Apr-2020 08:46**
Client ID: Run ID: **SV-6_359980** SeqNo: **5554903** PrepDate: **09-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0	0.010								U
Surr: 2-Fluorobiphenyl	*0.08784*	*0*	*0.08*	*0*	*110*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.1047*	*0*	*0.08*	*0*	*131*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.08097*	*0*	*0.08*	*0*	*101*	*40 - 140*				

LCS Sample ID: **LCS-152586** Units: **ug/L** Analysis Date: **15-Apr-2020 09:05**
Client ID: Run ID: **SV-6_359980** SeqNo: **5554904** PrepDate: **09-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.08403	0.010	0.08	0	105	40 - 140				
Surr: 2-Fluorobiphenyl	*0.08779*	*0*	*0.08*	*0*	*110*	*40 - 140*				
Surr: 4-Terphenyl-d14	*0.09546*	*0*	*0.08*	*0*	*119*	*40 - 140*				
Surr: Nitrobenzene-d5	*0.08257*	*0*	*0.08*	*0*	*103*	*40 - 140*				

LCSD Sample ID: **LCSD-152586** Units: **ug/L** Analysis Date: **15-Apr-2020 09:24**
Client ID: Run ID: **SV-6_359980** SeqNo: **5554905** PrepDate: **09-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,4-Dioxane	0.08173	0.010	0.08	0	102	40 - 140	0.08403	2.77	20	
Surr: 2-Fluorobiphenyl	*0.08523*	*0*	*0.08*	*0*	*107*	*40 - 140*	*0.08779*	*2.96*	*20*	
Surr: 4-Terphenyl-d14	*0.1012*	*0*	*0.08*	*0*	*127*	*40 - 140*	*0.09546*	*5.85*	*20*	
Surr: Nitrobenzene-d5	*0.08076*	*0*	*0.08*	*0*	*101*	*40 - 140*	*0.08257*	*2.22*	*20*	

The following samples were analyzed in this batch: HS20040284-01

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: R359664 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200408** Units: **UG/L** Analysis Date: **08-Apr-2020 11:30**
Client ID: Run ID: **VOA6_359664** SeqNo: **5548777** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	1.0	1.0								U
1,1,1-Trichloroethane	0.50	1.0								U
1,1,2,2-Tetrachloroethane	1.0	1.0								U
1,1,2-Trichloroethane	1.0	1.0								U
1,1-Dichloroethane	0.50	1.0								U
1,1-Dichloroethene	0.50	1.0								U
1,1-Dichloropropene	0.50	1.0								U
1,2,3-Trichlorobenzene	1.0	1.0								U
1,2,3-Trichloropropane	1.0	1.0								U
1,2,4-Trichlorobenzene	1.0	1.0								U
1,2,4-Trimethylbenzene	1.0	1.0								U
1,2-Dibromo-3-chloropropane	0.50	1.0								U
1,2-Dibromoethane	0.50	1.0								U
1,2-Dichlorobenzene	1.0	1.0								U
1,2-Dichloroethane	0.50	1.0								U
1,2-Dichloropropane	1.0	1.0								U
1,3,5-Trimethylbenzene	1.0	1.0								U
1,3-Dichlorobenzene	1.0	1.0								U
1,3-Dichloropropane	1.0	1.0								U
1,4-Dichlorobenzene	1.0	1.0								U
2,2-Dichloropropane	0.50	1.0								U
2-Butanone	1.0	2.0								U
2-Chlorotoluene	1.0	1.0								U
2-Hexanone	1.0	2.0								U
4-Chlorotoluene	1.0	1.0								U
4-Isopropyltoluene	1.0	1.0								U
4-Methyl-2-pentanone	1.0	2.0								U
Acetone	1.0	2.0								U
Benzene	0.50	1.0								U
Bromobenzene	1.0	1.0								U
Bromochloromethane	0.50	1.0								U
Bromodichloromethane	0.50	1.0								U
Bromoform	1.0	1.0								U
Bromomethane	1.0	1.0								U

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: R359664 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MBLK Sample ID: **VBLKW-200408** Units: **UG/L** Analysis Date: **08-Apr-2020 11:30**
Client ID: Run ID: **VOA6_359664** SeqNo: **5548777** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	1.0	2.0								U
Carbon tetrachloride	1.0	1.0								U
Chlorobenzene	1.0	1.0								U
Chloroethane	1.0	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	1.0	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	1.0	1.0								U
Ethylbenzene	1.0	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	1.0	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	1.0	2.0								U
Naphthalene	1.0	1.0								U
n-Butylbenzene	1.0	1.0								U
n-Propylbenzene	1.0	1.0								U
o-Xylene	1.0	1.0								U
sec-Butylbenzene	1.0	1.0								U
Styrene	1.0	1.0								U
tert-Butylbenzene	1.0	1.0								U
Tetrachloroethene	1.0	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	1.0	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*43.53*	*1.0*	*50*	*0*	*87.1*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.56*	*1.0*	*50*	*0*	*97.1*	*85 - 114*				
Surr: Dibromofluoromethane	*47.4*	*1.0*	*50*	*0*	*94.8*	*80 - 119*				
Surr: Toluene-d8	*51.72*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: R359664 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200408** Units: **UG/L** Analysis Date: **08-Apr-2020 14:22**
Client ID: Run ID: **VOA6_359664** SeqNo: **5548782** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.29	1.0	20	0	101	78 - 124				
1,1,1-Trichloroethane	19	1.0	20	0	95.0	74 - 131				
1,1,2,2-Tetrachloroethane	19.67	1.0	20	0	98.4	71 - 121				
1,1,2-Trichloroethane	19.7	1.0	20	0	98.5	80 - 119				
1,1-Dichloroethane	19.35	1.0	20	0	96.7	77 - 125				
1,1-Dichloroethene	17.16	1.0	20	0	85.8	71 - 131				
1,1-Dichloropropene	17.2	1.0	20	0	86.0	78 - 125				
1,2,3-Trichlorobenzene	18.78	1.0	20	0	93.9	69 - 129				
1,2,3-Trichloropropane	19.84	1.0	20	0	99.2	73 - 122				
1,2,4-Trichlorobenzene	17.47	1.0	20	0	87.3	69 - 130				
1,2,4-Trimethylbenzene	19.71	1.0	20	0	98.5	76 - 124				
1,2-Dibromo-3-chloropropane	19.62	1.0	20	0	98.1	62 - 128				
1,2-Dibromoethane	20.45	1.0	20	0	102	77 - 121				
1,2-Dichlorobenzene	20.38	1.0	20	0	102	80 - 119				
1,2-Dichloroethane	20.37	1.0	20	0	102	73 - 128				
1,2-Dichloropropane	19.62	1.0	20	0	98.1	78 - 122				
1,3,5-Trimethylbenzene	19.07	1.0	20	0	95.4	75 - 124				
1,3-Dichlorobenzene	20.37	1.0	20	0	102	80 - 119				
1,3-Dichloropropane	19.4	1.0	20	0	97.0	80 - 119				
1,4-Dichlorobenzene	19.66	1.0	20	0	98.3	79 - 118				
2,2-Dichloropropane	19.82	1.0	20	0	99.1	60 - 139				
2-Butanone	38.15	2.0	40	0	95.4	56 - 143				
2-Chlorotoluene	19.69	1.0	20	0	98.4	79 - 122				
2-Hexanone	41.1	2.0	40	0	103	57 - 139				
4-Chlorotoluene	19.73	1.0	20	0	98.7	78 - 122				
4-Isopropyltoluene	19.05	1.0	20	0	95.2	77 - 127				
4-Methyl-2-pentanone	39.34	2.0	40	0	98.3	67 - 130				
Acetone	29	2.0	40	0	72.5	39 - 160				
Benzene	19.3	1.0	20	0	96.5	79 - 120				
Bromobenzene	20.77	1.0	20	0	104	80 - 120				
Bromochloromethane	20.6	1.0	20	0	103	78 - 123				
Bromodichloromethane	19.54	1.0	20	0	97.7	79 - 125				
Bromoform	21.51	1.0	20	0	108	66 - 130				
Bromomethane	21.78	1.0	20	0	109	53 - 141				

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: R359664 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

LCS Sample ID: **VLCSW-200408** Units: **UG/L** Analysis Date: **08-Apr-2020 14:22**
Client ID: Run ID: **VOA6_359664** SeqNo: **5548782** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	35.27	2.0	40	0	88.2	64 - 133				
Carbon tetrachloride	17.29	1.0	20	0	86.5	72 - 136				
Chlorobenzene	20.08	1.0	20	0	100	82 - 118				
Chloroethane	17.12	1.0	20	0	85.6	60 - 138				
Chloroform	19.74	1.0	20	0	98.7	79 - 124				
Chloromethane	16.87	1.0	20	0	84.4	50 - 139				
cis-1,2-Dichloroethene	19.49	1.0	20	0	97.4	78 - 123				
cis-1,3-Dichloropropene	19.37	1.0	20	0	96.8	75 - 124				
Dibromochloromethane	20.44	1.0	20	0	102	74 - 126				
Dibromomethane	20.2	1.0	20	0	101	79 - 123				
Dichlorodifluoromethane	14.89	1.0	20	0	74.4	32 - 152				
Ethylbenzene	19.18	1.0	20	0	95.9	79 - 121				
Hexachlorobutadiene	15.81	1.0	20	0	79.0	66 - 134				
Isopropylbenzene	18.84	1.0	20	0	94.2	72 - 131				
m,p-Xylene	39.52	2.0	40	0	98.8	80 - 121				
Methylene chloride	18.68	2.0	20	0	93.4	74 - 124				
Naphthalene	18.13	1.0	20	0	90.7	61 - 128				
n-Butylbenzene	18.78	1.0	20	0	93.9	75 - 128				
n-Propylbenzene	19.02	1.0	20	0	95.1	76 - 126				
o-Xylene	19.94	1.0	20	0	99.7	78 - 122				
sec-Butylbenzene	18.16	1.0	20	0	90.8	77 - 126				
Styrene	20.09	1.0	20	0	100	78 - 123				
tert-Butylbenzene	18.5	1.0	20	0	92.5	78 - 124				
Tetrachloroethene	18.85	1.0	20	0	94.3	74 - 129				
Toluene	19.62	1.0	20	0	98.1	80 - 121				
trans-1,2-Dichloroethene	19.05	1.0	20	0	95.2	75 - 124				
trans-1,3-Dichloropropene	20.08	1.0	20	0	100	73 - 127				
Trichloroethene	19.44	1.0	20	0	97.2	79 - 123				
Trichlorofluoromethane	17.51	1.0	20	0	87.5	65 - 141				
Vinyl chloride	15.19	1.0	20	0	75.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.49*	*1.0*	*50*	*0*	*97.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.97*	*1.0*	*50*	*0*	*99.9*	*85 - 114*				
Surr: Dibromofluoromethane	*50.73*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*49.46*	*1.0*	*50*	*0*	*98.9*	*89 - 112*				

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: R359664 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20040284-01MS** Units: **UG/L** Analysis Date: **08-Apr-2020 12:42**
Client ID: **LH18/24-SP650_040720** Run ID: **VOA6_359664** SeqNo: **5548780** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	22.85	1.0	20	0	114	78 - 124				
1,1,1-Trichloroethane	22.05	1.0	20	0	110	74 - 131				
1,1,2,2-Tetrachloroethane	20.6	1.0	20	0	103	71 - 121				
1,1,2-Trichloroethane	21.69	1.0	20	0	108	80 - 119				
1,1-Dichloroethane	21.08	1.0	20	0	105	77 - 125				
1,1-Dichloroethene	20	1.0	20	0	100	71 - 131				
1,1-Dichloropropene	21.05	1.0	20	0	105	78 - 125				
1,2,3-Trichlorobenzene	12.27	1.0	20	0	61.4	69 - 129				S
1,2,3-Trichloropropane	21.24	1.0	20	0	106	73 - 122				
1,2,4-Trichlorobenzene	12.85	1.0	20	0	64.2	69 - 130				S
1,2,4-Trimethylbenzene	23.3	1.0	20	0	117	76 - 124				
1,2-Dibromo-3-chloropropane	18.95	1.0	20	0	94.7	62 - 128				
1,2-Dibromoethane	22.46	1.0	20	0	112	77 - 121				
1,2-Dichlorobenzene	22.89	1.0	20	0	114	80 - 119				
1,2-Dichloroethane	22.23	1.0	20	1.016	106	73 - 128				
1,2-Dichloropropane	21.18	1.0	20	0	106	78 - 122				
1,3,5-Trimethylbenzene	23.43	1.0	20	0	117	75 - 124				
1,3-Dichlorobenzene	22.93	1.0	20	0	115	80 - 119				
1,3-Dichloropropane	21.34	1.0	20	0	107	80 - 119				
1,4-Dichlorobenzene	22.13	1.0	20	0	111	79 - 118				
2,2-Dichloropropane	21.87	1.0	20	0	109	60 - 139				
2-Butanone	34.68	2.0	40	0	86.7	56 - 143				
2-Chlorotoluene	23.22	1.0	20	0	116	79 - 122				
2-Hexanone	40.15	2.0	40	0	100	57 - 139				
4-Chlorotoluene	23.33	1.0	20	0	117	78 - 122				
4-Isopropyltoluene	23.97	1.0	20	0	120	77 - 127				
4-Methyl-2-pentanone	40.63	2.0	40	0	102	67 - 130				
Acetone	25.48	2.0	40	0	63.7	39 - 160				
Benzene	21.67	1.0	20	0	108	79 - 120				
Bromobenzene	23.47	1.0	20	0	117	80 - 120				
Bromochloromethane	20.58	1.0	20	0	103	78 - 123				
Bromodichloromethane	21.14	1.0	20	0	106	79 - 125				
Bromoform	22.66	1.0	20	0	113	66 - 130				
Bromomethane	23.23	1.0	20	0	116	53 - 141				

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: R359664 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MS Sample ID: **HS20040284-01MS** Units: **UG/L** Analysis Date: **08-Apr-2020 12:42**
Client ID: **LH18/24-SP650_040720** Run ID: **VOA6_359664** SeqNo: **5548780** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	42.76	2.0	40	0	107	64 - 133				
Carbon tetrachloride	21.86	1.0	20	0	109	72 - 136				
Chlorobenzene	22.56	1.0	20	0	113	82 - 118				
Chloroethane	20.43	1.0	20	0	102	60 - 138				
Chloroform	20.74	1.0	20	0	104	79 - 124				
Chloromethane	19.84	1.0	20	0	99.2	50 - 139				
cis-1,2-Dichloroethene	43.9	1.0	20	22.55	107	78 - 123				
cis-1,3-Dichloropropene	20.68	1.0	20	0	103	75 - 124				
Dibromochloromethane	22.19	1.0	20	0	111	74 - 126				
Dibromomethane	21.68	1.0	20	0	108	79 - 123				
Dichlorodifluoromethane	19.18	1.0	20	0	95.9	32 - 152				
Ethylbenzene	22.98	1.0	20	0	115	79 - 121				
Hexachlorobutadiene	15.34	1.0	20	0	76.7	66 - 134				
Isopropylbenzene	23.37	1.0	20	0	117	72 - 131				
m,p-Xylene	45.72	2.0	40	0	114	80 - 121				
Methylene chloride	19.76	2.0	20	0	98.8	74 - 124				
Naphthalene	13.91	1.0	20	0	69.5	61 - 128				
n-Butylbenzene	23.4	1.0	20	0	117	75 - 128				
n-Propylbenzene	24.17	1.0	20	0	121	76 - 126				
o-Xylene	22.98	1.0	20	0	115	78 - 122				
sec-Butylbenzene	23.85	1.0	20	0	119	77 - 126				
Styrene	22.38	1.0	20	0	112	78 - 123				
tert-Butylbenzene	23.41	1.0	20	0	117	78 - 124				
Tetrachloroethene	24.16	1.0	20	0	121	74 - 129				
Toluene	22.55	1.0	20	0	113	80 - 121				
trans-1,2-Dichloroethene	21.14	1.0	20	0	106	75 - 124				
trans-1,3-Dichloropropene	21.25	1.0	20	0	106	73 - 127				
Trichloroethene	27.18	1.0	20	4.422	114	79 - 123				
Trichlorofluoromethane	21.94	1.0	20	0	110	65 - 141				
Vinyl chloride	19.18	1.0	20	0	95.9	58 - 137				
Surr: 1,2-Dichloroethane-d4	*44.5*	*1.0*	*50*	*0*	*89.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.26*	*1.0*	*50*	*0*	*96.5*	*85 - 114*				
Surr: Dibromofluoromethane	*47.74*	*1.0*	*50*	*0*	*95.5*	*80 - 119*				
Surr: Toluene-d8	*51.5*	*1.0*	*50*	*0*	*103*	*89 - 112*				

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: R359664 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20040284-01MSD** Units: **UG/L** Analysis Date: **08-Apr-2020 13:06**
Client ID: **LH18/24-SP650_040720** Run ID: **VOA6_359664** SeqNo: **5548781** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,1,1,2-Tetrachloroethane	20.94	1.0	20	0	105	78 - 124	22.85	8.7	20	
1,1,1-Trichloroethane	19.52	1.0	20	0	97.6	74 - 131	22.05	12.2	20	
1,1,2,2-Tetrachloroethane	18.58	1.0	20	0	92.9	71 - 121	20.6	10.3	20	
1,1,2-Trichloroethane	19.55	1.0	20	0	97.7	80 - 119	21.69	10.4	20	
1,1-Dichloroethane	18.58	1.0	20	0	92.9	77 - 125	21.08	12.7	20	
1,1-Dichloroethene	17.79	1.0	20	0	89.0	71 - 131	20	11.7	20	
1,1-Dichloropropene	18.86	1.0	20	0	94.3	78 - 125	21.05	11	20	
1,2,3-Trichlorobenzene	14.56	1.0	20	0	72.8	69 - 129	12.27	17.1	20	
1,2,3-Trichloropropane	18.93	1.0	20	0	94.7	73 - 122	21.24	11.5	20	
1,2,4-Trichlorobenzene	14.12	1.0	20	0	70.6	69 - 130	12.85	9.41	20	
1,2,4-Trimethylbenzene	20.88	1.0	20	0	104	76 - 124	23.3	11	20	
1,2-Dibromo-3-chloropropane	19.15	1.0	20	0	95.7	62 - 128	18.95	1.07	20	
1,2-Dibromoethane	20.25	1.0	20	0	101	77 - 121	22.46	10.3	20	
1,2-Dichlorobenzene	20.19	1.0	20	0	101	80 - 119	22.89	12.6	20	
1,2-Dichloroethane	20.2	1.0	20	1.016	95.9	73 - 128	22.23	9.56	20	
1,2-Dichloropropane	19.34	1.0	20	0	96.7	78 - 122	21.18	9.09	20	
1,3,5-Trimethylbenzene	20.47	1.0	20	0	102	75 - 124	23.43	13.5	20	
1,3-Dichlorobenzene	20.35	1.0	20	0	102	80 - 119	22.93	11.9	20	
1,3-Dichloropropane	19.54	1.0	20	0	97.7	80 - 119	21.34	8.81	20	
1,4-Dichlorobenzene	19.82	1.0	20	0	99.1	79 - 118	22.13	11	20	
2,2-Dichloropropane	19.04	1.0	20	0	95.2	60 - 139	21.87	13.8	20	
2-Butanone	32.55	2.0	40	0	81.4	56 - 143	34.68	6.32	20	
2-Chlorotoluene	20.32	1.0	20	0	102	79 - 122	23.22	13.3	20	
2-Hexanone	38.1	2.0	40	0	95.2	57 - 139	40.15	5.24	20	
4-Chlorotoluene	20.66	1.0	20	0	103	78 - 122	23.33	12.1	20	
4-Isopropyltoluene	21.41	1.0	20	0	107	77 - 127	23.97	11.3	20	
4-Methyl-2-pentanone	37.95	2.0	40	0	94.9	67 - 130	40.63	6.81	20	
Acetone	21.26	2.0	40	0	53.1	39 - 160	25.48	18.1	20	
Benzene	19.43	1.0	20	0	97.1	79 - 120	21.67	10.9	20	
Bromobenzene	20.61	1.0	20	0	103	80 - 120	23.47	13	20	
Bromochloromethane	18.68	1.0	20	0	93.4	78 - 123	20.58	9.7	20	
Bromodichloromethane	19.26	1.0	20	0	96.3	79 - 125	21.14	9.33	20	
Bromoform	20.8	1.0	20	0	104	66 - 130	22.66	8.55	20	
Bromomethane	18.9	1.0	20	0	94.5	53 - 141	23.23	20.6	20	R

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: R359664 (0) **Instrument:** VOA6 **Method:** VOLATILES ORGANICS BY METHOD 8260C

MSD Sample ID: **HS20040284-01MSD** Units: **UG/L** Analysis Date: **08-Apr-2020 13:06**
Client ID: **LH18/24-SP650_040720** Run ID: **VOA6_359664** SeqNo: **5548781** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	37.65	2.0	40	0	94.1	64 - 133	42.76	12.7	20	
Carbon tetrachloride	19.52	1.0	20	0	97.6	72 - 136	21.86	11.4	20	
Chlorobenzene	20.25	1.0	20	0	101	82 - 118	22.56	10.8	20	
Chloroethane	16.76	1.0	20	0	83.8	60 - 138	20.43	19.7	20	
Chloroform	18.57	1.0	20	0	92.9	79 - 124	20.74	11	20	
Chloromethane	17	1.0	20	0	85.0	50 - 139	19.84	15.4	20	
cis-1,2-Dichloroethene	39.86	1.0	20	22.55	86.5	78 - 123	43.9	9.65	20	
cis-1,3-Dichloropropene	19.37	1.0	20	0	96.9	75 - 124	20.68	6.54	20	
Dibromochloromethane	20.48	1.0	20	0	102	74 - 126	22.19	8.03	20	
Dibromomethane	19.8	1.0	20	0	99.0	79 - 123	21.68	9.08	20	
Dichlorodifluoromethane	16.42	1.0	20	0	82.1	32 - 152	19.18	15.5	20	
Ethylbenzene	20.8	1.0	20	0	104	79 - 121	22.98	9.96	20	
Hexachlorobutadiene	15.66	1.0	20	0	78.3	66 - 134	15.34	2.04	20	
Isopropylbenzene	21.25	1.0	20	0	106	72 - 131	23.37	9.51	20	
m,p-Xylene	41.53	2.0	40	0	104	80 - 121	45.72	9.6	20	
Methylene chloride	17.7	2.0	20	0	88.5	74 - 124	19.76	11	20	
Naphthalene	14.84	1.0	20	0	74.2	61 - 128	13.91	6.49	20	
n-Butylbenzene	21.08	1.0	20	0	105	75 - 128	23.4	10.4	20	
n-Propylbenzene	21.36	1.0	20	0	107	76 - 126	24.17	12.3	20	
o-Xylene	20.54	1.0	20	0	103	78 - 122	22.98	11.2	20	
sec-Butylbenzene	21.19	1.0	20	0	106	77 - 126	23.85	11.8	20	
Styrene	19.8	1.0	20	0	99.0	78 - 123	22.38	12.2	20	
tert-Butylbenzene	20.89	1.0	20	0	104	78 - 124	23.41	11.4	20	
Tetrachloroethene	21.98	1.0	20	0	110	74 - 129	24.16	9.48	20	
Toluene	20.41	1.0	20	0	102	80 - 121	22.55	9.94	20	
trans-1,2-Dichloroethene	19.07	1.0	20	0	95.4	75 - 124	21.14	10.3	20	
trans-1,3-Dichloropropene	19.52	1.0	20	0	97.6	73 - 127	21.25	8.45	20	
Trichloroethene	24.84	1.0	20	4.422	102	79 - 123	27.18	8.98	20	
Trichlorofluoromethane	19.03	1.0	20	0	95.2	65 - 141	21.94	14.2	20	
Vinyl chloride	16.47	1.0	20	0	82.4	58 - 137	19.18	15.2	20	
Surr: 1,2-Dichloroethane-d4	*43.18*	*1.0*	*50*	*0*	*86.4*	*81 - 118*	*44.5*	*3.01*	*20*	
Surr: 4-Bromofluorobenzene	*49.07*	*1.0*	*50*	*0*	*98.1*	*85 - 114*	*48.26*	*1.66*	*20*	
Surr: Dibromofluoromethane	*47.01*	*1.0*	*50*	*0*	*94.0*	*80 - 119*	*47.74*	*1.56*	*20*	
Surr: Toluene-d8	*51.23*	*1.0*	*50*	*0*	*102*	*89 - 112*	*51.5*	*0.528*	*20*	

ALS Houston, US Date: 23-Apr-20

Client:	Bhate Environmental Associates, Inc.
Project:	Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder:	HS20040284

QC BATCH REPORT

Batch ID:	**R359664 (0)**	**Instrument:**	**VOA6**	**Method:**	**VOLATILES ORGANICS BY METHOD 8260C**

The following samples were analyzed in this batch: HS20040284-01 HS20040284-03

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

QC BATCH REPORT

Batch ID: R359757 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R359757** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: Run ID: **UV-2450_359757** SeqNo: **5549696** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.0100	0.0100								U

LCS Sample ID: **LCS-R359757** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: Run ID: **UV-2450_359757** SeqNo: **5549695** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.271	0.0100	0.25	0	108	90 - 111				

LCSD Sample ID: **LCSD-R359757** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: Run ID: **UV-2450_359757** SeqNo: **5549694** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.272	0.0100	0.25	0	109	90 - 111	0.271	0.368	20	

MS Sample ID: **HS20040287-01MS** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: Run ID: **UV-2450_359757** SeqNo: **5549698** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.219	0.0100	0.25	-0.001	88.0	90 - 111				S

MSD Sample ID: **HS20040287-01MSD** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: Run ID: **UV-2450_359757** SeqNo: **5549697** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.209	0.0100	0.25	-0.001	84.0	90 - 111	0.219	4.67	20	S

The following samples were analyzed in this batch: HS20040284-01

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: **HS20040284**

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
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

ALS Houston, US Date: 23-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
Work Order: HS20040284

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20040284-01	LH18/24-SP650_040720	Login	4/8/2020 9:26:18 AM	PMG	EXT047
HS20040284-01	LH18/24-SP650_040720	Login	4/8/2020 9:26:18 AM	PMG	WET293
HS20040284-01	LH18/24-SP650_040720	Login	4/8/2020 9:26:18 AM	PMG	MET031
HS20040284-01	LH18/24-SP650_040720	Login	4/8/2020 9:26:18 AM	PMG	VOA122
HS20040284-02	LH18/24-SP650_040720_BIX	Login	4/8/2020 9:26:18 AM	PMG	Sub
HS20040284-03	Trip Blank	Login	4/8/2020 9:26:18 AM	PMG	VOA122

ALS Houston, US Date: 23-Apr-20

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS20040284
Date/Time Received: **08-Apr-2020 08:22**
Received by: **AC**

Checklist completed by: *Paresh M. Giga* eSignature 8-Apr-2020 Date
Reviewed by: *RJ Modashia* eSignature 8-Apr-2020 Date

Matrices: **Water**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.5C U/C	IR25
Cooler(s)/Kit(s):	2759	
Date/Time sample(s) sent to storage:	4/8/2020 09:45	

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

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No. NWO1312.0150.0 16.0001

Job:
GROUNDWATER TREATMENT PLANT MONTHLY EFFLUENT SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS20040284
Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Effluent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: VOLATILES	SILVER, SELENIUM, LEAD, BARIUM	HEXAVALENT CHROMIUM	1, 4 - DIOXANE	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP650_040720	Water	04/07/20 / 14:00		3	X					HCL	
LH18/24-SP650_040720	Water	04/07/20 / 14:00		2			X	X		NONE	
LH18/24-SP650_040720_BIX	Water	04/07/20 / 14:00		1					X	NONE	
LH18/24-SP650_040720	Water	04/07/20 / 14:00		1		X				HNO3	
Trip Blank	Water	04/07/20		2	X					HCL	

Additional Remarks: **24 HR TAT on VOC's. Standard TAT on all other parameters**

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	04/07/20	14:30	AC	4/8/2020	08:22						

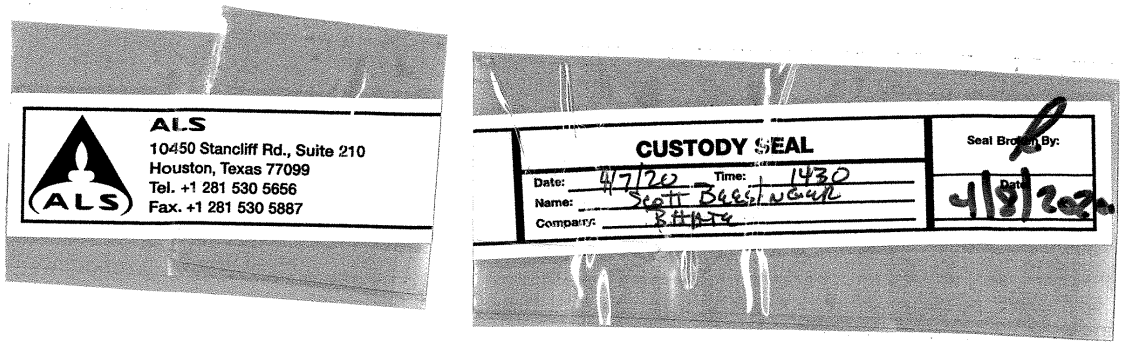
For Lab Use Only

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

Remarks:

C/C 2.5 IR#25 CF0.0 2759

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


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 4/7/20
Time: 1430
Name: Scott Bassinger
Company: BHATE
Seal Broken By:
Date: 4/8/20

TRK# 0221 4380 9533 6806
WED - 08 APR 10:30A
PRIORITY OVERNIGHT
AB SGRA
2759
77099
TX-US
IAH
3053259 08Apr 08

April 22, 2020 Service Request No:E2000304

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

Laboratory Results for: HS20040284

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 07, 2020
For your reference, these analyses have been assigned our service request number **E2000304.**

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

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Corey Grandits
Project Manager

Certificate of Analysis

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

ALS Environmental

Client:	ALS Houston	**Service Request No.:**	E2000304
Project:	HS20040284	**Date Received:**	04/08/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 04/08/20.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000143: 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.

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:**E2000304
Project: HS20040284

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000304-001	LH18/24-SP650_040720_BIX	4/7/2020	1400

Service Request Summary

Folder #: **E2000304**
Client Name: ALS Environmental - US
Project Name: HS20040284
Project Number:

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

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/07/20
Internal Due Date: 4/22/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20040284
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000304-001	LH18/24-SP650_040720_BIX	Water	04/07/20 1400	**IV**

Service Request Summary

Folder #: **E2000304**
Client Name: ALS Environmental - US
Project Name: HS20040284
Project Number:

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

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/07/20
Internal Due Date: 4/22/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20040284
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10B
Pressure Gas:

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
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

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

ALS Environmental

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
Arizona Department of Health Services	AZ0793	5/27/2020
California Department of Health Services	2919	4/30/2020
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	TX02694	4/30/2020
Illinois Environmental Protection Agency	2000322019-2	5/9/2020
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Center for Disease Control and Prevention	201815	6/5/2020
Maryland Department of the Environment	343	6/30/2020
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2020
Nevada Department of Concervation and Natural Resources	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209419	4/24/2020
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
Tennessee Department of Environment and Concervation	04016	6/30/2020
Texas Commision on Environmental Quality	TX104704231-19-25	4/30/2020
United States Department of Agriculture	P330-19-00299	10/10/2022
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

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

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:** **13658**

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:	HS20040284
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20040284-02**	**LH18/24-SP650_040720_BIX**	**Water**	**07 Apr 2020 14:00**
	SUB_Perch-6850			22 Apr 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: 4/8/2020 11:42.

Received By: _____ Date/Time: 4/8/2020 11:42

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

RIGHT SOLUTIONS | RIGHT PARTNER

ALS Environmental

Cooler Receipt Form

Project Chemist CA

Client/Project Air-4 Thermometer ID 9MU4

Date/Time Received: 4/8/20 Initials: CA Date/Time Logged in: 4/8/20 Initials CA

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

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
-		4/8/20	1442	CA	2.6 IR 0	☒
						☐
						☐
						☐

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

Notes, Discrepancies, & Resolutions:

Service request Label:

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 357146 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/DBOTROS **Prep Method:** Method **Prep Date/Time:** 4/20/20 09:32

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000275-001	M1Q2014	.01	6850/ClO4 DOD			Water	10mL	
2	E2000275-002	PZ-373-NS	.01	6850/ClO4 DOD			Water	10mL	
3	E2000275-003	PZ-489-NS	.01	6850/ClO4 DOD			Water	10mL	
4	E2000287-001	LH18/24-SP650_033120_BIX	.01	6850/ClO4 DOD			Water	10mL	
5	E2000303-001	LH18/24-SP650_040720_BIX	.01	6850/ClO4 DOD			Water	10mL	
6	E2000304-001	LH18/24-SP650_040720_BIX	.01	6850/ClO4 DOD			Water	10mL	
7	E2000305-001	LH18/24-SP140_040720	.01	6850/ClO4 DOD			Water	10mL	
8	EQ2000143-01	MB		6850/ClO4 DOD			Liquid	10mL	
9	EQ2000143-02	LCS		6850/ClO4 DOD			Liquid	10mL	
10	EQ2000143-03	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

E2000275-001 100.00µL E2000275-002 100.00µL E2000275-003 100.00µL E2000287-001 100.00µL E2000303-001 100.00µL E2000304-001 100.00µL
E2000305-001 100.00µL EQ2000143-01 100.00µL EQ2000143-02 100.00µL EQ2000143-03 100.00µL

Name: Perchlorate Intermediate Stock1 Inventory ID 204799 Logbook Ref: 200657 1.0ug/mL KN Expires On: 05/15/2020

EQ2000143-02 1.00µL EQ2000143-03 1.00µL

Preparation Steps

Step: Preparation
Started: 4/20/20 09:32
Finished: 4/20/20 10:00
By: KBROWN
Comments

Comments: _____

Reviewed By: kn Date: 04/20/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

ALS Environmental - Houston HRMS
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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:**	E2000304
Project:	HS20040284	**Date Collected:**	4/ 7/20 1400
Sample Matrix:	Water	**Date Received:**	4/ 7/20
Sample Name:	LH18/24-SP650_040720_BIX	**Units:**	µg/L
Lab Code:	E2000304-001	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/20/20	4/22/20 13:24	357146	677638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000304
Project:	HS20040284	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000143-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/20/20	4/20/20 15:10	357146	677504	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040284
Sample Matrix: Water

Service Request: E2000304
Date Analyzed: 4/20/20

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/L
Basis: NA

Extraction Lot: 357146

	Lab Control Sample EQ2000143-02			Duplicate Lab Control Sample EQ2000143-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.112	0.100	112	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:**	E2000304
Project:	HS20040284	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000143-02	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.112**		0.100	0.0500	0.0250	1	4/20/20	4/20/20 15:18	357146	677504	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000304
Project:	HS20040284	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000143-03	**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	4/20/20	4/20/20 15:26	357146	677504	

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

20200420

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
LCMS01 -Shimadzu 8050

ICAL Date: 4/20/2020
Cal. Std. xp: 5/14/2020
ICAL ID: **EC2000003**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100803-09 **B:** MeOH 3100802-01

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200420_001	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:01
	null		20200420_002	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:06
	DIBLK		20200420_003	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:11
	IB		20200420_004	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:19
	PERCHLORATE7		20200420_005	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 13:27
	LODV		20200420_006	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:35
	PERCHLORATE1		20200420_007	Perchlorate6850b.lcm	1x	☒	3100804-05	4/20/2020 13:43
	PERCHLORATE2		20200420_008	Perchlorate6850b.lcm	1x	☒	3100804-06	4/20/2020 13:51
	PERCHLORATE3		20200420_009	Perchlorate6850b.lcm	1x	☒	3100804-07	4/20/2020 13:58
	PERCHLORATE4		20200420_010	Perchlorate6850b.lcm	1x	☒	3100804-08	4/20/2020 14:06
	PERCHLORATE5		20200420_011	Perchlorate6850b.lcm	1x	☒	3100804-09	4/20/2020 14:14
	PERCHLORATE6		20200420_012	Perchlorate6850b.lcm	1x	☒	3100805-01	4/20/2020 14:22
	PERCHLORATE8		20200420_013	Perchlorate6850b.lcm	1x	☒	3100805-03	4/20/2020 14:30
	PERCHLORATE9		20200420_014	Perchlorate6850b.lcm	1x	☒	3100805-04	4/20/2020 14:38
	PERCHLORATE10		20200420_015	Perchlorate6850b.lcm	1x	☒	3100805-05	4/20/2020 14:46
	ICV		20200420_016	Perchlorate6850b.lcm	1x	☒	3100805-06	4/20/2020 14:54
	LODV		20200420_017	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:02
	EQ2000143-01		20200420_018	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:10
	EQ2000143-02		20200420_019	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:18
	EQ2000143-03		20200420_020	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:26
	E2000275-001		20200420_021	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:33
	E2000275-002		20200420_022	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:41
	E2000275-003		20200420_023	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:49
	E2000287-001		20200420_024	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:57
	E2000303-001		20200420_025	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:05
	E2000304-001		20200420_026	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:13
	E2000305-001		20200420_027	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:21
	PERCHLORATE7		20200420_028	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 16:29
	E2000303-001		20200420_029	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:47
	E2000304-001		20200420_030	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:55
	PERCHLORATE7		20200420_031	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 17:02

Initial Calibration - Detailed Report

Calibration ID: EC2000003 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
08	EC2000003-08	PERCHLORATE7	20200420_005	04/20/2020 13:27
01	EC2000003-01	PERCHLORATE1	20200420_007	04/20/2020 13:43
02	EC2000003-02	PERCHLORATE2	20200420_008	04/20/2020 13:51
03	EC2000003-03	PERCHLORATE3	20200420_009	04/20/2020 13:58
04	EC2000003-04	PERCHLORATE4	20200420_010	04/20/2020 14:06
05	EC2000003-05	PERCHLORATE5	20200420_011	04/20/2020 14:14
06	EC2000003-06	PERCHLORATE6	20200420_012	04/20/2020 14:22
07	EC2000003-07	PERCHLORATE8	20200420_013	04/20/2020 14:30
09	EC2000003-09	PERCHLORATE9	20200420_014	04/20/2020 14:38
10	EC2000003-10	PERCHLORATE10	20200420_015	04/20/2020 14:46

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

Perchlorate **Average RF** **RSD = 8.066** **Average RF = 0.1368**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1558	02	0.5000	0.1297	03	0.7000	0.1277	04	1.0000	0.1397
05	2.0000	0.1298	06	5.0000	0.1245	07	20.0000	0.1341	08	10.0000	0.1562
09	30.0000	0.1365	10	50.0000	0.1345						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.114	13.9	02	0.5000	0.474	-5.2	03	0.7000	0.653	-6.7
04	1.0000	1.02	2.1	05	2.0000	1.90	-5.1	06	5.0000	4.55	-9.0
07	20.0000	19.6	-2.0	08	10.0000	11.4	14.2	09	30.0000	29.9	-0.2
10	50.0000	49.1	-1.7								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000003	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200420_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000003-11	T	Average RF	10	11.345	ng/mL	13.4	<= 15

ALS Group Houston

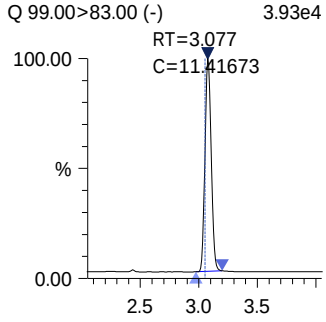
PERCHLORATE7

Date acquired: 4/20/2020 1:27:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_005.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	4/20/2020 1:27:21 PM	144494	11.41673	20200420_005	3.077	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	4/20/2020 1:27:21 PM	92497	1.00000	20200420_005	3.076	25.0000	1.0000	3

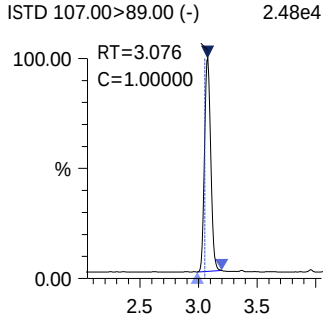
Perchlorate

Conc 11.41673
Area 144494



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 92497



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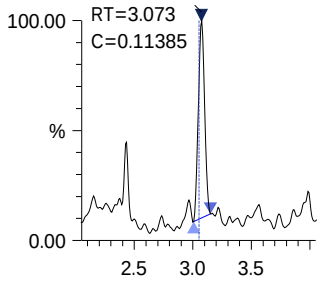
PERCHLORATE1

Date acquired: 4/20/2020 1:43:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_007.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	4/20/2020 1:43:09 PM	1840	0.11385	20200420_007	3.073	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	4/20/2020 1:43:09 PM	118078	1.00000	20200420_007	3.073	25.0000	1.0000	5

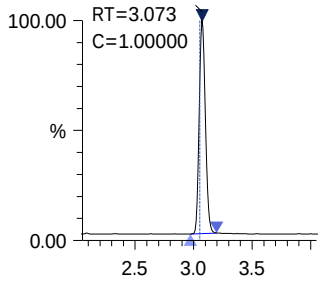
Perchlorate

Conc 0.11385
Area 1840
Q 99.00>83.00 (-) 5.37e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 118078
ISTD 107.00>89.00 (-) 3.18e4



ALS Group Houston

PERCHLORATE2

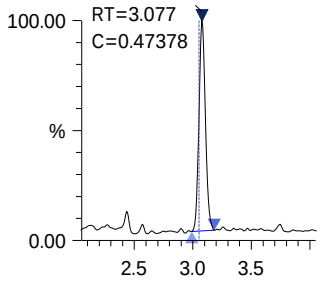
Date acquired: 4/20/2020 1:51:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_008.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	4/20/2020 1:51:02 PM	7551	0.47378	20200420_008	3.077	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	4/20/2020 1:51:02 PM	116479	1.00000	20200420_008	3.075	25.0000	1.0000	6

Perchlorate

Conc 0.47378
Area 7551

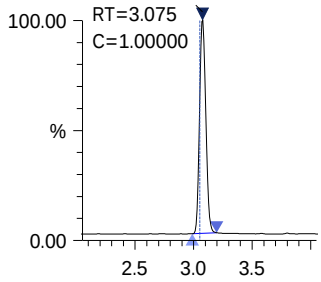
Q 99.00>83.00 (-) 2.00e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 116479

ISTD 107.00>89.00 (-) 3.08e4



ALS Group Houston

PERCHLORATE3

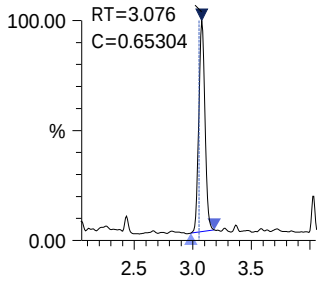
Date acquired: 4/20/2020 1:58:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_009.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	4/20/2020 1:58:56 PM	11235	0.65304	20200420_009	3.076	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	4/20/2020 1:58:56 PM	125731	1.00000	20200420_009	3.073	25.0000	1.0000	7

Perchlorate

Conc 0.65304
Area 11235

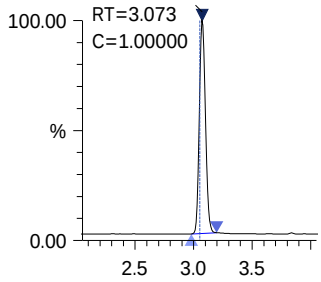
Q 99.00>83.00 (-) 3.12e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 125731

ISTD 107.00>89.00 (-) 3.41e4



ALS Group Houston

PERCHLORATE4

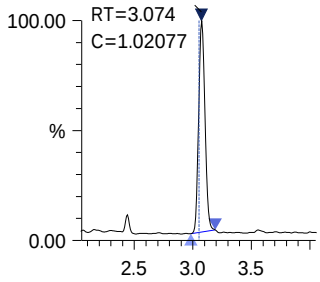
Date acquired: 4/20/2020 2:06:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_010.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	4/20/2020 2:06:51 PM	16670	1.02077	20200420_010	3.074	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	4/20/2020 2:06:51 PM	119354	1.00000	20200420_010	3.074	25.0000	1.0000	8

Perchlorate

Conc 1.02077
Area 16670

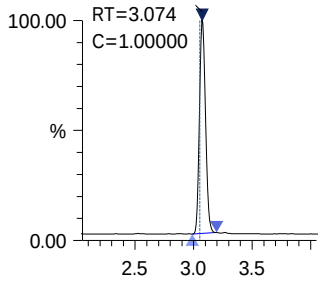
Q 99.00>83.00 (-) 4.51e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 119354

ISTD 107.00>89.00 (-) 3.26e4



ALS Group Houston

PERCHLORATE5

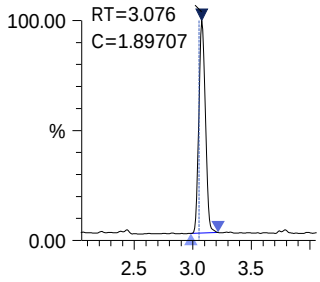
Date acquired: 4/20/2020 2:14:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_011.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	4/20/2020 2:14:45 PM	33786	1.89707	20200420_011	3.076	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	4/20/2020 2:14:45 PM	130159	1.00000	20200420_011	3.075	25.0000	1.0000	9

Perchlorate

Conc 1.89707
Area 33786

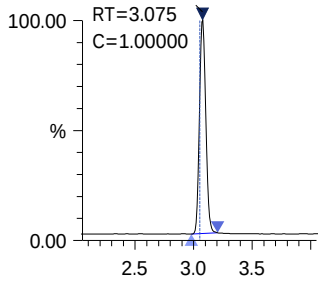
Q 99.00>83.00 (-) 8.73e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 130159

ISTD 107.00>89.00 (-) 3.41e4



ALS Group Houston

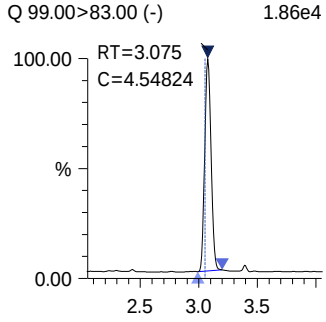
PERCHLORATE6

Date acquired: 4/20/2020 2:22:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_012.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	4/20/2020 2:22:39 PM	69848	4.54824	20200420_012	3.075	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	4/20/2020 2:22:39 PM	112235	1.00000	20200420_012	3.074	25.0000	1.0000	10

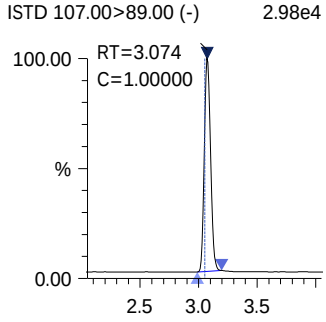
Perchlorate

Conc 4.54824
Area 69848



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 112235



ALS Group Houston

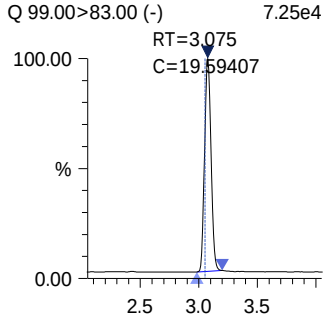
PERCHLORATE8

Date acquired: 4/20/2020 2:30:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_013.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	4/20/2020 2:30:36 PM	275854	19.59407	20200420_013	3.075	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	4/20/2020 2:30:36 PM	102890	1.00000	20200420_013	3.072	25.0000	1.0000	11

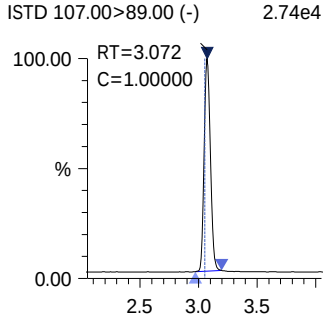
Perchlorate

Conc 19.59407
Area 275854



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 102890



ALS Group Houston

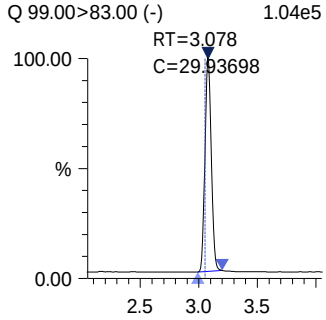
PERCHLORATE9

Date acquired: 4/20/2020 2:38:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_014.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	4/20/2020 2:38:33 PM	390068	29.93698	20200420_014	3.078	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	4/20/2020 2:38:33 PM	95225	1.00000	20200420_014	3.075	25.0000	1.0000	12

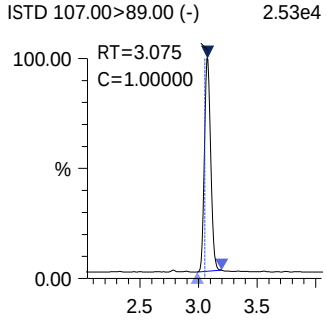
Perchlorate

Conc 29.93698
Area 390068



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 95225



ALS Group Houston

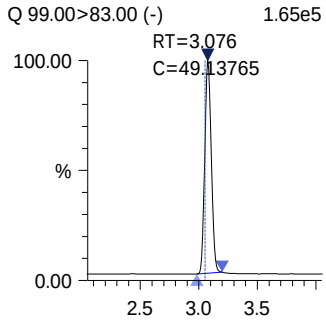
PERCHLORATE10

Date acquired: 4/20/2020 2:46:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_015.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	4/20/2020 2:46:25 PM	632804	49.13765	20200420_015	3.076	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	4/20/2020 2:46:25 PM	94118	1.00000	20200420_015	3.075	25.0000	1.0000	13

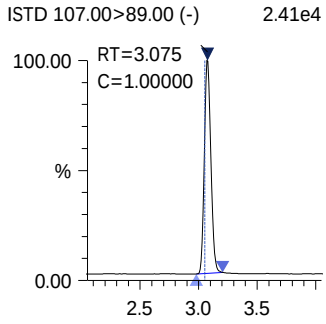
Perchlorate

Conc 49.13765
Area 632804



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 94118



ALS Group Houston

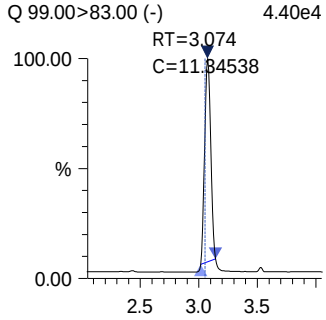
PERCHLORATEICV

Date acquired: 4/20/2020 2:54:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_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	4/20/2020 2:54:20 PM	149807	11.34538	20200420_016	3.074	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	4/20/2020 2:54:20 PM	96501	1.00000	20200420_016	3.072	25.0000	1.0000	14

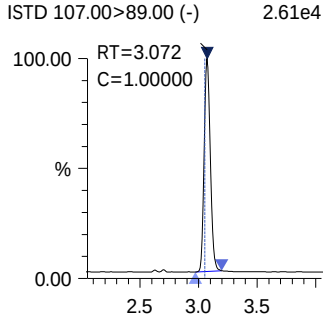
Perchlorate

Conc 11.34538
Area 149807



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 96501



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

20200420

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
LCMS01 -Shimadzu 8050

ICAL Date: 4/20/2020
Cal. Std. xp: 5/14/2020
ICAL ID: **EC2000003**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100803-09 **B:** MeOH 3100802-01

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200420_001	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:01
	null		20200420_002	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:06
	DIBLK		20200420_003	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:11
	IB		20200420_004	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:19
	PERCHLORATE7		20200420_005	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 13:27
	LODV		20200420_006	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:35
	PERCHLORATE1		20200420_007	Perchlorate6850b.lcm	1x	☒	3100804-05	4/20/2020 13:43
	PERCHLORATE2		20200420_008	Perchlorate6850b.lcm	1x	☒	3100804-06	4/20/2020 13:51
	PERCHLORATE3		20200420_009	Perchlorate6850b.lcm	1x	☒	3100804-07	4/20/2020 13:58
	PERCHLORATE4		20200420_010	Perchlorate6850b.lcm	1x	☒	3100804-08	4/20/2020 14:06
	PERCHLORATE5		20200420_011	Perchlorate6850b.lcm	1x	☒	3100804-09	4/20/2020 14:14
	PERCHLORATE6		20200420_012	Perchlorate6850b.lcm	1x	☒	3100805-01	4/20/2020 14:22
	PERCHLORATE8		20200420_013	Perchlorate6850b.lcm	1x	☒	3100805-03	4/20/2020 14:30
	PERCHLORATE9		20200420_014	Perchlorate6850b.lcm	1x	☒	3100805-04	4/20/2020 14:38
	PERCHLORATE10		20200420_015	Perchlorate6850b.lcm	1x	☒	3100805-05	4/20/2020 14:46
	ICV		20200420_016	Perchlorate6850b.lcm	1x	☒	3100805-06	4/20/2020 14:54
	LODV		20200420_017	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:02
	EQ2000143-01		20200420_018	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:10
	EQ2000143-02		20200420_019	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:18
	EQ2000143-03		20200420_020	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:26
	E2000275-001		20200420_021	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:33
	E2000275-002		20200420_022	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:41
	E2000275-003		20200420_023	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:49
	E2000287-001		20200420_024	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:57
	E2000303-001		20200420_025	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:05
	E2000304-001		20200420_026	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:13
	E2000305-001		20200420_027	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:21
	PERCHLORATE7		20200420_028	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 16:29
	E2000303-001		20200420_029	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:47
	E2000304-001		20200420_030	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:55
	PERCHLORATE7		20200420_031	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 17:02

20200422

ICAL Date: 4/20/2020
Cal. Std. xp: 5/14/2020
ICAL ID: EC2000003

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
LCMS01 -Shimadzu 8050

Mobile Phases **A:** 0.75% Formic Acid/Water 3100803-09 **B:** MeOH 3100802-01

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200422_001	Perchlorate6850b.lcm	1x	☒		4/22/2020 12:55
	IB		20200422_002	Perchlorate6850b.lcm	1x	☒		4/22/2020 13:00
	PERCHLORATE7		20200422_003	Perchlorate6850b.lcm	1x	☒	3100805-02	4/22/2020 13:08
	E2000303-001		20200422_004	Perchlorate6850b.lcm	1x	☒		4/22/2020 13:16
	E2000304-001		20200422_005	Perchlorate6850b.lcm	1x	☒		4/22/2020 13:24
	E2000305-001X250		20200422_006	Perchlorate6850b.lcm	250x	☒		4/22/2020 13:32
	PERCHLORATE7		20200422_007	Perchlorate6850b.lcm	1x	☒	3100805-02	4/22/2020 13:40

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040284

Service Request: E2000304
Date Analyzed: 4/20/20 14:54

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

File ID: I:\LCMS01\DATA\20200420\20200420_016
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000148-01
Analysis Lot: 677504
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000148-01	96,501	3.07
Method Blank	EQ2000143-01	113,200	3.08
Lab Control Sample	EQ2000143-02	84,678	3.07
Duplicate Lab Control Sample	EQ2000143-03	108,366	3.07

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:**	E2000304
Project:	HS20040284	**Date Analyzed:**	4/20/20 16:29

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200420\20200420_028	**Lab Code:**	EQ2000148-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	677504
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000148-02	97,156	3.07

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:**	E2000304
Project:	HS20040284	**Date Analyzed:**	4/22/20 13:08

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

File ID:	I:\LCMS01\DATA\20200422\20200422_003	**Lab Code:**	EQ2000153-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	677638
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000153-01	76,714	3.08
LH18/24-SP650_040720_BIX	E2000304-001	118,676	3.06

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:**	E2000304
Project:	HS20040284	**Date Analyzed:**	4/22/20 13:40

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200422\20200422_007	**Lab Code:**	EQ2000153-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	677638
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000153-02	93,873	3.02

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: HS20040284

Service Request: E2000304
Date Analyzed: 4/20/20

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\20200420\20200420_016

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 677504
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1368	0.1552	13.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040284

Service Request: E2000304
Date Analyzed: 4/20/20

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\20200420\20200420_028

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 677504
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1368	0.1543	12.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040284

Service Request: E2000304
Date Analyzed: 4/22/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200422\20200422_003

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 677638
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1368	0.1546	13.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040284

Service Request: E2000304
Date Analyzed: 4/22/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200422\20200422_007

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 677638
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1368	0.1481	8.3	NA	± 15 %	Average RF

ALS Group Houston

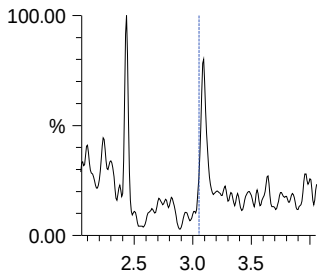
EQ2000143-01

Date acquired: 4/20/2020 3:10:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_018.lcd
Vial: 15 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000143-01	4/20/2020 3:10:11 PM	----	----	20200420_018	----	25.0000	1.0000	15
Sodium Perchlorate-18O4_IS	EQ2000143-01	4/20/2020 3:10:11 PM	113200	1.00000	20200420_018	3.076	25.0000	1.0000	15

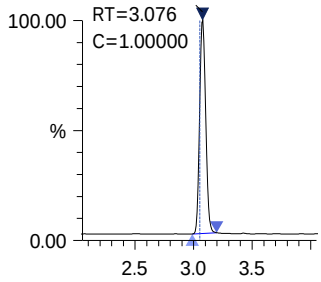
Perchlorate

Conc ----
Area ----
Q 99.00>83.00 (-) 2.29e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 113200
ISTD 107.00>89.00 (-) 3.08e4



ALS Group Houston

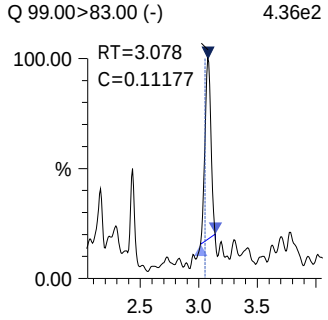
EQ2000143-02

Date acquired: 4/20/2020 3:18:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_019.lcd
Vial: 16 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000143-02	4/20/2020 3:18:04 PM	1295	0.11177	20200420_019	3.078	25.0000	1.0000	16
Sodium Perchlorate-18O4_IS	EQ2000143-02	4/20/2020 3:18:04 PM	84678	1.00000	20200420_019	3.072	25.0000	1.0000	16

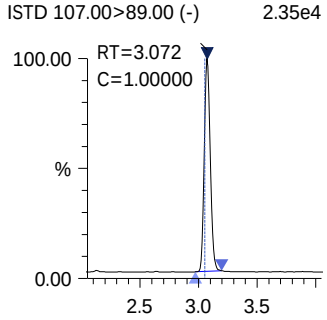
Perchlorate

Conc 0.11177
Area 1295



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 84678



ALS Group Houston

EQ2000143-03

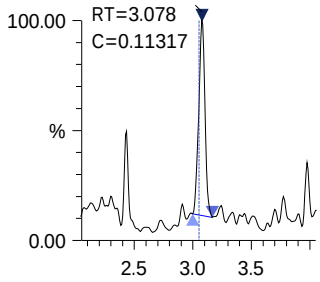
Date acquired: 4/20/2020 3:26:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_020.lcd
Vial: 17 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000143-03	4/20/2020 3:26:00 PM	1678	0.11317	20200420_020	3.078	25.0000	1.0000	17
Sodium Perchlorate-18O4_IS	EQ2000143-03	4/20/2020 3:26:00 PM	108366	1.00000	20200420_020	3.072	25.0000	1.0000	17

Perchlorate

Conc 0.11317
Area 1678

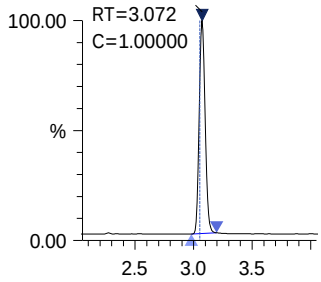
Q 99.00>83.00 (-) 4.97e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 108366

ISTD 107.00>89.00 (-) 3.03e4



ALS Group Houston

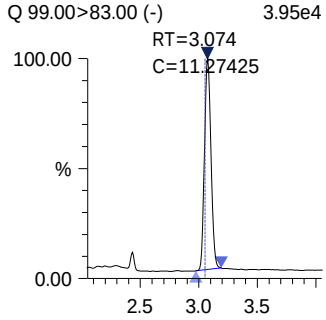
PERCHLORATE7

Date acquired: 4/20/2020 4:29:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_028.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	4/20/2020 4:29:14 PM	149879	11.27425	20200420_028	3.074	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	4/20/2020 4:29:14 PM	97156	1.00000	20200420_028	3.073	25.0000	1.0000	3

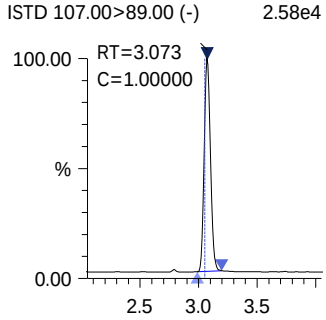
Perchlorate

Conc 11.27425
Area 149879



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 97156



ALS Group Houston

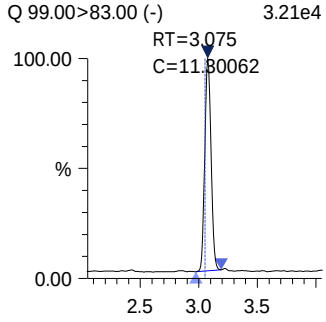
PERCHLORATE7

Date acquired: 4/22/2020 1:08:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200422\20200422_003.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	4/22/2020 1:08:31 PM	118621	11.30062	20200422_003	3.075	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	4/22/2020 1:08:31 PM	76714	1.00000	20200422_003	3.075	25.0000	1.0000	3

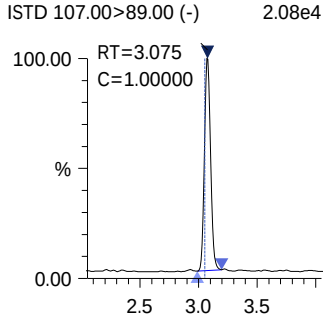
Perchlorate

Conc 11.30062
Area 118621



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 76714



ALS Group Houston

E2000304-001

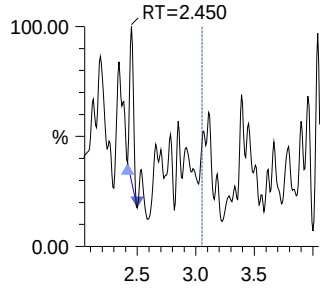
Date acquired: 4/22/2020 1:24:19 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200422\20200422_005.lcd
Vial: 23 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000304-001	4/22/2020 1:24:19 PM	----	----	20200422_005	----	25.0000	1.0000	23
Sodium Perchlorate-18O4_IS	E2000304-001	4/22/2020 1:24:19 PM	118676	1.00000	20200422_005	3.062	25.0000	1.0000	23

Perchlorate

Conc ----
Area ----

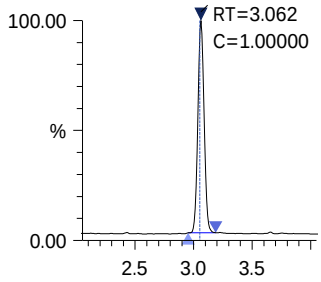
Q 99.00>83.00 (-) 1.94e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 118676

ISTD 107.00>89.00 (-) 3.19e4



ALS Group Houston

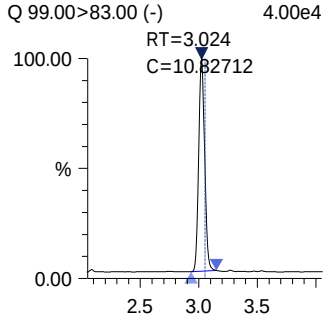
PERCHLORATE7

Date acquired: 4/22/2020 1:40:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200422\20200422_007.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	4/22/2020 1:40:14 PM	139071	10.82712	20200422_007	3.024	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	4/22/2020 1:40:14 PM	93873	1.00000	20200422_007	3.021	25.0000	1.0000	3

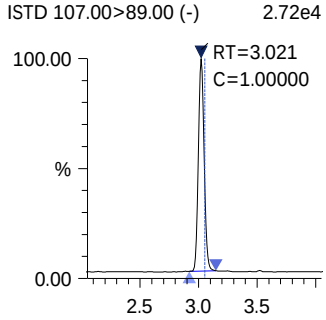
Perchlorate

Conc 10.82712
Area 139071



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 93873



HS20040284 8260 Raw Data

ALS WO# HS20040284

MSVOA06 -Logbook

Batch: 40217
Date: 04-06-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-06-2020 11:44 am	1.00	50 mL	50 mL	X040601a.D	Liquid	Y	NA
	Auto find / purged									
2	BFB	TUNE	04-06-2020 12:08 pm	1.00	50 mL	50 mL	X040602.D	Liquid	Y	NA
	Auto find/ purged									
3	CCV	CCV	04-06-2020 12:32 pm	1.00	50 mL	50 mL	X040603.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	04-06-2020 12:56 pm	1.00	50 mL	50 mL	X040604.D	Liquid	Y	NA
5	VLCSW-200406	LCS	04-06-2020 01:20 pm	1.00	50 mL	50 mL	X040605.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	04-06-2020 01:44 pm	1.00	50 mL	50 mL	X040606.D	Liquid	Y	NA
7	VBLKW-200406	MBLK	04-06-2020 02:08 pm	1.00	50 mL	50 mL	X040607.D	Liquid	Y	NA
8	HS20040019-02	SAMP	04-06-2020 02:32 pm	1.00	50 mL	50 mL	X040608.D	Liquid	Y	<2
9	HS20040019-01	SAMP	04-06-2020 02:56 pm	1.00	50 mL	50 mL	X040609.D	Liquid	Y	<2
10	HS20040191-02	SAMP	04-06-2020 03:21 pm	1.00	50 mL	50 mL	X040610.D	Liquid	Y	<2
11	HS20040191-02MS	MS	04-06-2020 03:45 pm	1.00	50 mL	50 mL	X040611.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
12	HS20040191-02MSD	MSD	04-06-2020 04:09 pm	1.00	50 mL	50 mL	X040612.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
13	CCV-END	CCV	04-06-2020 04:33 pm	1.00	50 mL	50 mL	X040613.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
14	HS20040110-01	SAMP	04-06-2020 04:57 pm	5.00	10 mL	50 mL	X040614.D	Liquid	Y	<2
15	HS20040110-05	SAMP	04-06-2020 05:21 pm	5.00	10 mL	50 mL	X040615.D	Liquid	Y	<2
16	HS20040110-02	SAMP	04-06-2020 05:45 pm	5.00	10 mL	50 mL	X040616.D	Liquid	Y	<2
17	HS20040110-03	SAMP	04-06-2020 06:09 pm	10.00	5 mL	50 mL	X040617.D	Liquid	Y	<2
18	HS20040110-04	SAMP	04-06-2020 06:33 pm	10.00	5 mL	50 mL	X040618.D	Liquid	Y	<2
19	HS20040090-01	SAMP	04-06-2020 06:57 pm	100.0(	500 µL	50 mL	X040619.D	Liquid	Y	<2
20	HS20040191-08	SAMP	04-06-2020 07:21 pm	1.00	50 mL	50 mL	X040620.D	Liquid	Y	<2
21	HS20040191-01	SAMP	04-06-2020 07:45 pm	1.00	50 mL	50 mL	X040621.D	Liquid	Y	<2
22	HS20040191-03	SAMP	04-06-2020 08:09 pm	1.00	50 mL	50 mL	X040622.D	Liquid	Y	<2
23	HS20040191-04	SAMP	04-06-2020 08:33 pm	1.00	50 mL	50 mL	X040623.D	Liquid	Y	<2
24	HS20040191-05	SAMP	04-06-2020 08:57 pm	1.00	50 mL	50 mL	X040624.D	Liquid	Y	<2
25	HS20040191-06	SAMP	04-06-2020 09:21 pm	1.00	50 mL	50 mL	X040625.D	Liquid	Y	<2
26	HS20040191-07	SAMP	04-06-2020 09:45 pm	1.00	50 mL	50 mL	X040626.D	Liquid	Y	<2
27	HS20040184-01	SAMP	04-06-2020 10:09 pm	1.00	50 mL	50 mL	X040627.D	Liquid	Y	<2
28	HS20040184-02	SAMP	04-06-2020 10:33 pm	1.00	50 mL	50 mL	X040628.D	Liquid	Y	<2
29	HS20040184-03	SAMP	04-06-2020 10:57 pm	1.00	50 mL	50 mL	X040629.D	Liquid	Y	<2
30	HS20040184-04	SAMP	04-06-2020 11:21 pm	1.00	50 mL	50 mL	X040630.D	Liquid	Y	NA
31	BLANK	SAMP	04-07-2020 09:26 am	1.00	50 mL	50 mL	X040640.D	Liquid	Y	NA

MSVOA06 -Logbook

Chemical	Value
SURR SPK ID	31106-21-06
IS ID	31106-21-06
CAL STD ID	31106-24-01/02
BFB ID	31106-21-06
pH Paper	634-64-11

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Xylenes (total)	150.00	152.73	102	80-120
1,2-Dichloroethylene (t	100.00	100.08	100	80-120
Dichlorodifluoromethane	50.00	47.80	96	80-120
Chloromethane	50.00	47.95	96	80-120
Vinyl Chloride	50.00	47.84	96	80-120
Bromomethane	50.00	56.02	112	80-120
Chloroethane	50.00	49.70	99	80-120
Trichlorofluoromethane	50.00	51.25	102	80-120
Acrolein	100.00	104.05	104	80-120
Acetone	100.00	113.68	114	80-120
1,1-Dichloroethene	50.00	49.14	98	80-120
Acrylonitrile	100.00	100.45	100	80-120
Methylene Chloride	50.00	51.62	103	80-120
Methyl tert-butyl ether	50.00	48.86	98	80-120
Carbon Disulfide	100.00	101.89	102	80-120
trans-1,2-Dichloroethen	50.00	50.43	101	80-120
1,1-Dichloroethane	50.00	51.23	102	80-120
2-Butanone	100.00	109.94	110	80-120
2,2-Dichloropropane	50.00	52.20	104	80-120
cis-1,2-Dichloroethene	50.00	49.65	99	80-120
Chloroform	50.00	49.48	99	80-120
Bromochloromethane	50.00	50.15	100	80-120
1,1,1-Trichloroethane	50.00	50.79	102	80-120
1,1-Dichloropropene	50.00	48.21	96	80-120
1,2-Dichloroethane	50.00	51.76	104	80-120
Carbon Tetrachloride	50.00	47.76	96	80-120
Benzene	50.00	49.73	99	80-120
Trichloroethene	50.00	50.47	101	80-120

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Bromodichloromethane	50.00	49.67	99	80-120
1,2-Dichloropropane	50.00	49.37	99	80-120
Dibromomethane	50.00	50.78	102	80-120
4-Methyl-2-Pentanone	100.00	101.85	102	80-120
cis-1,3-Dichloropropene	50.00	51.07	102	80-120
Toluene	50.00	49.45	99	80-120
trans-1,3-Dichloroprope	50.00	52.15	104	80-120
2-Hexanone	100.00	103.53	104	80-120
1,1,2-Trichloroethane	50.00	49.72	99	80-120
1,3-Dichloropropane	50.00	49.64	99	80-120
Dibromochloromethane	50.00	50.47	101	80-120
Tetrachloroethene	50.00	49.80	100	80-120
1,2-Dibromoethane	50.00	49.67	99	80-120
Chlorobenzene	50.00	49.80	100	80-120
1,1,1,2-Tetrachloroetha	50.00	49.74	99	80-120
Ethylbenzene	50.00	50.62	101	80-120
m,p-Xylenes	100.00	102.04	102	80-120
o-Xylene	50.00	50.69	101	80-120
Styrene	50.00	50.82	102	80-120
Bromoform	50.00	51.96	104	80-120
Isopropylbenzene	50.00	50.93	102	80-120
1,1,2,2-Tetrachloroetha	50.00	49.13	98	80-120
1,2,3-Trichloropropane	50.00	50.54	101	80-120
n-Propylbenzene	50.00	51.19	102	80-120
Bromobenzene	50.00	49.75	100	80-120
1,3,5-Trimethylbenzene	50.00	50.45	101	80-120
2-Chlorotoluene	50.00	48.77	98	80-120
4-Chlorotoluene	50.00	50.24	100	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

Matrix Spike - Sample No.: ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
tert-Butylbenzene	50.00	49.30	99	80-120
1,2,4-Trimethylbenzene	50.00	51.33	103	80-120
sec-Butylbenzene	50.00	50.56	101	80-120
p-Isopropyltoluene	50.00	51.66	103	80-120
1,3-Dichlorobenzene	50.00	51.26	102	80-120
1,4-Dichlorobenzene	50.00	48.92	98	80-120
n-Butylbenzene	50.00	52.55	105	80-120
1,2-Dichlorobenzene	50.00	51.37	103	80-120
1,2-Dibromo-3-Chloropro	50.00	50.60	101	80-120
1,2,4-Trichlorobenzene	50.00	51.26	102	80-120
Hexachlorobutadiene	50.00	50.12	100	80-120
Naphthalene	50.00	50.13	100	80-120
1,2,3-Trichlorobenzene	50.00	52.29	104	80-120
1-Chlorohexane	50.00	50.18	100	80-120
1,4-Dioxane	1000.00	1063.69	106	80-120
Cyclohexane	50.00	52.54	105	80-120
Freon TF	50.00	52.46	105	80-120
Methylcyclohexane	50.00	50.29	100	80-120
Methyl Acetate	50.00	53.58	107	80-120
Dibromofluoromethane	50.00	52.34	105	80-120
1,2-Dichloroethane-d4	50.00	52.45	105	80-120
Toluene-d8	50.00	49.93	100	80-120
4-Bromofluorobenzene	50.00	50.91	102	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

Lab File ID: X031901 BFB Injection Date: 03/19/20

Instrument ID: VOA6 BFB Injection Time: 1110

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.4
75	30.0 - 60.0% of mass 95	46.8
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	79.4
175	5.0 - 9.0% of mass 174	6.2 (7.8)1
176	95.0 - 101.0% of mass 174	77.1 (97.2)1
177	5.0 - 9.0% of mass 176	4.8 (6.3)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD000.25	VSTD000.25	X031902	03/19/20	1134
02	VSTD000.5	VSTD000.5	X031903	03/19/20	1158
03	VSTD001	VSTD001	X031904	03/19/20	1246
04	VSTD002	VSTD002	X031905	03/19/20	1310
05	VSTD005	VSTD005	X031906	03/19/20	1334
06	VSTD020	VSTD020	X031907	03/19/20	1358
07	VSTD050	VSTD050	X031908	03/19/20	1422
08	VSTD100	VSTD100	X031909	03/19/20	1446
09	VSTD150	VSTD150	X031910	03/19/20	1510
10	VSTD200	VSTD200	X031911	03/19/20	1533
11	ICV	ICV	X031915	03/19/20	1709
12					
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FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

Instrument ID: VOA6 Calibration Date(s): 03/19/20 03/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1134 1533

LAB FILE ID: RF0.25: X031902 RF0.5: X031903 RF1: X031904
RF2: X031905 RF5: X031906 RF20: X031907

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Dichlorodifluoromethane		1124	2862	6239	15743	63872
Chloromethane		2775	5203	10714	28777	101480
Vinyl Chloride		0.886	0.813	0.712	0.728	0.737
Bromomethane		1517	2753	5011	12906	42412
Chloroethane		1295	2888	5355	14009	46166
Trichlorofluoromethane		0.668	0.699	0.717	0.746	0.760
Acrolein		441	931	1381	2842	10501
Acetone		14691	16305	18578	24801	55534
1,1-Dichloroethene		0.484	0.400	0.446	0.430	0.416
Iodomethane		2102	4535	9766	30659	135035
Acrylonitrile		0.378	0.329	0.309	0.308	0.333
Methylene Chloride		3149	5960	9972	22460	70573
Methyl tert-butyl ether		1.766	1.610	1.612	1.574	1.568
Carbon Disulfide		1.332	1.384	1.321	1.471	1.421
trans-1,2-Dichloroethene		0.486	0.494	0.479	0.543	0.509
Vinyl Acetate		1.860	1.956	1.988	2.203	2.139
1,1-Dichloroethane		0.944	1.099	1.059	1.250	1.181
2-Butanone		2790	5607	8438	20120	73828
2,2-Dichloropropane		0.744	0.742	0.756	0.884	0.816
cis-1,2-Dichloroethene		0.482	0.574	0.608	0.642	0.582
Chloroform		0.880	0.991	0.942	0.998	0.920
Bromochloromethane		0.317	0.303	0.318	0.328	0.309
1,1,1-Trichloroethane		0.598	0.795	0.785	0.833	0.807
1,1-Dichloropropene		0.537	0.497	0.444	0.493	0.434
1,2-Dichloroethane		0.487	0.510	0.514	0.548	0.517
Carbon Tetrachloride		0.492	0.531	0.469	0.489	0.432
Benzene		1.257	1.373	1.260	1.422	1.284
Trichloroethene		0.291	0.342	0.344	0.368	0.337
Bromodichloromethane		0.461	0.466	0.442	0.492	0.443
2-Chloroethylvinyl ether		0.070	0.076	0.091	0.098	0.090
1,2-Dichloropropane		0.403	0.422	0.424	0.472	0.413
Dibromomethane		0.181	0.232	0.217	0.232	0.220
4-Methyl-2-Pentanone		0.500	0.525	0.507	0.525	0.506
cis-1,3-Dichloropropene		0.545	0.558	0.524	0.583	0.565
Toluene		1.463	1.510	1.489	1.673	1.533
trans-1,3-Dichloropropene		0.407	0.503	0.446	0.540	0.504
2-Hexanone		0.296	0.322	0.366	0.349	0.343
1,1,2-Trichloroethane		0.296	0.308	0.293	0.307	0.281
1,3-Dichloropropane		0.560	0.633	0.617	0.655	0.589
Dibromochloromethane		0.340	0.409	0.387	0.416	0.374
Tetrachloroethene		0.266	0.331	0.296	0.338	0.311
1,2-Dibromoethane		0.343	0.358	0.356	0.394	0.360
Chlorobenzene		0.868	1.032	0.997	1.084	0.983
1,1,1,2-Tetrachloroethane		0.346	0.367	0.358	0.405	0.363

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: VOA6 Calibration Date(s): 03/19/20 03/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1134 1533

LAB FILE ID: RF0.25: X031902 RF0.5: X031903 RF1: X031904
RF2: X031905 RF5: X031906 RF20: X031907

COMPOUND	RF0.25	RF0.5	RF1	RF2	RF5	RF20
Ethylbenzene		0.440	0.558	0.495	0.564	0.531
m,p-Xylenes		0.494	0.652	0.619	0.683	0.640
o-Xylene		0.515	0.612	0.592	0.697	0.619
Styrene		0.986	1.032	1.080	1.181	1.084
Bromoform		0.223	0.260	0.258	0.265	0.256
Isopropylbenzene		1.202	1.577	1.533	1.672	1.560
1,1,2,2-Tetrachloroethane		0.904	0.876	0.919	0.840	0.824
1,2,3-Trichloropropane		0.692	0.699	0.782	0.728	0.702
Methacrylonitrile		0.776	0.858	0.651	0.738	0.730
n-Propylbenzene		2.776	3.438	3.544	3.801	3.678
Bromobenzene		0.773	0.893	0.852	0.943	0.909
1,3,5-Trimethylbenzene		2.032	2.697	2.576	2.786	2.624
2-Chlorotoluene		1.877	2.261	2.247	2.320	2.176
4-Chlorotoluene		1.984	2.487	2.606	2.672	2.501
Propionitrile		0.129	0.117	0.116	0.112	0.117
tert-Butylbenzene		1.911	2.264	2.169	2.348	2.220
1,2,4-Trimethylbenzene		2.158	2.540	2.520	2.664	2.692
sec-Butylbenzene		2.544	3.060	2.889	3.072	3.120
p-Isopropyltoluene		2.166	2.529	2.426	2.699	2.727
1,3-Dichlorobenzene		1.241	1.468	1.464	1.544	1.516
1,4-Dichlorobenzene		1.454	1.628	1.537	1.590	1.528
n-Butylbenzene		2.097	2.005	2.159	2.244	2.307
1,2-Dichlorobenzene		1.173	1.319	1.348	1.375	1.368
1,2-Dibromo-3-Chloropropane		86	273	777	1809	6529
1,2,4-Trichlorobenzene		612	1407	2892	8554	34013
Hexachlorobutadiene		0.422	0.313	0.278	0.305	0.296
Naphthalene		833	2100	4891	11877	46336
1,2,3-Trichlorobenzene		177	922	1673	4327	16083
1-Chlorohexane		0.345	0.494	0.428	0.439	0.441
1,4-Dioxane		0.004	0.005	0.006	0.006	0.006
n-Hexane		0.693		0.749	0.832	0.884
1,3-Butadiene		0.590	0.720	0.689	0.734	0.757
Cyclohexane		0.804	0.998	1.024	1.106	1.178
Freon TF		0.273	0.337	0.394	0.410	0.401
Methylcyclohexane		1.226	1.218	1.284	1.266	1.242
Methyl Acetate		0.450	0.523	0.521	0.590	0.556
Tert-Butyl alcohol		0.062	0.067	0.083	0.070	0.069
Isopropyl Alcohol		0.041	0.056	0.056	0.049	0.048
Acetaldehyde				0.060	0.049	0.047
Dibromofluoromethane		1595	3028	5989	17420	61899
1,2-Dichloroethane-d4		2909	4838	8567	20720	80050
Toluene-d8		6812	12359	23746	62955	225397
4-Bromofluorobenzene		3499	8202	12385	22920	85378

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: VOA6 Calibration Date(s): 03/19/20 03/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1134 1533

LAB FILE ID: RF50: X031908 RF100: X031909 RF150: X031910
RF200: X031911

COMPOUND	RF50	RF100	RF150	RF200
Dichlorodifluoromethane	163717	326339	471885	629109
Chloromethane	249660	504548	731993	988147
Vinyl Chloride	0.708	0.760	0.743	0.769
Bromomethane	99641	203423	287355	370752
Chloroethane	111607	217230	312401	406978
Trichlorofluoromethane	0.749	0.795	0.768	0.792
Acrolein	29869	51935	77253	98725
Acetone	121303	216512	303043	388579
1,1-Dichloroethene	0.399	0.419	0.406	0.413
Iodomethane	367297	730685	1092503	1422582
Acrylonitrile	0.313	0.322	0.302	0.310
Methylene Chloride	162281	310528	437081	572059
Methyl tert-butyl ether	1.485	1.526	1.463	1.500
Carbon Disulfide	1.357	1.446	1.384	1.427
trans-1,2-Dichloroethene	0.469	0.494	0.474	0.486
Vinyl Acetate	2.009	2.076	1.977	2.024
1,1-Dichloroethane	1.091	1.152	1.106	1.138
2-Butanone	184861	359895	497070	654316
2,2-Dichloropropane	0.754	0.788	0.753	0.773
cis-1,2-Dichloroethene	0.544	0.578	0.547	0.567
Chloroform	0.875	0.916	0.887	0.913
Bromochloromethane	0.276	0.284	0.268	0.270
1,1,1-Trichloroethane	0.758	0.808	0.777	0.802
1,1-Dichloropropene	0.442	0.458	0.455	0.470
1,2-Dichloroethane	0.538	0.548	0.536	0.556
Carbon Tetrachloride	0.443	0.463	0.460	0.481
Benzene	1.287	1.339	1.310	1.367
Trichloroethene	0.345	0.364	0.357	0.370
Bromodichloromethane	0.441	0.459	0.458	0.476
2-Chloroethylvinyl ether	0.093	0.098	0.096	0.101
1,2-Dichloropropane	0.415	0.425	0.417	0.436
Dibromomethane	0.220	0.224	0.220	0.229
4-Methyl-2-Pentanone	0.508	0.507	0.516	0.534
cis-1,3-Dichloropropene	0.563	0.578	0.572	0.596
Toluene	1.490	1.504	1.486	1.522
trans-1,3-Dichloropropene	0.511	0.528	0.518	0.538
2-Hexanone	0.343	0.345	0.354	0.366
1,1,2-Trichloroethane	0.276	0.280	0.273	0.277
1,3-Dichloropropane	0.580	0.586	0.580	0.588
Dibromochloromethane	0.386	0.388	0.388	0.399
Tetrachloroethene	0.307	0.318	0.318	0.322
1,2-Dibromoethane	0.355	0.351	0.351	0.357
Chlorobenzene	0.958	0.975	0.972	0.994
1,1,1,2-Tetrachloroethane	0.362	0.368	0.373	0.378

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: VOA6 Calibration Date(s): 03/19/20 03/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1134 1533

LAB FILE ID: RF50: X031908 RF100: X031909 RF150: X031910
RF200: X031911

COMPOUND	RF50	RF100	RF150	RF200
Ethylbenzene	0.518	0.533	0.528	0.540
m,p-Xylenes	0.629	0.639	0.636	0.652
o-Xylene	0.610	0.620	0.617	0.627
Styrene	1.079	1.089	1.074	1.099
Bromoform	0.269	0.269	0.266	0.274
Isopropylbenzene	1.532	1.591	1.588	1.619
1,1,2,2-Tetrachloroethane	0.829	0.815	0.796	0.830
1,2,3-Trichloropropane	0.714	0.717	0.693	0.704
Methacrylonitrile	0.703	0.716	0.685	0.697
n-Propylbenzene	3.624	3.789	3.723	3.838
Bromobenzene	0.897	0.918	0.905	0.929
1,3,5-Trimethylbenzene	2.596	2.684	2.650	2.705
2-Chlorotoluene	2.086	2.207	2.182	2.226
4-Chlorotoluene	2.497	2.580	2.531	2.591
Propionitrile	0.113	0.115	0.110	0.112
tert-Butylbenzene	2.159	2.233	2.178	2.251
1,2,4-Trimethylbenzene	2.622	2.717	2.693	2.775
sec-Butylbenzene	3.030	3.198	3.149	3.243
p-Isopropyltoluene	2.673	2.786	2.740	2.827
1,3-Dichlorobenzene	1.525	1.556	1.521	1.567
1,4-Dichlorobenzene	1.499	1.543	1.510	1.570
n-Butylbenzene	2.317	2.418	2.353	2.433
1,2-Dichlorobenzene	1.368	1.393	1.349	1.386
1,2-Dibromo-3-Chloropropane	17754	33604	47590	66266
1,2,4-Trichlorobenzene	88482	169420	245681	324332
Hexachlorobutadiene	0.311	0.300	0.290	0.295
Naphthalene	122519	241230	357065	492204
1,2,3-Trichlorobenzene	44729	85762	123021	166163
1-Chlorohexane	0.430	0.448	0.439	0.457
1,4-Dioxane	0.006	0.006	0.006	0.006
n-Hexane	0.879	0.930	0.894	0.910
1,3-Butadiene	0.749	0.798	0.770	0.800
Cyclohexane	1.100	1.169	1.124	1.159
Freon TF	0.401	0.421	0.407	0.416
Methylcyclohexane	1.214	1.305	1.288	1.337
Methyl Acetate	0.542	0.578	0.556	0.573
Tert-Butyl alcohol	0.069	0.070	0.066	0.072
Isopropyl Alcohol	0.050	0.050	0.046	0.049
Acetaldehyde	0.051	0.053	0.050	0.050
Dibromofluoromethane	149393	290125	416931	545685
1,2-Dichloroethane-d4	185105	366265	529642	688377
Toluene-d8	537213	1054666	1518049	1981187
4-Bromofluorobenzene	199673	397823	566125	739220

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: VOA6 Calibration Date(s): 03/19/20 03/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1134 1533

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Dichlorodifluoromethane	LINR	2.02e-002	1.75478050		0.9992209	0.9900000
Chloromethane	LINR	2.067e-002	1.12392448		0.9986574	0.9900000
Vinyl Chloride	AVRG		0.76175324		7.441	15.000
Bromomethane	LINR	-8.81e-003	2.95165258		0.9993001	0.9900000
Chloroethane	LINR	-6.9e-003	2.70393352		0.9996635	0.9900000
Trichlorofluoromethane	AVRG		0.74364832		5.672	15.000
Acrolein	LINR	-2.41e-002	22.1859121		0.9997328	0.9900000
Acetone	LINR	-0.2687695	5.81630961		0.9996145	0.9900000
1,1-Dichloroethene	AVRG		0.42368132		6.348	15.000
Iodomethane	2ORDR	3.523e-002	1.62749488	-1.89e-002	0.9998719	0.9900000
Acrylonitrile	AVRG		0.32259517		7.177	15.000
Methylene Chloride	LINR	-2.83e-002	1.93261442		0.9993556	0.9900000
Methyl tert-butyl ether	AVRG		1.56717212		5.848	15.000
Carbon Disulfide	AVRG		1.39355342		3.681	15.000
trans-1,2-Dichloroethene	AVRG		0.49269559		4.542	15.000
Vinyl Acetate	AVRG		2.02579393		5.028	15.000
1,1-Dichloroethane	AVRG		1.11344182		7.624	15.000
2-Butanone	LINR	-2.45e-002	3.36188880		0.9990000	0.9900000
2,2-Dichloropropane	AVRG		0.77905342		5.897	15.000
cis-1,2-Dichloroethene	AVRG		0.56940459		7.826	15.000
Chloroform	AVRG		0.92454258		4.869	15.000
Bromochloromethane	AVRG		0.29704850		7.656	15.000
1,1,1-Trichloroethane	AVRG		0.77374272		8.939	15.000
1,1-Dichloropropene	AVRG		0.46992210		7.115	15.000
1,2-Dichloroethane	AVRG		0.52824438		4.254	15.000
Carbon Tetrachloride	AVRG		0.47342914		6.236	15.000
Benzene	AVRG		1.32210076		4.304	15.000
Trichloroethene	AVRG		0.34655559		6.956	15.000
Bromodichloromethane	AVRG		0.45988348		3.675	15.000
2-Chloroethylvinyl ether	AVRG		9.038e-002		11.825	15.000
1,2-Dichloropropane	AVRG		0.42513713		4.632	15.000
Dibromomethane	AVRG		0.21956706		7.042	15.000
4-Methyl-2-Pentanone	AVRG		0.51419012		2.203	15.000
cis-1,3-Dichloropropene	AVRG		0.56488187		3.764	15.000
Toluene	AVRG		1.51897347		4.052	15.000
trans-1,3-Dichloropropene	AVRG		0.49935421		8.902	15.000
2-Hexanone	AVRG		0.34279215		6.362	15.000
1,1,2-Trichloroethane	AVRG		0.28806737		4.628	15.000
1,3-Dichloropropane	AVRG		0.59876655		5.045	15.000
Dibromochloromethane	AVRG		0.38752445		5.645	15.000
Tetrachloroethene	AVRG		0.31204981		6.793	15.000
1,2-Dibromoethane	AVRG		0.35846309		3.952	15.000
Chlorobenzene	AVRG		0.98500217		5.892	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.36889975		4.418	15.000

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: VOA6 Calibration Date(s): 03/19/20 03/19/20

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1134 1533

COMPOUND	CURVE	COEFFICENTS A0	A1	A2	%RSD OR R^2	MAX %RSD OR R^2
Ethylbenzene	AVRG		0.52300936		7.101	15.000
m,p-Xylenes	AVRG		0.62733071		8.457	15.000
o-Xylene	AVRG		0.61238275		7.642	15.000
Styrene	AVRG		1.07835092		4.821	15.000
Bromoform	AVRG		0.25994793		5.781	15.000
Isopropylbenzene	AVRG		1.54161974		8.718	15.000
1,1,2,2-Tetrachloroethane	AVRG		0.84810485		4.966	15.000
1,2,3-Trichloropropane	AVRG		0.71448618		3.930	15.000
Methacrylonitrile	AVRG		0.72828621		8.238	15.000
n-Propylbenzene	AVRG		3.57909806		9.151	15.000
Bromobenzene	AVRG		0.89102138		5.740	15.000
1,3,5-Trimethylbenzene	AVRG		2.59468373		8.488	15.000
2-Chlorotoluene	AVRG		2.17573638		5.949	15.000
4-Chlorotoluene	AVRG		2.49438366		8.047	15.000
Propionitrile	AVRG		0.11573707		4.912	15.000
tert-Butylbenzene	AVRG		2.19255253		5.496	15.000
1,2,4-Trimethylbenzene	AVRG		2.59781634		7.086	15.000
sec-Butylbenzene	AVRG		3.03410476		6.935	15.000
p-Isopropyltoluene	AVRG		2.61936194		8.070	15.000
1,3-Dichlorobenzene	AVRG		1.48919654		6.689	15.000
1,4-Dichlorobenzene	AVRG		1.53987367		3.345	15.000
n-Butylbenzene	AVRG		2.25919546		6.474	15.000
1,2-Dichlorobenzene	AVRG		1.34223435		5.008	15.000
1,2-Dibromo-3-Chloropropane	LINR	2.099e-002	11.7793755		0.9979048	0.9900000
1,2,4-Trichlorobenzene	LINR	1.269e-002	2.36816541		0.9997537	0.9900000
Hexachlorobutadiene	AVRG		0.31220416		13.618	15.000
Naphthalene	LINR	3.898e-002	1.58223000		0.9978307	0.9900000
1,2,3-Trichlorobenzene	LINR	1.976e-002	4.65121772		0.9991338	0.9900000
1-Chlorohexane	AVRG		0.43579178		9.014	15.000
1,4-Dioxane	AVRG		5.763e-003		13.780	15.000
n-Hexane	AVRG		0.84644636		9.878	15.000
1,3-Butadiene	AVRG		0.73409951		8.818	15.000
Cyclohexane	AVRG		1.07365839		11.050	15.000
Freon TF	AVRG		0.38431026		12.636	15.000
Methylcyclohexane	AVRG		1.26470400		3.369	15.000
Methyl Acetate	AVRG		0.54324621		7.796	15.000
Tert-Butyl alcohol	AVRG		7.001e-002		8.024	15.000
Isopropyl Alcohol	AVRG		4.933e-002		9.266	15.000
Acetaldehyde	AVRG		5.163e-002		7.788	15.000
Dibromofluoromethane	LINR	-2.15e-003	2.01723959		0.9996206	0.9900000
1,2-Dichloroethane-d4	LINR	-3.16e-003	1.59695811		0.9996477	0.9900000
Toluene-d8	LINR	-1.51e-003	0.78192287		0.9999532	0.9900000
4-Bromofluorobenzene	LINR	-9.86e-003	2.09903025		0.9999140	0.9900000

FORM VI VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031901.D

Date : 19-MAR-2020 11:10

Client ID: BFB

Instrument: voa6.i

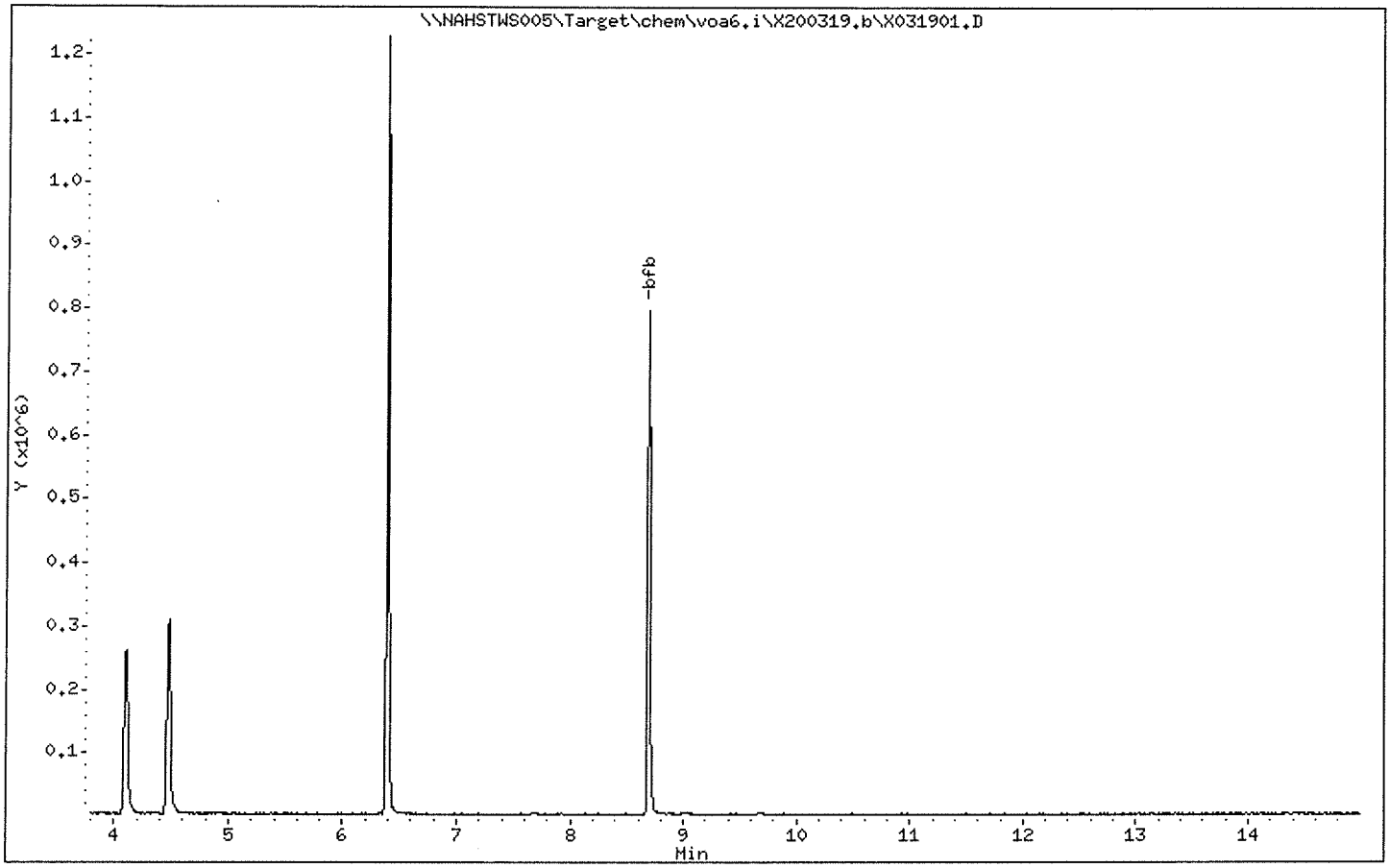
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031901.D

Date : 19-MAR-2020 11:10

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

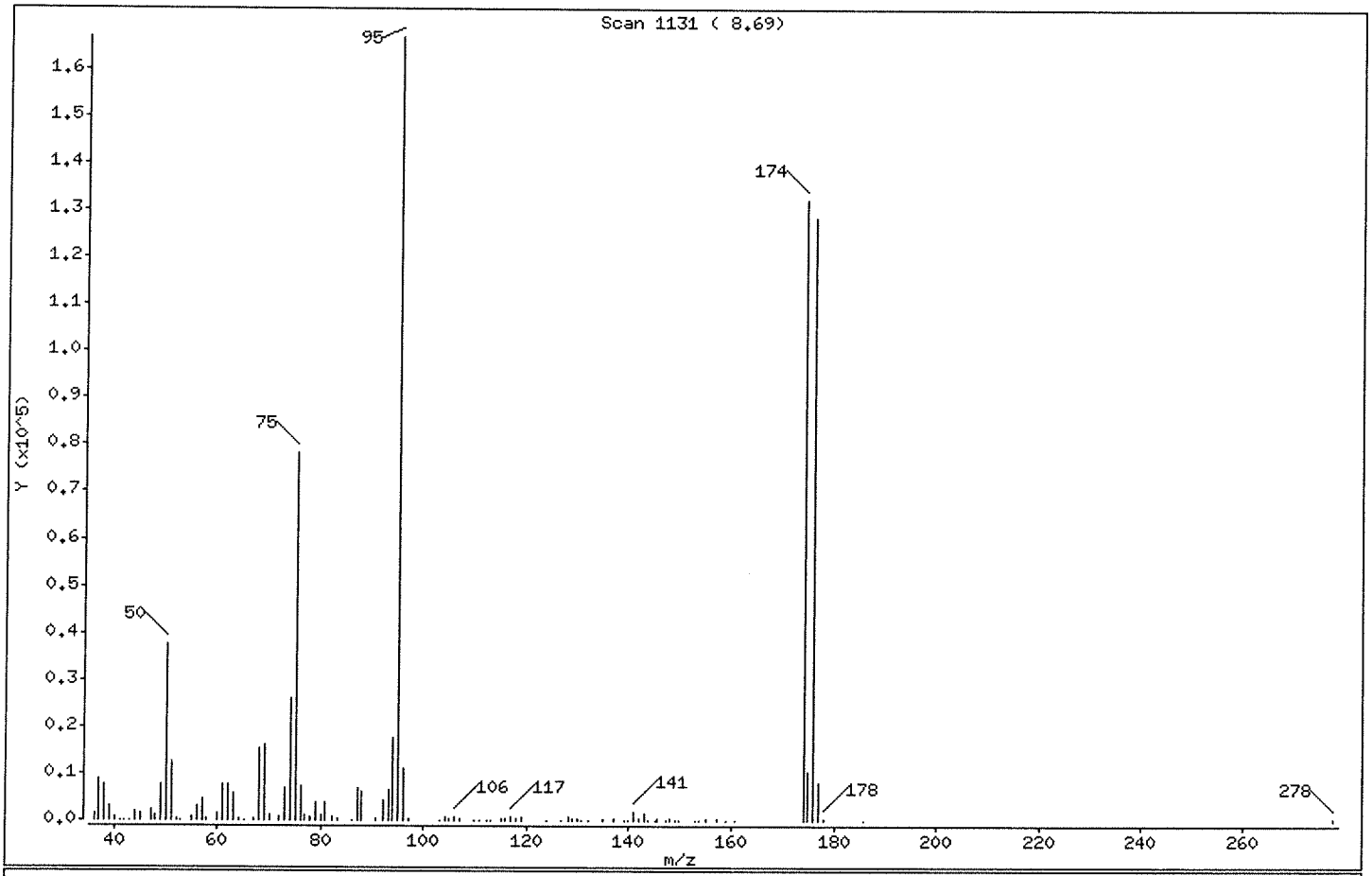
Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	22.44
75	30.00 - 60.00% of mass 95	46.84
96	5.00 - 9.00% of mass 95	6.71
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	79.36
175	5.00 - 9.00% of mass 174	6.21 (7.83)
176	95.00 - 101.00% of mass 174	77.12 (97.18)
177	5.00 - 9.00% of mass 176	4.84 (6.28)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031901.D

Date : 19-MAR-2020 11:10

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: X031901.D
Spectrum: Scan 1131 (8.69)
Location of Maximum: 95.00
Number of points: 101

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	1360	65.00	163	97.10	263	140.90	1836
37.00	8769	67.10	353	103.20	89	142.00	192
38.00	7670	68.00	15485	104.00	727	142.90	1435
39.10	2999	69.00	16031	104.80	202	143.90	95
40.00	952	70.00	1269	105.80	737	145.10	117
41.20	93	72.00	762	106.90	217	145.60	258
41.90	78	73.00	6729	109.90	88	147.10	75
43.00	168	74.00	26176	110.90	73	148.00	387
44.00	1824	75.00	78128	112.20	62	149.10	83
45.00	1552	76.10	7370	112.80	75	149.80	76
47.00	2478	77.00	1071	115.00	259	153.00	135
47.90	1254	78.00	826	115.90	438	153.80	67
49.00	7676	79.00	3833	117.00	918	155.10	401
50.00	37424	80.00	1180	117.90	502	157.10	297
51.00	12563	80.90	3942	118.90	858	158.90	162
52.00	570	82.00	745	123.90	50	160.80	187
52.90	73	83.10	195	126.90	85	174.00	132352
55.00	621	85.90	140	128.00	809	175.00	10363
56.10	2880	87.00	6928	129.00	384	176.00	128616
57.00	4661	87.90	6204	130.00	465	177.00	8074
57.90	288	90.70	380	130.70	179	178.00	201
60.00	1638	92.00	4234	132.10	55	186.00	57
61.00	7723	93.00	6369	134.80	234	277.90	192
62.00	7841	94.00	17568	136.90	228		
63.00	5744	95.00	166784	139.00	69		
64.00	482	96.10	11193	139.90	141		

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031902.D
Lab Smp Id: VSTD000.25 Client Smp ID: VSTD000.25
Inj Date : 19-MAR-2020 11:34
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\X200319.b\8260W.m
Meth Date : 28-Apr-2020 12:13 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 15:33 Cal File: X031911.D
Als bottle: 2 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

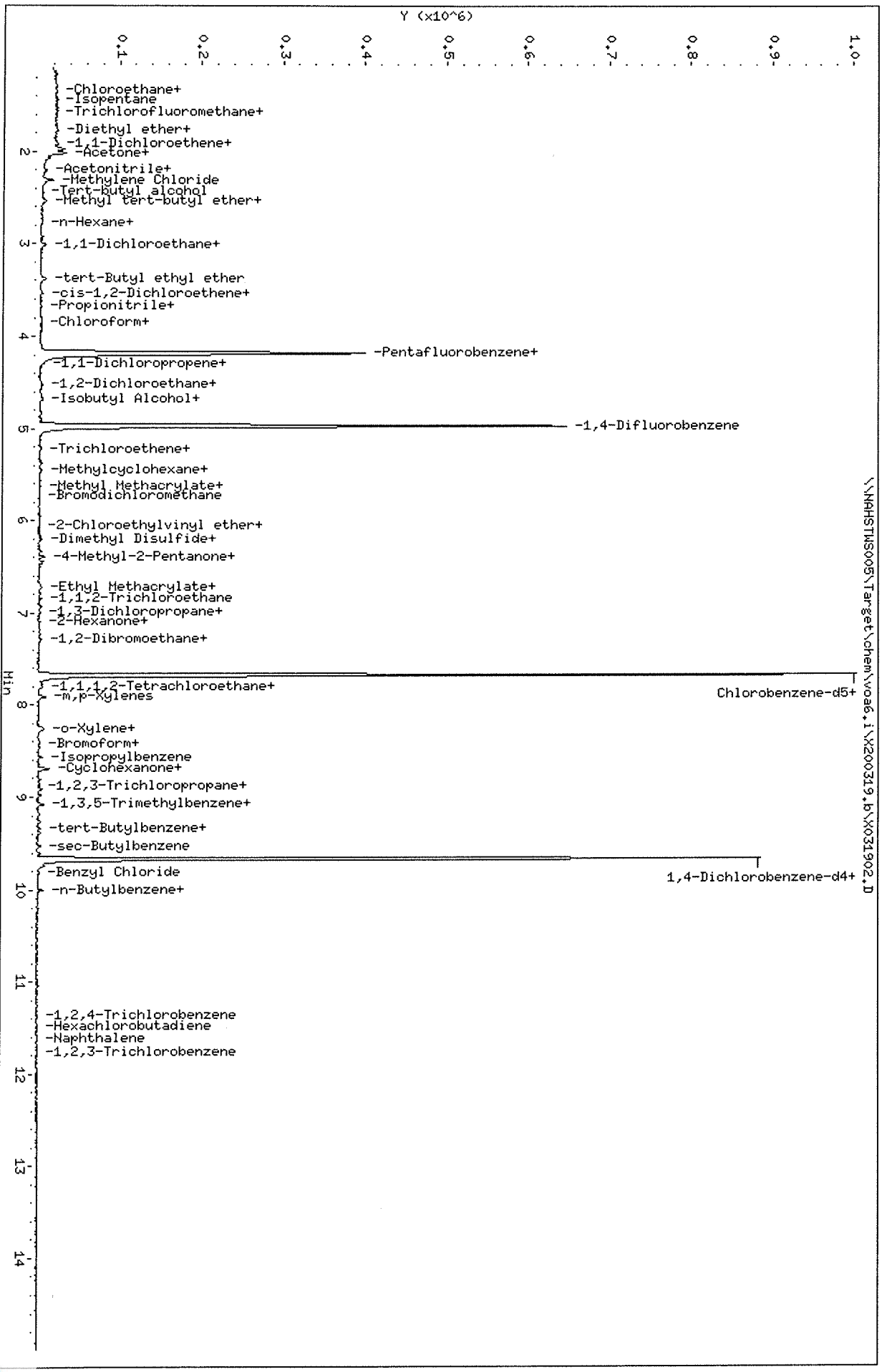
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	334865	50.0000	
	2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	636	0.25000	1.17(aM)
	3 Chloromethane	50	1.073	1.073	(0.257)	1346	0.25000	1.25(aM)
	15 Iodomethane	142	2.026	2.026	(0.485)	1140	0.50000	2.03(a)
$	30 Dibromofluoromethane	113	4.111	4.111	(0.983)	908	0.25000	0.16(a)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	1143	0.25000	0.11(Ta)
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	508670	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	452074	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	4217	0.25000	0.28(Ta)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	4979	0.25000	0.66(aM)
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	214709	50.0000	
	90 1,2,4-Trichlorobenzene	180	11.360	11.360	(1.175)	135	0.25000	0.70(aM)
	92 Naphthalene	128	11.582	11.582	(1.198)	478	0.25000	2.12(aM)
	93 1,2,3-Trichlorobenzene	180	11.761	11.761	(1.216)	117	0.25000	1.11(aM)
M	94 1,2-Dichloroethylene (total)	96				1296	0.50000	(a)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031902.D
Date : 19-MAR-2020 11:34
Client ID: VSTD000.25
Sample Info: VSTD000.25;VSTD000.25;1;1;;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031903.D
Lab Smp Id: VSTD000.5 Client Smp ID: VSTD000.5
Inj Date : 19-MAR-2020 11:58
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\X200319.b\8260W.m
Meth Date : 28-Apr-2020 12:14 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 11:34 Cal File: X031902.D
Als bottle: 3 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

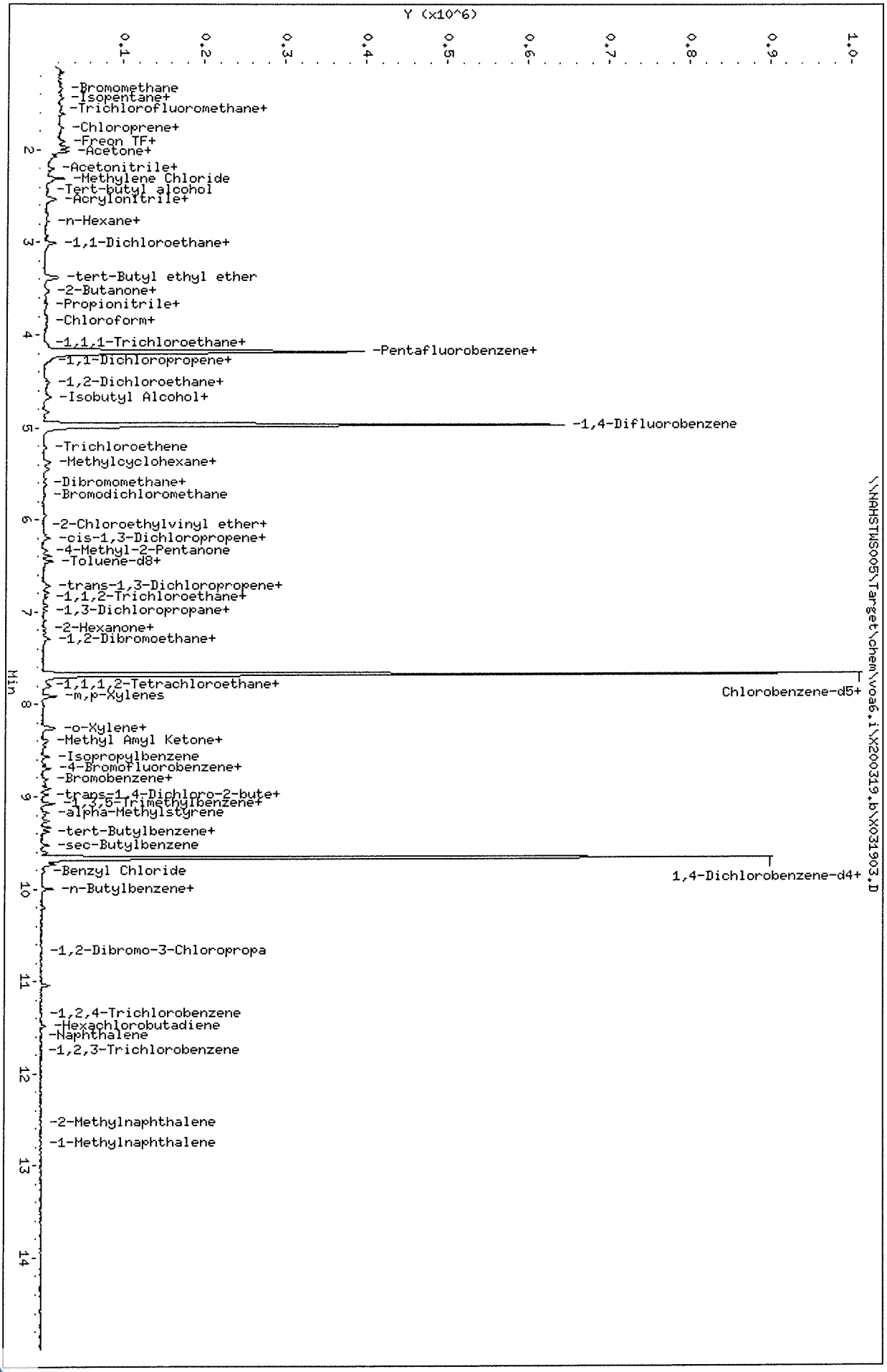
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	332459	50.0000	
	25 Methacrylonitrile	41	3.860	3.860	(0.923)	2581	0.50000	0.53(aM)
	4 Propionitrile	54	3.666	3.666	(0.877)	4293	5.00000	5.57(a)
	2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	1124	0.50000	1.30(aM)
	3 Chloromethane	50	1.073	1.073	(0.257)	2775	0.50000	1.50(a)
	5 Vinyl Chloride	62	1.138	1.138	(0.272)	2946	0.50000	0.58(aM)
	11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	1608	0.50000	0.57(aM)
	15 Iodomethane	142	2.033	2.033	(0.486)	2102	1.00000	2.27(a)
	19 Carbon Disulfide	76	2.069	2.069	(0.495)	8859	1.00000	0.95(a)
	20 trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	1616	0.50000	0.49(a)
	22 1,1-Dichloroethane	63	2.929	2.929	(0.700)	3139	0.50000	0.42(Ta)
	29 Bromochloromethane	128	3.803	3.803	(0.909)	1055	0.50000	0.53(aM)
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	1595	0.50000	0.37(a)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	2706	0.50000	0.57(a)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	2909	0.50000	0.54(TaM)
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	503603	50.0000	
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	451366	50.0000	
$	48 Toluene-d8	98	6.396	6.396	(0.834)	6812	0.50000	0.51(a)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	1337	0.50000	0.51(a)
	54 1,3-Dichloropropane	76	6.990	6.990	(0.911)	2529	0.50000	0.46(a)
	57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	1548	0.50000	0.47(a)
	59 Chlorobenzene	112	7.699	7.699	(1.004)	3920	0.50000	0.44(a)

		Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	60	1,1,1,2-Tetrachloroethane	131	7.785	7.785	(1.015)	1560	0.50000	0.46 (a)
	62	m,p-Xylenes	106	7.907	7.907	(1.031)	4461	1.00000	0.78 (a)
	68	1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	1998	0.50000	0.53 (aM)
$	69	4-Bromofluorobenzene	95	8.695	8.695	(1.134)	3499	0.50000	0.32 (a)
*	70	1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	220941	50.0000	
	89	1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.103)	86	0.50000	1.27 (aM)
	90	1,2,4-Trichlorobenzene	180	11.352	11.352	(1.174)	612	0.50000	0.96 (aM)
	92	Naphthalene	128	11.582	11.582	(1.198)	833	0.50000	2.24 (a)
	93	1,2,3-Trichlorobenzene	180	11.754	11.754	(1.216)	177	0.50000	1.17 (aM)
M	94	1,2-Dichloroethylene (total)	96				3219	1.00000	(a)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031903.D
Date : 19-MAR-2020 11:58
Client ID: VSTD000.5
Sample Info: VSTD000.5;VSTD000.5;1;2;;
Purge Volume: 5.0
Column phase: DB624

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

\\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031903.D

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031904.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 19-MAR-2020 12:46
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\X200319.b\8260W.m
Meth Date : 28-Apr-2020 12:14 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 11:58 Cal File: X031903.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1	Pentafluorobenzene	168	4.182	4.182	(1.000)	323740	50.0000	
140	1,3-Butadiene	54	1.159	1.159	(0.277)	4662	1.00000	0.98(a)
25	Methacrylonitrile	41	3.838	3.838	(0.918)	5554	1.00000	1.17(a)
136	n-Hexane	57	2.771	2.771	(0.663)	4944	1.00000	0.90(a)
4	Propionitrile	54	3.666	3.666	(0.877)	7593	10.0000	10.13(a)
2	Dichlorodifluoromethane	85	0.966	0.966	(0.231)	2862	1.00000	1.78(a)
3	Chloromethane	50	1.073	1.073	(0.257)	5203	1.00000	1.93(a)
5	Vinyl Chloride	62	1.138	1.138	(0.272)	5267	1.00000	1.06(a)
6	Bromomethane	94	1.338	1.338	(0.320)	2753	1.00000	0.81(a)
7	Chloroethane	64	1.403	1.403	(0.336)	2888	1.00000	0.86(a)
8	Trichlorofluoromethane	101	1.561	1.561	(0.373)	4524	1.00000	0.93(a)
11	1,1-Dichloroethene	96	1.919	1.919	(0.459)	2593	1.00000	0.94(a)
15	Iodomethane	142	2.026	2.026	(0.485)	4535	2.00000	2.90(a)
18	Methyl tert-butyl ether	73	2.535	2.535	(0.606)	10428	1.00000	1.02(a)
19	Carbon Disulfide	76	2.069	2.069	(0.495)	17917	2.00000	1.98(a)
20	trans-1,2-Dichloroethene	96	2.535	2.535	(0.606)	3196	1.00000	1.00(a)
22	1,1-Dichloroethane	63	2.921	2.921	(0.699)	7117	1.00000	0.98(a)
24	2-Butanone	43	3.588	3.588	(0.858)	5607	2.00000	1.68(a)
26	2,2-Dichloropropane	77	3.516	3.516	(0.841)	4808	1.00000	0.95(a)
27	cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	3714	1.00000	1.00(a)
28	Chloroform	83	3.910	3.910	(0.935)	6415	1.00000	1.07(a)
29	Bromochloromethane	128	3.795	3.795	(0.908)	1964	1.00000	1.02(a)

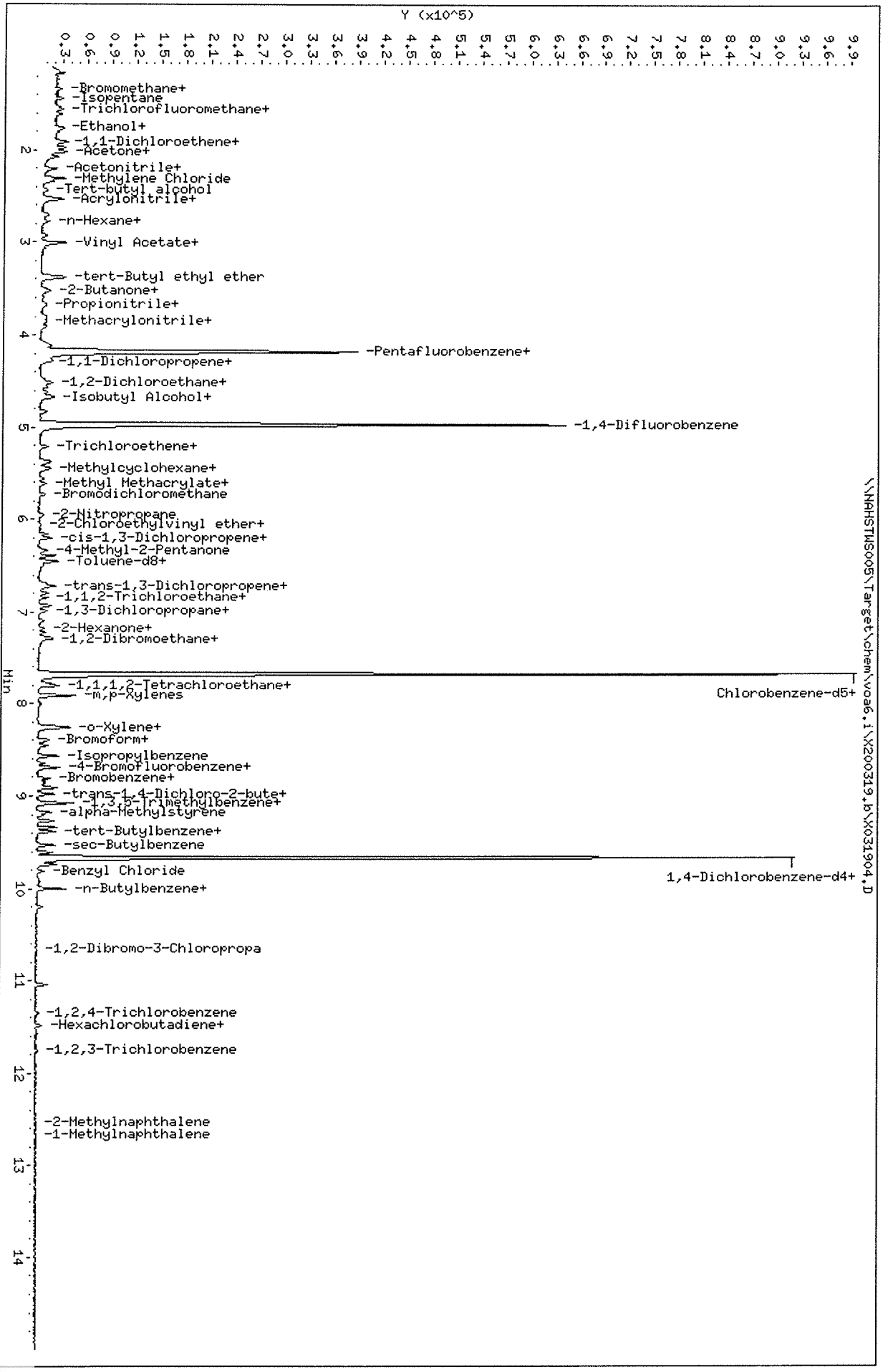
Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031904.D Page 2
Report Date: 28-Apr-2020 12:14

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	3028	1.00000	0.83(a)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	5150	1.00000	1.02(a)
	32 1,1-Dichloropropene	75	4.290	4.290	(0.863)	4910	1.00000	1.05(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	5041	1.00000	0.96(a)
	34 Carbon Tetrachloride	117	4.261	4.261	(0.857)	5251	1.00000	1.12(aH)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	4838	1.00000	1.03(a)
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	494081	50.0000	
	37 Benzene	78	4.519	4.519	(0.909)	13571	1.00000	1.03(a)
	38 Trichloroethene	130	5.206	5.206	(1.048)	3378	1.00000	0.98(a)
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	4602	1.00000	1.01(aM)
	42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	4169	1.00000	0.99(aM)
	44 Dibromomethane	93	5.557	5.557	(1.118)	2295	1.00000	1.05(a)
	45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	9292	2.00000	2.04(a)
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	5516	1.00000	0.98(a)
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	442403	50.0000	
$	48 Toluene-d8	98	6.396	6.396	(0.834)	12359	1.00000	1.01(a)
	50 Toluene	91	6.453	6.453	(0.841)	13358	1.00000	0.99(a)
	51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	4970	1.00000	1.00(a)
	52 2-Hexanone	43	7.098	7.098	(0.925)	5707	2.00000	1.88(a)
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	2724	1.00000	1.06(a)
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	5604	1.00000	1.05(a)
	55 Dibromochloromethane	129	7.183	7.183	(0.937)	3622	1.00000	1.05(a)
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	2931	1.00000	1.06(a)
	57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	3171	1.00000	0.99(a)
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	4879	1.00000	1.13(aM)
	59 Chlorobenzene	112	7.699	7.699	(1.004)	9133	1.00000	1.04(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	3248	1.00000	0.99(a)
	61 Ethylbenzene	106	7.807	7.807	(1.018)	4935	1.00000	1.06(a)
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	11547	2.00000	2.08(a)
	63 o-Xylene	106	8.251	8.251	(1.076)	5420	1.00000	1.00(a)
	64 Styrene	104	8.265	8.265	(1.078)	9134	1.00000	0.95(a)
	66 Bromoform	173	8.416	8.416	(1.097)	2301	1.00000	1.00(Ta)
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	13956	1.00000	1.02(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	3833	1.00000	1.03(aM)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	8202	1.00000	1.45(a)
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	218790	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	3060	1.00000	0.97(aM)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	15046	1.00000	0.96(a)
	74 Bromobenzene	156	8.817	8.817	(0.912)	3908	1.00000	1.00(a)
	75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	11803	1.00000	1.03(a)
	76 2-Chlorotoluene	91	8.981	8.981	(0.929)	9892	1.00000	1.03(a)
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	10881	1.00000	0.99(a)
	78 tert-Butylbenzene	119	9.340	9.340	(0.966)	9908	1.00000	1.03(a)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	11115	1.00000	0.97(a)
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	13392	1.00000	1.00(a)
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	11067	1.00000	0.96(a)
	83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	6424	1.00000	0.98(a)
	84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	7124	1.00000	1.05(a)
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	5770	1.00000	0.98(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	273	1.00000	1.78(aM)
	90 1,2,4-Trichlorobenzene	180	11.352	11.352	(1.174)	1407	1.00000	1.39(aM)
	92 Naphthalene	128	11.560	11.560	(1.196)	2100	1.00000	2.70(a)
	93 1,2,3-Trichlorobenzene	180	11.754	11.754	(1.216)	922	1.00000	1.96(aM)
M	94 1,2-Dichloroethylene (total)	96				6910	2.00000	(a)

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
141 Cyclohexane	56	4.132	4.132	(0.988)	6463	1.00000	0.92(aH)
138 Freon TF	101	1.911	1.911	(0.457)	2180	1.00000	0.87(a)
146 Methyl Acetate	43	2.234	2.234	(0.534)	3384	1.00000	0.96(a)
148 Tert-Butyl alcohol	59	2.434	2.434	(0.582)	8684	20.0000	19.15(a)
149 Isopropyl Alcohol	45	2.098	2.098	(0.502)	7200	20.0000	22.54(T)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031904.D
Date : 19-MAR-2020 12:46
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;3;;
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031905.D Page 1
Report Date: 28-Apr-2020 12:15

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031905.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 19-MAR-2020 13:10
Operator : PC Inst ID: voa6.i
Smp Info : VSTD002;VSTD002;1;4;;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 28-Apr-2020 12:15 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 12:46 Cal File: X031904.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	317561	50.0000	
140 1,3-Butadiene	54	1.159	1.159	(0.277)	8755	2.00000	1.87(a)
25 Methacrylonitrile	41	3.831	3.831	(0.916)	8267	2.00000	1.78(a)
136 n-Hexane	57	2.771	2.771	(0.663)	9516	2.00000	1.77(a)
4 Propionitrile	54	3.659	3.659	(0.875)	14729	20.0000	20.03(a)
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	6239	2.00000	2.73(a)
3 Chloromethane	50	1.073	1.073	(0.257)	10714	2.00000	2.92(a)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	9040	2.00000	1.86(a)
6 Bromomethane	94	1.338	1.338	(0.320)	5011	2.00000	1.88(aM)
7 Chloroethane	64	1.403	1.403	(0.336)	5355	2.00000	1.93(a)
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	9104	2.00000	1.92(a)
10 Acetone	43	1.969	1.969	(0.471)	18578	4.00000	3.57(a)
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	5662	2.00000	2.10(a)
15 Iodomethane	142	2.026	2.026	(0.485)	9766	4.00000	4.26(a)
17 Methylene Chloride	84	2.305	2.305	(0.551)	9972	2.00000	1.61(aM)
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	20471	2.00000	2.05(a)
19 Carbon Disulfide	76	2.069	2.069	(0.495)	33565	4.00000	3.79(a)
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	6086	2.00000	1.94(a)
21 Vinyl Acetate	43	3.000	3.000	(0.717)	50506	4.00000	3.92(a)
22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	13451	2.00000	1.90(a)
24 2-Butanone	43	3.588	3.588	(0.858)	8438	4.00000	3.23(a)
26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	9606	2.00000	1.94(a)

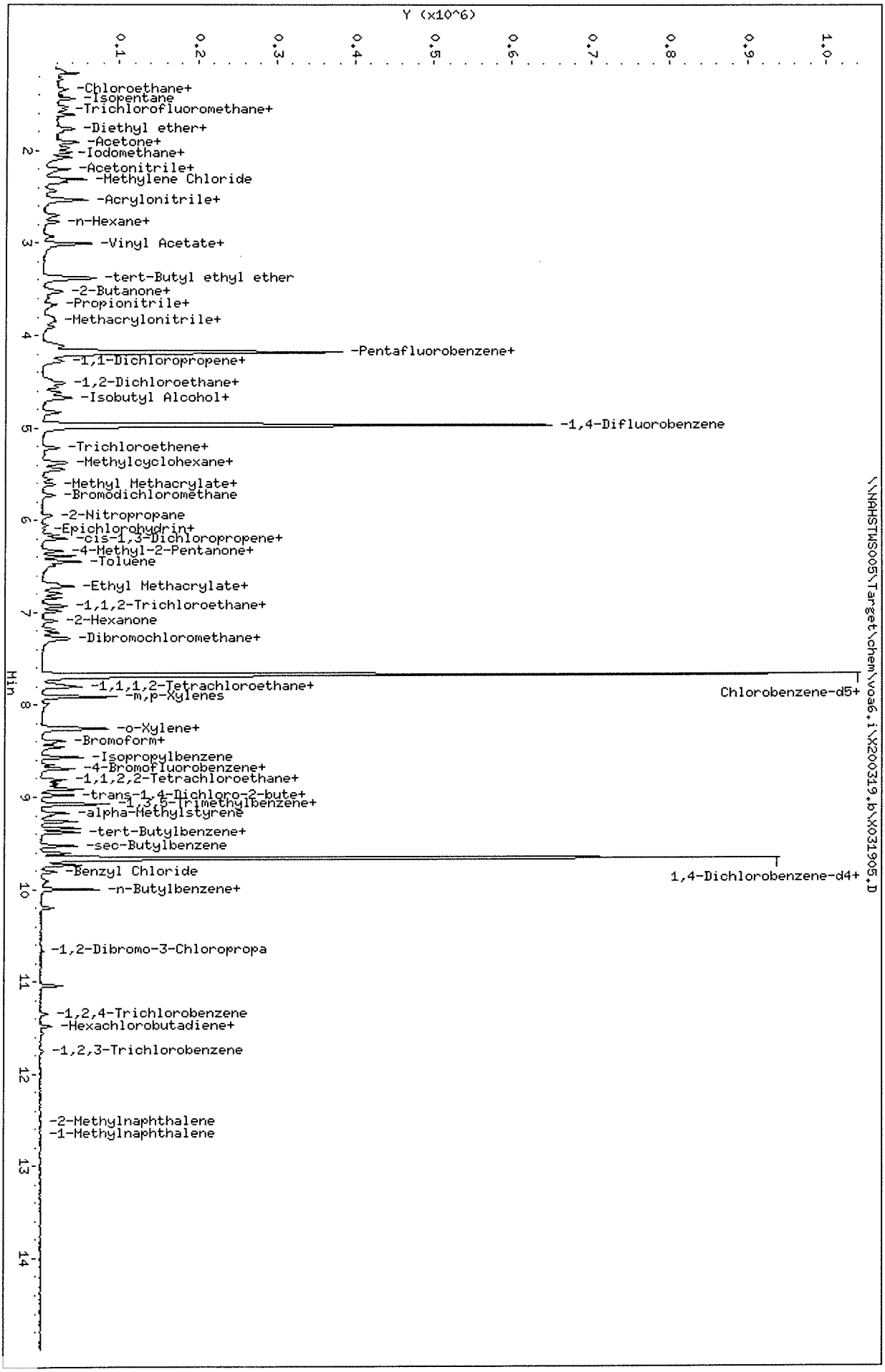
Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031905.D Page 2
Report Date: 28-Apr-2020 12:15

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	7730	2.00000	2.13(a)
	28 Chloroform	83	3.910	3.910	(0.935)	11966	2.00000	2.03(a)
	29 Bromochloromethane	128	3.802	3.802	(0.909)	4034	2.00000	2.13(a)
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	5989	2.00000	1.79(a)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	9968	2.00000	2.02(a)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	8839	2.00000	1.88(a)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	10240	2.00000	1.94(a)
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	9340	2.00000	1.97(aH)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	8567	2.00000	1.99(aM)
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	498211	50.0000	
	37 Benzene	78	4.519	4.519	(0.909)	25104	2.00000	1.90(a)
	38 Trichloroethene	130	5.214	5.214	(1.049)	6853	2.00000	1.98(a)
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	8809	2.00000	1.92(a)
	42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	8451	2.00000	1.99(aM)
	44 Dibromomethane	93	5.557	5.557	(1.118)	4334	2.00000	1.98(a)
	45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	18212	4.00000	3.94(a)
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	10443	2.00000	1.85(a)
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	449226	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	23746	2.00000	1.99(a)
	50 Toluene	91	6.453	6.453	(0.841)	26759	2.00000	1.96(a)
	51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	8886	2.00000	1.78(a)
	52 2-Hexanone	43	7.090	7.090	(0.924)	13171	4.00000	4.27(a)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	5273	2.00000	2.03(a)
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	11093	2.00000	2.06(a)
	55 Dibromochloromethane	129	7.183	7.183	(0.937)	6952	2.00000	1.99(a)
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	5327	2.00000	1.90(a)
	57 1,2-Dibromoethane	107	7.269	7.269	(0.948)	6401	2.00000	1.98(a)
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	8528	2.00000	1.96(aM)
	59 Chlorobenzene	112	7.699	7.699	(1.004)	17919	2.00000	2.02(a)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	6440	2.00000	1.94(a)
	61 Ethylbenzene	106	7.799	7.799	(1.017)	8888	2.00000	1.89(a)
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	22262	4.00000	3.94(a)
	63 o-Xylene	106	8.244	8.244	(1.075)	10646	2.00000	1.93(a)
	64 Styrene	104	8.265	8.265	(1.078)	19413	2.00000	2.00(a)
	66 Bromoform	173	8.415	8.415	(1.097)	4643	2.00000	1.98(Ta)
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	27545	2.00000	1.98(a)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	8148	2.00000	2.16(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	12385	2.00000	2.40(a)
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	221564	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	6933	2.00000	2.18(aM)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	31409	2.00000	1.98(a)
	74 Bromobenzene	156	8.809	8.809	(0.911)	7556	2.00000	1.91(a)
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	22835	2.00000	1.98(a)
	76 2-Chlorotoluene	91	8.974	8.974	(0.928)	19917	2.00000	2.06(a)
	77 4-Chlorotoluene	91	9.074	9.074	(0.939)	23098	2.00000	2.08(a)
	78 tert-Butylbenzene	119	9.339	9.339	(0.966)	19225	2.00000	1.97(a)
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	22332	2.00000	1.93(a)
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	25606	2.00000	1.90(a)
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	21500	2.00000	1.85(a)
	83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	12971	2.00000	1.96(a)
	84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	13625	2.00000	1.99(a)
	87 n-Butylbenzene	91	9.998	9.998	(1.034)	19136	2.00000	1.91(a)
	88 1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	11951	2.00000	2.00(a)
	89 1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	777	2.00000	3.11(a)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
90	1,2,4-Trichlorobenzene	180	11.345	11.345	(1.173)	2892	2.00000	2.18(a)
92	Naphthalene	128	11.553	11.553	(1.195)	4891	2.00000	3.69(a)
93	1,2,3-Trichlorobenzene	180	11.753	11.753	(1.216)	1673	2.00000	2.74(a)
M 94	1,2-Dichloroethylene (total)	96				13816	4.00000	(a)
135	1,4-Dioxane	88	5.600	5.600	(1.339)	1656	40.0000	45.23(a)
141	Cyclohexane	56	4.125	4.125	(0.986)	13004	2.00000	1.90(aH)
138	Freon TF	101	1.919	1.919	(0.459)	4999	2.00000	2.04(a)
147	Methylcyclohexane	55	5.393	5.393	(1.085)	25595	2.00000	2.03(a)
146	Methyl Acetate	43	2.234	2.234	(0.534)	6616	2.00000	1.91(a)
148	Tert-Butyl alcohol	59	2.434	2.434	(0.582)	21043	40.0000	47.32(a)
149	Isopropyl Alcohol	45	2.098	2.098	(0.502)	14226	40.0000	45.40(T)

QC Flag Legend

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



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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\X200319.b\X031906.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 19-MAR-2020 13:34
Operator : PC Inst ID: voa6.i
Smp Info : VSTD005;VSTD005;1;5;;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 28-Apr-2020 12:16 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 13:10 Cal File: X031905.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

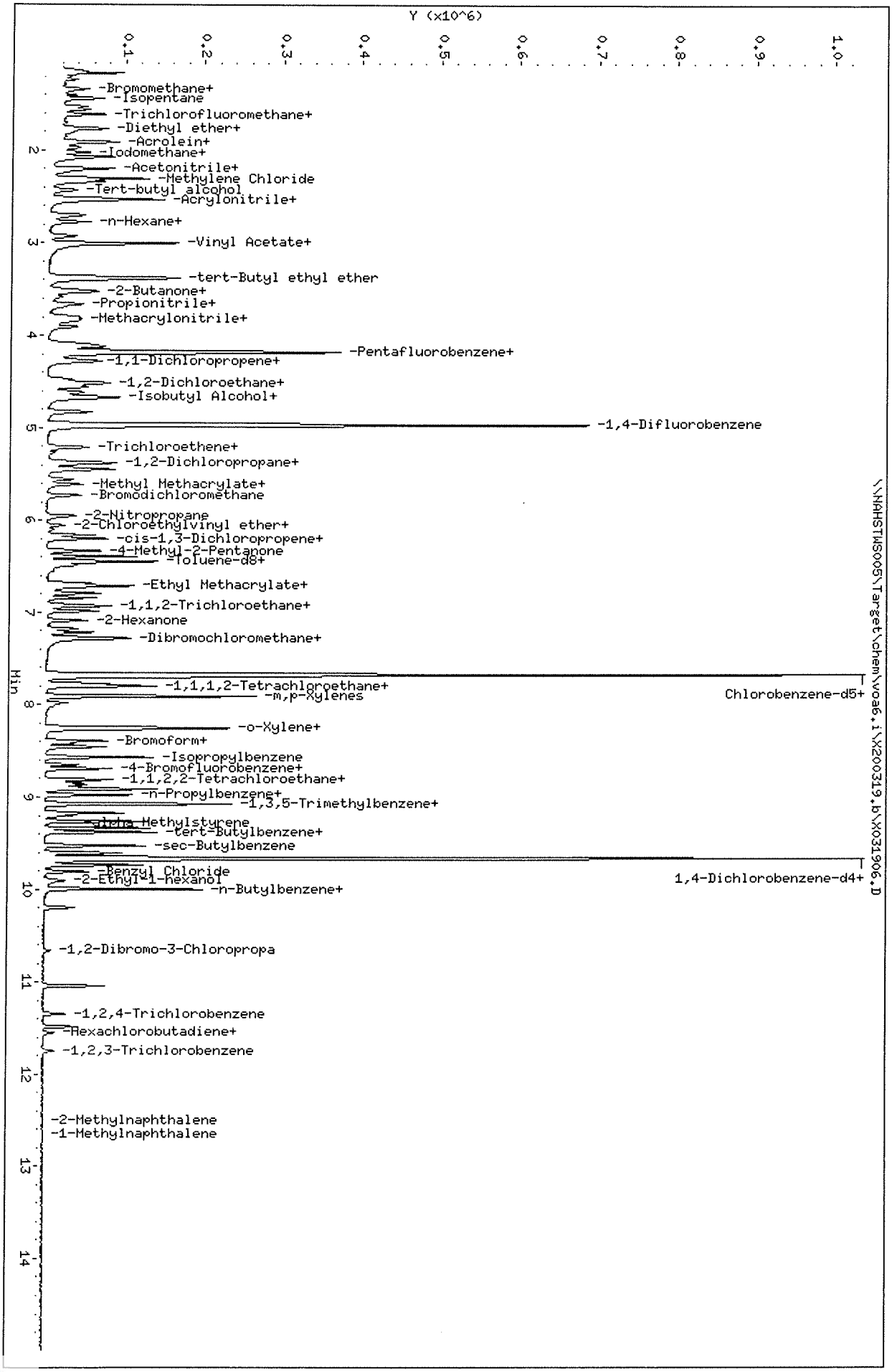
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	309553	50.0000	
194 Acetaldehyde	44	1.210	1.210	(0.289)	6091	20.0000	19.05(M)
140 1,3-Butadiene	54	1.159	1.159	(0.277)	22721	5.00000	4.99(a)
25 Methacrylonitrile	41	3.824	3.824	(0.914)	22847	5.00000	5.06
136 n-Hexane	57	2.771	2.771	(0.663)	25748	5.00000	4.91(a)
4 Propionitrile	54	3.659	3.659	(0.875)	34711	50.0000	48.44(a)
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	15743	5.00000	5.47
3 Chloromethane	50	1.073	1.073	(0.257)	28777	5.00000	6.25
5 Vinyl Chloride	62	1.138	1.138	(0.272)	22527	5.00000	4.77(a)
6 Bromomethane	94	1.339	1.339	(0.320)	12906	5.00000	5.71
7 Chloroethane	64	1.403	1.403	(0.336)	14009	5.00000	5.77
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	23105	5.00000	5.01
9 Acrolein	56	1.854	1.854	(0.443)	2842	10.0000	8.98(a)
10 Acetone	43	1.976	1.976	(0.473)	24801	10.0000	9.86
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	13314	5.00000	5.07
15 Iodomethane	142	2.026	2.026	(0.485)	30659	10.0000	9.81
16 Acrylonitrile	53	2.535	2.535	(0.606)	19060	10.0000	9.54(a)
17 Methylene Chloride	84	2.306	2.306	(0.551)	22460	5.00000	5.59(M)
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	48716	5.00000	5.02
19 Carbon Disulfide	76	2.069	2.069	(0.495)	91050	10.0000	10.55
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	16813	5.00000	5.51
21 Vinyl Acetate	43	3.000	3.000	(0.717)	136400	10.0000	10.87

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	38686	5.00000	5.61
	24 2-Butanone	43	3.581	3.581	(0.856)	20120	10.0000	9.69
	26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	27375	5.00000	5.67
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	19888	5.00000	5.64
	28 Chloroform	83	3.910	3.910	(0.935)	30895	5.00000	5.39
	29 Bromochloromethane	128	3.795	3.795	(0.908)	10154	5.00000	5.52
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	17420	5.00000	5.56
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	25795	5.00000	5.38
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	23991	5.00000	5.24
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	26678	5.00000	5.18
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	23818	5.00000	5.16(H)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	20720	5.00000	5.18
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	486956	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	69240	5.00000	5.37
	38 Trichloroethene	130	5.214	5.214	(1.049)	17942	5.00000	5.31
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	23944	5.00000	5.34
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	9587	10.0000	10.89(a)
	42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	22971	5.00000	5.54
	44 Dibromomethane	93	5.558	5.558	(1.118)	11296	5.00000	5.28
	45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	46353	10.0000	10.20
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	28393	5.00000	5.16
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	441541	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	62955	5.00000	5.49
	50 Toluene	91	6.446	6.446	(0.840)	73883	5.00000	5.50
	51 trans-1,3-Dichloropropene	75	6.689	6.689	(1.346)	26321	5.00000	5.41
	52 2-Hexanone	43	7.090	7.090	(0.924)	30833	10.0000	10.18
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	13550	5.00000	5.32
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	28928	5.00000	5.47
	55 Dibromochloromethane	129	7.184	7.184	(0.937)	18358	5.00000	5.36
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	14927	5.00000	5.41
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	17381	5.00000	5.49
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	21395	5.00000	5.04(M)
	59 Chlorobenzene	112	7.699	7.699	(1.004)	47883	5.00000	5.50
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	17875	5.00000	5.48
	61 Ethylbenzene	106	7.800	7.800	(1.017)	24916	5.00000	5.39
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	60314	10.0000	10.88
	63 o-Xylene	106	8.244	8.244	(1.075)	30786	5.00000	5.69
	64 Styrene	104	8.265	8.265	(1.078)	52135	5.00000	5.47
	66 Bromoform	173	8.416	8.416	(1.097)	11689	5.00000	5.09
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	73820	5.00000	5.42
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	18964	5.00000	4.95(a)
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	22920	5.00000	4.95(a)
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	225770	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	16436	5.00000	5.09(M)
	73 n-Propylbenzene	91	8.917	8.917	(0.923)	85813	5.00000	5.30
	74 Bromobenzene	156	8.810	8.810	(0.912)	21284	5.00000	5.29
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	62900	5.00000	5.36
	76 2-Chlorotoluene	91	8.974	8.974	(0.929)	52378	5.00000	5.33
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	60315	5.00000	5.35
	78 tert-Butylbenzene	119	9.340	9.340	(0.967)	53004	5.00000	5.35
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	60146	5.00000	5.12
	81 sec-Butylbenzene	105	9.526	9.526	(0.986)	69349	5.00000	5.06
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	60928	5.00000	5.15
	83 1,3-Dichlorobenzene	146	9.612	9.612	(0.995)	34867	5.00000	5.18

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	84 1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	35893	5.00000	5.16
	87 n-Butylbenzene	91	9.999	9.999	(1.035)	50672	5.00000	4.96(a)
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	31049	5.00000	5.12
	89 1,2-Dibromo-3-Chloropropane	155	10.665	10.665	(1.104)	1809	5.00000	5.76
	90 1,2,4-Trichlorobenzene	180	11.345	11.345	(1.174)	8554	5.00000	5.12
	92 Naphthalene	128	11.546	11.546	(1.195)	11877	5.00000	6.11
	93 1,2,3-Trichlorobenzene	180	11.754	11.754	(1.216)	4327	5.00000	5.44
M	94 1,2-Dichloroethylene (total)	96				36701	10.0000	(a)
	135 1,4-Dioxane	88	5.601	5.601	(1.339)	3782	100.000	105.99
	141 Cyclohexane	56	4.125	4.125	(0.986)	34240	5.00000	5.15(M)
	138 Freon TF	101	1.912	1.912	(0.457)	12708	5.00000	5.34
	147 Methylcyclohexane	55	5.386	5.386	(1.084)	61662	5.00000	5.00
	146 Methyl Acetate	43	2.234	2.234	(0.534)	18269	5.00000	5.43
	148 Tert-Butyl alcohol	59	2.427	2.427	(0.580)	43691	100.000	100.79
	149 Isopropyl Alcohol	45	2.098	2.098	(0.502)	30208	100.000	98.90(T)

QC Flag Legend

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



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Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;5;;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS005\Target\chem\voa6,i\X200319,b\X031906,D
Instrument: voa6,i
Operator: PC
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031907.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 19-MAR-2020 13:58
Operator : PC Inst ID: voa6.i
Smp Info : VSTD020;VSTD020;1;6;;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 28-Apr-2020 12:16 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 13:34 Cal File: X031906.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

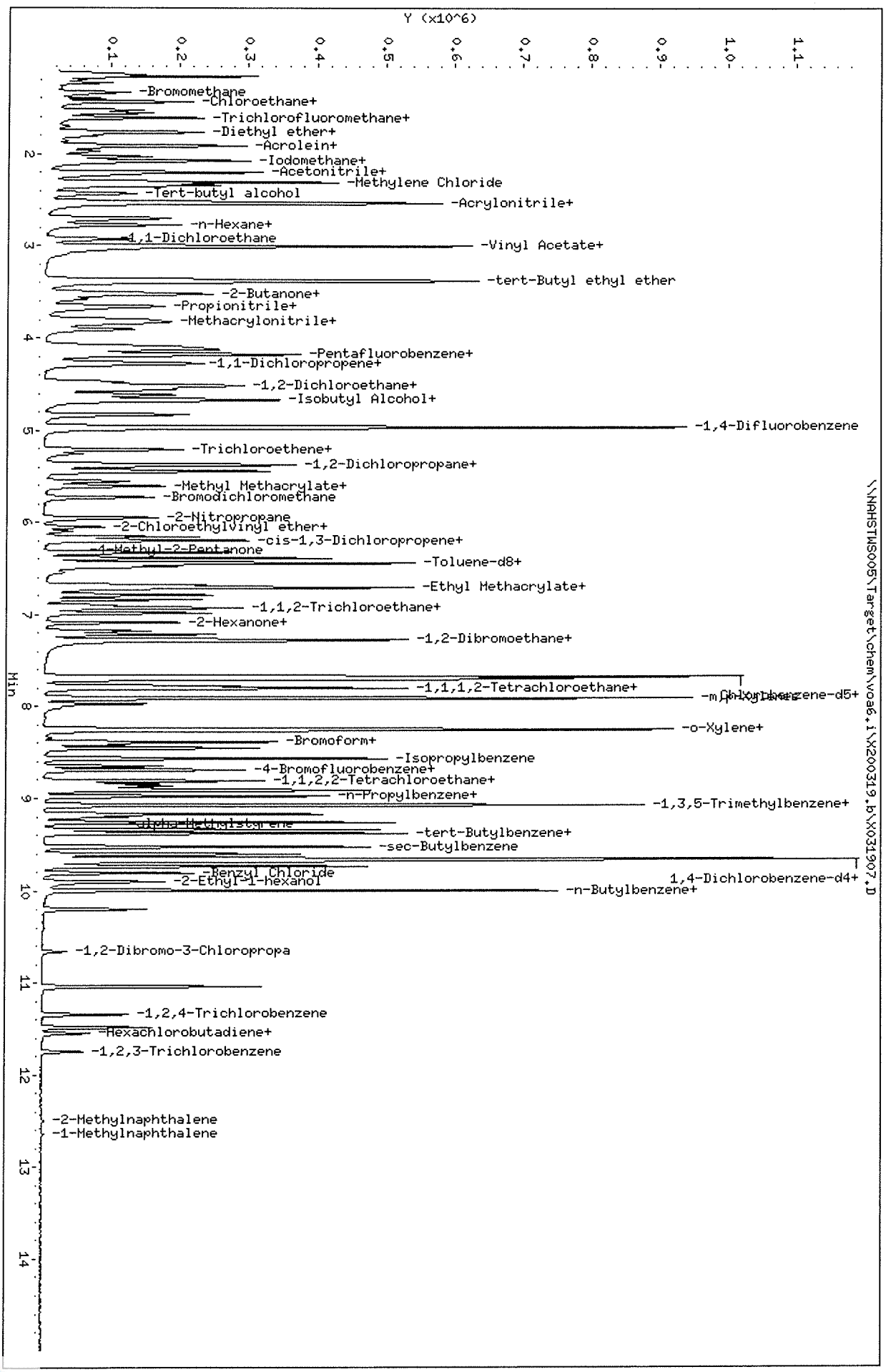
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	299061	50.0000	
194 Acetaldehyde	44	1.210	1.210	(0.289)	22676	80.0000	73.42(M)
140 1,3-Butadiene	54	1.159	1.159	(0.277)	90542	20.0000	20.62
25 Methacrylonitrile	41	3.824	3.824	(0.914)	87326	20.0000	20.04
136 n-Hexane	57	2.771	2.771	(0.663)	105710	20.0000	20.87
4 Propionitrile	54	3.652	3.652	(0.873)	140329	200.000	202.71(a)
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	63872	20.0000	19.74
3 Chloromethane	50	1.074	1.074	(0.257)	101480	20.0000	20.10
5 Vinyl Chloride	62	1.138	1.138	(0.272)	88179	20.0000	19.35
6 Bromomethane	94	1.339	1.339	(0.320)	42412	20.0000	20.48
7 Chloroethane	64	1.403	1.403	(0.336)	46166	20.0000	20.52
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	90870	20.0000	20.42
9 Acrolein	56	1.854	1.854	(0.443)	10501	40.0000	37.74
10 Acetone	43	1.969	1.969	(0.471)	55534	40.0000	40.56
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	49791	20.0000	19.64
15 Iodomethane	142	2.026	2.026	(0.485)	135035	40.0000	38.31
16 Acrylonitrile	53	2.535	2.535	(0.606)	79652	40.0000	41.28
17 Methylene Chloride	84	2.306	2.306	(0.551)	70573	20.0000	21.38
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	187641	20.0000	20.01
19 Carbon Disulfide	76	2.069	2.069	(0.495)	339930	40.0000	40.78
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	60905	20.0000	20.66
21 Vinyl Acetate	43	3.000	3.000	(0.717)	511724	40.0000	42.23

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	141321	20.0000	21.22
	24 2-Butanone	43	3.581	3.581	(0.856)	73828	40.0000	40.26
	26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	97570	20.0000	20.93
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	69663	20.0000	20.45
	28 Chloroform	83	3.910	3.910	(0.935)	110013	20.0000	19.89
	29 Bromochloromethane	128	3.795	3.795	(0.908)	36932	20.0000	20.78
$	30 Dibromofluoromethane	113	4.104	4.104	(0.981)	61899	20.0000	20.76
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	96530	20.0000	20.85
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	83390	20.0000	18.44
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	99484	20.0000	19.58
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	83114	20.0000	18.25(H)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	80050	20.0000	21.21
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	480908	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	246905	20.0000	19.41
	38 Trichloroethene	130	5.207	5.207	(1.048)	64841	20.0000	19.45
	39 Bromodichloromethane	83	5.730	5.730	(1.153)	85233	20.0000	19.26
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	34445	40.0000	39.62
	42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	79460	20.0000	19.43
	44 Dibromomethane	93	5.558	5.558	(1.118)	42289	20.0000	20.02
	45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	175231	40.0000	39.34
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	108622	20.0000	19.99
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	433129	50.0000	
$	48 Toluene-d8	98	6.389	6.389	(0.833)	225397	20.0000	20.27
	50 Toluene	91	6.446	6.446	(0.840)	265643	20.0000	20.18
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	96866	20.0000	20.16
	52 2-Hexanone	43	7.090	7.090	(0.924)	119018	40.0000	40.08
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	48758	20.0000	19.53
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	102124	20.0000	19.68
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	64897	20.0000	19.33
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	53882	20.0000	19.93
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	62361	20.0000	20.08
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	84779	20.0000	20.22
	59 Chlorobenzene	112	7.699	7.699	(1.004)	170337	20.0000	19.96
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	62830	20.0000	19.66
	61 Ethylbenzene	106	7.800	7.800	(1.017)	91953	20.0000	20.29
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	221928	40.0000	40.83
	63 o-Xylene	106	8.244	8.244	(1.075)	107313	20.0000	20.22
	64 Styrene	104	8.258	8.258	(1.077)	187844	20.0000	20.10
	66 Bromoform	173	8.416	8.416	(1.097)	44317	20.0000	19.68
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	270189	20.0000	20.23
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	70466	20.0000	19.42
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	85378	20.0000	20.19
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.662	(1.000)	213879	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	60016	20.0000	19.63(M)
	73 n-Propylbenzene	91	8.917	8.917	(0.923)	314628	20.0000	20.55
	74 Bromobenzene	156	8.810	8.810	(0.912)	77758	20.0000	20.40
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	224472	20.0000	20.22
	76 2-Chlorotoluene	91	8.974	8.974	(0.929)	186152	20.0000	20.00
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	213990	20.0000	20.05
	78 tert-Butylbenzene	119	9.340	9.340	(0.967)	189929	20.0000	20.25
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	230301	20.0000	20.72
	81 sec-Butylbenzene	105	9.526	9.526	(0.986)	266922	20.0000	20.56
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	233327	20.0000	20.82
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	129656	20.0000	20.35

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
84	1,4-Dichlorobenzene	146	9.684	9.684	(1.002)	130711	20.0000	19.84	
87	n-Butylbenzene	91	9.999	9.999	(1.035)	197347	20.0000	20.42	
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	117025	20.0000	20.38	
89	1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	6529	20.0000	19.02	
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	34013	20.0000	19.46	
91	Hexachlorobutadiene	225	11.481	11.481	(1.188)	25359	20.0000	18.98	
92	Naphthalene	128	11.546	11.546	(1.195)	46336	20.0000	19.08	
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	16083	20.0000	18.47	
M 94	1,2-Dichloroethylene (total)	96				130568	40.0000		(a)
135	1,4-Dioxane	88	5.601	5.601	(1.339)	14527	400.000	421.40	
141	Cyclohexane	56	4.125	4.125	(0.986)	140988	20.0000	21.95	
138	Freon TF	101	1.912	1.912	(0.457)	47937	20.0000	20.85	
147	Methylcyclohexane	55	5.379	5.379	(1.082)	238954	20.0000	19.64	
146	Methyl Acetate	43	2.234	2.234	(0.534)	66531	20.0000	20.47	
148	Tert-Butyl alcohol	59	2.427	2.427	(0.580)	164610	400.000	393.08	
149	Isopropyl Alcohol	45	2.091	2.091	(0.500)	114617	400.000	388.44	

QC Flag Legend

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



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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\X200319.b\X031908.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 19-MAR-2020 14:22
Operator : PC Inst ID: voa6.i
Smp Info : VSTD050;VSTD050;1;7;;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 28-Apr-2020 12:16 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 13:58 Cal File: X031907.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

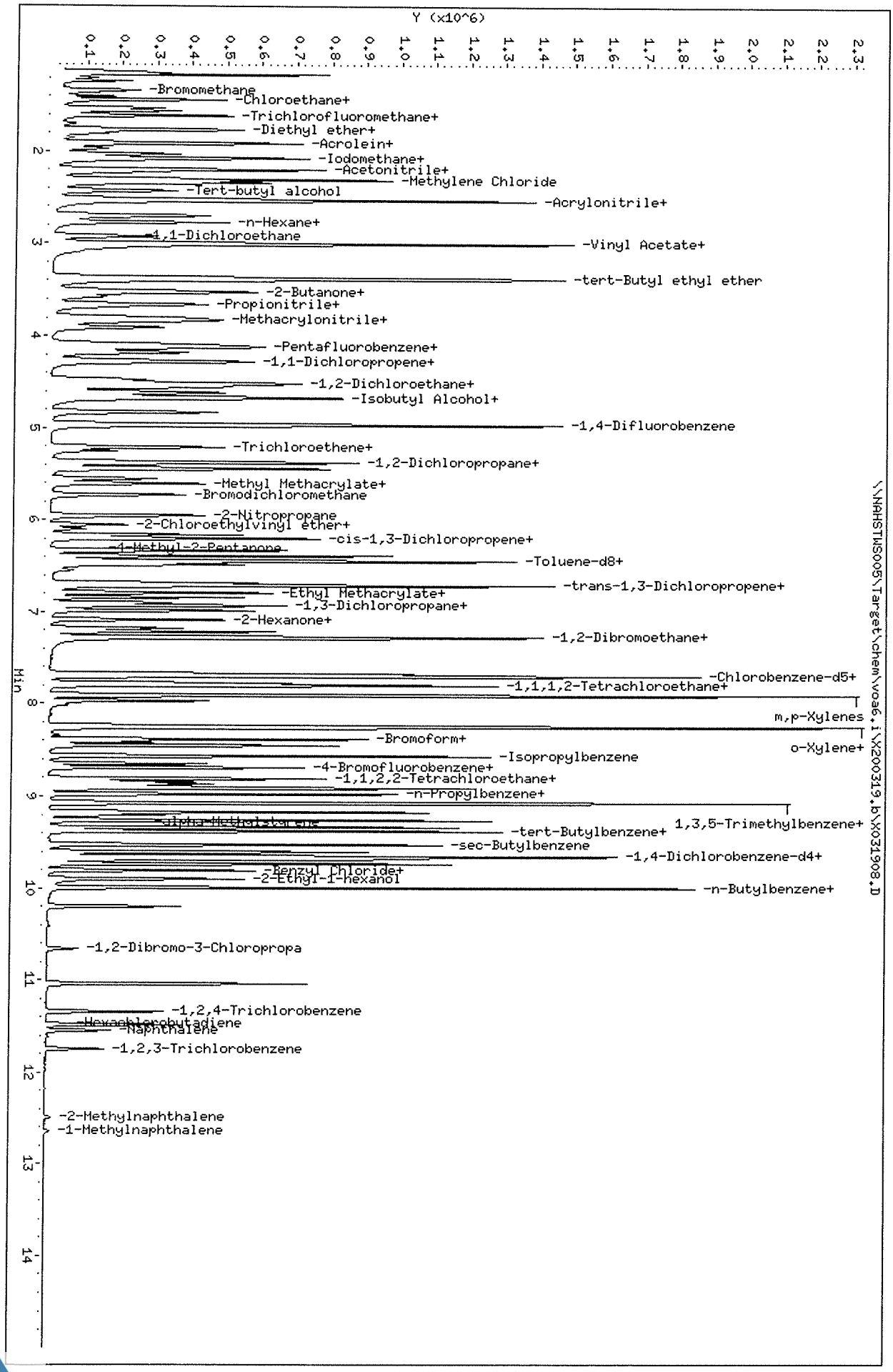
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	308394	50.0000	
194 Acetaldehyde	44	1.210	1.210	(0.289)	63119	200.000	198.19(M)
140 1,3-Butadiene	54	1.159	1.159	(0.277)	230867	50.0000	50.98
25 Methacrylonitrile	41	3.817	3.817	(0.913)	216907	50.0000	48.28
136 n-Hexane	57	2.771	2.771	(0.663)	271166	50.0000	51.93
4 Propionitrile	54	3.652	3.652	(0.873)	348352	500.000	487.98
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	163717	50.0000	47.58
3 Chloromethane	50	1.073	1.073	(0.257)	249660	50.0000	46.52
5 Vinyl Chloride	62	1.138	1.138	(0.272)	218403	50.0000	46.48
6 Bromomethane	94	1.338	1.338	(0.320)	99641	50.0000	47.24
7 Chloroethane	64	1.403	1.403	(0.336)	111607	50.0000	48.58
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	231128	50.0000	50.39
9 Acrolein	56	1.854	1.854	(0.443)	29869	100.000	106.23
10 Acetone	43	1.969	1.969	(0.471)	121303	100.000	100.95
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	123020	50.0000	47.07
15 Iodomethane	142	2.026	2.026	(0.485)	367297	100.000	97.34
16 Acrylonitrile	53	2.528	2.528	(0.604)	193031	100.000	97.01
17 Methylene Chloride	84	2.305	2.305	(0.551)	162281	50.0000	49.43
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	457984	50.0000	47.38
19 Carbon Disulfide	76	2.069	2.069	(0.495)	836919	100.000	97.36
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	144545	50.0000	47.56
21 Vinyl Acetate	43	3.000	3.000	(0.717)	1239428	100.000	99.19

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	336578	50.0000	49.00
	24 2-Butanone	43	3.573	3.573	(0.854)	184861	100.000	99.53
	26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	232607	50.0000	48.40
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	167789	50.0000	47.77
	28 Chloroform	83	3.910	3.910	(0.935)	269940	50.0000	47.33
	29 Bromochloromethane	128	3.795	3.795	(0.908)	85069	50.0000	46.43
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	149393	50.0000	48.75
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	233723	50.0000	48.97
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	205150	50.0000	47.04
	33 1,2-Dichloroethane	62	4.555	4.555	(0.916)	249570	50.0000	50.91
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	205597	50.0000	46.80(H)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	185105	50.0000	47.76
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	463946	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	596924	50.0000	48.65
	38 Trichloroethene	130	5.206	5.206	(1.048)	160161	50.0000	49.80
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	204509	50.0000	47.92
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	86417	100.000	103.04
	42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	192720	50.0000	48.85
	44 Dibromomethane	93	5.557	5.557	(1.118)	102239	50.0000	50.18
	45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	431551	100.000	98.88
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	261376	50.0000	49.86
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	424365	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	537213	50.0000	49.41
	50 Toluene	91	6.446	6.446	(0.840)	632395	50.0000	49.05
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	237031	50.0000	51.15
	52 2-Hexanone	43	7.090	7.090	(0.924)	291000	100.000	100.02
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	117355	50.0000	47.99
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	245962	50.0000	48.39
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	163847	50.0000	49.81
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	130441	50.0000	49.25
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	150861	50.0000	49.58
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	199606	50.0000	49.36
	59 Chlorobenzene	112	7.699	7.699	(1.004)	406480	50.0000	48.62
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	153830	50.0000	49.13
	61 Ethylbenzene	106	7.800	7.800	(1.017)	219992	50.0000	49.55
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	534133	100.000	100.31
	63 o-Xylene	106	8.244	8.244	(1.075)	258758	50.0000	49.78
	64 Styrene	104	8.258	8.258	(1.077)	457749	50.0000	50.01
	66 Bromoform	173	8.416	8.416	(1.097)	114146	50.0000	51.73
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	650132	50.0000	49.68
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	175490	50.0000	48.88
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	199673	50.0000	48.88
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	211624	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	151214	50.0000	50.00(M)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	767030	50.0000	50.63
	74 Bromobenzene	156	8.810	8.810	(0.911)	189763	50.0000	50.31
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	549498	50.0000	50.03
	76 2-Chlorotoluene	91	8.974	8.974	(0.928)	441409	50.0000	47.93
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	528510	50.0000	50.06
	78 tert-Butylbenzene	119	9.340	9.340	(0.966)	456921	50.0000	49.23
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	554907	50.0000	50.46
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	641225	50.0000	49.93
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	565687	50.0000	51.02
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	322739	50.0000	51.20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	317227	50.0000	48.67	
87	n-Butylbenzene	91	9.999	9.999	(1.034)	490350	50.0000	51.28	
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	289553	50.0000	50.96	
89	1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	17754	50.0000	50.46	
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	88482	50.0000	50.14	
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	65738	50.0000	49.74	
92	Naphthalene	128	11.546	11.546	(1.194)	122519	50.0000	47.75	
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	44729	50.0000	50.14	
M 94	1,2-Dichloroethylene (total)	96				312334	100.000		(a)
135	1,4-Dioxane	88	5.600	5.600	(1.339)	37419	1000.00	1052.62	
141	Cyclohexane	56	4.125	4.125	(0.986)	339216	50.0000	51.22	
138	Freon TF	101	1.912	1.912	(0.457)	123568	50.0000	52.13	
147	Methylcyclohexane	55	5.378	5.378	(1.082)	563345	50.0000	48.00	
146	Methyl Acetate	43	2.227	2.227	(0.532)	167212	50.0000	49.90	
148	Tert-Butyl alcohol	59	2.427	2.427	(0.580)	425810	1000.00	986.04	
149	Isopropyl Alcohol	45	2.098	2.098	(0.502)	307651	1000.00	1011.10	

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031908.D
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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\X200319.b\X031909.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 19-MAR-2020 14:46
Operator : PC Inst ID: voa6.i
Smp Info : VSTD100;VSTD100;1;8;;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 28-Apr-2020 12:17 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 14:22 Cal File: X031908.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

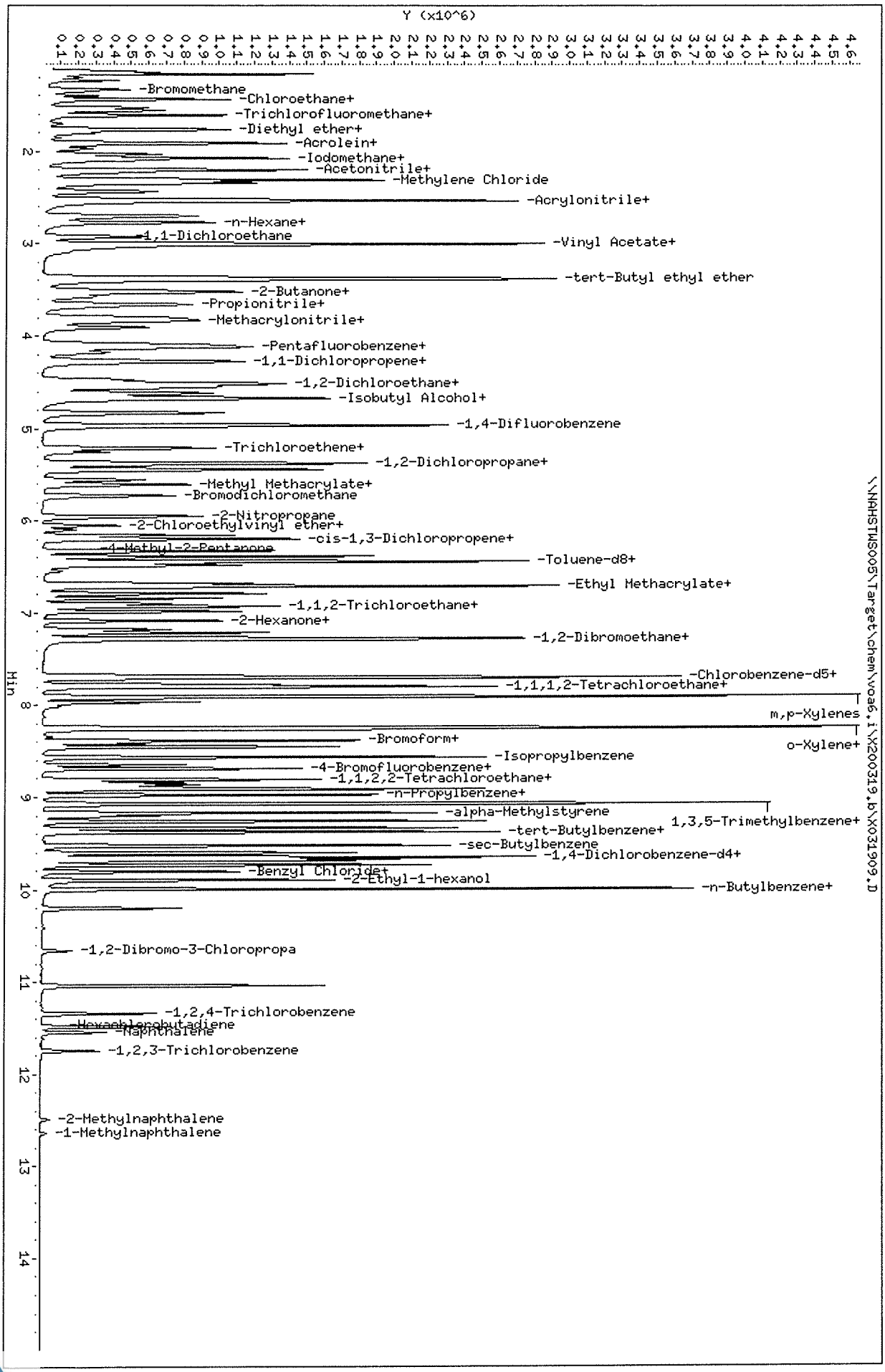
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	286614	50.0000	
194 Acetaldehyde	44	1.209	1.209	(0.289)	122596	400.000	414.20(M)
140 1,3-Butadiene	54	1.159	1.159	(0.277)	457530	100.000	108.72
25 Methacrylonitrile	41	3.824	3.824	(0.914)	410571	100.000	98.34
136 n-Hexane	57	2.771	2.771	(0.663)	533420	100.000	109.93
4 Propionitrile	54	3.652	3.652	(0.873)	661943	1000.00	997.74
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	326339	100.000	100.90
3 Chloromethane	50	1.073	1.073	(0.257)	504548	100.000	99.95
5 Vinyl Chloride	62	1.138	1.138	(0.272)	435381	100.000	99.70
6 Bromomethane	94	1.331	1.331	(0.318)	203423	100.000	104.30
7 Chloroethane	64	1.396	1.396	(0.334)	217230	100.000	102.12
8 Trichlorofluoromethane	101	1.560	1.560	(0.373)	455540	100.000	106.86
9 Acrolein	56	1.854	1.854	(0.443)	51935	200.000	199.80
10 Acetone	43	1.969	1.969	(0.471)	216512	200.000	206.24
11 1,1-Dichloroethene	96	1.911	1.911	(0.457)	240131	100.000	98.87
15 Iodomethane	142	2.026	2.026	(0.485)	730685	200.000	203.08
16 Acrylonitrile	53	2.535	2.535	(0.606)	369687	200.000	199.91
17 Methylene Chloride	84	2.305	2.305	(0.551)	310528	100.000	103.27
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	874802	100.000	97.37
19 Carbon Disulfide	76	2.069	2.069	(0.495)	1657301	200.000	207.46
20 trans-1,2-Dichloroethene	96	2.527	2.527	(0.604)	283351	100.000	100.32
21 Vinyl Acetate	43	3.000	3.000	(0.717)	2379659	200.000	204.92

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	22 1,1-Dichloroethane	63	2.921	2.921	(0.699)	660408	100.000	103.47
	24 2-Butanone	43	3.573	3.573	(0.854)	359895	200.000	209.84
	26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	451766	100.000	101.16
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	331114	100.000	101.44
	28 Chloroform	83	3.910	3.910	(0.935)	525175	100.000	99.09
	29 Bromochloromethane	128	3.795	3.795	(0.908)	162945	100.000	95.69
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	290125	100.000	101.98
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	463257	100.000	104.44
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	402683	100.000	97.44
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	481696	100.000	103.69
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	407262	100.000	97.82(H)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	366265	100.000	101.87
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	439703	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	1177865	100.000	101.30
	38 Trichloroethene	130	5.206	5.206	(1.048)	320532	100.000	105.17
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	403894	100.000	99.86
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	172175	200.000	216.62
	42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	373714	100.000	99.95
	44 Dibromomethane	93	5.557	5.557	(1.118)	196973	100.000	102.01
	45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	837755	200.000	197.34
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	508156	100.000	102.29
*	47 Chlorobenzene-d5	117	7.670	7.670	(1.000)	412807	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	1054666	100.000	99.81
	50 Toluene	91	6.446	6.446	(0.840)	1241839	100.000	99.02
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	463895	100.000	105.63
	52 2-Hexanone	43	7.090	7.090	(0.924)	569169	200.000	201.10
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	230846	100.000	97.06
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	483487	100.000	97.80
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	320226	100.000	100.08
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	262641	100.000	101.94
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	290036	100.000	98.00
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	394403	100.000	102.91
	59 Chlorobenzene	112	7.699	7.699	(1.004)	805199	100.000	99.01
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	303827	100.000	99.75
	61 Ethylbenzene	106	7.799	7.799	(1.017)	439751	100.000	101.84
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	1055261	200.000	203.74
	63 o-Xylene	106	8.244	8.244	(1.075)	512373	100.000	101.34
	64 Styrene	104	8.258	8.258	(1.077)	899459	100.000	101.02
	66 Bromoform	173	8.415	8.415	(1.097)	222273	100.000	103.56
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	1313933	100.000	103.23
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	329585	100.000	96.07
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	397823	100.000	100.64
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	202255	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	290038	100.000	100.35(M)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	1532692	100.000	105.86
	74 Bromobenzene	156	8.809	8.809	(0.911)	371399	100.000	103.04
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1085888	100.000	103.45
	76 2-Chlorotoluene	91	8.974	8.974	(0.928)	892647	100.000	101.42
	77 4-Chlorotoluene	91	9.074	9.074	(0.939)	1043851	100.000	103.45
	78 tert-Butylbenzene	119	9.339	9.339	(0.966)	903121	100.000	101.82
	79 1,2,4-Trimethylbenzene	105	9.382	9.382	(0.970)	1099023	100.000	104.58
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1293767	100.000	105.41
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1127065	100.000	106.37
	83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	629654	100.000	104.52

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	624029	100.000	100.18	
87	n-Butylbenzene	91	9.998	9.998	(1.034)	977967	100.000	107.01	
88	1,2-Dichlorobenzene	146	9.998	9.998	(1.034)	563387	100.000	103.76	
89	1,2-Dibromo-3-Chloropropane	155	10.657	10.657	(1.102)	33604	100.000	98.90	
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	169420	100.000	99.82	
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	121295	100.000	96.04	
92	Naphthalene	128	11.546	11.546	(1.194)	241230	100.000	96.30	
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	85762	100.000	99.60	
M 94	1,2-Dichloroethylene (total)	96				614465	200.000		(a)
135	1,4-Dioxane	88	5.600	5.600	(1.339)	71184	2000.00	2154.62	
141	Cyclohexane	56	4.125	4.125	(0.986)	670041	100.000	108.86	
138	Freon TF	101	1.911	1.911	(0.457)	241148	100.000	109.46	
147	Methylcyclohexane	55	5.378	5.378	(1.082)	1148019	100.000	103.22	(A)
146	Methyl Acetate	43	2.227	2.227	(0.532)	331536	100.000	106.46	
148	Tert-Butyl alcohol	59	2.434	2.434	(0.582)	808861	2000.00	2015.41	
149	Isopropyl Alcohol	45	2.098	2.098	(0.502)	575061	2000.00	2033.57	

QC Flag Legend

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



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Client ID: WSTD100
Sample Info: WSTD100;WSTD100;1;8;;
Purge Volume: 5.0
Column phase: DB624

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

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031910.D
Lab Smp Id: VSTD150 Client Smp ID: VSTD150
Inj Date : 19-MAR-2020 15:10
Operator : PC Inst ID: voa6.i
Smp Info : VSTD150;VSTD150;1;9;;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 28-Apr-2020 12:17 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 14:46 Cal File: X031909.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

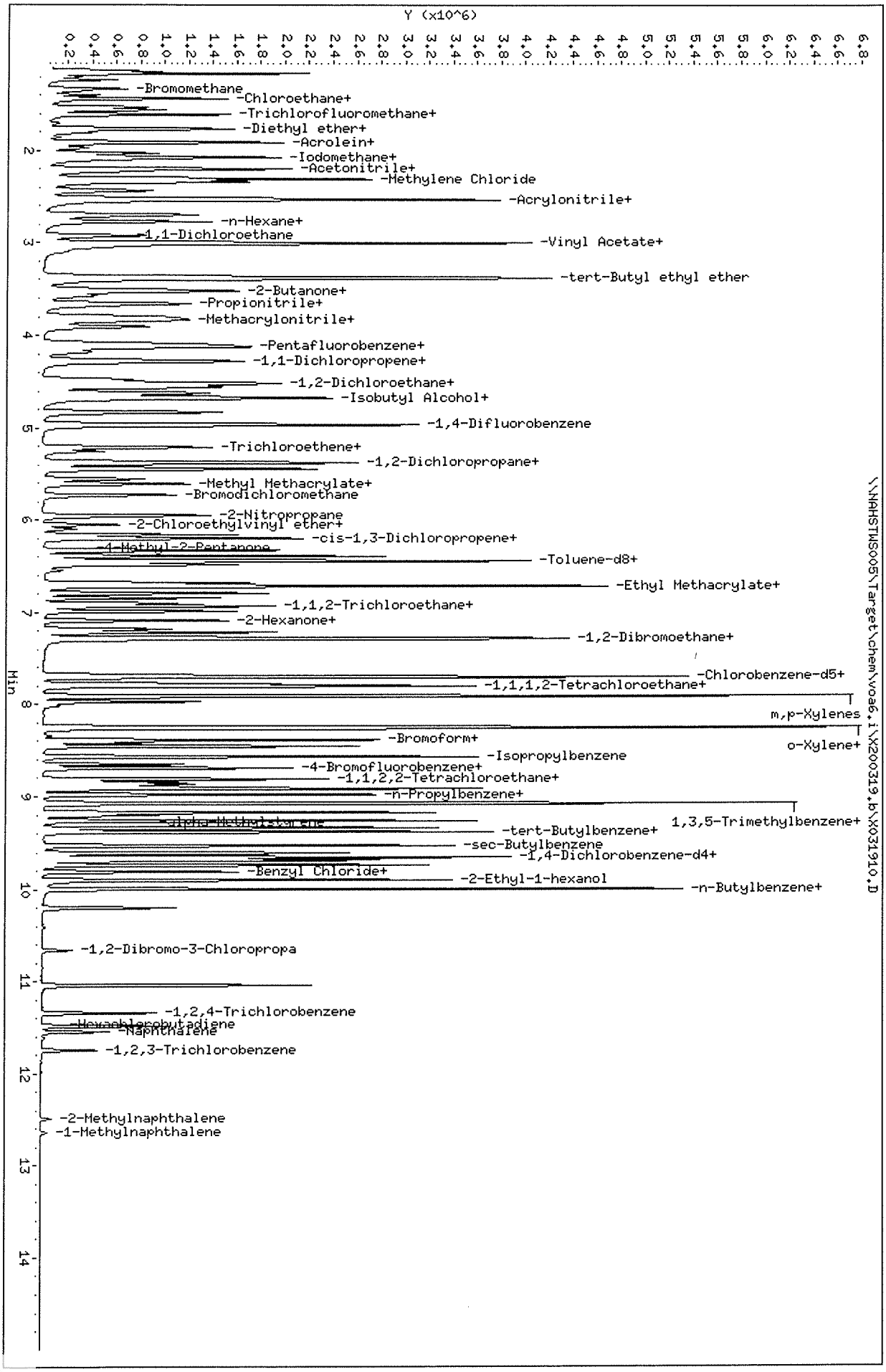
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	285712	50.0000	
194 Acetaldehyde	44	1.210	1.210	(0.289)	172238	600.000	583.76(M)
140 1,3-Butadiene	54	1.159	1.159	(0.277)	659703	150.000	157.26
25 Methacrylonitrile	41	3.817	3.817	(0.913)	587235	150.000	141.10
136 n-Hexane	57	2.771	2.771	(0.663)	766429	150.000	158.45
4 Propionitrile	54	3.659	3.659	(0.875)	938618	1500.00	1419.24
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	471885	150.000	145.92
3 Chloromethane	50	1.073	1.073	(0.257)	731993	150.000	145.00
5 Vinyl Chloride	62	1.138	1.138	(0.272)	636695	150.000	146.27
6 Bromomethane	94	1.331	1.331	(0.318)	287355	150.000	147.99
7 Chloroethane	64	1.396	1.396	(0.334)	312401	150.000	147.48
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	657928	150.000	154.82
9 Acrolein	56	1.854	1.854	(0.443)	77253	300.000	298.73
10 Acetone	43	1.969	1.969	(0.471)	303043	300.000	295.01
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	347727	150.000	143.62
15 Iodomethane	142	2.026	2.026	(0.485)	1092503	300.000	299.12
16 Acrylonitrile	53	2.535	2.535	(0.606)	517404	300.000	280.68
17 Methylene Chloride	84	2.306	2.306	(0.551)	437081	150.000	146.41
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	1253947	150.000	140.02
19 Carbon Disulfide	76	2.069	2.069	(0.495)	2371886	300.000	297.85
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	406540	150.000	144.39
21 Vinyl Acetate	43	3.000	3.000	(0.717)	3388660	300.000	292.73

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	948191	150.000	149.02
	24 2-Butanone	43	3.573	3.573	(0.854)	497070	300.000	291.21
	26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	645511	150.000	145.00
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	468820	150.000	144.08
	28 Chloroform	83	3.910	3.910	(0.935)	759996	150.000	143.85
	29 Bromochloromethane	128	3.795	3.795	(0.908)	229996	150.000	135.49
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	416931	150.000	147.07
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	666081	150.000	150.65
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	587782	150.000	145.26
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	692218	150.000	152.19
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	593692	150.000	145.64(H)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	529642	150.000	147.86
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	430514	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	1691673	150.000	148.60
	38 Trichloroethene	130	5.207	5.207	(1.048)	461294	150.000	154.59
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	592277	150.000	149.57
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	247783	300.000	318.40
	42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	538425	150.000	147.08
	44 Dibromomethane	93	5.558	5.558	(1.118)	284031	150.000	150.23
	45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	1230331	300.000	300.82
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	738492	150.000	151.83
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	397694	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	1518049	150.000	149.15
	50 Toluene	91	6.446	6.446	(0.840)	1772413	150.000	146.70
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	668696	150.000	155.52
	52 2-Hexanone	43	7.090	7.090	(0.924)	843572	300.000	309.39
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	326278	150.000	142.40
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	691711	150.000	145.24
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	462936	150.000	150.19
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	379985	150.000	153.09
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	418517	150.000	146.78
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	567300	150.000	151.18
	59 Chlorobenzene	112	7.699	7.699	(1.004)	1159521	150.000	148.00
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	445294	150.000	151.76
	61 Ethylbenzene	106	7.800	7.800	(1.017)	629668	150.000	151.36
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	1518024	300.000	304.23
	63 o-Xylene	106	8.244	8.244	(1.075)	736668	150.000	151.24
	64 Styrene	104	8.265	8.265	(1.078)	1281550	150.000	149.41
	66 Bromoform	173	8.416	8.416	(1.097)	317135	150.000	153.38
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	1894328	150.000	154.48
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	473161	150.000	140.80
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	566125	150.000	148.90
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	198118	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	411651	150.000	145.40(M)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	2212844	150.000	156.03
	74 Bromobenzene	156	8.810	8.810	(0.911)	538014	150.000	152.38
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	1574959	150.000	153.19
	76 2-Chlorotoluene	91	8.981	8.981	(0.929)	1296866	150.000	150.43
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	1504217	150.000	152.19
	78 tert-Butylbenzene	119	9.340	9.340	(0.966)	1294499	150.000	149.00
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	1600393	150.000	155.47
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	1871774	150.000	155.69
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	1628806	150.000	156.93
	83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	904120	150.000	153.22

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	897453	150.000	147.08	
87	n-Butylbenzene	91	9.999	9.999	(1.034)	1398349	150.000	156.20	
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	802042	150.000	150.80	
89	1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	47590	150.000	142.52	
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	245681	150.000	147.46	
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	172213	150.000	139.21	
92	Naphthalene	128	11.546	11.546	(1.194)	357065	150.000	144.53	
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	123021	150.000	145.39	
M 94	1,2-Dichloroethylene (total)	96				875360	300.000		(a)
135	1,4-Dioxane	88	5.601	5.601	(1.339)	99056	3000.00	3007.72	
141	Cyclohexane	56	4.125	4.125	(0.986)	963518	150.000	157.04	
138	Freon TF	101	1.912	1.912	(0.457)	348564	150.000	158.72	
147	Methylcyclohexane	55	5.378	5.378	(1.082)	1664247	150.000	152.83	(A)
146	Methyl Acetate	43	2.227	2.227	(0.532)	476410	150.000	153.47	
148	Tert-Butyl alcohol	59	2.434	2.434	(0.582)	1136958	3000.00	2841.86	
149	Isopropyl Alcohol	45	2.098	2.098	(0.502)	785587	3000.00	2786.81	

QC Flag Legend

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



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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\X200319.b\X031911.D
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Inj Date : 19-MAR-2020 15:33
Operator : PC Inst ID: voa6.i
Smp Info : VSTD200;VSTD200;1;10;;
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 28-Apr-2020 12:17 voa6.i Quant Type: ISTD
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Als bottle: 12 Calibration Sample, Level: 10
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	273221	50.0000	
194 Acetaldehyde	44	1.210	1.210	(0.289)	219665	800.000	778.54(M)
140 1,3-Butadiene	54	1.159	1.159	(0.277)	874826	200.000	218.08(A)
25 Methacrylonitrile	41	3.824	3.824	(0.914)	761594	200.000	191.37
136 n-Hexane	57	2.771	2.771	(0.663)	994119	200.000	214.92(A)
4 Propionitrile	54	3.659	3.659	(0.875)	1222944	2000.00	1933.70
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	629109	200.000	203.03(A)
3 Chloromethane	50	1.073	1.073	(0.257)	988147	200.000	204.27(A)
5 Vinyl Chloride	62	1.138	1.138	(0.272)	840563	200.000	201.93(A)
6 Bromomethane	94	1.331	1.331	(0.318)	370752	200.000	199.82
7 Chloroethane	64	1.396	1.396	(0.334)	406978	200.000	201.03(A)
8 Trichlorofluoromethane	101	1.553	1.553	(0.371)	865123	200.000	212.89(A)
9 Acrolein	56	1.854	1.854	(0.443)	98725	400.000	399.62
10 Acetone	43	1.976	1.976	(0.473)	388579	400.000	400.16(A)
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	451814	200.000	195.15
15 Iodomethane	142	2.026	2.026	(0.485)	1422582	400.000	399.88
16 Acrylonitrile	53	2.535	2.535	(0.606)	676824	400.000	383.94
17 Methylene Chloride	84	2.305	2.305	(0.551)	572059	200.000	200.90(A)
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	1639368	200.000	191.43
19 Carbon Disulfide	76	2.069	2.069	(0.495)	3119639	400.000	409.67(A)
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	531005	200.000	197.23
21 Vinyl Acetate	43	3.000	3.000	(0.717)	4422918	400.000	399.54

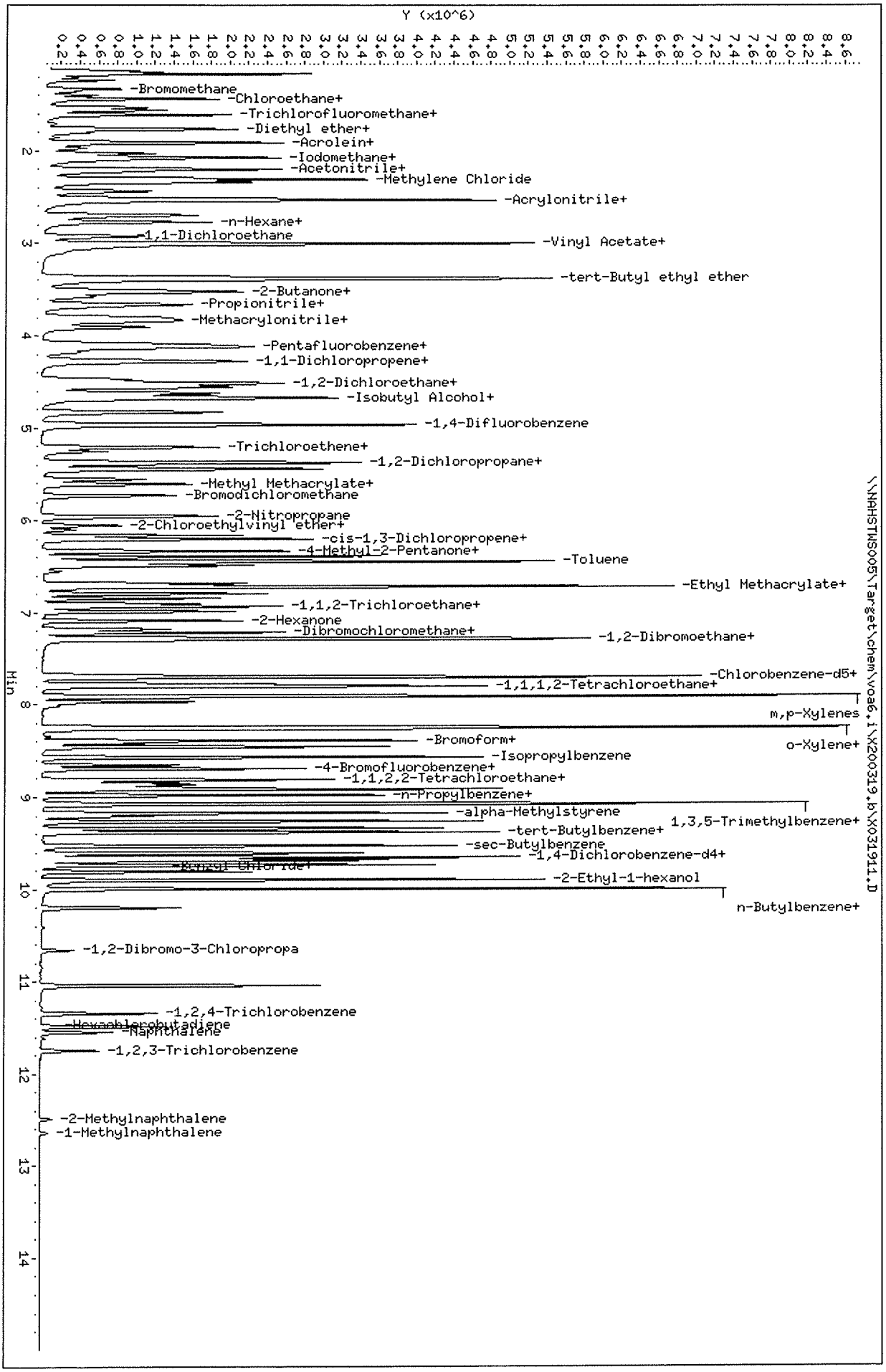
Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031911.D Page 2
Report Date: 28-Apr-2020 12:17

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	1243557	200.000	204.38(A)
	24 2-Butanone	43	3.573	3.573	(0.854)	654316	400.000	401.32(A)
	26 2,2-Dichloropropane	77	3.509	3.509	(0.839)	844564	200.000	198.39
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	619486	200.000	199.09
	28 Chloroform	83	3.910	3.910	(0.935)	997512	200.000	197.44
	29 Bromochloromethane	128	3.795	3.795	(0.908)	295088	200.000	181.79
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	545685	200.000	201.33(A)
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	876411	200.000	207.28(A)
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	767969	200.000	200.11(A)
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	908572	200.000	210.61(A)
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	785989	200.000	203.29(AH)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	688377	200.000	201.01(A)
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	408332	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	2233172	200.000	206.83(A)
	38 Trichloroethene	130	5.207	5.207	(1.048)	603965	200.000	213.40(A)
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	777914	200.000	207.12(A)
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	331022	400.000	448.47(A)
	42 1,2-Dichloropropane	63	5.443	5.443	(1.095)	711371	200.000	204.89(A)
	44 Dibromomethane	93	5.558	5.558	(1.118)	374361	200.000	208.77(A)
	45 4-Methyl-2-Pentanone	43	6.331	6.331	(0.825)	1646427	400.000	415.24(A)
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	973271	200.000	210.97(A)
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	385556	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	1981187	200.000	200.82(A)
	50 Toluene	91	6.453	6.453	(0.841)	2348004	200.000	200.46(A)
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	878457	200.000	215.41(A)
	52 2-Hexanone	43	7.090	7.090	(0.924)	1128514	400.000	426.93(A)
	53 1,1,2-Trichloroethane	83	6.847	6.847	(0.893)	427427	200.000	192.42
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	907304	200.000	196.50
	55 Dibromochloromethane	129	7.184	7.184	(0.937)	615447	200.000	205.95(A)
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	495976	200.000	206.11(A)
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	551238	200.000	199.42
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	746897	200.000	209.86(A)
	59 Chlorobenzene	112	7.699	7.699	(1.004)	1533740	200.000	201.92(A)
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	582637	200.000	204.81(A)
	61 Ethylbenzene	106	7.807	7.807	(1.018)	833444	200.000	206.65(A)
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	2010382	400.000	415.58(A)
	63 o-Xylene	106	8.244	8.244	(1.075)	967457	200.000	204.87(A)
	64 Styrene	104	8.265	8.265	(1.078)	1694416	200.000	203.77(A)
	66 Bromoform	173	8.416	8.416	(1.097)	422053	200.000	210.55(A)
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	2497470	200.000	210.09(A)
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.845	(0.915)	633008	200.000	195.62
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	739220	200.000	200.72(A)
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	190770	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	536856	200.000	196.93(M)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	2928666	200.000	214.46(A)
	74 Bromobenzene	156	8.810	8.810	(0.911)	709081	200.000	208.57(A)
	75 1,3,5-Trimethylbenzene	105	9.075	9.075	(0.939)	2064356	200.000	208.52(A)
	76 2-Chlorotoluene	91	8.981	8.981	(0.929)	1698858	200.000	204.64(A)
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	1976941	200.000	207.72(A)
	78 tert-Butylbenzene	119	9.340	9.340	(0.966)	1717735	200.000	205.33(A)
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	2117296	200.000	213.61(A)
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	2474942	200.000	213.79(A)
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	2157385	200.000	215.86(A)
	83 1,3-Dichlorobenzene	146	9.612	9.612	(0.994)	1196016	200.000	210.49(A)

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	1197957	200.000	203.89(A)
87	n-Butylbenzene	91	9.999	9.999	(1.034)	1856828	200.000	215.41(A)
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	1057834	200.000	206.56(A)
89	1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	66266	200.000	205.63(A)
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	324332	200.000	201.94(A)
91	Hexachlorobutadiene	225	11.488	11.488	(1.188)	225137	200.000	189.00
92	Naphthalene	128	11.546	11.546	(1.194)	492204	200.000	206.06(A)
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	166163	200.000	203.55(A)
M 94	1,2-Dichloroethylene (total)	96				1150491	400.000	(a)
135	1,4-Dioxane	88	5.600	5.600	(1.339)	132373	4000.00	4203.11(A)
141	Cyclohexane	56	4.125	4.125	(0.986)	1267036	200.000	215.96(A)
138	Freon TF	101	1.912	1.912	(0.457)	455138	200.000	216.72(A)
147	Methylcyclohexane	55	5.378	5.378	(1.082)	2183530	200.000	211.41(A)
146	Methyl Acetate	43	2.227	2.227	(0.532)	626578	200.000	211.07(A)
148	Tert-Butyl alcohol	59	2.434	2.434	(0.582)	1584030	4000.00	4140.35(A)
149	Isopropyl Alcohol	45	2.098	2.098	(0.502)	1064593	4000.00	3949.22

QC Flag Legend

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



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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\X200319.b\X031915.D
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Inj Date : 19-MAR-2020 17:09
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;ICV
Misc Info : HS18090001;WATER;0;1;
Comment :
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Meth Date : 28-Apr-2020 12:17 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 15:33 Cal File: X031911.D
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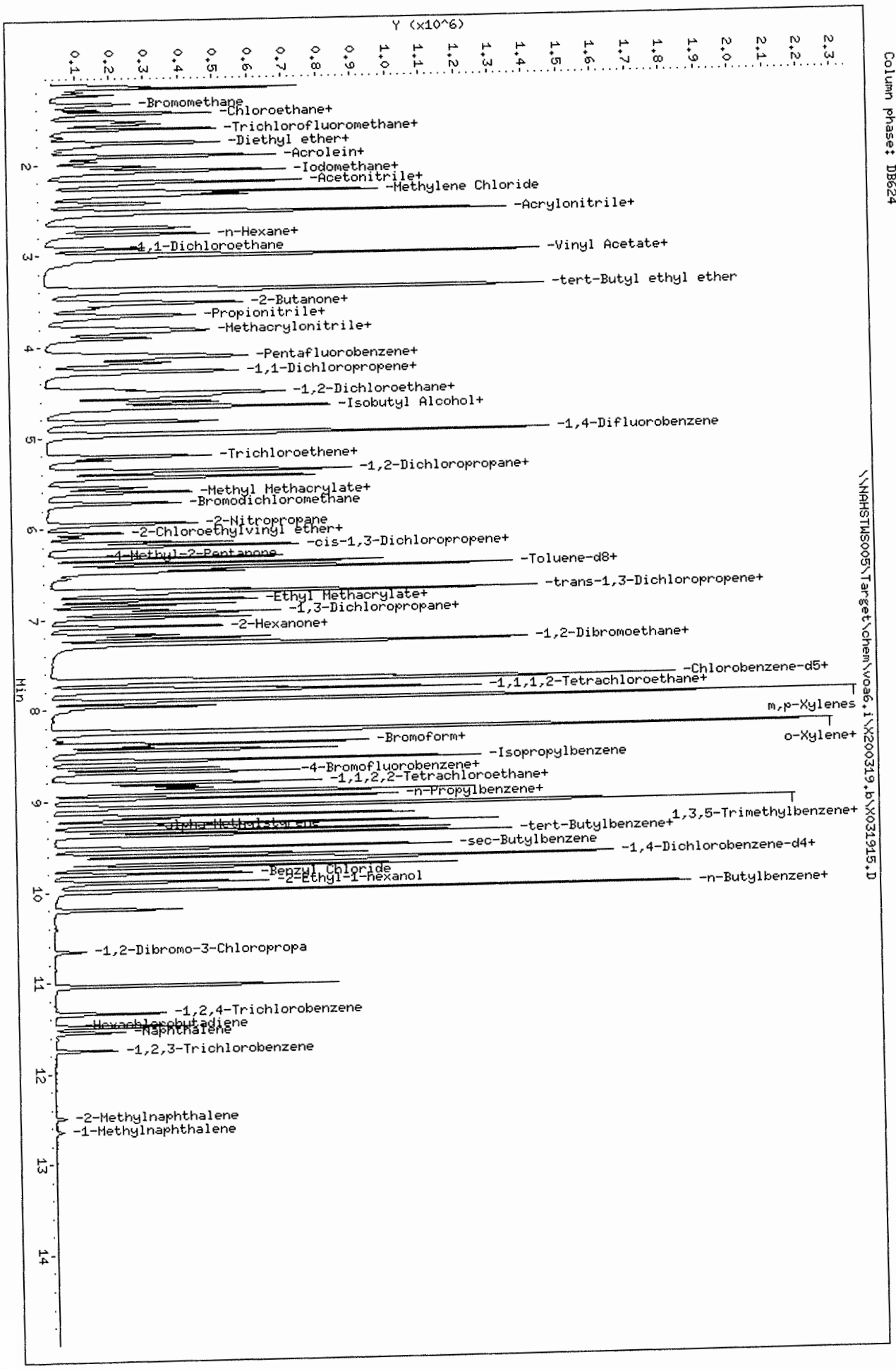
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	286433	50.0000	
194 Acetaldehyde	44	1.209	1.210	(0.289)	69789	235.940	235.94
140 1,3-Butadiene	54	1.159	1.159	(0.277)	221029	52.5583	52.55
25 Methacrylonitrile	41	3.817	3.824	(0.913)	211289	50.6433	50.64
136 n-Hexane	57	2.771	2.771	(0.663)	260390	53.6997	53.69
4 Propionitrile	54	3.652	3.659	(0.873)	342696	516.873	516.87
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	152772	47.8065	47.80
3 Chloromethane	50	1.073	1.073	(0.257)	239142	47.9516	47.95
5 Vinyl Chloride	62	1.138	1.138	(0.272)	208794	47.8466	47.84
6 Bromomethane	94	1.338	1.331	(0.320)	109581	56.0202	56.02
7 Chloroethane	64	1.403	1.396	(0.336)	106040	49.7060	49.70
8 Trichlorofluoromethane	101	1.560	1.553	(0.373)	219266	51.4696	51.46
9 Acrolein	56	1.854	1.854	(0.443)	25004	95.6313	95.63
10 Acetone	43	1.969	1.976	(0.471)	122985	111.428	111.42
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	119289	49.1482	49.14
15 Iodomethane	142	2.026	2.026	(0.485)	340790	97.2434	97.24
16 Acrylonitrile	53	2.535	2.535	(0.606)	185078	100.148	100.14
17 Methylene Chloride	84	2.305	2.305	(0.551)	157492	51.7167	51.71
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	439740	48.9808	48.98
19 Carbon Disulfide	76	2.069	2.069	(0.495)	813441	101.894	101.89
20 trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	143090	50.6965	50.69
21 Vinyl Acetate	43	3.000	3.000	(0.717)	1215336	104.724	104.72

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	325609	51.0477	51.04
	24 2-Butanone	43	3.573	3.573	(0.854)	183455	106.434	106.43
	26 2,2-Dichloropropane	77	3.516	3.509	(0.841)	233005	52.2089	52.20
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	163069	49.9916	49.99
	28 Chloroform	83	3.910	3.910	(0.935)	262117	49.4897	49.48
	29 Bromochloromethane	128	3.795	3.795	(0.908)	84125	49.4362	49.43
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	148947	52.3413	52.34
	31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	225132	50.7911	50.79
	32 1,1-Dichloropropene	75	4.282	4.282	(0.862)	201566	48.2102	48.21
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	243287	51.7645	51.76
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	201378	47.8084	47.80
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	188752	52.4596	52.45
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	444859	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	585201	49.7494	49.74
	38 Trichloroethene	130	5.206	5.207	(1.048)	155631	50.4744	50.47
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	203262	49.6771	49.67
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	86038	106.995	106.99
	42 1,2-Dichloropropane	63	5.436	5.443	(1.094)	186757	49.3737	49.37
	44 Dibromomethane	93	5.557	5.558	(1.118)	98804	50.5772	50.57
	45 4-Methyl-2-Pentanone	43	6.324	6.331	(0.824)	433250	102.039	102.03
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	256671	51.0701	51.07
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	412876	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	528266	49.9474	49.94
	50 Toluene	91	6.446	6.453	(0.840)	623254	49.6896	49.68
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	231539	52.1150	52.11
	52 2-Hexanone	43	7.090	7.090	(0.924)	291598	103.016	103.01
	53 1,1,2-Trichloroethane	83	6.840	6.847	(0.892)	118115	49.6548	49.65
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	245721	49.6976	49.69
	55 Dibromochloromethane	129	7.176	7.184	(0.936)	161318	50.4120	50.41
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	128325	49.8010	49.80
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	146879	49.6210	49.62
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	194588	50.1862	50.18
	59 Chlorobenzene	112	7.699	7.699	(1.004)	405100	49.8053	49.80
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	152004	49.8996	49.89
	61 Ethylbenzene	106	7.799	7.807	(1.017)	218481	50.5888	50.58
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	528609	102.044	102.04
	63 o-Xylene	106	8.244	8.244	(1.075)	256331	50.6907	50.69
	64 Styrene	104	8.258	8.265	(1.077)	454347	51.0244	51.02
	66 Bromoform	173	8.415	8.416	(1.097)	111551	51.9682	51.96
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	648434	50.9376	50.93
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.845	(0.915)	172061	48.5215	48.52
$	69 4-Bromofluorobenzene	95	8.688	8.695	(1.133)	201904	50.8305	50.83
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	209059	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	151236	50.6247	50.62(M)
	73 n-Propylbenzene	91	8.917	8.917	(0.923)	767293	51.2730	51.27
	74 Bromobenzene	156	8.809	8.810	(0.912)	185649	49.8317	49.83
	75 1,3,5-Trimethylbenzene	105	9.067	9.075	(0.938)	547661	50.4811	50.48
	76 2-Chlorotoluene	91	8.974	8.981	(0.929)	453611	49.8630	49.86
	77 4-Chlorotoluene	91	9.074	9.075	(0.939)	524836	50.3224	50.32
	78 tert-Butylbenzene	119	9.339	9.340	(0.967)	452674	49.3784	49.37
	79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.971)	561735	51.7159	51.71
	81 sec-Butylbenzene	105	9.526	9.526	(0.986)	642389	50.6371	50.63
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	566654	51.7397	51.73
	83 1,3-Dichlorobenzene	146	9.605	9.612	(0.994)	318697	51.1832	51.18



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200319.b\X031915.D
Date : 19-MAR-2020 17:09
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: 40241
Date: 04-08-2020
Method: 8260
Comments:

Analyst: Presenta Cabascango
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	04-08-2020 09:06 am	1.00	50 mL	50 mL	X040801a.D	Liquid	Y	NA
	Auto find/ purged									
2	BFB	TUNE	04-08-2020 09:30 am	1.00	50 mL	50 mL	X040802.D	Liquid	Y	NA
	Auto find/ purged									
3	CCV	CCV	04-08-2020 09:54 am	1.00	50 mL	50 mL	X040803.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	04-08-2020 10:18 am	1.00	50 mL	50 mL	X040804.D	Liquid	Y	NA
5	VLCSW-200408	SAMP	04-08-2020 10:42 am	1.00	50 mL	50 mL	X040805a.D	Liquid	Y	NA
	4.0 uL cal std/50 mL DI									
6	BLANK	SAMP	04-08-2020 11:06 am	1.00	50 mL	50 mL	X040806.D	Liquid	Y	NA
7	VBLKW-200408	MBLK	04-08-2020 11:30 am	1.00	50 mL	50 mL	X040807.D	Liquid	Y	NA
8	HS20040284-03	SAMP	04-08-2020 11:54 am	1.00	50 mL	50 mL	X040808.D	Liquid	Y	<2
9	HS20040284-01	SAMP	04-08-2020 12:18 pm	1.00	50 mL	50 mL	X040809.D	Liquid	Y	<2
10	HS20040284-01MS	MS	04-08-2020 12:42 pm	1.00	50 mL	50 mL	X040810.D	Liquid	Y	<2
	3.5 uL cal std/40 mL samp									
11	HS20040284-01MSD	MSD	04-08-2020 01:06 pm	1.00	50 mL	50 mL	X040811.D	Liquid	Y	<2
	3.5 uL cal std450 mL samp									
12	VLCSW-200408	LCS	04-08-2020 02:22 pm	1.00	50 mL	50 mL	X040812.D	Liquid	Y	<2
13	CCV-END	CCV	04-08-2020 02:45 pm	1.00	50 mL	50 mL	X040813.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
14	HS20040085-09	SAMP	04-08-2020 03:09 pm	5.00	10 mL	50 mL	X040814.D	Liquid	Y	<2
15	HS20040096-06	SAMP	04-08-2020 03:34 pm	1.00	50 mL	50 mL	X040815.D	Liquid	Y	<2
16	HS20040096-09	SAMP	04-08-2020 03:58 pm	1.00	50 mL	50 mL	X040816.D	Liquid	Y	<2
17	HS20040096-15	SAMP	04-08-2020 04:22 pm	1.00	50 mL	50 mL	X040817.D	Liquid	Y	<2
18	HS20040187-12	SAMP	04-08-2020 04:46 pm	1000.0	50 µL	50 mL	X040818.D	Liquid	Y	NA
19	HS20040187-14	SAMP	04-08-2020 05:10 pm	1000.0	50 µL	50 mL	X040819.D	Liquid	Y	NA
20	HS20040165-03	SAMP	04-08-2020 05:34 pm	1.00	50 mL	50 mL	X040820.D	Liquid	Y	<2
21	HS20040164-01	SAMP	04-08-2020 05:58 pm	20.00	2.5 mL	50 mL	X040821.D	Liquid	Y	NA
22	HS20040164-02	SAMP	04-08-2020 06:22 pm	20.00	2.5 mL	50 mL	X040822.D	Liquid	Y	NA
23	HS20040164-03	SAMP	04-08-2020 06:46 pm	20.00	2.5 mL	50 mL	X040823.D	Liquid	Y	NA
24	HS20040297-02	SAMP	04-08-2020 07:10 pm	1.00	50 mL	50 mL	X040824.D	Liquid	Y	<2
25	BLANK	SAMP	04-08-2020 07:34 pm	1.00	50 mL	50 mL	X040840.D	Liquid	Y	NA

Chemical	Value
SURR SPK ID	31106-21-06
IS ID	31106-21-06
CAL STD ID	31106-24-01/02
BFB ID	31106-21-065
pH Paper	634-64-11

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (DCE) #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VBLKW-200408	95	87	103	97	0
02	HS20040284-0	93	86	104	98	0
03	HS20040284-0	94	88	103	95	0
04	HS20040284-0	95	89	103	96	0
05	HS20040284-0	94	86	102	98	0
06	VLCSW-200408	101	97	99	100	0
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		QC LIMITS
SMC1	= Dibromofluoromethane	(71-125)
SMC2 (DCE)	= 1,2-Dichloroethane-d4	(70-125)
SMC3 (TOL)	= Toluene-d8	(75-125)
OTHER	= 4-Bromofluorobenzene	(72-125)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKW-200408

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

Lab File ID: X040807 Lab Sample ID: VBLKW-200408

Date Analyzed: 04/08/20 Time Analyzed: 1130

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	HS20040284-0	HS20040284-03	X040808	1154
02	HS20040284-0	HS20040284-01	X040809	1218
03	HS20040284-0	HS20040284-01M	X040810	1242
04	HS20040284-0	HS20040284-01M	X040811	1306
05	VLCSW-200408	VLCSW-200408	X040812	1422
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COMMENTS:

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

Lab File ID: X040802 BFB Injection Date: 04/08/20

Instrument ID: VOA6 BFB Injection Time: 0930

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	20.4
75	30.0 - 60.0% of mass 95	45.7
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	1.0 (1.1)1
174	Greater than 50.0% of mass 95	96.9
175	5.0 - 9.0% of mass 174	7.6 (7.8)1
176	95.0 - 101.0% of mass 174	93.0 (96.0)1
177	5.0 - 9.0% of mass 176	6.3 (6.7)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	X040803	04/08/20	0954
02	VBLKW-200408	VBLKW-200408	X040807	04/08/20	1130
03	HS20040284-0	HS20040284-03	X040808	04/08/20	1154
04	HS20040284-0	HS20040284-01	X040809	04/08/20	1218
05	HS20040284-0	HS20040284-01M	X040810	04/08/20	1242
06	HS20040284-0	HS20040284-01M	X040811	04/08/20	1306
07	VLCSW-200408	VLCSW-200408	X040812	04/08/20	1422
08	CCV-END	CCV-END	X040813	04/08/20	1445
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

Instrument ID: VOA6 Calibration Date: 04/08/20 Time: 0954

Lab File ID: X040803 Init. Calib. Date(s): 03/19/20 03/19/20

Init. Calib. Times: 1134 1533

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
Dichlorodifluoromethane	43.733817	50.000000	0.4869424	0.1	12.53	20.00	LINR
Chloromethane	45.282345	50.000000	0.7873987	0.1	9.44	20.00	LINR
Vinyl Chloride	0.7620000	0.6839928	0.6839928	0.1	10.24	20.00	AVRG
Bromomethane	53.261039	50.000000	0.3638753	0.1	-6.52	20.00	LINR
Chloroethane	48.708058	50.000000	0.3628276	0.1	2.58	20.00	LINR
Trichlorofluoromethane	0.7440000	0.7853435	0.7853435	0.1	-5.56	20.00	AVRG
Acrolein	91.090122	100.00000	4.16e-002	0.01	8.91	20.00	LINR
Acetone	91.437267	100.00000	0.1803132	0.1	8.56	20.00	LINR
1,1-Dichloroethene	0.4240000	0.4256480	0.4256480	0.1	-0.39	20.00	AVRG
Iodomethane	110.75229	100.00000	0.6804191	0.1	-10.75	20.00	2RDR
Acrylonitrile	0.3230000	0.3025754	0.3025754	0.05	6.32	20.00	AVRG
Methylene Chloride	52.346446	50.000000	0.5563554	0.1	-4.69	20.00	LINR
Methyl tert-butyl ether	1.5670000	1.5554209	1.5554209	0.1	0.74	20.00	AVRG
Carbon Disulfide	1.3940000	1.4140925	1.4140925	0.1	-1.44	20.00	AVRG
trans-1,2-Dichloroethene	0.4930000	0.5218625	0.5218625	0.1	-5.85	20.00	AVRG
Vinyl Acetate	2.0260000	2.0689476	2.0689476	0.01	-2.12	20.00	AVRG
1,1-Dichloroethane	1.1130000	1.1883223	1.1883223	0.2	-6.77	20.00	AVRG
2-Butanone	99.768760	100.00000	0.3004143	0.1	0.23	20.00	LINR
2,2-Dichloropropane	0.7790000	0.8514054	0.8514054	0.1	-9.29	20.00	AVRG
cis-1,2-Dichloroethene	0.5690000	0.6065379	0.6065379	0.1	-6.60	20.00	AVRG
Chloroform	0.9250000	0.9712090	0.9712090	0.2	-5.00	20.00	AVRG
Bromochloromethane	0.2970000	0.3141929	0.3141929	0.1	-5.79	20.00	AVRG
1,1,1-Trichloroethane	0.7740000	0.8306344	0.8306344	0.1	-7.32	20.00	AVRG
1,1-Dichloropropene	0.4700000	0.4717156	0.4717156	0.1	-0.36	20.00	AVRG
1,2-Dichloroethane	0.5280000	0.5675539	0.5675539	0.1	-7.49	20.00	AVRG
Carbon Tetrachloride	0.4730000	0.4869058	0.4869058	0.1	-2.94	20.00	AVRG
Benzene	1.3220000	1.4086653	1.4086653	0.5	-6.56	20.00	AVRG
Trichloroethene	0.3460000	0.3903090	0.3903090	0.2	-12.81	20.00	AVRG
Bromodichloromethane	0.4600000	0.4938736	0.4938736	0.2	-7.36	20.00	AVRG
2-Chloroethylvinyl ether	9.e-002	8.84e-002	8.84e-002	0.001	1.78	20.00	AVRG
1,2-Dichloropropane	0.4250000	0.4494492	0.4494492	0.1	-5.75	20.00	AVRG
Dibromomethane	0.2190000	0.2372109	0.2372109	0.1	-8.32	20.00	AVRG
4-Methyl-2-Pentanone	0.5140000	0.5090625	0.5090625	0.1	0.96	20.00	AVRG
cis-1,3-Dichloropropene	0.5650000	0.6120361	0.6120361	0.2	-8.32	20.00	AVRG
Toluene	1.5190000	1.6397460	1.6397460	0.4	-7.95	20.00	AVRG
trans-1,3-Dichloropropene	0.4990000	0.5499705	0.5499705	0.1	-10.21	20.00	AVRG
2-Hexanone	0.3430000	0.3451533	0.3451533	0.1	-0.63	20.00	AVRG
1,1,2-Trichloroethane	0.2880000	0.3057471	0.3057471	0.1	-6.16	20.00	AVRG
1,3-Dichloropropane	0.5990000	0.6332626	0.6332626	0.1	-5.72	20.00	AVRG
Dibromochloromethane	0.3870000	0.4262471	0.4262471	0.1	-10.14	20.00	AVRG
Tetrachloroethene	0.3120000	0.3446264	0.3446264	0.2	-10.46	20.00	AVRG
1,2-Dibromoethane	0.3580000	0.3886771	0.3886771	0.1	-8.57	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: VOA6 Calibration Date: 04/08/20 Time: 0954

Lab File ID: X040803 Init. Calib. Date(s): 03/19/20 03/19/20

Init. Calib. Times: 1134 1533

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE
Chlorobenzene	0.9850000	1.0714412	1.0714412	0.5	-8.78	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3690000	0.4121606	0.4121606	0.1	-11.70	20.00	AVRG
Ethylbenzene	0.5230000	0.5688370	0.5688370	0.1	-8.76	20.00	AVRG
m,p-Xylenes	0.6270000	0.6858424	0.6858424	0.1	-9.38	20.00	AVRG
o-Xylene	0.6120000	0.6758434	0.6758434	0.3	-10.43	20.00	AVRG
Styrene	1.0780000	1.1637446	1.1637446	0.3	-7.95	20.00	AVRG
Bromoform	0.2600000	0.2983627	0.2983627	0.1	-14.75	20.00	AVRG
Isopropylbenzene	1.5420000	1.6717257	1.6717257	0.1	-8.41	20.00	AVRG
1,1,2,2-Tetrachloroethane	0.8480000	0.8866551	0.8866551	0.3	-4.56	20.00	AVRG
1,2,3-Trichloropropane	0.7140000	0.7783335	0.7783335	0.1	-9.01	20.00	AVRG
Methacrylonitrile	0.7280000	0.7032562	0.7032562	0.1	3.40	20.00	AVRG
n-Propylbenzene	3.5790000	4.0400727	4.0400727	0.1	-12.88	20.00	AVRG
Bromobenzene	0.8910000	1.0369860	1.0369860	0.1	-16.38	20.00	AVRG
1,3,5-Trimethylbenzene	2.5940000	2.8791961	2.8791961	0.1	-10.99	20.00	AVRG
2-Chlorotoluene	2.1760000	2.4289411	2.4289411	0.1	-11.62	20.00	AVRG
4-Chlorotoluene	2.4940000	2.8125203	2.8125203	0.1	-12.77	20.00	AVRG
Propionitrile	0.1160000	0.1124600	0.1124600	0.01	3.05	20.00	AVRG
tert-Butylbenzene	2.1920000	2.4188619	2.4188619	0.1	-10.35	20.00	AVRG
1,2,4-Trimethylbenzene	2.5980000	2.9548931	2.9548931	0.1	-13.74	20.00	AVRG
sec-Butylbenzene	3.0340000	3.3926657	3.3926657	0.1	-11.82	20.00	AVRG
p-Isopropyltoluene	2.6190000	2.9948682	2.9948682	0.1	-14.35	20.00	AVRG
1,3-Dichlorobenzene	1.4890000	1.6967289	1.6967289	0.6	-13.95	20.00	AVRG
1,4-Dichlorobenzene	1.5400000	1.7020560	1.7020560	0.4	-10.52	20.00	AVRG
n-Butylbenzene	2.2590000	2.5602311	2.5602311	0.5	-13.33	20.00	AVRG
1,2-Dichlorobenzene	1.3420000	1.5082511	1.5082511	0.4	-12.39	20.00	AVRG
1,2-Dibromo-3-Chloropropane	46.901060	50.000000	7.79e-002	0.05	6.20	20.00	LINR
1,2,4-Trichlorobenzene	40.641304	50.000000	0.3378702	0.2	18.72	20.00	LINR
Hexachlorobutadiene	0.3120000	0.2526690	0.2526690	0.1	19.02	20.00	AVRG
Naphthalene	40.677321	50.000000	0.4895411	0.2	18.64	20.00	LINR
1,2,3-Trichlorobenzene	40.098696	50.000000	0.1681729	0.1	19.80	20.00	LINR
1-Chlorohexane	0.4360000	0.4543441	0.4543441	0.1	-4.21	20.00	AVRG
1,4-Dioxane	6.e-003	5.85e-003	5.85e-003	0.001	2.50	20.00	AVRG
n-Hexane	0.8460000	0.8282945	0.8282945	0.1	2.09	20.00	AVRG
1,3-Butadiene	0.7340000	0.7302110	0.7302110	0.1	0.52	20.00	AVRG
Cyclohexane	1.0740000	1.0568628	1.0568628	0.1	1.60	20.00	AVRG
Freon TF	0.3840000	0.4066657	0.4066657	0.1	-5.90	20.00	AVRG
Methylcyclohexane	1.2640000	1.0144414	1.0144414	0.1	19.74	20.00	AVRG
Methyl Acetate	0.5430000	0.5668614	0.5668614	0.1	-4.39	20.00	AVRG
Tert-Butyl alcohol	7.e-002	6.73e-002	6.73e-002	0.005	3.86	20.00	AVRG
Isopropyl Alcohol	4.9e-002	4.73e-002	4.73e-002	0.005	3.47	20.00	AVRG
Acetaldehyde	5.1e-002	5.55e-002	5.55e-002	0.001	-8.82	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: VOA6 Calibration Date: 04/08/20 Time: 0954

Lab File ID: X040803 Init. Calib. Date(s): 03/19/20 03/19/20

Init. Calib. Times: 1134 1533

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
Dibromofluoromethane	50.880097	50.000000	0.5055195	0.1	-1.76	20.00	LINR
1,2-Dichloroethane-d4	49.168402	50.000000	0.6177557	0.1	1.66	20.00	LINR
Toluene-d8	50.765689	50.000000	1.3004097	0.1	-1.53	20.00	LINR
4-Bromofluorobenzene	50.486759	50.000000	0.4857436	0.1	-0.97	20.00	LINR

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS20040284

Instrument ID: VOA6 Calibration Date: 04/08/20 Time: 1445

Lab File ID: X040813 Init. Calib. Date(s): 03/19/20 03/19/20

Init. Calib. Times: 1134 1533

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
Dichlorodifluoromethane	43.431334	50.000000	0.4834949	0.1	13.14	20.00	LINR
Chloromethane	44.290844	50.000000	0.7697551	0.1	11.42	20.00	LINR
Vinyl Chloride	0.7620000	0.6676521	0.6676521	0.1	12.38	20.00	AVRG
Bromomethane	52.623821	50.000000	0.3595576	0.1	-5.25	20.00	LINR
Chloroethane	48.278500	50.000000	0.3596503	0.1	3.44	20.00	LINR
Trichlorofluoromethane	0.7440000	0.7649941	0.7649941	0.1	-2.82	20.00	AVRG
Acrolein	103.84483	100.00000	4.73e-002	0.01	-3.84	20.00	LINR
Acetone	103.69216	100.00000	0.2013831	0.1	-3.69	20.00	LINR
1,1-Dichloroethene	0.4240000	0.4078634	0.4078634	0.1	3.80	20.00	AVRG
Iodomethane	110.66934	100.00000	0.6798928	0.1	-10.67	20.00	2RDR
Acrylonitrile	0.3230000	0.3339381	0.3339381	0.05	-3.39	20.00	AVRG
Methylene Chloride	53.241184	50.000000	0.5656148	0.1	-6.48	20.00	LINR
Methyl tert-butyl ether	1.5670000	1.6349471	1.6349471	0.1	-4.34	20.00	AVRG
Carbon Disulfide	1.3940000	1.3928654	1.3928654	0.1	0.08	20.00	AVRG
trans-1,2-Dichloroethene	0.4930000	0.5108707	0.5108707	0.1	-3.62	20.00	AVRG
Vinyl Acetate	2.0260000	2.1662976	2.1662976	0.01	-6.92	20.00	AVRG
1,1-Dichloroethane	1.1130000	1.1665932	1.1665932	0.2	-4.82	20.00	AVRG
2-Butanone	110.18097	100.00000	0.3313856	0.1	-10.18	20.00	LINR
2,2-Dichloropropane	0.7790000	0.8222848	0.8222848	0.1	-5.56	20.00	AVRG
cis-1,2-Dichloroethene	0.5690000	0.6059211	0.6059211	0.1	-6.49	20.00	AVRG
Chloroform	0.9250000	0.9819684	0.9819684	0.2	-6.16	20.00	AVRG
Bromochloromethane	0.2970000	0.3125618	0.3125618	0.1	-5.24	20.00	AVRG
1,1,1-Trichloroethane	0.7740000	0.8104016	0.8104016	0.1	-4.70	20.00	AVRG
1,1-Dichloropropene	0.4700000	0.4486727	0.4486727	0.1	4.54	20.00	AVRG
1,2-Dichloroethane	0.5280000	0.5614993	0.5614993	0.1	-6.34	20.00	AVRG
Carbon Tetrachloride	0.4730000	0.4547233	0.4547233	0.1	3.86	20.00	AVRG
Benzene	1.3220000	1.3573531	1.3573531	0.5	-2.67	20.00	AVRG
Trichloroethene	0.3460000	0.3732260	0.3732260	0.2	-7.87	20.00	AVRG
Bromodichloromethane	0.4600000	0.4805971	0.4805971	0.2	-4.48	20.00	AVRG
2-Chloroethylvinyl ether	9.e-002	9.09e-002	9.09e-002	0.001	-0.10	20.00	AVRG
1,2-Dichloropropane	0.4250000	0.4326659	0.4326659	0.1	-1.80	20.00	AVRG
Dibromomethane	0.2190000	0.2346646	0.2346646	0.1	-7.15	20.00	AVRG
4-Methyl-2-Pentanone	0.5140000	0.5283622	0.5283622	0.1	-2.79	20.00	AVRG
cis-1,3-Dichloropropene	0.5650000	0.5939841	0.5939841	0.2	-5.13	20.00	AVRG
Toluene	1.5190000	1.5285846	1.5285846	0.4	-0.63	20.00	AVRG
trans-1,3-Dichloropropene	0.4990000	0.5342269	0.5342269	0.1	-7.06	20.00	AVRG
2-Hexanone	0.3430000	0.3669786	0.3669786	0.1	-6.99	20.00	AVRG
1,1,2-Trichloroethane	0.2880000	0.2970206	0.2970206	0.1	-3.13	20.00	AVRG
1,3-Dichloropropane	0.5990000	0.6150333	0.6150333	0.1	-2.68	20.00	AVRG
Dibromochloromethane	0.3870000	0.4091329	0.4091329	0.1	-5.72	20.00	AVRG
Tetrachloroethene	0.3120000	0.3149323	0.3149323	0.2	-0.94	20.00	AVRG
1,2-Dibromoethane	0.3580000	0.3920650	0.3920650	0.1	-9.52	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: VOA6 Calibration Date: 04/08/20 Time: 1445

Lab File ID: X040813 Init. Calib. Date(s): 03/19/20 03/19/20

Init. Calib. Times: 1134 1533

GC Column: DB624 ID: 0.18 (mm)

COMPOUND	RRF or AMOUNT	RRF50.000 or AMOUNT	CCAL RRF50.000	MIN RRF	%D or %DRIFT	MAX %D or %DRIFT	CURV TYPE	
Chlorobenzene	0.9850000	1.0248332	1.0248332	0.5	-4.04	20.00	AVRG	
1,1,1,2-Tetrachloroethane	0.3690000	0.3953462	0.3953462	0.1	-7.14	20.00	AVRG	
Ethylbenzene	0.5230000	0.5298488	0.5298488	0.1	-1.31	20.00	AVRG	
m,p-Xylenes	0.6270000	0.6417295	0.6417295	0.1	-2.35	20.00	AVRG	
o-Xylene	0.6120000	0.6255280	0.6255280	0.3	-2.21	20.00	AVRG	
Styrene	1.0780000	1.1254597	1.1254597	0.3	-4.40	20.00	AVRG	
Bromoform	0.2600000	0.2965545	0.2965545	0.1	-14.06	20.00	AVRG	
Isopropylbenzene	1.5420000	1.5203265	1.5203265	0.1	1.40	20.00	AVRG	
1,1,2,2-Tetrachloroethane	0.8480000	0.8678261	0.8678261	0.3	-2.34	20.00	AVRG	
1,2,3-Trichloropropane	0.7140000	0.7563183	0.7563183	0.1	-5.93	20.00	AVRG	
Methacrylonitrile	0.7280000	0.7648821	0.7648821	0.1	-5.07	20.00	AVRG	
n-Propylbenzene	3.5790000	3.5393052	3.5393052	0.1	1.11	20.00	AVRG	
Bromobenzene	0.8910000	0.9412186	0.9412186	0.1	-5.64	20.00	AVRG	
1,3,5-Trimethylbenzene	2.5940000	2.5443230	2.5443230	0.1	1.92	20.00	AVRG	
2-Chlorotoluene	2.1760000	2.1844685	2.1844685	0.1	-0.39	20.00	AVRG	
4-Chlorotoluene	2.4940000	2.5417167	2.5417167	0.1	-1.91	20.00	AVRG	
Propionitrile	0.1160000	0.1229371	0.1229371	0.01	-5.98	20.00	AVRG	
tert-Butylbenzene	2.1920000	2.0827805	2.0827805	0.1	4.98	20.00	AVRG	
1,2,4-Trimethylbenzene	2.5980000	2.6398454	2.6398454	0.1	-1.61	20.00	AVRG	
sec-Butylbenzene	3.0340000	2.8653461	2.8653461	0.1	5.56	20.00	AVRG	
p-Isopropyltoluene	2.6190000	2.5940376	2.5940376	0.1	0.95	20.00	AVRG	
1,3-Dichlorobenzene	1.4890000	1.5478560	1.5478560	0.6	-3.95	20.00	AVRG	
1,4-Dichlorobenzene	1.5400000	1.5714654	1.5714654	0.4	-2.04	20.00	AVRG	
n-Butylbenzene	2.2590000	2.2011226	2.2011226	0.5	2.56	20.00	AVRG	
1,2-Dichlorobenzene	1.3420000	1.4163034	1.4163034	0.4	-5.54	20.00	AVRG	
1,2-Dibromo-3-Chloropropane	52.356726	50.000000	8.71e-002	0.05	-4.71	20.00	LINR	
1,2,4-Trichlorobenzene	39.597231	50.000000	0.3290527	0.2	20.80	20.00	LINR	<-
Hexachlorobutadiene	0.3120000	0.2328352	0.2328352	0.1	25.37	20.00	AVRG	<-
Naphthalene	40.759547	50.000000	0.4905804	0.2	18.48	20.00	LINR	
1,2,3-Trichlorobenzene	39.439822	50.000000	0.1653398	0.1	21.12	20.00	LINR	<-
1-Chlorohexane	0.4360000	0.4148761	0.4148761	0.1	4.84	20.00	AVRG	
1,4-Dioxane	6.e-003	6.93e-003	6.93e-003	0.001	-15.50	20.00	AVRG	
n-Hexane	0.8460000	0.7667409	0.7667409	0.1	9.37	20.00	AVRG	
1,3-Butadiene	0.7340000	0.7117882	0.7117882	0.1	3.03	20.00	AVRG	
Cyclohexane	1.0740000	1.0051204	1.0051204	0.1	6.41	20.00	AVRG	
Freon TF	0.3840000	0.3883672	0.3883672	0.1	-1.14	20.00	AVRG	
Methylcyclohexane	1.2640000	1.2007737	1.2007737	0.1	5.00	20.00	AVRG	
Methyl Acetate	0.5430000	0.6024122	0.6024122	0.1	-10.94	20.00	AVRG	
Tert-Butyl alcohol	7.e-002	8.01e-002	8.01e-002	0.005	-14.43	20.00	AVRG	
Isopropyl Alcohol	4.9e-002	5.36e-002	5.36e-002	0.005	-9.39	20.00	AVRG	
Acetaldehyde	5.1e-002	6.58e-002	6.58e-002	0.001	-29.02	20.00	AVRG	<-

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

Lab Code: ALS-HS Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: VOA6 Calibration Date: 04/08/20 Time: 1445

Lab File ID: X040813 Init. Calib. Date(s): 03/19/20 03/19/20

Init. Calib. Times: 1134 1533

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
Dibromofluoromethane	51.882893	50.000000	0.5154617	0.1	-3.76	20.00	LINR
1,2-Dichloroethane-d4	51.053327	50.000000	0.6413621	0.1	-2.11	20.00	LINR
Toluene-d8	49.470352	50.000000	1.2672776	0.1	1.06	20.00	LINR
4-Bromofluorobenzene	49.454997	50.000000	0.4759128	0.1	1.09	20.00	LINR

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

outputFile debug: C:\tp\envision\results\HS20040284/08a.01 Lab Code: AL

Lab File ID (Standard): X040803 Date Analyzed: 04/08/20

Instrument ID: VOA6 Time Analyzed: 0954

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	273940	4.18	415335	4.97	379585	7.67
	UPPER LIMIT	547880	4.68	830670	5.47	759170	8.17
	LOWER LIMIT	136970	3.68	207668	4.47	189793	7.17
	CLIENT SAMPLE NO.						
01	VBLKW-200408	367135	4.18	533681	4.97	468415	7.67
02	HS20040284-0	374778	4.18	539636	4.97	469715	7.67
03	HS20040284-0	367386	4.18	541016	4.97	467419	7.67
04	HS20040284-0	346321	4.18	508468	4.97	444848	7.67
05	HS20040284-0	365413	4.18	533845	4.97	472253	7.67
06	VLCSW-200408	277681	4.18	427347	4.97	387842	7.67
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 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS LABORATORY GROUP Contract:

outputFile debug: C:\tp\envision\results\HS20040284/08a.01 Lab Code: AL

Lab File ID (Standard): X040803 Date Analyzed: 04/08/20

Instrument ID: VOA6 Time Analyzed: 0954

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	184340	9.67				
	UPPER LIMIT	368680	10.17				
	LOWER LIMIT	92170	9.17				
	CLIENT SAMPLE NO.						
01	VBLKW-200408	224974	9.67				
02	HS20040284-0	218056	9.67				
03	HS20040284-0	219597	9.67				
04	HS20040284-0	217429	9.67				
05	HS20040284-0	236819	9.67				
06	VLCSW-200408	192829	9.66				
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040802.D

Date : 08-APR-2020 09:30

Client ID: BFB

Instrument: voa6.i

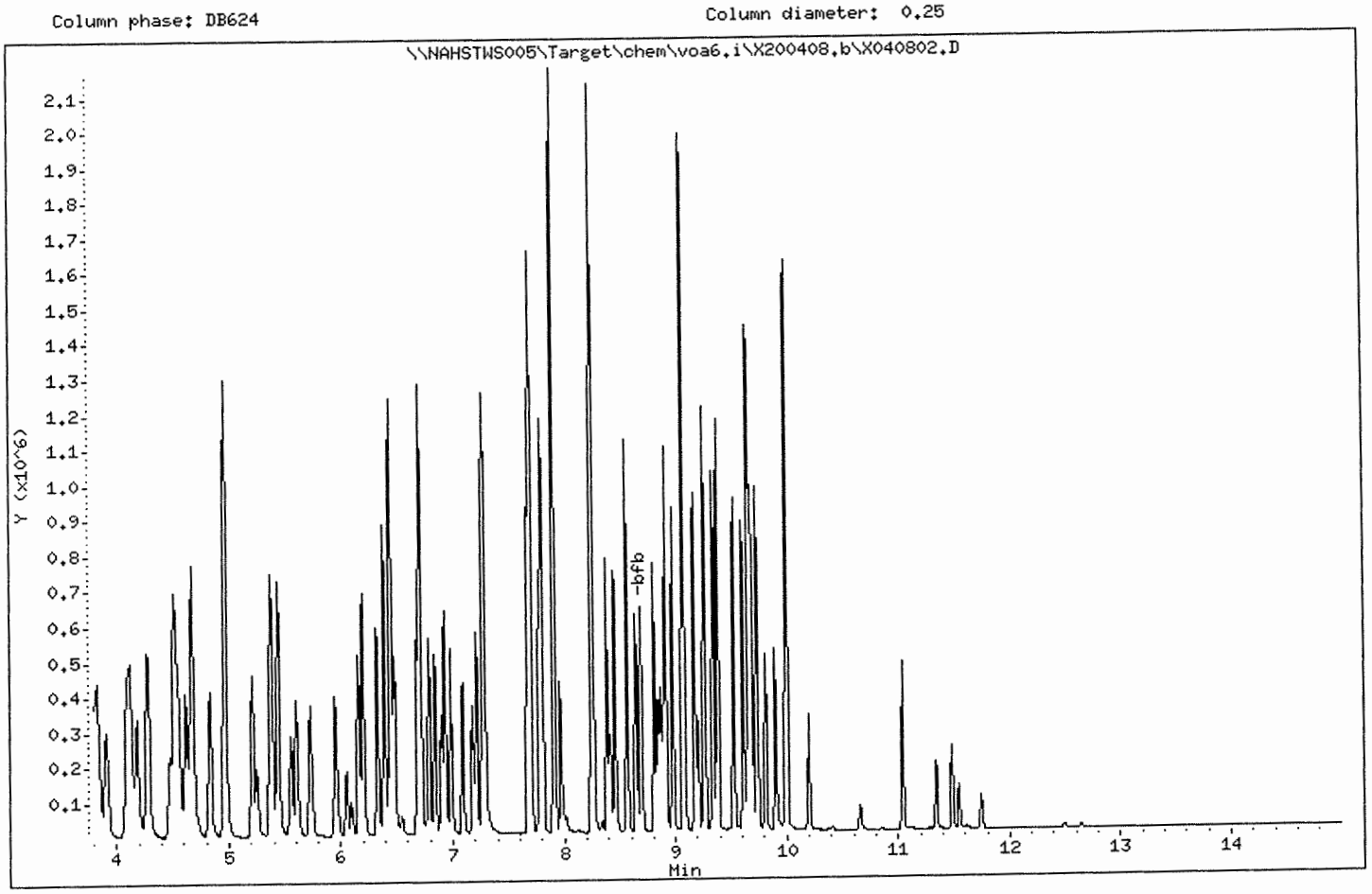
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: PC

Column phase: DB624

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040802.D

Date : 08-APR-2020 09:30

Client ID: BFB

Instrument: voa6.i

Sample Info: BFB;BFB;3;;BFB

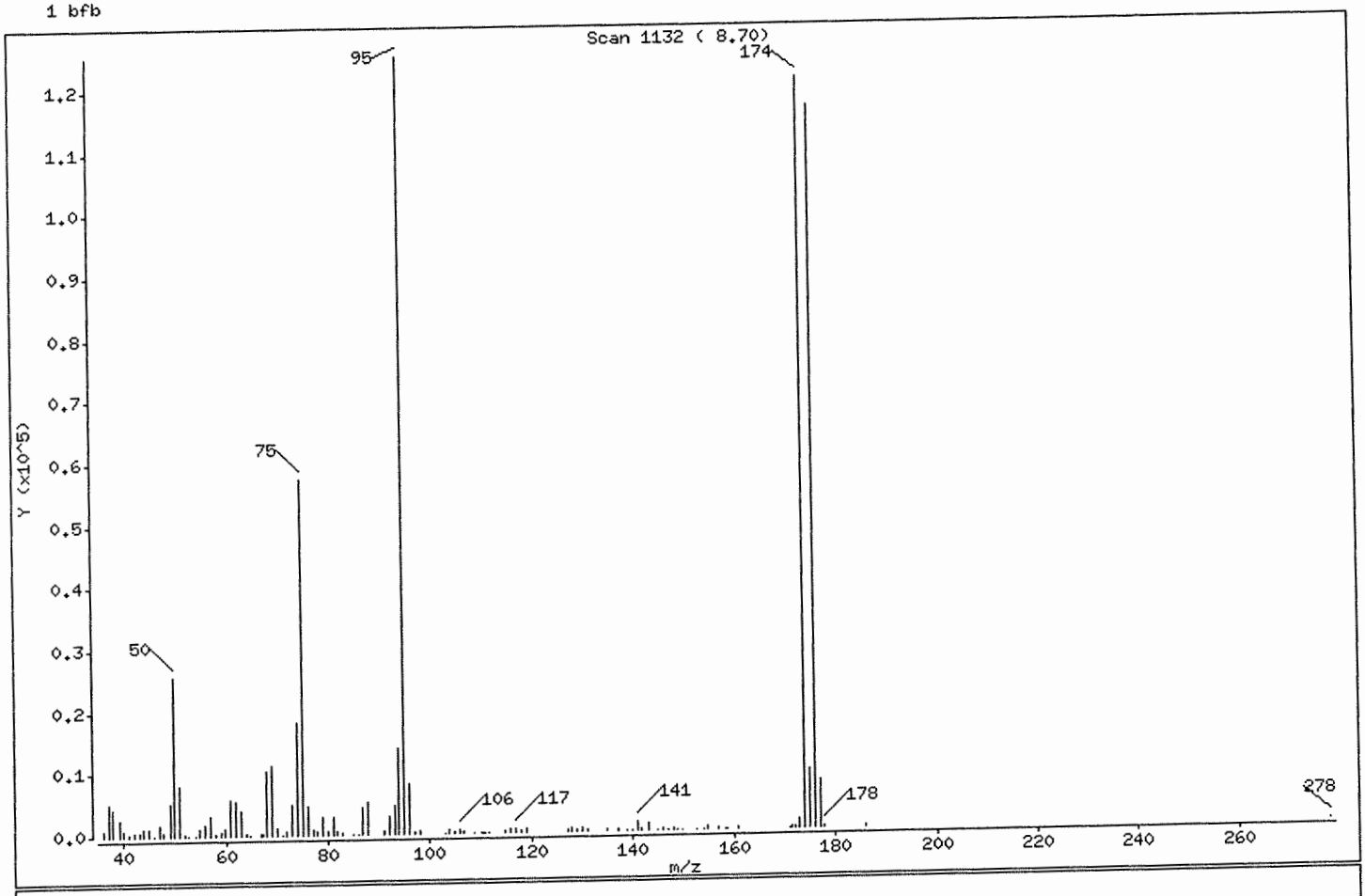
Volume Injected (uL): 2.0

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	20.43
75	30.00 - 60.00% of mass 95	45.72
96	5.00 - 9.00% of mass 95	6.41
173	Less than 2.00% of mass 174	1.04 (1.07)
174	Greater than 50.00% of mass 95	96.88
175	5.00 - 9.00% of mass 174	7.57 (7.82)
176	95.00 - 101.00% of mass 174	93.02 (96.01)
177	5.00 - 9.00% of mass 176	6.26 (6.73)

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040802.D

Date : 08-APR-2020 09:30

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: X040802.D
Spectrum: Scan 1132 (8.70)
Location of Maximum: 95.00
Number of points: 111

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	986	64.20	317	95.00	125448	141.00	1474
37.00	5308	64.90	70	96.00	8044	141.80	282
38.00	4411	66.80	263	97.00	379	143.00	1276
39.10	2492	67.10	251	98.10	444	144.70	80
39.90	732	68.00	10339	103.20	76	145.90	204
41.10	419	69.00	11179	103.90	556	146.90	88
42.00	642	70.10	1095	104.90	207	147.90	317
43.00	712	71.00	102	105.90	593	148.90	92
44.00	1022	71.90	531	106.70	181	149.90	110
45.00	1151	73.00	4864	108.80	85	152.80	101
46.00	98	74.00	18120	110.10	122	154.00	61
47.10	1624	75.00	57352	110.60	58	154.90	476
47.90	662	76.00	4750	111.00	62	156.90	306
49.00	5260	77.00	972	111.70	78	158.50	89
50.00	25632	78.00	576	114.90	147	158.80	77
51.00	8188	78.90	2740	115.90	467	160.90	204
51.90	399	79.90	566	116.90	651	171.00	143
52.80	78	80.90	2866	117.90	417	171.30	150
54.00	80	81.90	558	119.00	575	172.20	302
55.00	1171	83.00	178	127.00	186	173.00	1300
56.00	1817	84.90	93	127.80	582	174.00	121536
57.00	3294	86.00	138	129.00	285	175.00	9499
58.00	178	86.90	4348	129.90	466	176.00	116688
59.00	703	87.90	5079	130.90	196	177.00	7856
59.90	1141	90.90	467	134.80	276	177.90	290
61.00	5734	92.00	2941	137.00	216	185.90	228
62.00	5516	93.00	4511	139.00	104	278.20	117
63.00	3907	94.00	13982	139.90	68		

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040803.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 08-APR-2020 09:54
Operator : PC Inst ID: voa6.i
Smp Info : CCV;CCV;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\8260W.m
Meth Date : 28-Apr-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 14:22 Cal File: X031908.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

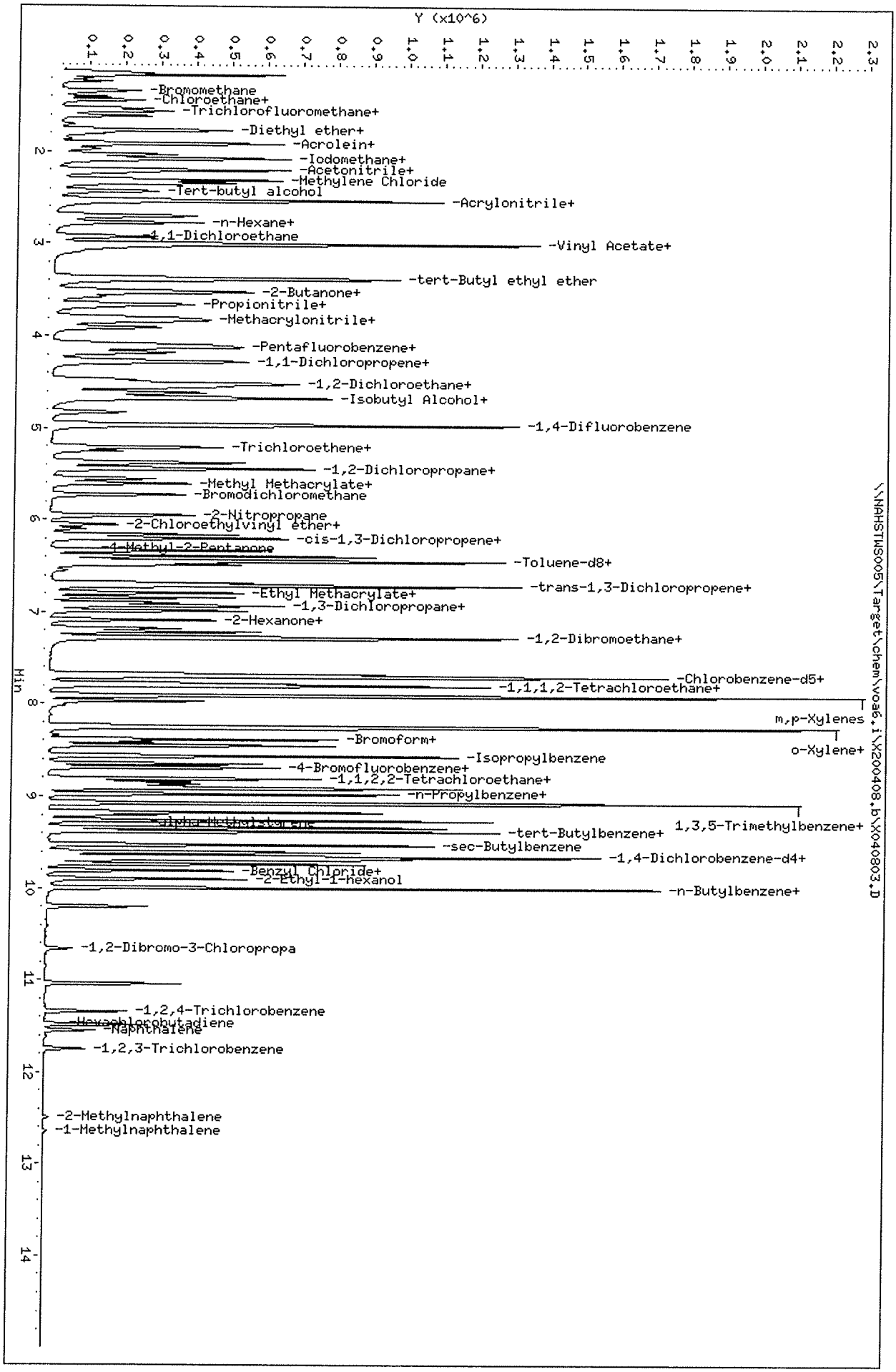
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	273940	50.0000	
194 Acetaldehyde	44	1.210	1.210	(0.289)	60787	200.000	214.87
140 1,3-Butadiene	54	1.159	1.159	(0.277)	200034	50.0000	49.73
25 Methacrylonitrile	41	3.824	3.824	(0.914)	192650	50.0000	48.28
136 n-Hexane	57	2.771	2.771	(0.663)	226903	50.0000	48.92
4 Propionitrile	54	3.652	3.652	(0.873)	308073	500.000	485.84
2 Dichlorodifluoromethane	85	0.973	0.973	(0.233)	133393	50.0000	43.73
3 Chloromethane	50	1.074	1.074	(0.257)	215700	50.0000	45.28
5 Vinyl Chloride	62	1.138	1.138	(0.272)	187373	50.0000	44.89
6 Bromomethane	94	1.339	1.339	(0.320)	99680	50.0000	53.26
7 Chloroethane	64	1.403	1.403	(0.336)	99393	50.0000	48.70
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	215137	50.0000	52.80
9 Acrolein	56	1.854	1.854	(0.443)	22792	100.000	91.09
10 Acetone	43	1.969	1.969	(0.471)	98790	100.000	91.43
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	116602	50.0000	50.23
15 Iodomethane	142	2.026	2.026	(0.485)	372788	100.000	110.75
16 Acrylonitrile	53	2.535	2.535	(0.606)	165775	100.000	93.79
17 Methylene Chloride	84	2.306	2.306	(0.551)	152408	50.0000	52.34
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	426092	50.0000	49.62
19 Carbon Disulfide	76	2.069	2.069	(0.495)	774753	100.000	101.47
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	142959	50.0000	52.95
21 Vinyl Acetate	43	3.000	3.000	(0.717)	1133535	100.000	102.13

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	325529	50.0000	53.36
	24 2-Butanone	43	3.573	3.573	(0.854)	164591	100.000	99.76
	26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	233234	50.0000	54.64
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	166155	50.0000	53.26
	28 Chloroform	83	3.910	3.910	(0.935)	266053	50.0000	52.52
	29 Bromochloromethane	128	3.795	3.795	(0.908)	86070	50.0000	52.88
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	138482	50.0000	50.88
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	227544	50.0000	53.67
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	195920	50.0000	50.19
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	235725	50.0000	53.72
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	202229	50.0000	51.42
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	169228	50.0000	49.16
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	415335	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	585068	50.0000	53.27
	38 Trichloroethene	130	5.207	5.207	(1.048)	162109	50.0000	56.31
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	205123	50.0000	53.69
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	73437	100.000	97.81
	42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	186672	50.0000	52.85
	44 Dibromomethane	93	5.550	5.550	(1.117)	98522	50.0000	54.01
	45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	386465	100.000	99.00
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	254200	50.0000	54.17
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	379585	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	493616	50.0000	50.76
	50 Toluene	91	6.446	6.446	(0.840)	622423	50.0000	53.97
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	228422	50.0000	55.06
	52 2-Hexanone	43	7.090	7.090	(0.924)	262030	100.000	100.68
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	116057	50.0000	53.06
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	240377	50.0000	52.88
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	161797	50.0000	54.99
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	130815	50.0000	55.21
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	147536	50.0000	54.21
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	188705	50.0000	52.12
	59 Chlorobenzene	112	7.699	7.699	(1.004)	406703	50.0000	54.38
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	156450	50.0000	55.86
	61 Ethylbenzene	106	7.800	7.800	(1.017)	215922	50.0000	54.38
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	520671	100.000	109.32
	63 o-Xylene	106	8.244	8.244	(1.075)	256540	50.0000	55.18
	64 Styrene	104	8.258	8.258	(1.077)	441740	50.0000	53.95
	66 Bromoform	173	8.416	8.416	(1.097)	113254	50.0000	57.38
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	634562	50.0000	54.21
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	163446	50.0000	52.27
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	184381	50.0000	50.48
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	184340	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	143478	50.0000	54.46 (M)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	744747	50.0000	56.43
	74 Bromobenzene	156	8.810	8.810	(0.911)	191158	50.0000	58.19
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	530751	50.0000	55.48
	76 2-Chlorotoluene	91	8.974	8.974	(0.928)	447751	50.0000	55.81
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	518460	50.0000	56.37
	78 tert-Butylbenzene	119	9.340	9.340	(0.966)	445893	50.0000	55.16
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	544705	50.0000	56.87
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	625404	50.0000	55.90
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	552074	50.0000	57.16
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	312775	50.0000	56.96

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	313757	50.0000	55.26
87	n-Butylbenzene	91	9.999	9.999	(1.034)	471953	50.0000	56.66
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	278031	50.0000	56.18
89	1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	14351	50.0000	46.90
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	62283	50.0000	40.64(M)
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	46577	50.0000	40.46
92	Naphthalene	128	11.546	11.546	(1.194)	90242	50.0000	40.67
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	31001	50.0000	40.09(M)
M 94	1,2-Dichloroethylene (total)	96				309114	100.000	(a)
135	1,4-Dioxane	88	5.601	5.601	(1.339)	32024	1000.00	1014.15
141	Cyclohexane	56	4.125	4.125	(0.986)	289517	50.0000	49.21
138	Freon TF	101	1.919	1.919	(0.459)	111402	50.0000	52.90
147	Methylcyclohexane	55	5.378	5.378	(1.082)	421333	50.0000	40.10(M)
146	Methyl Acetate	43	2.227	2.227	(0.532)	155286	50.0000	52.17
148	Tert-Butyl alcohol	59	2.427	2.427	(0.580)	368855	1000.00	961.58
149	Isopropyl Alcohol	45	2.091	2.091	(0.500)	258913	1000.00	957.94

QC Flag Legend

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



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Date : 08-APR-2020 09:54
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\X200408.b\X040807.D Page 1
Report Date: 28-Apr-2020 13:59

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040807.D
Lab Smp Id: VBLKW-200408 Client Smp ID: VBLKW-200408
Inj Date : 08-APR-2020 11:30
Operator : PC Inst ID: voa6.i
Smp Info : VBLKW-200408;VBLKW-200408;3;;BLANK
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\8260W.m
Meth Date : 28-Apr-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 14:22 Cal File: X031908.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

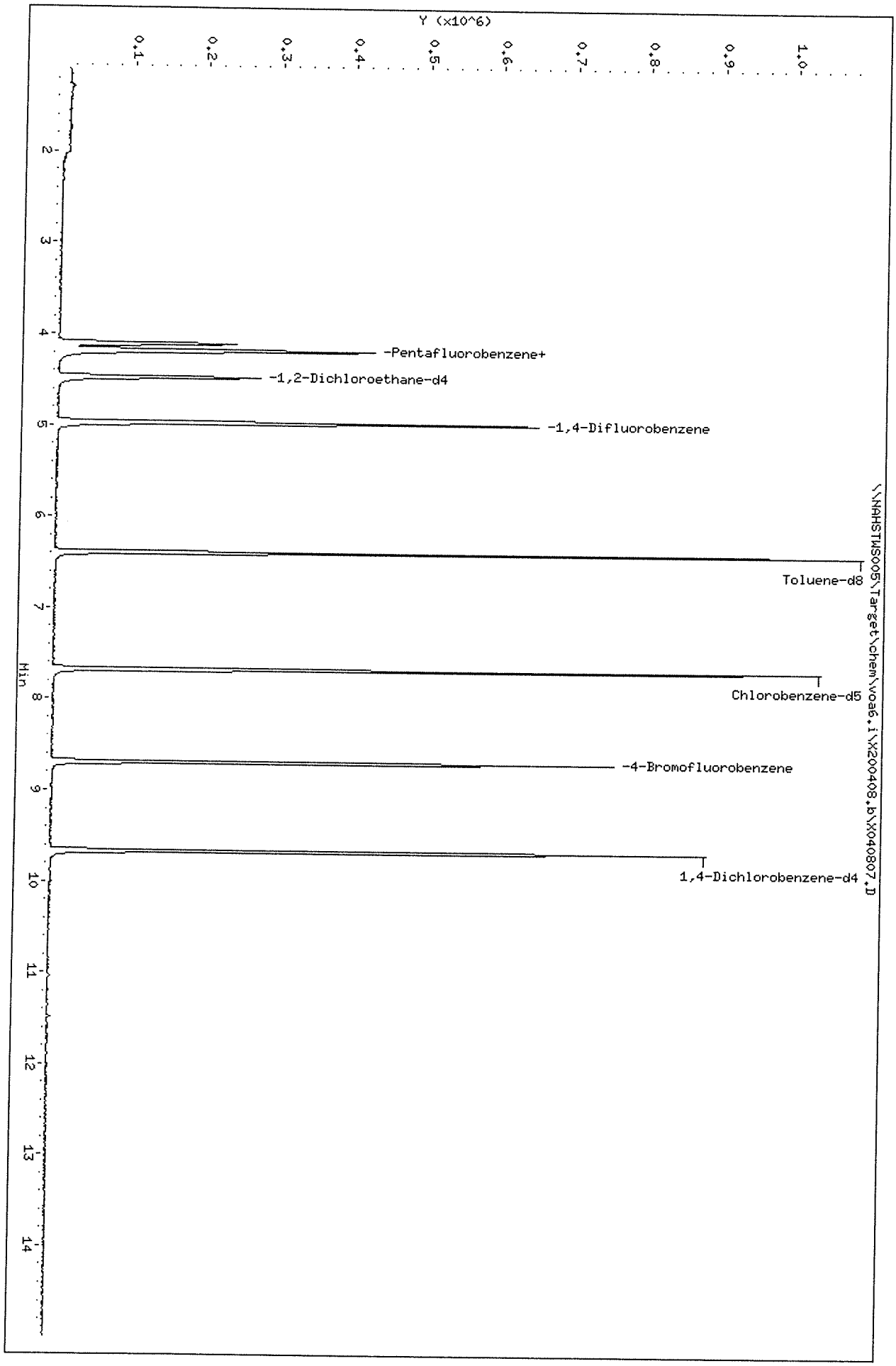
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	367135	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	172940	47.4037	47.40
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	200881	43.5314	43.53
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	533681	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	468415	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	620527	51.7168	51.71
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	218948	48.5640	48.56
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	224974	50.0000	

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040807.D
Date : 08-APR-2020 11:30
Client ID: VBLKW-200408
Sample Info: VBLKW-200408;VBLKW-200408;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\X200408.b\X040808.D Page 1
Report Date: 28-Apr-2020 13:59

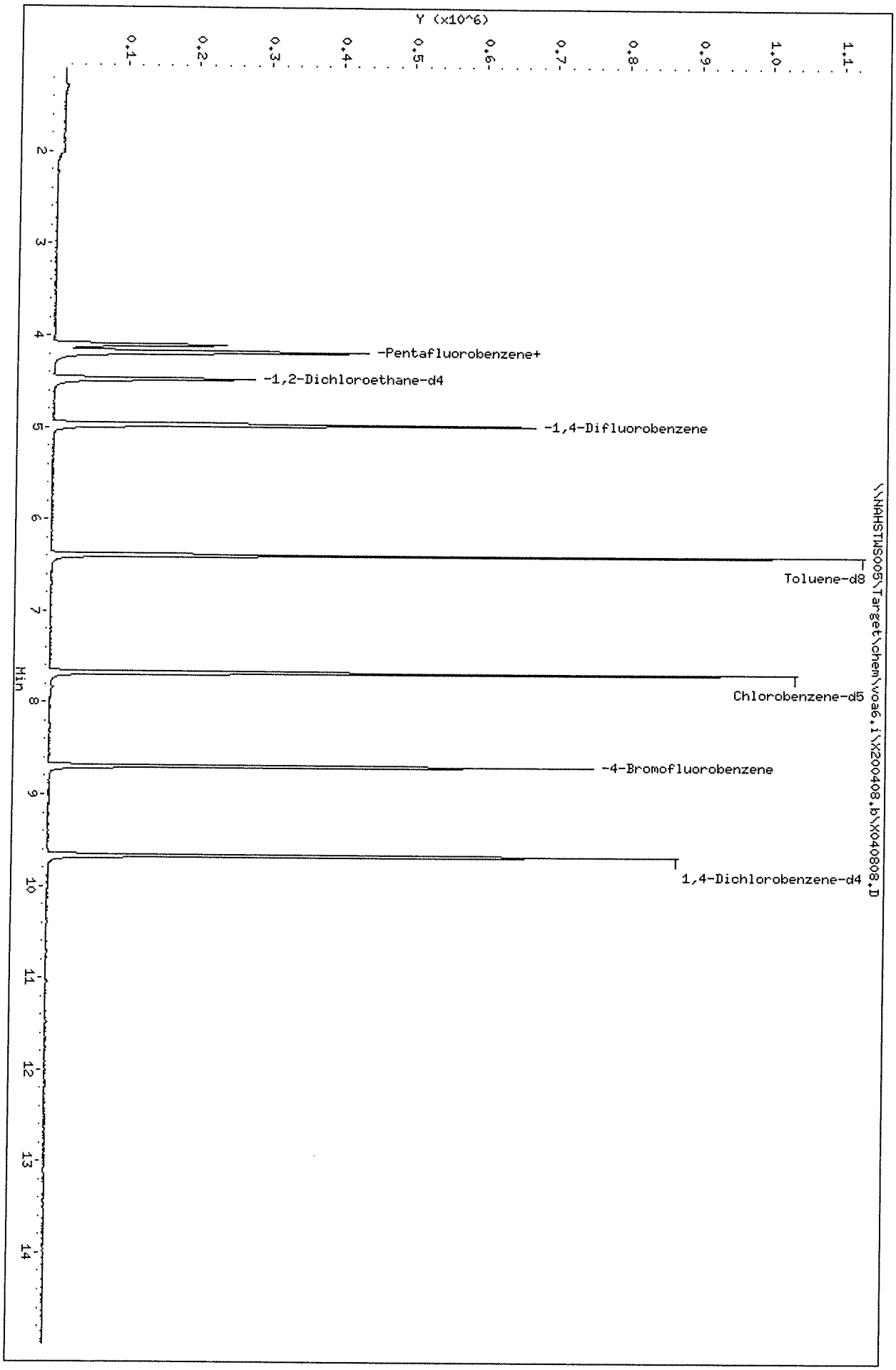
ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040808.D
Lab Smp Id: HS20040284-03 Client Smp ID: HS20040284-03
Inj Date : 08-APR-2020 11:54
Operator : PC Inst ID: voa6.i
Smp Info : HS20040284-03;HS20040284-03;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\8260W.m
Meth Date : 28-Apr-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 14:22 Cal File: X031908.D
Als bottle: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	374778	50.0000	
$ 30 Dibromofluoromethane	113	4.103	4.103	(0.981)	172688	46.3670	46.36
$ 35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	203049	43.1023	43.10
* 36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	539636	50.0000	
* 47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	469715	50.0000	
$ 48 Toluene-d8	98	6.388	6.388	(0.833)	628101	52.2039	52.20
$ 69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	220738	48.8282	48.82
* 70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	218056	50.0000	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Date : 08-APR-2020 11:54
Client ID: HS20040284-03
Sample Info: HS20040284-03;HS20040284-03;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: voa6.i
Operator: PC
Column diameter: 0.18
Y (x10^6)
Min
-Pentafluorobenzene+
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040808.D

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040809.D
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Inj Date : 08-APR-2020 12:18
Operator : PC Inst ID: voa6.i
Smp Info : HS20040284-01;HS20040284-01;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\8260W.m
Meth Date : 28-Apr-2020 14:03 Qin.Xu Quant Type: ISTD
Cal Date : 19-MAR-2020 14:22 Cal File: X031908.D
Als bottle: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

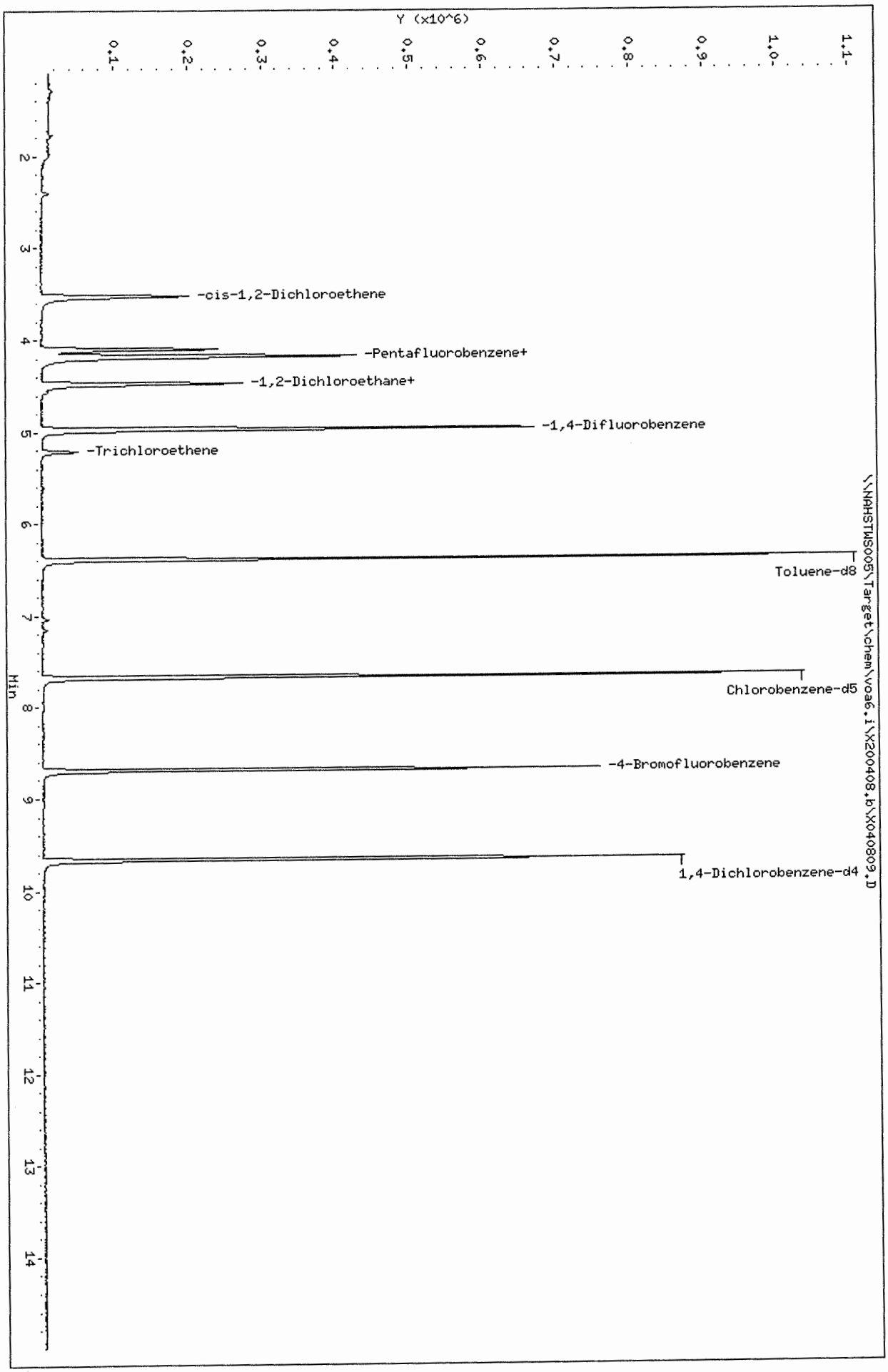
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
*	1 Pentafluorobenzene	168	4.182	4.182	(1.000)	367386	50.0000	
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	94364	22.5545	22.55
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	171122	46.8722	46.87
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	5805	1.01561	1.01(a)
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	203516	44.0742	44.07
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	541016	50.0000	
	38 Trichloroethene	130	5.214	5.207	(1.049)	16582	4.42205	4.42(a)
*	47 Chlorobenzene-d5	117	7.670	7.671	(1.000)	467419	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	618213	51.6336	51.63
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	213089	47.3530	47.35
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	219597	50.0000	
M	94 1,2-Dichloroethylene (total)	96				94364	22.5545	22.55

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040809.D
Date : 08-APR-2020 12:18
Client ID: HS20040284-01
Sample Info: HS20040284-01;HS20040284-01;;;
Purge Volume: 5.0
Column phase: DB624

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



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Date : 08-APR-2020 12:18

Client ID: HS20040284-01

Instrument: voa6.i

Sample Info: HS20040284-01;HS20040284-01;;;

Purge Volume: 5.0

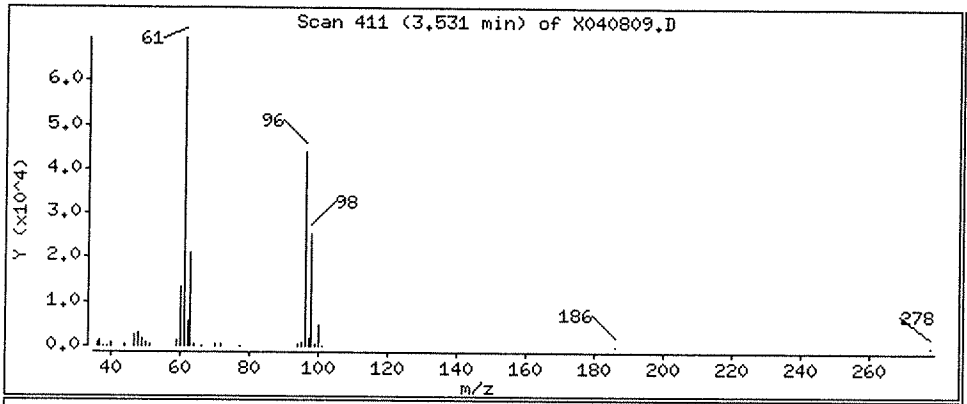
Operator: PC

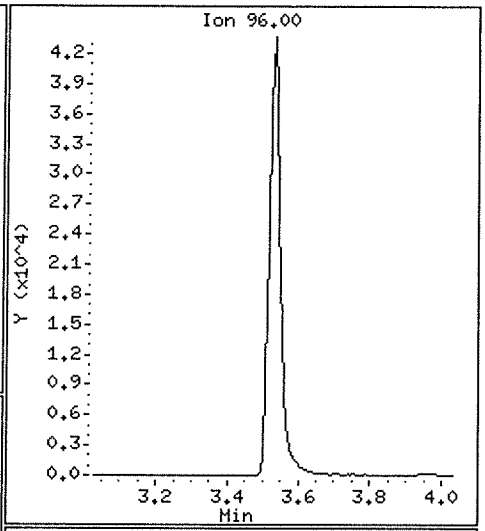
Column phase: DB624

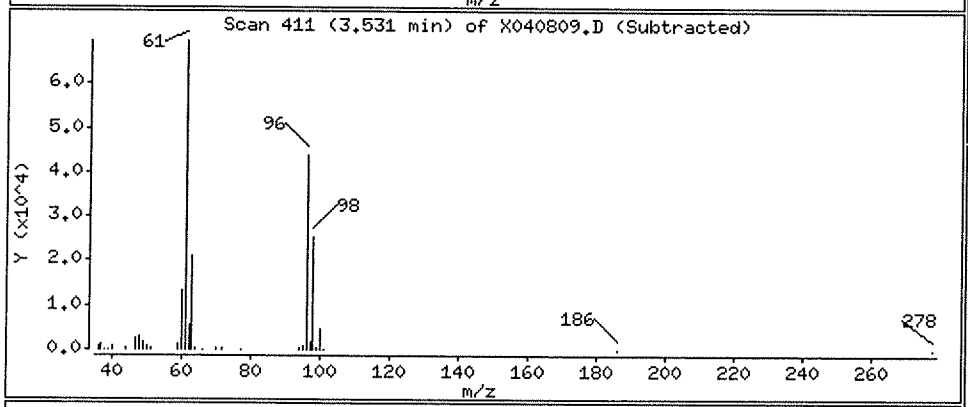
Column diameter: 0.18

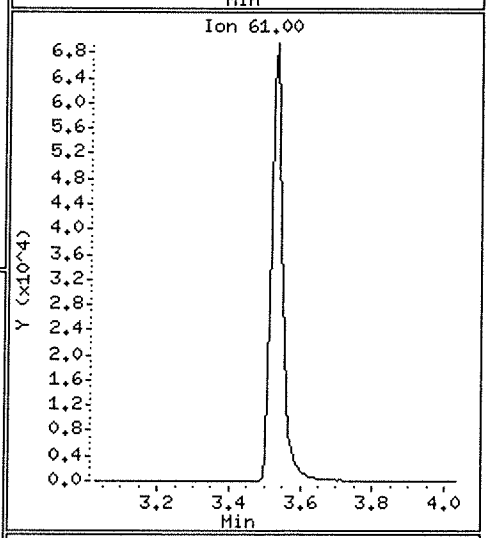
27 cis-1,2-Dichloroethene

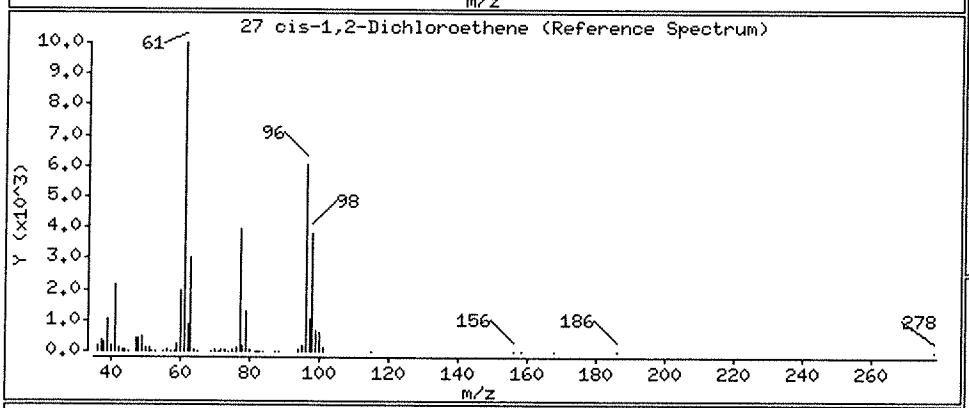
Concentration: 22.55 ug/l

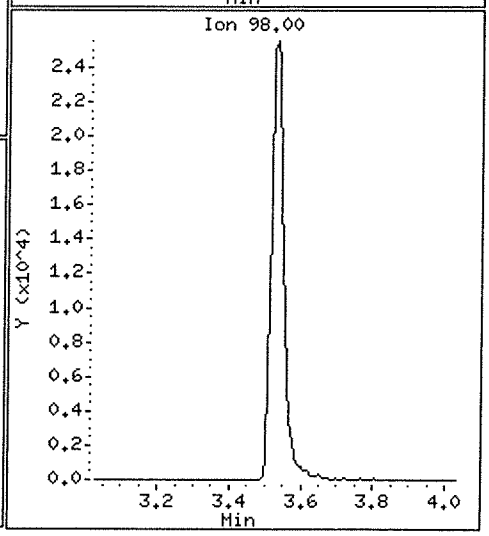


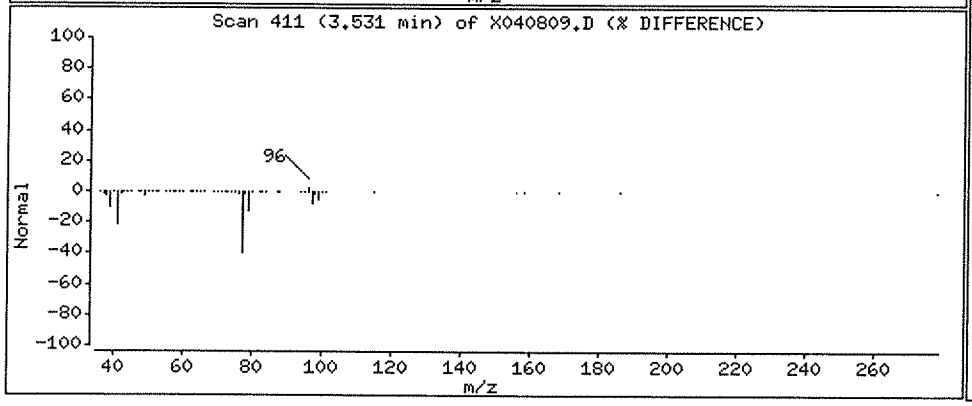












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Date : 08-APR-2020 12:18

Client ID: HS20040284-01

Instrument: voa6.i

Sample Info: HS20040284-01;HS20040284-01;;;

Purge Volume: 5.0

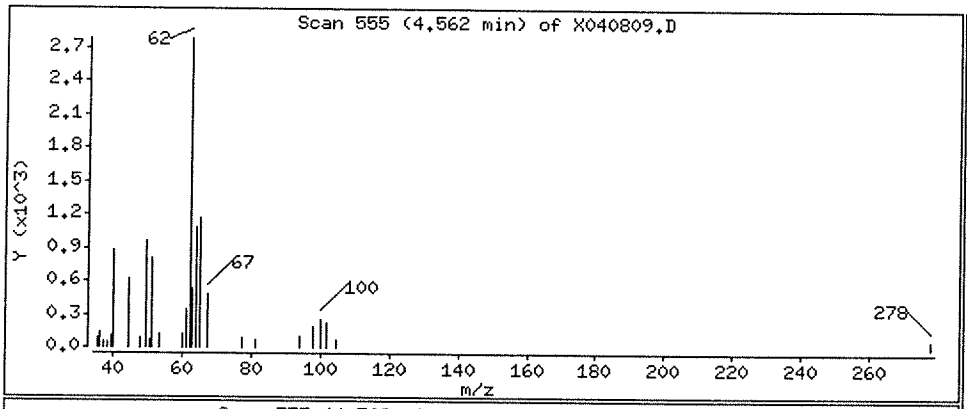
Operator: PC

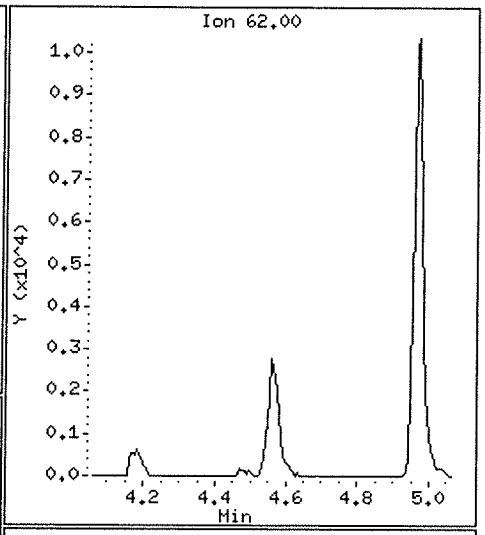
Column phase: DB624

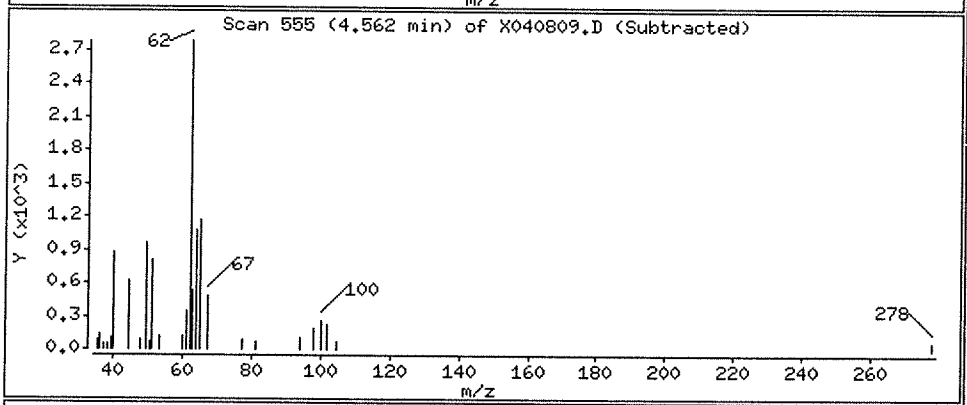
Column diameter: 0.18

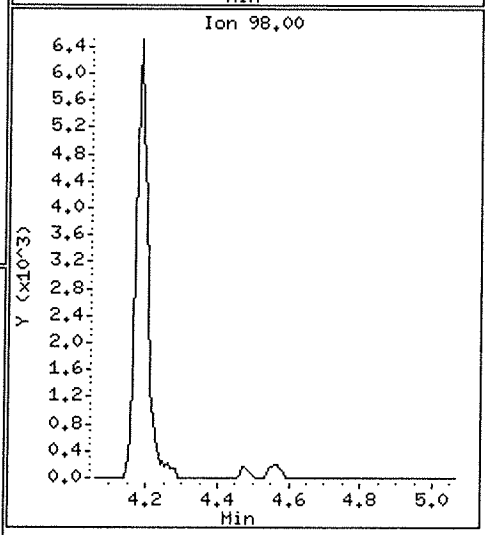
33 1,2-Dichloroethane

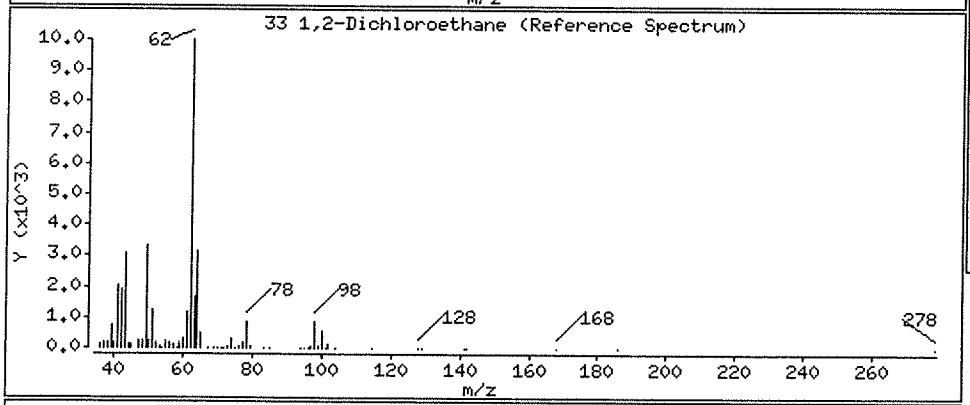
Concentration: 1.01 ug/l

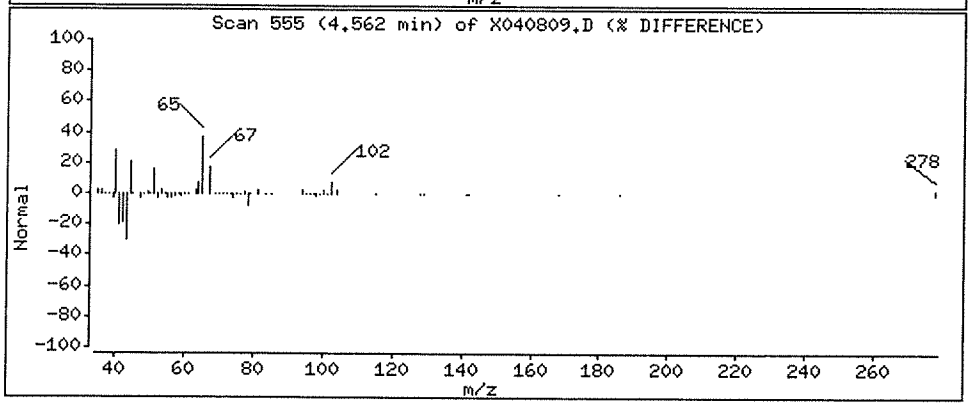












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040809.D

Date : 08-APR-2020 12:18

Client ID: HS20040284-01

Instrument: voa6.i

Sample Info: HS20040284-01;HS20040284-01;;;

Purge Volume: 5.0

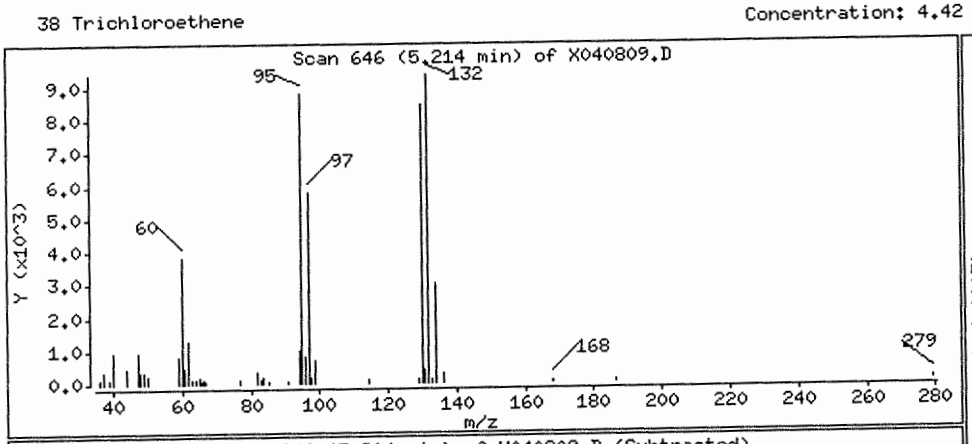
Operator: PC

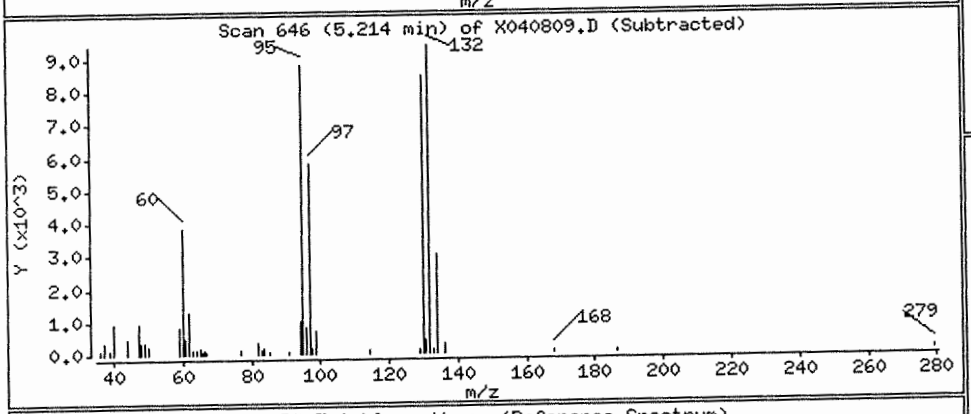
Column phase: DB624

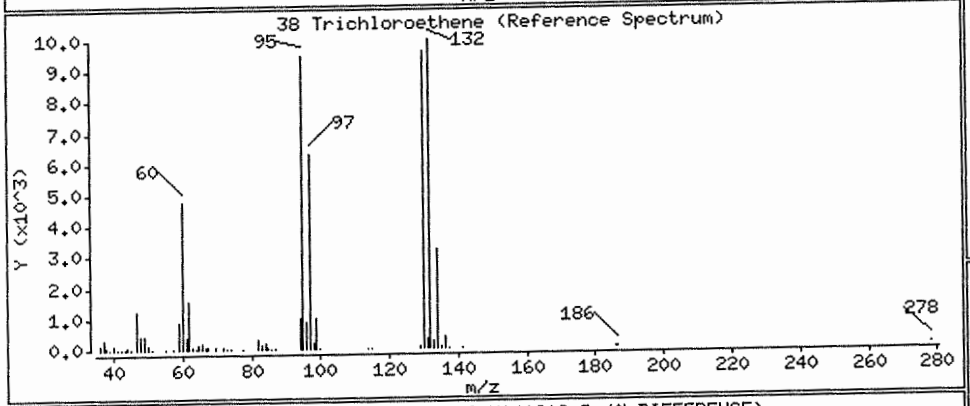
Column diameter: 0.18

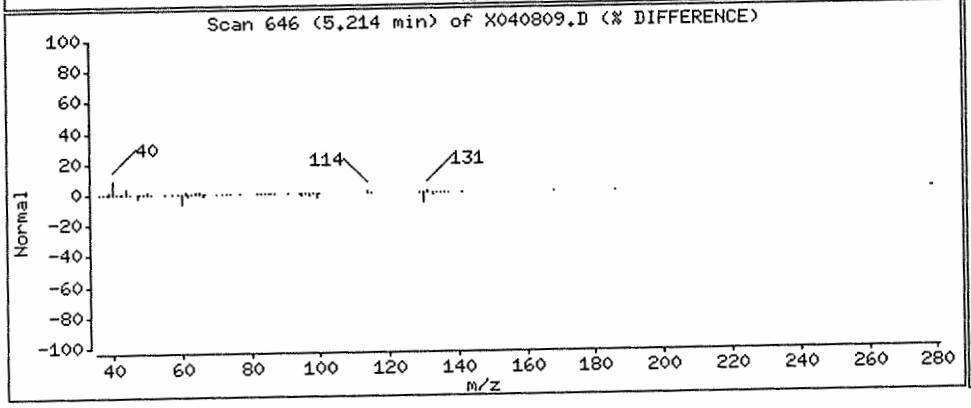
38 Trichloroethene

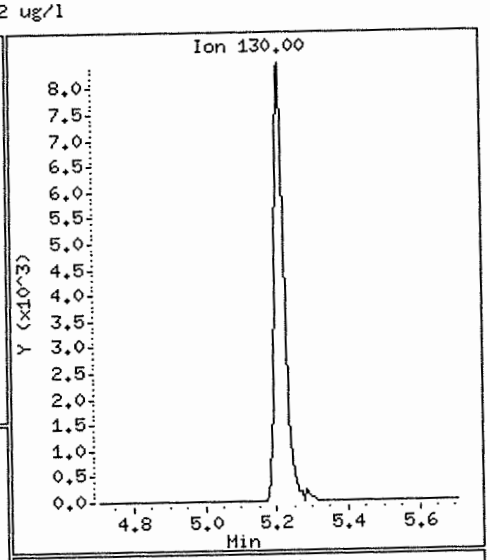
Concentration: 4.42 ug/l

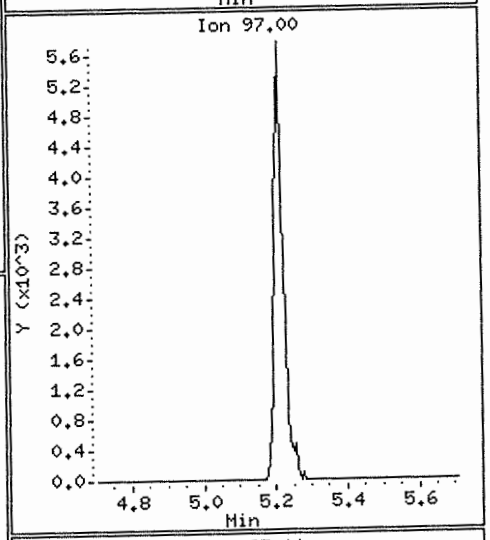


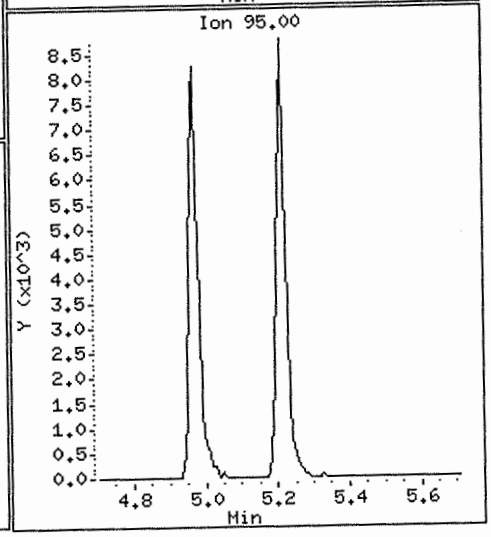












Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040810.D Page 1
Report Date: 28-Apr-2020 14:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040810.D
Lab Smp Id: HS20040284-01MS Client Smp ID: HS20040284-01MS
Inj Date : 08-APR-2020 12:42
Operator : PC Inst ID: voa6.i
Smp Info : HS20040284-01MS;HS20040284-01MS;3;;MS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\8260W.m
Meth Date : 28-Apr-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 14:22 Cal File: X031908.D
Als bottle: 10 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	346321	50.0000	
194 Acetaldehyde	44	1.210	1.210	(0.289)	44639	124.817	124.81
140 1,3-Butadiene	54	1.159	1.159	(0.277)	105451	20.7390	20.73
25 Methacrylonitrile	41	3.824	3.824	(0.914)	87399	17.3259	17.32
136 n-Hexane	57	2.771	2.771	(0.663)	132387	22.5807	22.58
4 Propionitrile	54	3.652	3.652	(0.873)	136455	170.219	170.21(a)
2 Dichlorodifluoromethane	85	0.966	0.973	(0.231)	71722	19.1804	19.18
3 Chloromethane	50	1.073	1.074	(0.257)	115896	19.8395	19.83
5 Vinyl Chloride	62	1.138	1.138	(0.272)	101216	19.1834	19.18
6 Bromomethane	94	1.338	1.339	(0.320)	55544	23.2291	23.22
7 Chloroethane	64	1.403	1.403	(0.336)	53219	20.4306	20.43
8 Trichlorofluoromethane	101	1.560	1.561	(0.373)	113028	21.9437	21.94
9 Acrolein	56	1.854	1.854	(0.443)	12442	38.6487	38.64
10 Acetone	43	1.976	1.969	(0.473)	46349	25.4821	25.48
11 1,1-Dichloroethene	96	1.911	1.912	(0.457)	58701	20.0031	20.00
15 Iodomethane	142	2.026	2.026	(0.485)	165383	40.4062	40.40
16 Acrylonitrile	53	2.535	2.535	(0.606)	76125	34.0691	34.06
17 Methylene Chloride	84	2.305	2.306	(0.551)	75881	19.7578	19.75
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	190073	17.5104	17.51
19 Carbon Disulfide	76	2.069	2.069	(0.495)	412704	42.7569	42.75
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	72137	21.1383	21.13
21 Vinyl Acetate	43	3.000	3.000	(0.717)	518293	36.9378	36.93

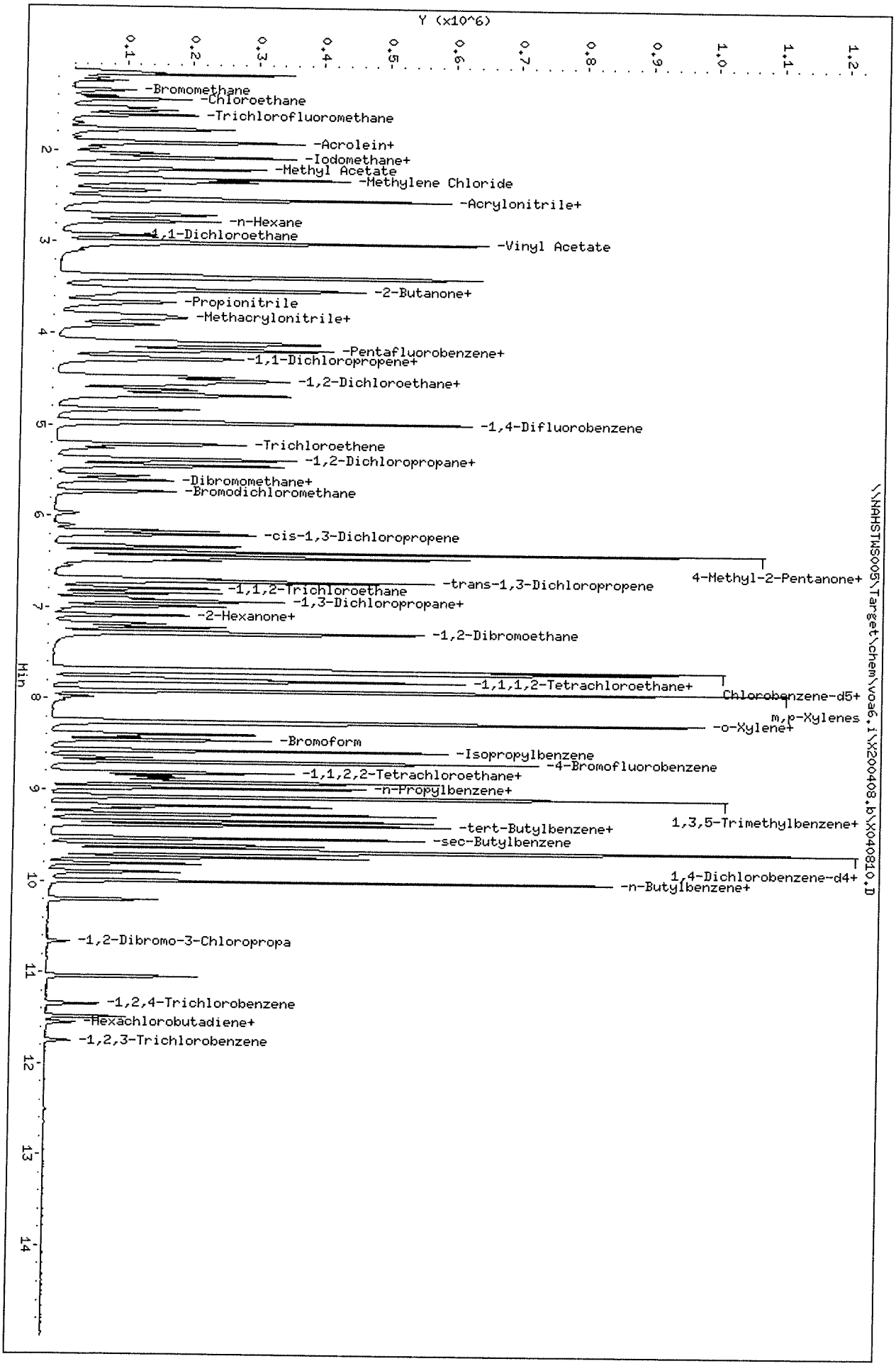
Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040810.D Page 2
Report Date: 28-Apr-2020 14:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	162609	21.0847	21.08
	24 2-Butanone	43	3.580	3.573	(0.856)	73976	34.6787	34.67
	26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	118003	21.8684	21.86
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	173143	43.9011	43.90
	28 Chloroform	83	3.910	3.910	(0.935)	132813	20.7398	20.73
	29 Bromochloromethane	128	3.795	3.795	(0.908)	42351	20.5839	20.58
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	164307	47.7449	47.74
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	118179	22.0513	22.05
	32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	100615	21.0544	21.05
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	119407	22.2280	22.22
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	105268	21.8649	21.86
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	193699	44.5012	44.50
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	508468	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	291297	21.6660	21.66
	38 Trichloroethene	130	5.206	5.207	(1.048)	95776	27.1763	27.17
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	98879	21.1428	21.14
	42 1,2-Dichloropropane	63	5.443	5.436	(1.095)	91566	21.1793	21.17
	44 Dibromomethane	93	5.557	5.550	(1.118)	48416	21.6834	21.68
	45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	185875	40.6308	40.63
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	118810	20.6824	20.68
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	444848	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	586837	51.4997	51.49
	50 Toluene	91	6.446	6.446	(0.840)	304695	22.5462	22.54
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	107893	21.2467	21.24
	52 2-Hexanone	43	7.090	7.090	(0.924)	122446	40.1488	40.14
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	55595	21.6920	21.69
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	113683	21.3401	21.34
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	76500	22.1881	22.18
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	67086	24.1639	24.16
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	71631	22.4603	22.46
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	100605	22.7011	22.70
	59 Chlorobenzene	112	7.699	7.699	(1.004)	197681	22.5572	22.55
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	74985	22.8467	22.84
	61 Ethylbenzene	106	7.800	7.800	(1.017)	106921	22.9780	22.97
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	255154	45.7156	45.71
	63 o-Xylene	106	8.244	8.244	(1.075)	125215	22.9822	22.98
	64 Styrene	104	8.258	8.258	(1.077)	214689	22.3773	22.37
	66 Bromoform	173	8.416	8.416	(1.097)	52403	22.6583	22.65
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	320502	23.3675	23.36
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	75991	20.6046	20.60
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	206640	48.2591	48.25
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	217429	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	65982	21.2366	21.23 (M)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	376147	24.1678	24.16
	74 Bromobenzene	156	8.809	8.810	(0.911)	90944	23.4714	23.47
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	264317	23.4257	23.42
	76 2-Chlorotoluene	91	8.974	8.974	(0.928)	219650	23.2155	23.21
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	253028	23.3269	23.32
	78 tert-Butylbenzene	119	9.340	9.340	(0.966)	223246	23.4146	23.41
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	263216	23.3000	23.30
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	314613	23.8451	23.84
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	273015	23.9686	23.96
	83 1,3-Dichlorobenzene	146	9.612	9.605	(0.994)	148496	22.9306	22.93
	84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	148220	22.1347	22.13

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	87 n-Butylbenzene	91	9.999	9.999	(1.034)	229908	23.4020	23.40
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	133617	22.8921	22.89
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	6607	18.9464	18.94
	90 1,2,4-Trichlorobenzene	180	11.345	11.338	(1.173)	22425	12.8470	12.84
	91 Hexachlorobutadiene	225	11.488	11.481	(1.188)	20832	15.3442	15.34
	92 Naphthalene	128	11.546	11.546	(1.194)	32869	13.9084	13.90
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	10552	12.2746	12.27
M	94 1,2-Dichloroethylene (total)	96				245280	65.0394	65.03
M	95 Xylenes (total)	106				380369	68.6978	68.69
	135 1,4-Dioxane	88	5.600	5.601	(1.339)	17404	435.970	435.96
	141 Cyclohexane	56	4.125	4.125	(0.986)	171283	23.0324	23.03
	138 Freon TF	101	1.911	1.919	(0.457)	61527	23.1140	23.11
	147 Methylcyclohexane	55	5.378	5.378	(1.082)	241171	18.7518	18.75
	146 Methyl Acetate	43	2.234	2.227	(0.534)	76209	20.2535	20.25
	148 Tert-Butyl alcohol	59	2.434	2.427	(0.582)	197050	406.337	406.33
	149 Isopropyl Alcohol	45	2.098	2.091	(0.502)	128920	377.298	377.29

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040810.D
Date : 08-APR-2020 12:42
Client ID: HS20040284-01MS
Sample Info: HS20040284-01MS;HS20040284-01MS;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\X200408.b\X040811.D Page 1
Report Date: 28-Apr-2020 14:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040811.D
Lab Smp Id: HS20040284-01MSD Client Smp ID: HS20040284-01MSD
Inj Date : 08-APR-2020 13:06
Operator : PC Inst ID: voa6.i
Smp Info : HS20040284-01MSD;HS20040284-01MSD;3;;MSD
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\8260W.m
Meth Date : 28-Apr-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 14:22 Cal File: X031908.D
Als bottle: 10 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1	Pentafluorobenzene	168	4.182	4.182	(1.000)	365413	50.0000	
194	Acetaldehyde	44	1.209	1.210	(0.289)	70419	186.614	186.61
140	1,3-Butadiene	54	1.159	1.159	(0.277)	96325	17.9544	17.95
25	Methacrylonitrile	41	3.824	3.824	(0.914)	85038	15.9771	15.97
136	n-Hexane	57	2.771	2.771	(0.663)	122366	19.7810	19.78
4	Propionitrile	54	3.652	3.652	(0.873)	138275	163.477	163.47(a)
2	Dichlorodifluoromethane	85	0.966	0.973	(0.231)	64163	16.4161	16.41
3	Chloromethane	50	1.073	1.074	(0.257)	103853	17.0049	17.00
5	Vinyl Chloride	62	1.138	1.138	(0.272)	91711	16.4738	16.47
6	Bromomethane	94	1.338	1.339	(0.320)	47881	18.8975	18.89
7	Chloroethane	64	1.403	1.403	(0.336)	46228	16.7586	16.75
8	Trichlorofluoromethane	101	1.560	1.561	(0.373)	103432	19.0315	19.03
9	Acrolein	56	1.861	1.854	(0.445)	11682	34.2594	34.25
10	Acetone	43	1.976	1.969	(0.473)	43594	21.2560	21.25
11	1,1-Dichloroethene	96	1.911	1.912	(0.457)	55098	17.7944	17.79
15	Iodomethane	142	2.026	2.026	(0.485)	161416	37.5234	37.52
16	Acrylonitrile	53	2.535	2.535	(0.606)	75215	31.9031	31.90
17	Methylene Chloride	84	2.305	2.306	(0.551)	72297	17.7038	17.70
18	Methyl tert-butyl ether	73	2.535	2.535	(0.606)	182399	15.9255	15.92
19	Carbon Disulfide	76	2.069	2.069	(0.495)	383450	37.6505	37.65
20	trans-1,2-Dichloroethene	96	2.527	2.528	(0.604)	68679	19.0735	19.07
21	Vinyl Acetate	43	3.000	3.000	(0.717)	496739	33.5520	33.55

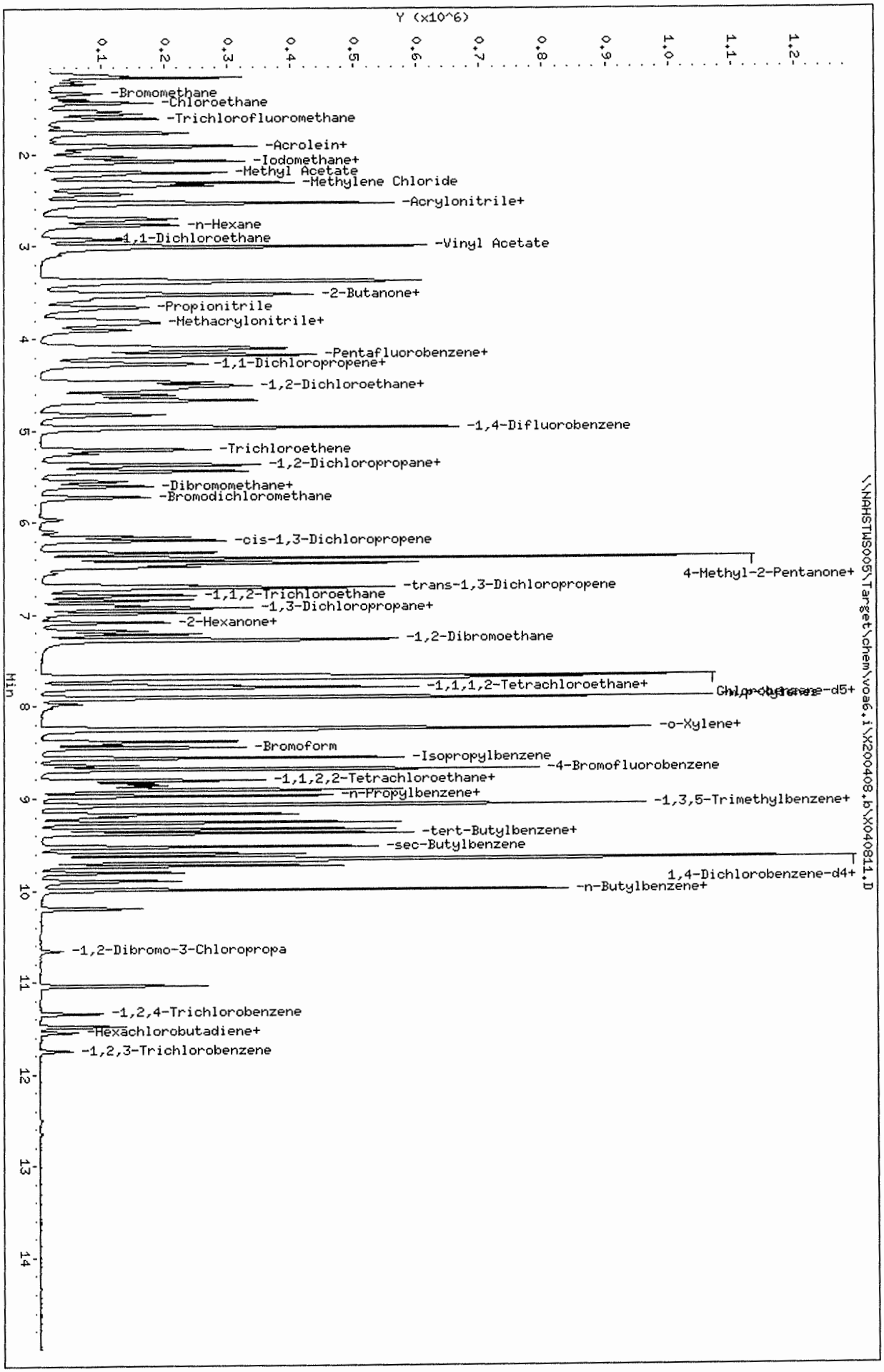
Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040811.D Page 2
Report Date: 28-Apr-2020 14:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	22 1,1-Dichloroethane	63	2.921	2.922	(0.699)	151158	18.5759	18.57
	24 2-Butanone	43	3.580	3.573	(0.856)	73435	32.5538	32.55
	26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	108430	19.0444	19.04
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	165876	39.8610	39.86
	28 Chloroform	83	3.910	3.910	(0.935)	125476	18.5703	18.57
	29 Bromochloromethane	128	3.795	3.795	(0.908)	40553	18.6802	18.68
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	170694	47.0077	47.00
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	110403	19.5241	19.52
	32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	94609	18.8565	18.85
	33 1,2-Dichloroethane	62	4.555	4.562	(0.916)	113933	20.2008	20.20
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	98644	19.5151	19.51
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	198338	43.1816	43.18
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	533845	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	274233	19.4272	19.42
	38 Trichloroethene	130	5.206	5.207	(1.048)	91918	24.8418	24.84
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	94561	19.2583	19.25
	42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	87780	19.3384	19.33
	44 Dibromomethane	93	5.557	5.550	(1.118)	46415	19.7991	19.79
	45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	184326	37.9541	37.95
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	116836	19.3720	19.37
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	472253	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	619716	51.2288	51.22
	50 Toluene	91	6.446	6.446	(0.840)	292842	20.4117	20.41
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	104092	19.5238	19.52
	52 2-Hexanone	43	7.090	7.090	(0.924)	123353	38.0990	38.09
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	53184	19.5471	19.54
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	110498	19.5385	19.53
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	74943	20.4752	20.47
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	64771	21.9762	21.97
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	68568	20.2522	20.25
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	97544	20.9641	20.96
	59 Chlorobenzene	112	7.699	7.699	(1.004)	188398	20.2504	20.25
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	72968	20.9421	20.94
	61 Ethylbenzene	106	7.799	7.800	(1.017)	102740	20.7982	20.79
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	246053	41.5267	41.52
	63 o-Xylene	106	8.244	8.244	(1.075)	118788	20.5374	20.53
	64 Styrene	104	8.258	8.258	(1.077)	201696	19.8031	19.80
	66 Bromoform	173	8.415	8.416	(1.097)	51071	20.8010	20.80
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	309354	21.2458	21.24
	68 1,1,2,2-Tetrachloroethane	83	8.845	8.838	(0.915)	74641	18.5815	18.58
$	69 4-Bromofluorobenzene	95	8.695	8.688	(1.134)	222999	49.0656	49.06
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	236819	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	64071	18.9331	18.93 (M)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	362093	21.3599	21.35
	74 Bromobenzene	156	8.809	8.810	(0.911)	86976	20.6094	20.60
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	251568	20.4703	20.47
	76 2-Chlorotoluene	91	8.974	8.974	(0.928)	209405	20.3205	20.32
	77 4-Chlorotoluene	91	9.074	9.075	(0.939)	244110	20.6622	20.66
	78 tert-Butylbenzene	119	9.340	9.340	(0.966)	216892	20.8856	20.88
	79 1,2,4-Trimethylbenzene	105	9.382	9.383	(0.970)	256898	20.8788	20.87
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	304489	21.1882	21.18
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	265676	21.4146	21.41
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	143547	20.3515	20.35
	84 1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	144589	19.8246	19.82

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	87 n-Butylbenzene	91	9.999	9.999	(1.034)	225545	21.0782	21.07
	88 1,2-Dichlorobenzene	146	9.999	9.999	(1.034)	128342	20.1880	20.18
	89 1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	7278	19.1498	19.14
	90 1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	26963	14.1160	14.11
	91 Hexachlorobutadiene	225	11.481	11.481	(1.187)	23158	15.6609	15.66
	92 Naphthalene	128	11.546	11.546	(1.194)	38594	14.8417	14.84
	93 1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	13825	14.5647	14.56
M	94 1,2-Dichloroethylene (total)	96				234555	58.9346	58.93
M	95 Xylenes (total)	106				364841	62.0641	62.06
	135 1,4-Dioxane	88	5.600	5.601	(1.339)	17215	408.704	408.70
	141 Cyclohexane	56	4.125	4.125	(0.986)	158301	20.1745	20.17
	138 Freon TF	101	1.911	1.919	(0.457)	55992	19.9356	19.93
	147 Methylcyclohexane	55	5.378	5.378	(1.082)	232299	17.2034	17.20
	146 Methyl Acetate	43	2.227	2.227	(0.532)	74413	18.7430	18.74
	148 Tert-Butyl alcohol	59	2.434	2.427	(0.582)	185769	363.059	363.05
	149 Isopropyl Alcohol	45	2.098	2.091	(0.502)	127371	353.288	353.28

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040811.D
Date : 08-APR-2020 13:06
Client ID: HS20040284-01MSD
Sample Info: HS20040284-01MSD;HS20040284-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

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

Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040812.D
Report Date: 28-Apr-2020 14:00

ALS Laboratory Group

Data file : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040812.D
Lab Smp Id: VLCSW-200408 Client Smp ID: VLCSW-200408
Inj Date : 08-APR-2020 14:22
Operator : PC Inst ID: voa6.i
Smp Info : VLCSW-200408;VLCSW-200408;3;;LCS
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\8260W.m
Meth Date : 28-Apr-2020 13:59 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 14:22 Cal File: X031908.D
Als bottle: 13 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	277681	50.0000	
194 Acetaldehyde	44	1.210	1.210	(0.289)	26575	92.6756	92.67
140 1,3-Butadiene	54	1.159	1.159	(0.277)	61791	15.1563	15.15
25 Methacrylonitrile	41	3.824	3.824	(0.914)	78946	19.5187	19.51
136 n-Hexane	57	2.771	2.771	(0.663)	72599	15.4438	15.44
4 Propionitrile	54	3.652	3.652	(0.873)	124087	193.053	193.05(a)
2 Dichlorodifluoromethane	85	0.966	0.973	(0.231)	43916	14.8861	14.88
3 Chloromethane	50	1.073	1.074	(0.257)	78253	16.8701	16.87
5 Vinyl Chloride	62	1.138	1.138	(0.272)	64251	15.1876	15.18
6 Bromomethane	94	1.338	1.339	(0.320)	41809	21.7801	21.78
7 Chloroethane	64	1.403	1.403	(0.336)	35877	17.1227	17.12
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	72306	17.5078	17.50
9 Acrolein	56	1.854	1.854	(0.443)	9995	38.7245	38.72
10 Acetone	43	1.976	1.969	(0.473)	40526	29.0044	29.00
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	40370	17.1571	17.15
15 Iodomethane	142	2.026	2.026	(0.485)	112275	34.5095	34.50
16 Acrylonitrile	53	2.535	2.535	(0.606)	66485	37.1099	37.10
17 Methylene Chloride	84	2.305	2.306	(0.551)	57738	18.6778	18.67
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	166074	19.0813	19.08
19 Carbon Disulfide	76	2.069	2.069	(0.495)	273001	35.2748	35.27
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	52121	19.0484	19.04
21 Vinyl Acetate	43	3.000	3.000	(0.717)	440732	39.1745	39.17

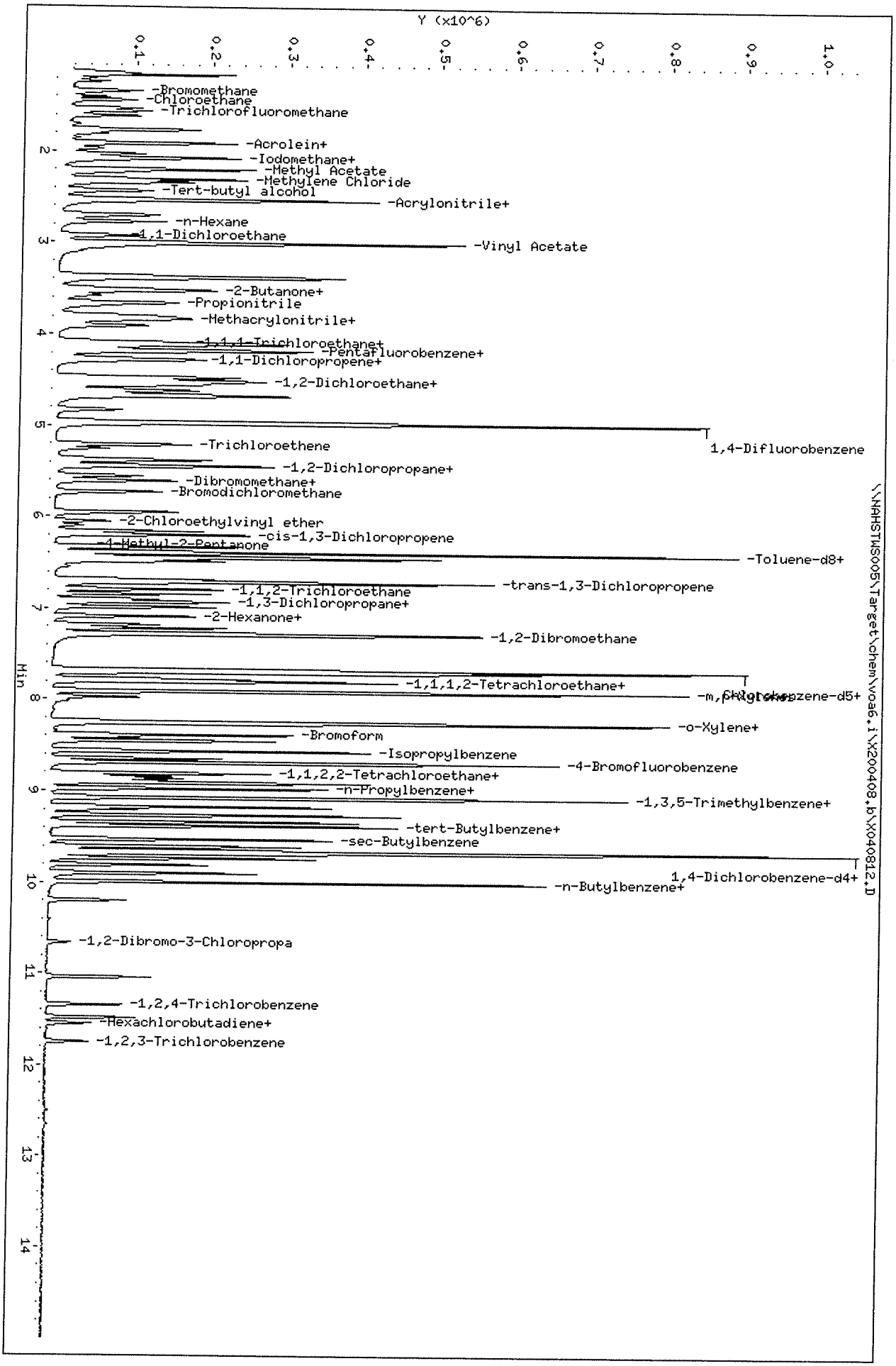
Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040812.D
Report Date: 28-Apr-2020 14:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	119623	19.3451	19.34
	24 2-Butanone	43	3.581	3.573	(0.856)	65053	38.1527	38.15
	26 2,2-Dichloropropane	77	3.509	3.516	(0.839)	85765	19.8229	19.82
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	61632	19.4899	19.48
	28 Chloroform	83	3.910	3.910	(0.935)	101344	19.7376	19.73
	29 Bromochloromethane	128	3.795	3.795	(0.908)	33979	20.5971	20.59
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	139970	50.7337	50.73
	31 1,1,1-Trichloroethane	97	4.082	4.089	(0.976)	81645	19.0001	19.00
	32 1,1-Dichloropropene	75	4.282	4.283	(0.862)	69079	17.1993	17.19
	33 1,2-Dichloroethane	62	4.555	4.562	(0.916)	91963	20.3689	20.36
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	69965	17.2908	17.29
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	169191	48.4932	48.49
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	427347	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	218052	19.2968	19.29
	38 Trichloroethene	130	5.207	5.207	(1.048)	57581	19.4400	19.43
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	76797	19.5383	19.53
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	27688	35.8432	35.84
	42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	71296	19.6212	19.62
	44 Dibromomethane	93	5.558	5.550	(1.118)	37905	20.1985	20.19
	45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	156901	39.3384	39.33
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	93502	19.3666	19.36
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	387842	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	491418	49.4617	49.46
	50 Toluene	91	6.446	6.446	(0.840)	231187	19.6213	19.62
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	85720	20.0846	20.08
	52 2-Hexanone	43	7.090	7.090	(0.924)	109289	41.1018	41.10
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	44015	19.6980	19.69
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	90103	19.3998	19.39
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	61441	20.4397	20.43
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	45628	18.8505	18.85
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	56872	20.4536	20.45
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	67153	18.0292	18.02
	59 Chlorobenzene	112	7.699	7.699	(1.004)	153413	20.0789	20.07
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	58049	20.2862	20.28
	61 Ethylbenzene	106	7.800	7.800	(1.017)	77795	19.1760	19.17
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	192330	39.5244	39.52
	63 o-Xylene	106	8.244	8.244	(1.075)	94721	19.9406	19.94
	64 Styrene	104	8.258	8.258	(1.077)	168073	20.0934	20.09
	66 Bromoform	173	8.416	8.416	(1.097)	43367	21.5074	21.50
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	225346	18.8446	18.84
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.915)	64349	19.6739	19.67
$	69 4-Bromofluorobenzene	95	8.688	8.688	(1.133)	186490	49.9721	49.97
*	70 1,4-Dichlorobenzene-d4	152	9.662	9.669	(1.000)	192829	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.918)	54664	19.8383	19.83 (M)
	73 n-Propylbenzene	91	8.917	8.917	(0.923)	262582	19.0234	19.02
	74 Bromobenzene	156	8.810	8.810	(0.912)	71359	20.7663	20.76
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	190865	19.0739	19.07
	76 2-Chlorotoluene	91	8.974	8.974	(0.929)	165186	19.6863	19.68
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	189810	19.7312	19.73
	78 tert-Butylbenzene	119	9.340	9.340	(0.967)	156473	18.5049	18.50
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.971)	197461	19.7093	19.70
	81 sec-Butylbenzene	105	9.526	9.526	(0.986)	212446	18.1558	18.15
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	192392	19.0454	19.04
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.994)	116963	20.3655	20.36

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.002)	116736	19.6570	19.65
87	n-Butylbenzene	91	9.999	9.999	(1.035)	163596	18.7766	18.77
88	1,2-Dichlorobenzene	146	9.999	9.999	(1.035)	105505	20.3818	20.38
89	1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.103)	6079	19.6169	19.61
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	27414	17.4685	17.46
91	Hexachlorobutadiene	225	11.489	11.481	(1.189)	19035	15.8093	15.80
92	Naphthalene	128	11.546	11.546	(1.195)	39441	18.1304	18.13
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.216)	14756	18.7847	18.78
M 94	1,2-Dichloroethylene (total)	96				113753	38.5383	38.53
M 95	Xylenes (total)	106				287051	59.4650	59.46
135	1,4-Dioxane	88	5.600	5.601	(1.339)	13600	424.892	424.89
141	Cyclohexane	56	4.125	4.125	(0.986)	99288	16.6515	16.65
138	Freon TF	101	1.912	1.919	(0.457)	35859	16.8012	16.80
147	Methylcyclohexane	55	5.386	5.378	(1.084)	161852	14.9733	14.97
146	Methyl Acetate	43	2.234	2.227	(0.534)	61938	20.5298	20.52
148	Tert-Butyl alcohol	59	2.434	2.427	(0.582)	161231	414.659	414.65
149	Isopropyl Alcohol	45	2.098	2.091	(0.502)	103625	378.235	378.23

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\voa6.i\X200408.b\X040812.D
Date : 08-APR-2020 14:22
Client ID: VLCSW-200408
Sample Info: VLCSW-200408;VLCSW-200408;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\X200408.b\X040813.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 08-APR-2020 14:45
Operator : PC Inst ID: voa6.i
Smp Info : CCV-END;CCV-END;2;;;
Misc Info : HS18090001;WATER;0;1;
Comment :
Method : \\NAHSTWS005\Target\chem\voa6.i\X200408.b\8260W.m
Meth Date : 28-Apr-2020 14:00 voa6.i Quant Type: ISTD
Cal Date : 19-MAR-2020 14:22 Cal File: X031908.D
Als bottle: 14 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 8260_GB.sub
Target Version: 4.14
Processing Host: NAHSTW7066

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

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

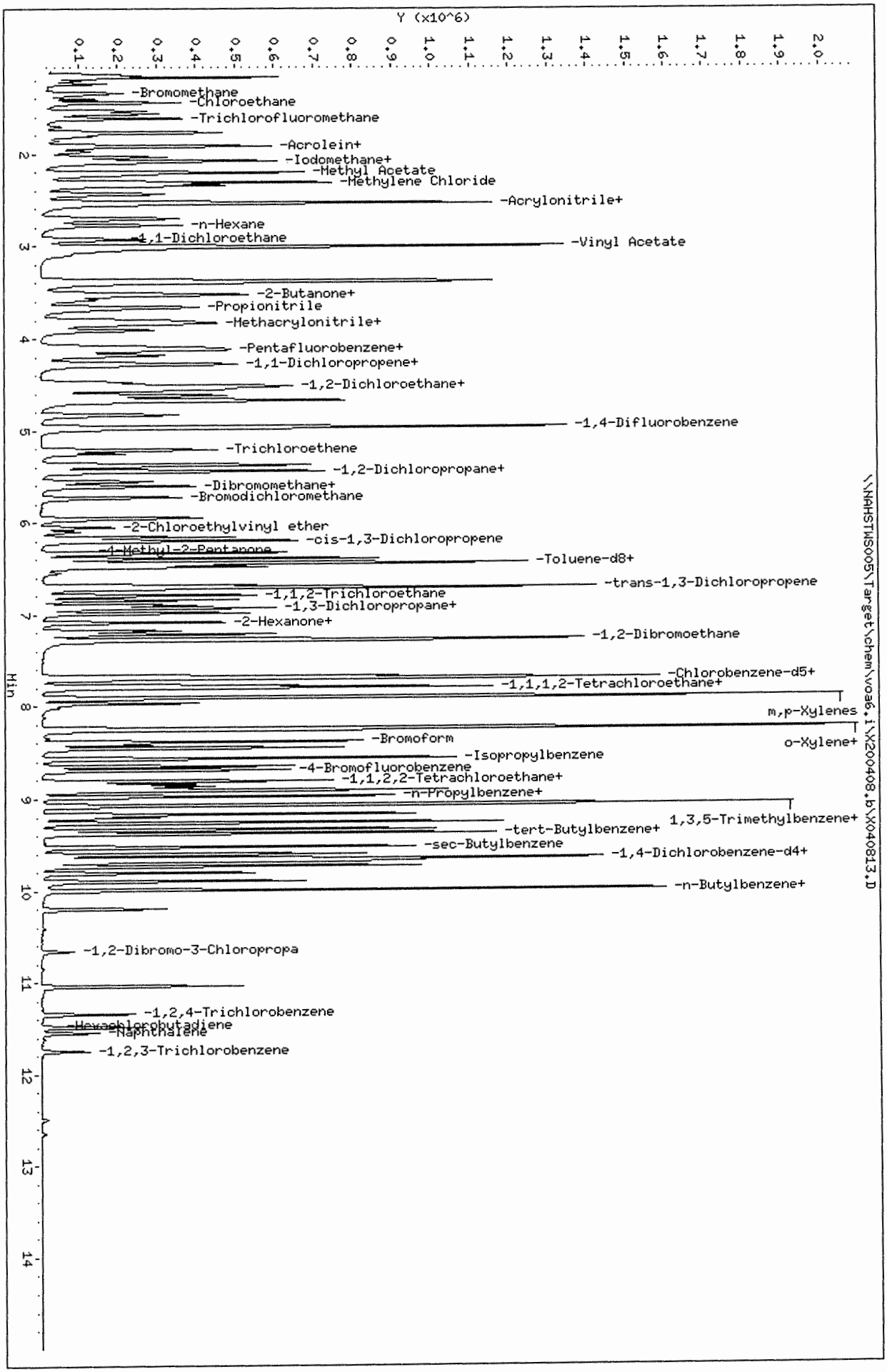
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
* 1 Pentafluorobenzene	168	4.182	4.182	(1.000)	258768	50.0000	
194 Acetaldehyde	44	1.210	1.210	(0.289)	68159	200.000	255.06
140 1,3-Butadiene	54	1.159	1.159	(0.277)	184188	50.0000	48.48
25 Methacrylonitrile	41	3.824	3.824	(0.914)	197927	50.0000	52.51
136 n-Hexane	57	2.771	2.771	(0.663)	198408	50.0000	45.29
4 Propionitrile	54	3.652	3.652	(0.873)	318122	500.000	531.10
2 Dichlorodifluoromethane	85	0.966	0.966	(0.231)	125113	50.0000	43.43
3 Chloromethane	50	1.073	1.073	(0.257)	199188	50.0000	44.29
5 Vinyl Chloride	62	1.138	1.138	(0.272)	172767	50.0000	43.82
6 Bromomethane	94	1.339	1.339	(0.320)	93042	50.0000	52.62
7 Chloroethane	64	1.403	1.403	(0.336)	93066	50.0000	48.27
8 Trichlorofluoromethane	101	1.561	1.561	(0.373)	197956	50.0000	51.43
9 Acrolein	56	1.854	1.854	(0.443)	24505	100.000	103.84
10 Acetone	43	1.969	1.969	(0.471)	104223	100.000	103.69
11 1,1-Dichloroethene	96	1.912	1.912	(0.457)	105542	50.0000	48.13
15 Iodomethane	142	2.026	2.026	(0.485)	351869	100.000	110.66
16 Acrylonitrile	53	2.535	2.535	(0.606)	172825	100.000	103.51
17 Methylene Chloride	84	2.306	2.306	(0.551)	146363	50.0000	53.24
18 Methyl tert-butyl ether	73	2.535	2.535	(0.606)	423072	50.0000	52.16
19 Carbon Disulfide	76	2.069	2.069	(0.495)	720858	100.000	99.95
20 trans-1,2-Dichloroethene	96	2.528	2.528	(0.604)	132197	50.0000	51.84
21 Vinyl Acetate	43	3.000	3.000	(0.717)	1121137	100.000	106.93

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	22 1,1-Dichloroethane	63	2.922	2.922	(0.699)	301877	50.0000	52.38
	24 2-Butanone	43	3.573	3.573	(0.854)	171504	100.000	110.18
	26 2,2-Dichloropropane	77	3.516	3.516	(0.841)	212781	50.0000	52.77
	27 cis-1,2-Dichloroethene	96	3.530	3.530	(0.844)	156793	50.0000	53.20
	28 Chloroform	83	3.910	3.910	(0.935)	254102	50.0000	53.10
	29 Bromochloromethane	128	3.795	3.795	(0.908)	80881	50.0000	52.61
$	30 Dibromofluoromethane	113	4.103	4.103	(0.981)	133385	50.0000	51.88
	31 1,1,1-Trichloroethane	97	4.089	4.089	(0.978)	209706	50.0000	52.36
	32 1,1-Dichloropropene	75	4.283	4.283	(0.862)	180934	50.0000	47.73
	33 1,2-Dichloroethane	62	4.562	4.562	(0.918)	226433	50.0000	53.14
	34 Carbon Tetrachloride	117	4.268	4.268	(0.859)	183374	50.0000	48.02
$	35 1,2-Dichloroethane-d4	65	4.476	4.476	(1.070)	165964	50.0000	51.05
*	36 1,4-Difluorobenzene	114	4.970	4.970	(1.000)	403265	50.0000	
	37 Benzene	78	4.512	4.512	(0.908)	547373	50.0000	51.33
	38 Trichloroethene	130	5.207	5.207	(1.048)	150509	50.0000	53.84
	39 Bromodichloromethane	83	5.729	5.729	(1.153)	193808	50.0000	52.25
	41 2-Chloroethylvinyl ether	63	6.052	6.052	(1.218)	73324	100.000	100.58
	42 1,2-Dichloropropane	63	5.436	5.436	(1.094)	174479	50.0000	50.88
	44 Dibromomethane	93	5.558	5.558	(1.118)	94632	50.0000	53.43
	45 4-Methyl-2-Pentanone	43	6.324	6.324	(0.824)	394508	100.000	102.75
	46 cis-1,3-Dichloropropene	75	6.159	6.159	(1.239)	239533	50.0000	52.57
*	47 Chlorobenzene-d5	117	7.671	7.671	(1.000)	373331	50.0000	
$	48 Toluene-d8	98	6.388	6.388	(0.833)	473114	50.0000	49.47
	50 Toluene	91	6.446	6.446	(0.840)	570668	50.0000	50.31
	51 trans-1,3-Dichloropropene	75	6.682	6.682	(1.344)	215435	50.0000	53.49
	52 2-Hexanone	43	7.090	7.090	(0.924)	274009	100.000	107.05
	53 1,1,2-Trichloroethane	83	6.840	6.840	(0.892)	110887	50.0000	51.55
	54 1,3-Dichloropropane	76	6.983	6.983	(0.910)	229611	50.0000	51.35
	55 Dibromochloromethane	129	7.176	7.176	(0.936)	152742	50.0000	52.78
	56 Tetrachloroethene	164	6.933	6.933	(0.904)	117574	50.0000	50.46
	57 1,2-Dibromoethane	107	7.262	7.262	(0.947)	146370	50.0000	54.68
	58 1-Chlorohexane	55	7.699	7.699	(1.549)	167305	50.0000	47.60
	59 Chlorobenzene	112	7.692	7.692	(1.003)	382602	50.0000	52.02
	60 1,1,1,2-Tetrachloroethane	131	7.778	7.778	(1.014)	147595	50.0000	53.58
	61 Ethylbenzene	106	7.800	7.800	(1.017)	197809	50.0000	50.65
	62 m,p-Xylenes	106	7.907	7.907	(1.031)	479155	100.000	102.29
	63 o-Xylene	106	8.244	8.244	(1.075)	233529	50.0000	51.07
	64 Styrene	104	8.258	8.258	(1.077)	420169	50.0000	52.18
	66 Bromoform	173	8.416	8.416	(1.097)	110713	50.0000	57.04
	67 Isopropylbenzene	105	8.566	8.566	(1.117)	567585	50.0000	49.30
	68 1,1,2,2-Tetrachloroethane	83	8.838	8.838	(0.914)	164821	50.0000	51.16
$	69 4-Bromofluorobenzene	95	8.695	8.695	(1.134)	177673	50.0000	49.45
*	70 1,4-Dichlorobenzene-d4	152	9.669	9.669	(1.000)	189924	50.0000	
	71 1,2,3-Trichloropropane	75	8.867	8.867	(0.917)	143643	50.0000	52.92(M)
	73 n-Propylbenzene	91	8.917	8.917	(0.922)	672199	50.0000	49.44
	74 Bromobenzene	156	8.810	8.810	(0.911)	178760	50.0000	52.81
	75 1,3,5-Trimethylbenzene	105	9.067	9.067	(0.938)	483228	50.0000	49.02
	76 2-Chlorotoluene	91	8.974	8.974	(0.928)	414883	50.0000	50.20
	77 4-Chlorotoluene	91	9.075	9.075	(0.939)	482733	50.0000	50.94
	78 tert-Butylbenzene	119	9.340	9.340	(0.966)	395570	50.0000	47.49
	79 1,2,4-Trimethylbenzene	105	9.383	9.383	(0.970)	501370	50.0000	50.80
	81 sec-Butylbenzene	105	9.526	9.526	(0.985)	544198	50.0000	47.21
	82 p-Isopropyltoluene	119	9.655	9.655	(0.999)	492670	50.0000	49.51
	83 1,3-Dichlorobenzene	146	9.605	9.605	(0.993)	293975	50.0000	51.96

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)	
84	1,4-Dichlorobenzene	146	9.683	9.683	(1.001)	298459	50.0000	51.02	
87	n-Butylbenzene	91	9.999	9.999	(1.034)	418046	50.0000	48.71	
88	1,2-Dichlorobenzene	146	9.991	9.991	(1.033)	268990	50.0000	52.75	
89	1,2-Dibromo-3-Chloropropane	155	10.658	10.658	(1.102)	16545	50.0000	52.35	
90	1,2,4-Trichlorobenzene	180	11.338	11.338	(1.173)	62495	50.0000	39.59	
91	Hexachlorobutadiene	225	11.481	11.481	(1.187)	44221	50.0000	37.28	
92	Naphthalene	128	11.546	11.546	(1.194)	93173	50.0000	40.75	
93	1,2,3-Trichlorobenzene	180	11.746	11.746	(1.215)	31402	50.0000	39.43	
M 94	1,2-Dichloroethylene (total)	96				288990	100.000		(a)
135	1,4-Dioxane	88	5.601	5.601	(1.339)	35878	1000.00	1202.82	
141	Cyclohexane	56	4.125	4.125	(0.986)	260093	50.0000	46.80	
138	Freon TF	101	1.912	1.912	(0.457)	100497	50.0000	50.52	
147	Methylcyclohexane	55	5.378	5.378	(1.082)	484230	50.0000	47.47	
146	Methyl Acetate	43	2.227	2.227	(0.532)	155885	50.0000	55.44	
148	Tert-Butyl alcohol	59	2.434	2.434	(0.582)	414693	1000.00	1144.46	
149	Isopropyl Alcohol	45	2.098	2.098	(0.502)	277178	1000.00	1085.65	

QC Flag Legend

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



Data File: \\NAHSTNS005\Target\chem\voa6.i\X200408.b\X040813.D
Date : 08-APR-2020 14:45
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;;
Purge Volume: 5.0
Column phase: DB624

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

HS20040284 8270 Raw Data

ALS WO# HS20040284

Prep Batch Report

Batch ID: 152586
Prep Code: 3510_B_SIM
Start Date: 09 Apr 2020 08:59 AM
End Date: 09 Apr 2020 03:00 PM
Technician: Todi Lala

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

Sample ID	Fraction	Matrix	pH	Initial Weight / Volume	Final Volume	Prep Factor	Spike Factor	Fail Safe	Due Date	Comments
HS20040284-01	C	Water	7	1000	1	0.001	1	17 Apr 2020	22 Apr 2020	ph adj 1/13
LCS-152586	A		5	1000	1	0.001	1			ph adj 1/13
LCSD-152586	A		5	1000	1	0.001	1			ph adj 1/13
MBLK-152586	A		5	1000	1	0.001	1			ph adj 1/13

SV06 -Logbook

Batch: 37098
Date: 08-20-2019
Method: 8270D-LL & SIM
Comments: MSSV003

Analyst: Linda Graham
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP02	TUNE	08-20-2019 08:34 am	1.00			001.D		Y	NA
2	SLSTD-2.5	CCV	08-20-2019 08:59 am	1.00			002.D		Y	NA
3	SIMDX-0.08	SAMP	08-20-2019 09:27 am	1.00			003.D		Y	NA
4	SIMDX-0.01	SAMP	08-20-2019 09:52 am	1.00			004.D		Y	NA
5	SIMDX-0.03	ICAL2	08-20-2019 10:13 am	1.00			005.D		Y	NA
6	SIMDX-0.05	ICAL3	08-20-2019 10:32 am	1.00			006.D		Y	NA
7	SIMDX-0.08	ICAL4	08-20-2019 10:51 am	1.00			007.D		Y	NA
8	SIMDX-0.1	ICAL5	08-20-2019 11:10 am	1.00			008.D		Y	NA
9	SIMDX-0.15	ICAL6	08-20-2019 11:29 am	1.00			009.D		Y	NA
10	SIMDX-0.2	ICAL7	08-20-2019 11:49 am	1.00			010.D		Y	NA
11	SIMDX-0.5	ICAL8	08-20-2019 12:08 pm	1.00			011.D		Y	NA
12	SIMDX-0.01	ICAL1	08-20-2019 12:27 pm	1.00			012.D		Y	NA
13	SIMDX-ICV	SAMP	08-20-2019 12:46 pm	1.00			013.D		Y	NA
14	CCB	SAMP	08-20-2019 01:05 pm	1.00			014.D		Y	NA
15	MBLK-144188	MBLK	08-20-2019 01:24 pm	1.00	1000.00 mL	1.00 mL	015.D	Liquid	Y	NA
16	LCS-144188	LCS	08-20-2019 01:43 pm	1.00	1000.00 mL	1.00 mL	016.D	Liquid	Y	NA
17	LCSD-144188	LCSD	08-20-2019 02:02 pm	1.00	1000.00 mL	1.00 mL	017.D	Liquid	Y	NA
18	HS19080732-01	SAMP	08-20-2019 02:21 pm	1.00	1000.00 mL	1.00 mL	018.D	Liquid	Y	NA
19	HS19080732-01	SAMP	08-20-2019 02:43 pm	1.00	1000.00 mL	1.00 mL	019.D	Liquid	Y	NA
20	SIMDX-0.08	CCV	08-20-2019 03:05 pm	1.00			020.D		Y	NA
21	SPIKE	SAMP	08-20-2019 03:24 pm	1.00	1000.00 mL	1.00 mL	021.D	Liquid	Y	NA
22	HS19080732-01	SAMP	08-20-2019 03:52 pm	5.00	1000.00 mL	1.00 mL	022.D	Liquid	Y	NA
23	CCB	SAMP	08-20-2019 04:16 pm	1.00			023.D		Y	NA
24	HS19080727-02	SAMP	08-20-2019 04:42 pm	100.0(	30.00 gm	1.00 mL	024.D	Solid	Y	NA
25	HS19080727-03	SAMP	08-20-2019 05:01 pm	100.0(	30.00 gm	1.00 mL	025.D	Solid	Y	NA
26	HS19080727-04	SAMP	08-20-2019 05:19 pm	5.00	30.00 gm	1.00 mL	026.D	Solid	Y	NA
27	HS19080727-07	SAMP	08-20-2019 05:38 pm	10.00	30.00 gm	1.00 mL	027.D	Solid	Y	NA
28	HS19080727-05	SAMP	08-20-2019 05:57 pm	100.0(	30.00 gm	1.00 mL	028.D	Solid	Y	NA

Chemical	Value
IS ID	3081958-02 & 3081957-10
CAL STD ID	3081945-06 & 3081962-05
DFTPP ID	3081958-01
PCP Tailing	0.91
Benz. Tailing	0.82
STD-01	3081962-02 - 3081962-09
ICV ID	3081962-10
Routine SOP Maintenance	LG

FORM 3
WATER SEMIVOLATILE METHOD SPIKE RECOVERY

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20040284

Matrix Spike - Sample No.: SIMDX-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	% REC #	QC. LIMITS REC.
1,4-Dioxane	0.08000	0.06515	81	75-125

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

COMMENTS: _____

_____

FORM III SV

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20040284

Lab File ID: 001 DFTPP Injection Date: 08/20/19

Instrument ID: SV6 DFTPP Injection Time: 0834

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	37.3
68	Less than 2.0% of mass 69	0.7 (1.3)1
69	Mass 69 relative abundance	52.4
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	10.0 - 80.0% of mass 198	50.4
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.5
275	10.0 - 60.0% of mass 198	30.5
365	1.0 - 100.0% of mass 198	5.4
441	Present, but less than mass 443	15.3
442	50.0 - 150.0% of mass 198	94.0
443	15.0 - 24.0% of mass 442	17.6 (18.7)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	SIMDX-0.03	SIMDX-0.03	005	08/20/19	1013
02	SIMDX-0.05	SIMDX-0.05	006	08/20/19	1032
03	SIMDX-0.08	SIMDX-0.08	007	08/20/19	1051
04	SIMDX-0.1	SIMDX-0.1	008	08/20/19	1110
05	SIMDX-0.15	SIMDX-0.15	009	08/20/19	1129
06	SIMDX-0.2	SIMDX-0.2	010	08/20/19	1149
07	SIMDX-0.5	SIMDX-0.5	011	08/20/19	1208
08	SIMDX-0.01	SIMDX-0.01	012	08/20/19	1227
09	SIMDX-ICV	SIMDX-ICV	013	08/20/19	1246
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20040284

Instrument ID: SV6 Calibration Date(s): 08/20/19 08/20/19

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1013 1227

LAB FILE ID: RF0.01: 012 RF0.03: 005 RF0.05: 006
RF0.08: 007 RF0.1: 008 RF0.15: 009

COMPOUND	RF0.01	RF0.03	RF0.05	RF0.08	RF0.1	RF0.15
1,4-Dioxane	0.068	0.066	0.062	0.062	0.066	0.058
Nitrobenzene-d5	0.259	0.253	0.248	0.235	0.256	0.251
4-Terphenyl-d14	0.864	0.799	0.804	0.815	0.808	0.822
2-Fluorobiphenyl	1.190	1.244	1.156	1.138	1.196	1.178

FORM VI SV

FORM 6
SEMIVOLATILE INITIAL CALIBRATION DATA

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS2004028

Instrument ID: SV6 Calibration Date(s): 08/20/19 08/20/19

Column: RTX-5SIL MS ID: 0.28 (mm) Calibration Time(s): 1013 1227

LAB FILE ID: RF0.2: 010 RF0.5: 011

COMPOUND	RF0.2	RF0.5	CURVE	COEFFICENT A1	%RSD OR R^2	MAX %RSD OR R^2
1,4-Dioxane	0.067	0.058	AVRG	6.346e-002	6.165	20.000
Nitrobenzene-d5	0.298	0.288	AVRG	0.26110947	8.070	20.000
4-Terphenyl-d14	0.864	0.822	AVRG	0.82462670	3.080	20.000
2-Fluorobiphenyl	1.198	1.196	AVRG	1.18704840	2.670	20.000

FORM VI SV

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D

Date : 20-AUG-2019 08:34

Client ID: DFTPP02

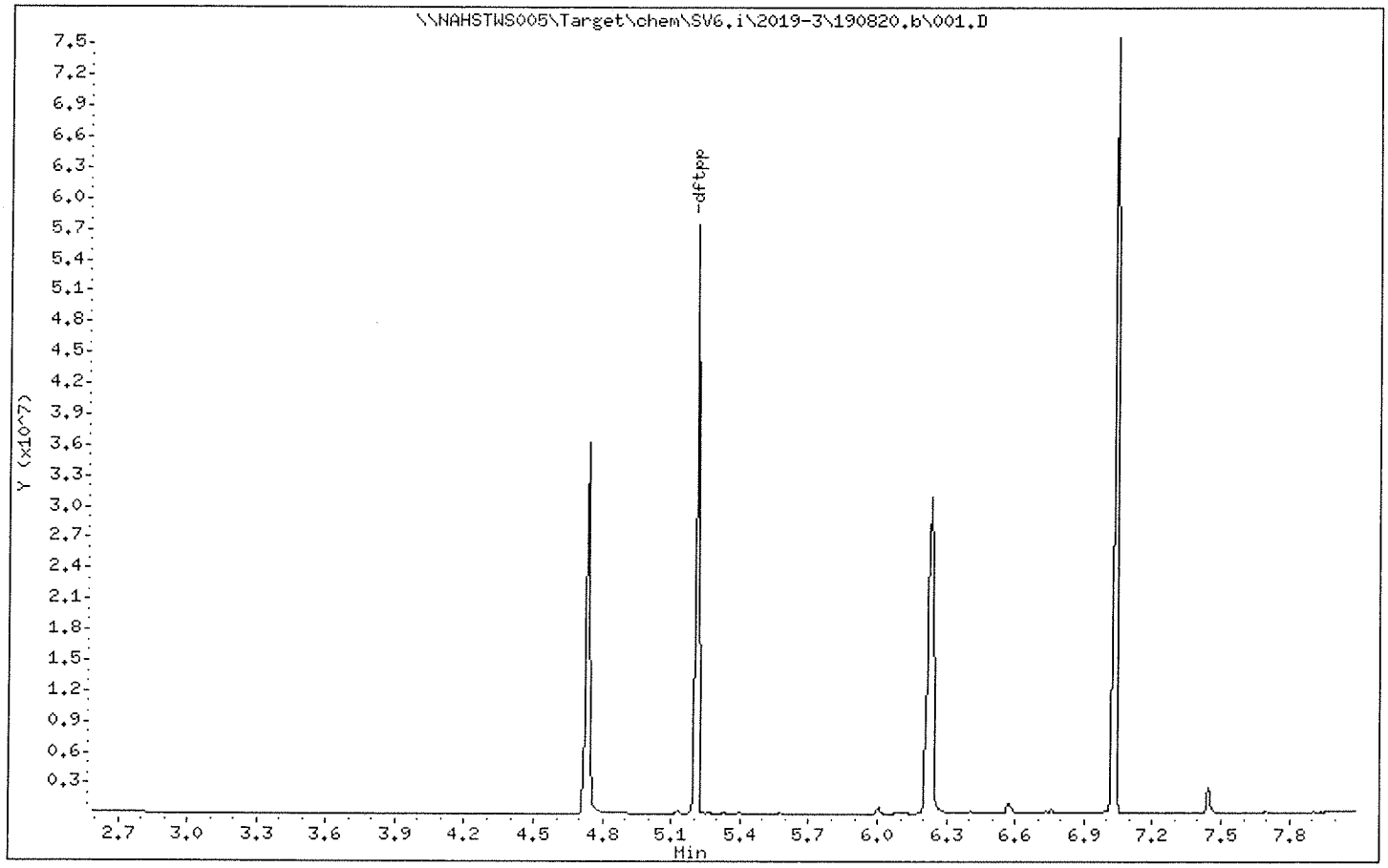
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D

Date : 20-AUG-2019 08:34

Client ID: DFTPP02

Instrument: SV6.i

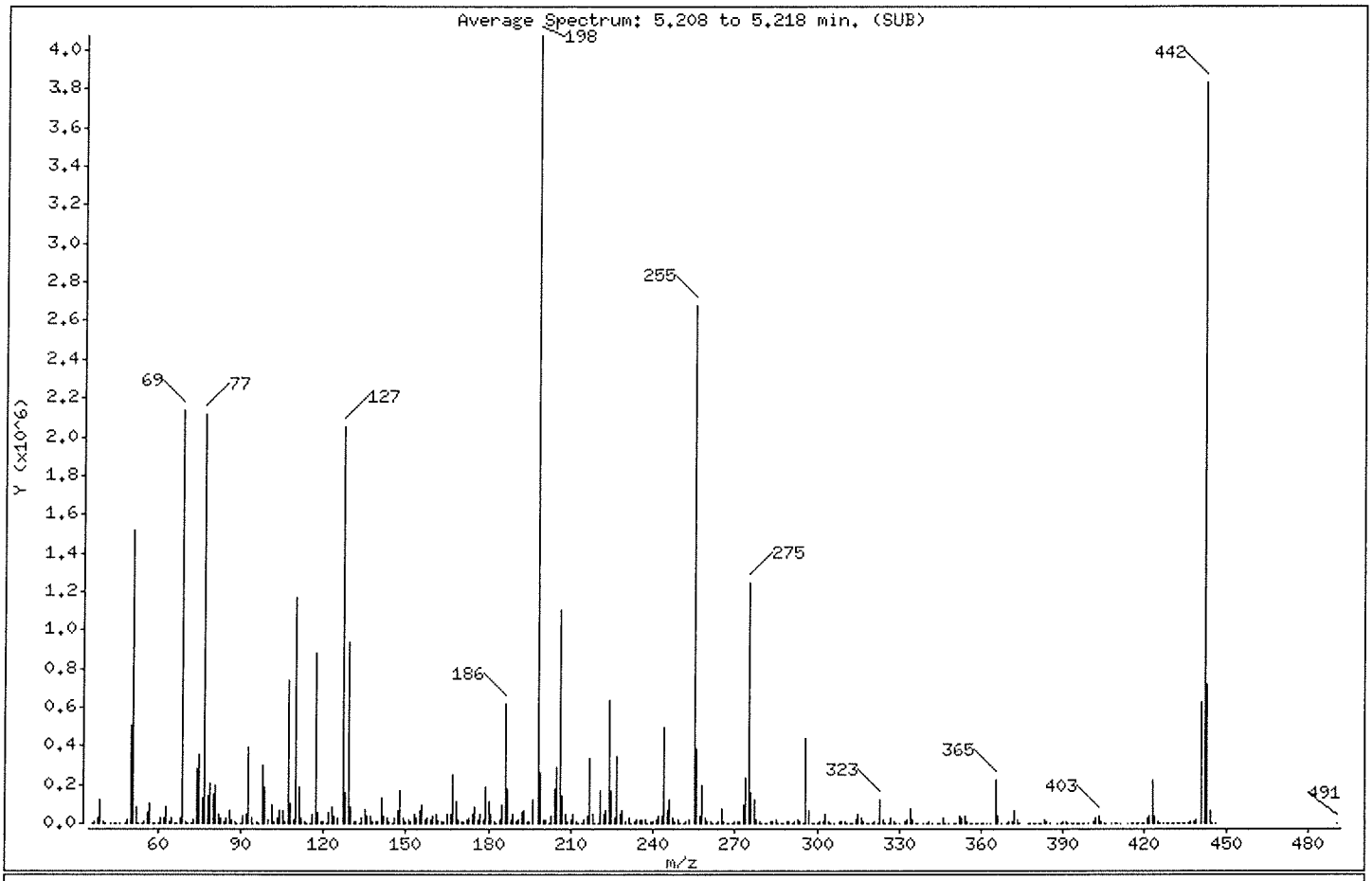
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	37.27
68	Less than 2.00% of mass 69	0.66 (1.27)
69	Mass 69 relative abundance	52.42
70	Less than 2.00% of mass 69	0.21 (0.40)
127	10.00 - 80.00% of mass 198	50.38
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.54
275	10.00 - 60.00% of mass 198	30.53
365	1.00 - 100.00% of mass 198	5.43
441	Present, but less than mass 443	15.33
442	50.00 - 150.00% of mass 198	93.99
443	15.00 - 24.00% of mass 442	17.61 (18.74)

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D

Date : 20-AUG-2019 08:34

Client ID: DFTPP02

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D

Spectrum: Average Spectrum: 5.208 to 5.218 min. (SUB)

Location of Maximum: 198.00

Number of points: 391

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	835	137.00	33208	236.00	14798	337.00	100
37.00	12102	138.00	8411	237.00	22248	339.00	2477
38.00	25296	139.00	4795	238.00	2941	340.00	1567
39.00	117160	140.00	12158	239.00	13468	341.00	13981
40.00	5499	141.00	131200	240.00	9878	342.00	3948
41.00	753	142.00	36240	241.00	19728	344.00	804
43.00	91	143.00	24424	242.00	35264	345.00	480
44.00	1276	144.00	6124	243.00	41928	346.00	28472
45.00	3402	145.00	4643	244.00	496256	347.00	4140
46.00	106	146.00	26048	245.00	67520	348.00	271
48.00	1625	147.00	64000	246.00	122680	350.00	1935
49.00	14501	148.00	169408	247.00	24744	351.00	4169
50.00	504320	149.00	25880	248.00	4938	352.00	37592
51.00	1518592	150.00	7101	249.00	19120	353.00	27976
52.00	83816	151.00	16800	250.00	4389	354.00	36440
53.00	3136	152.00	9343	251.00	4453	355.00	7095
54.00	184	153.00	44568	252.00	6078	356.00	446
55.00	11858	154.00	31536	253.00	17208	357.00	391
56.00	54208	155.00	64536	255.00	2677248	358.00	1318
57.00	102632	156.00	92080	256.00	382592	359.00	2789
58.00	3650	157.00	15872	257.00	33904	360.00	1244
59.00	1625	158.00	23880	258.00	193536	361.00	1450
60.00	1858	159.00	18264	259.00	31792	362.00	1798
61.00	24904	160.00	36112	260.00	5628	363.00	1262
62.00	32112	161.00	51192	261.00	5009	365.00	221376
63.00	80232	162.00	14572	262.00	603	366.00	34008
64.00	12711	163.00	5995	263.00	2490	367.00	1707
65.00	29088	164.00	6170	264.00	6905	369.00	407
66.00	1294	165.00	51448	265.00	76376	370.00	5368
67.00	922	166.00	42280	266.00	13210	371.00	11263
68.00	27024	167.00	255744	267.00	1076	372.00	67920
69.00	2136064	168.00	107920	268.00	2066	373.00	18112
70.00	8518	169.00	18928	269.00	956	374.00	1860
71.00	489	170.00	10335	270.00	5559	377.00	1403
72.00	1438	171.00	7634	271.00	7831	378.00	915

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D Page 4

Date : 20-AUG-2019 08:34

Client ID: DFTPP02 Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.208 to 5.218 min. (SUB)
Location of Maximum: 198.00
Number of points: 391

m/z	Y	m/z	Y	m/z	Y	m/z	Y
73.00	21832	172.00	21320	272.00	12923	379.00	143
74.00	279552	173.00	29712	273.00	90072	380.00	144
75.00	360000	174.00	45472	274.00	231936	381.00	498
76.00	127952	175.00	80656	275.00	1244160	382.00	629
77.00	2114048	176.00	21440	276.00	161152	383.00	20544
78.00	137728	177.00	47248	277.00	122616	384.00	4734
79.00	204864	178.00	18200	278.00	18792	385.00	1203
80.00	153472	179.00	183168	279.00	5011	388.00	451
81.00	199296	180.00	113264	280.00	604	389.00	265
82.00	46040	181.00	49512	281.00	900	390.00	10255
83.00	31856	182.00	11982	282.00	4109	391.00	6532
84.00	5566	183.00	3715	283.00	13570	392.00	4418
85.00	32504	184.00	16784	284.00	11220	393.00	1245
86.00	61824	185.00	89160	285.00	20912	394.00	513
87.00	21392	186.00	620608	286.00	3760	395.00	749
88.00	9127	187.00	175296	287.00	1271	396.00	444
89.00	3136	188.00	16624	288.00	1937	397.00	691
90.00	443	189.00	45672	289.00	5097	398.00	405
91.00	41216	190.00	7016	290.00	4794	399.00	123
92.00	50488	191.00	19680	291.00	3934	401.00	5262
93.00	394112	192.00	59496	292.00	8215	402.00	29296
94.00	24512	193.00	62640	293.00	21280	403.00	40856
95.00	3693	194.00	12573	294.00	8043	404.00	14012
96.00	9479	195.00	6966	295.00	4289	405.00	1459
97.00	44	196.00	124048	296.00	436544	406.00	138
98.00	303680	198.00	4075008	297.00	62032	408.00	284
99.00	191552	199.00	266624	298.00	3806	409.00	264
100.00	15372	200.00	19696	299.00	1143	410.00	1263
101.00	94456	201.00	17256	300.00	676	411.00	294
102.00	5355	202.00	1968	301.00	6097	414.00	403
103.00	32272	203.00	40488	302.00	8958	415.00	1669
104.00	67864	204.00	179392	303.00	43928	416.00	498
105.00	62672	205.00	294784	304.00	10193	417.00	65
106.00	12815	206.00	1107456	305.00	1447	418.00	1538
107.00	743744	207.00	142720	306.00	106	419.00	1353

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\005.D
Lab Smp Id: SIMDX-0.03 Client Smp ID: SIMDX-0.03
Inj Date : 20-AUG-2019 10:13 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.03;SIMDX-0.03
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 18-JUL-2019 10:08 Cal File: 002.D
Als bottle: 5 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	33546	0.10000		(aQH)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	136953	0.10000		(QH)
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	10387	0.03000		(QM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	81893	0.10000		(QH)
$ 69 2-Fluorobiphenyl	172	5.463	5.464	(0.868)	30574	0.03000		(aQ)
* 126 Phenanthrene-d10	188	7.549	7.555	(1.000)	160375	0.10000		(Q)
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	153711	0.10000		(QH)
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.849)	36860	0.03000		(aQH)
* 198 Perylene-d12	264	12.292	12.297	(1.000)	170856	0.10000		(QM)
1 1,4-Dioxane	58	1.652	1.612	(0.468)	666	0.03000		(aH)

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\001.D Page 5

Date : 20-AUG-2019 08:34

Client ID: DFTPP02 Instrument: SV6.i

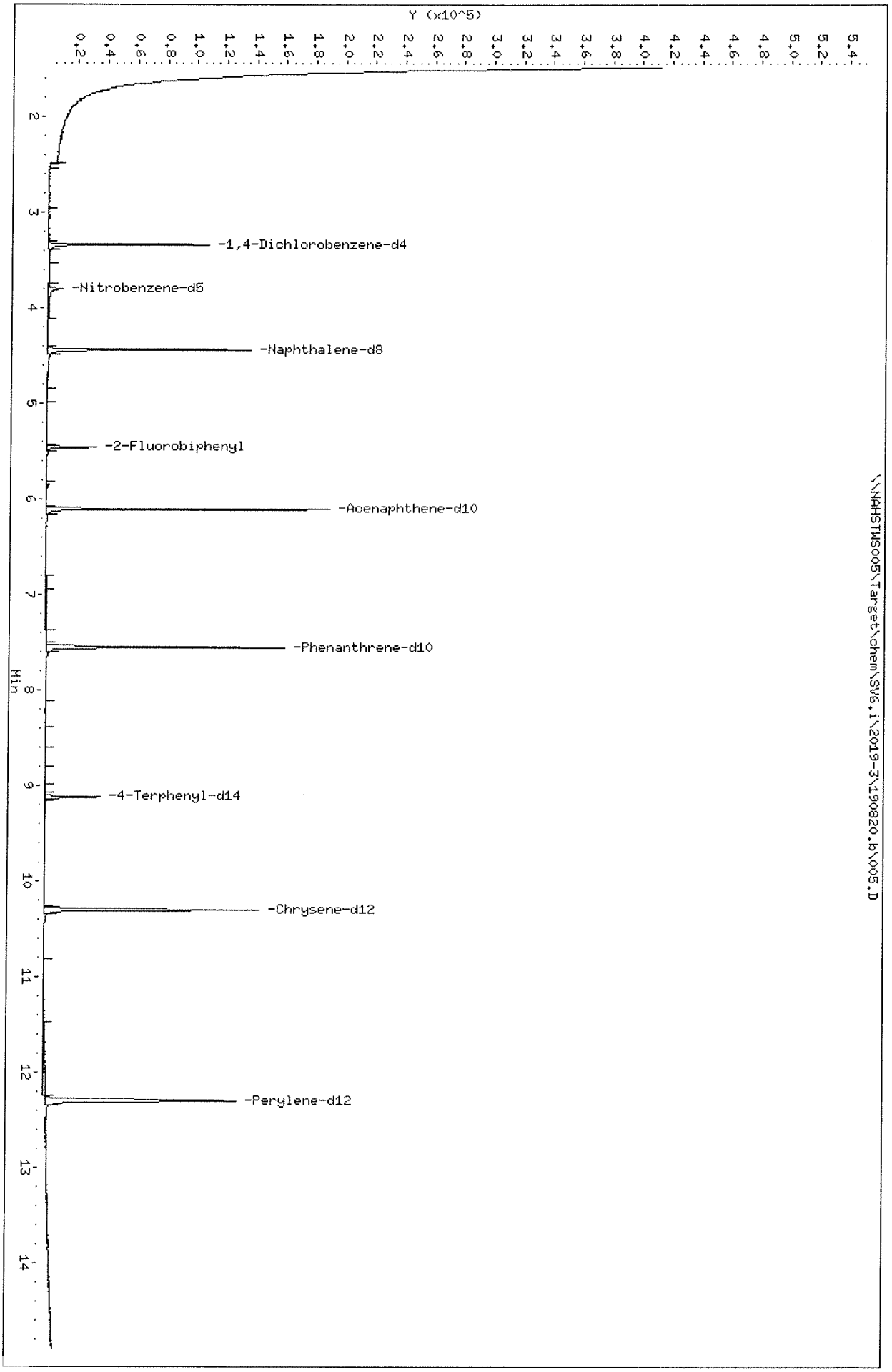
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: smith

Column phase: DB-5MS Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.208 to 5.218 min. (SUB)
Location of Maximum: 198.00
Number of points: 391

m/z	Y	m/z	Y	m/z	Y	m/z	Y
108.00	101768	208.00	46152	308.00	6241	420.00	2993
109.00	17928	209.00	12596	309.00	6298	421.00	29488
110.00	1171456	210.00	19512	310.00	6172	422.00	36720
111.00	184832	211.00	45856	311.00	604	423.00	226496
112.00	25208	212.00	5547	312.00	1912	424.00	41632
113.00	6233	213.00	3969	313.00	3850	425.00	5802
114.00	2033	214.00	2043	314.00	19248	426.00	59
115.00	4354	215.00	17152	315.00	48288	427.00	586
116.00	48960	216.00	34016	316.00	24504	428.00	274
117.00	878976	217.00	341696	317.00	4752	429.00	576
118.00	56712	218.00	43448	318.00	87	430.00	1543
119.00	5084	219.00	3982	319.00	1150	431.00	1228
120.00	8536	220.00	3610	320.00	3527	432.00	2552
121.00	3746	221.00	168960	321.00	11938	433.00	1912
122.00	60432	222.00	45336	322.00	2915	434.00	2804
123.00	81152	223.00	66888	323.00	123376	435.00	3410
124.00	36080	224.00	638528	324.00	20024	436.00	3032
125.00	28848	225.00	166336	325.00	3713	437.00	7750
127.00	2053120	226.00	23496	326.00	3277	438.00	8493
128.00	154816	227.00	346624	327.00	25960	439.00	15936
129.00	939136	228.00	46312	328.00	10207	441.00	624704
130.00	80128	229.00	62808	329.00	3443	442.00	3830272
131.00	12860	230.00	8935	330.00	592	443.00	717696
132.00	9218	231.00	23840	332.00	10907	444.00	65712
133.00	3460	232.00	4201	333.00	16824	445.00	3400
134.00	26576	233.00	6938	334.00	79336	446.00	239
135.00	73008	234.00	21800	335.00	21480	491.00	180
136.00	35592	235.00	17528	336.00	2596		



Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\005.D
Date : 20-AUG-2019 10:13
Client ID: SIHDX-0.03
Sample Info: SIHDX-0.03;SIHDX-0.03
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\006.D
Lab Smp Id: SIMDX-0.05 Client Smp ID: SIMDX-0.05
Inj Date : 20-AUG-2019 10:32 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.05;SIMDX-0.05
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 10:13 Cal File: 005.D
Als bottle: 6 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

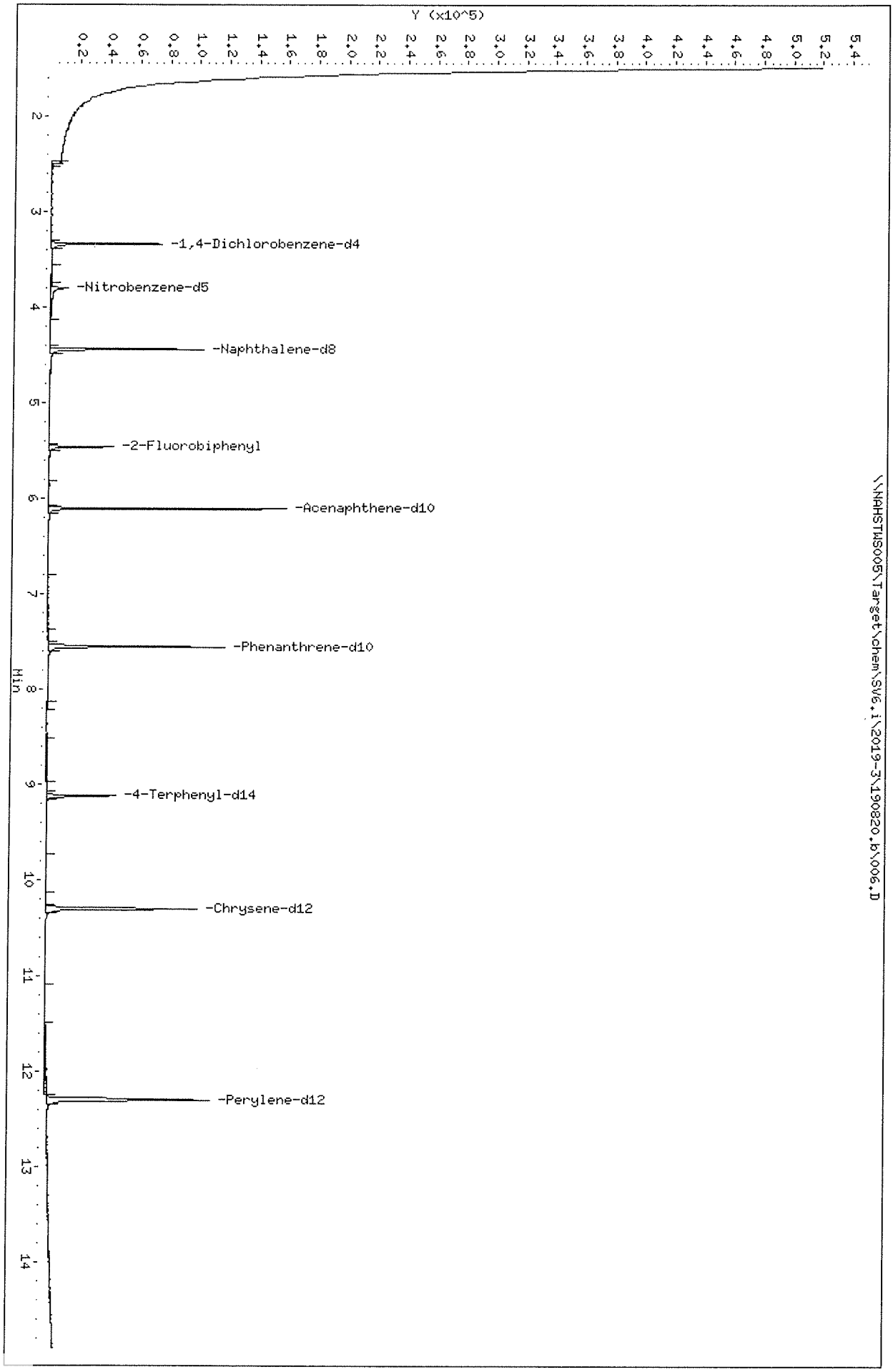
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	25816	0.10000	(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	94844	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	11773	0.05000	0.04910(QM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	61276	0.10000	
$ 69 2-Fluorobiphenyl	172	5.463	5.464	(0.895)	35405	0.05000	0.04643
* 126 Phenanthrene-d10	188	7.549	7.555	(1.000)	119311	0.10000	
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	113920	0.10000	
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.886)	45770	0.05000	0.05026
* 198 Perylene-d12	264	12.292	12.297	(1.000)	125817	0.10000	
1 1,4-Dioxane	58	1.641	1.612	(0.492)	803	0.05000	0.04700(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\006.D
Date : 20-AUG-2019 10:32
Client ID: SIMDX-0.05
Sample Info: SIMDX-0.05;SIMDX-0.05
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\007.D
Lab Smp Id: SIMDX-0.08 Client Smp ID: SIMDX-0.08
Inj Date : 20-AUG-2019 10:51 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.08;SIMDX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 10:32 Cal File: 006.D
Als bottle: 7 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

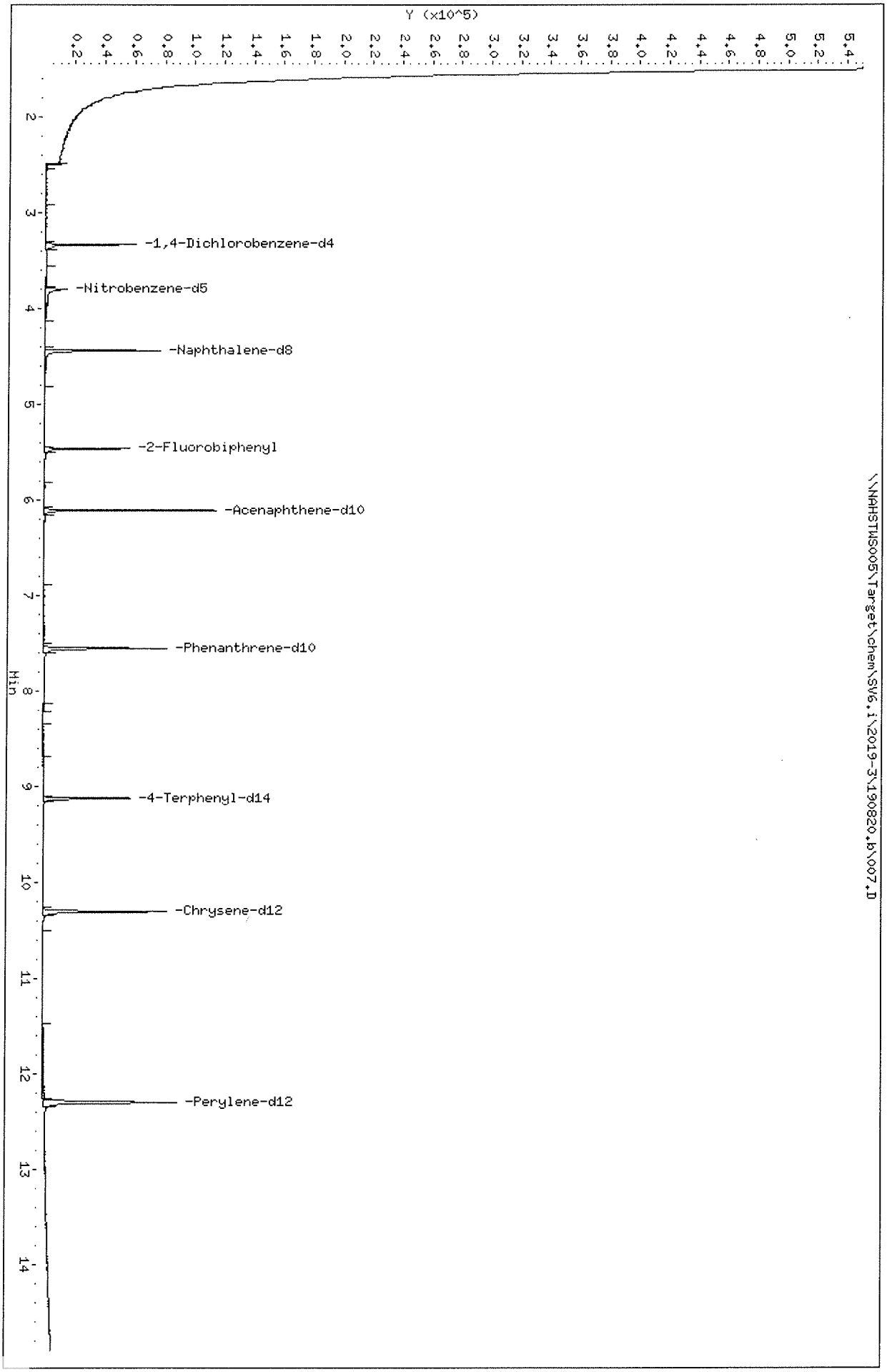
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	21258	0.10000	(a)
* 45 Naphthalene-d8	136	4.442	4.442	(1.000)	78809	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	14821	0.08000	0.07202(M)
* 86 Acenaphthene-d10	164	6.110	6.110	(1.000)	46108	0.10000	
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.894)	41986	0.08000	0.07671
* 126 Phenanthrene-d10	188	7.555	7.555	(1.000)	88651	0.10000	
* 182 Chrysene-d12	240	10.304	10.304	(1.000)	83555	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.125	9.125	(0.889)	54489	0.08000	0.07908
* 198 Perylene-d12	264	12.297	12.297	(1.000)	95521	0.10000	
1 1,4-Dioxane	58	1.612	1.612	(0.483)	1060	0.08000	0.07857(a)

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\007.D
Date : 20-AUG-2019 10:51
Client ID: SIMDX-0.08
Sample Info: SIMDX-0.08;SIMDX-0.08
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\008.D
Lab Smp Id: SIMDX-0.1 Client Smp ID: SIMDX-0.1
Inj Date : 20-AUG-2019 11:10 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.1;SIMDX-0.1
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 10:51 Cal File: 007.D
Als bottle: 8 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

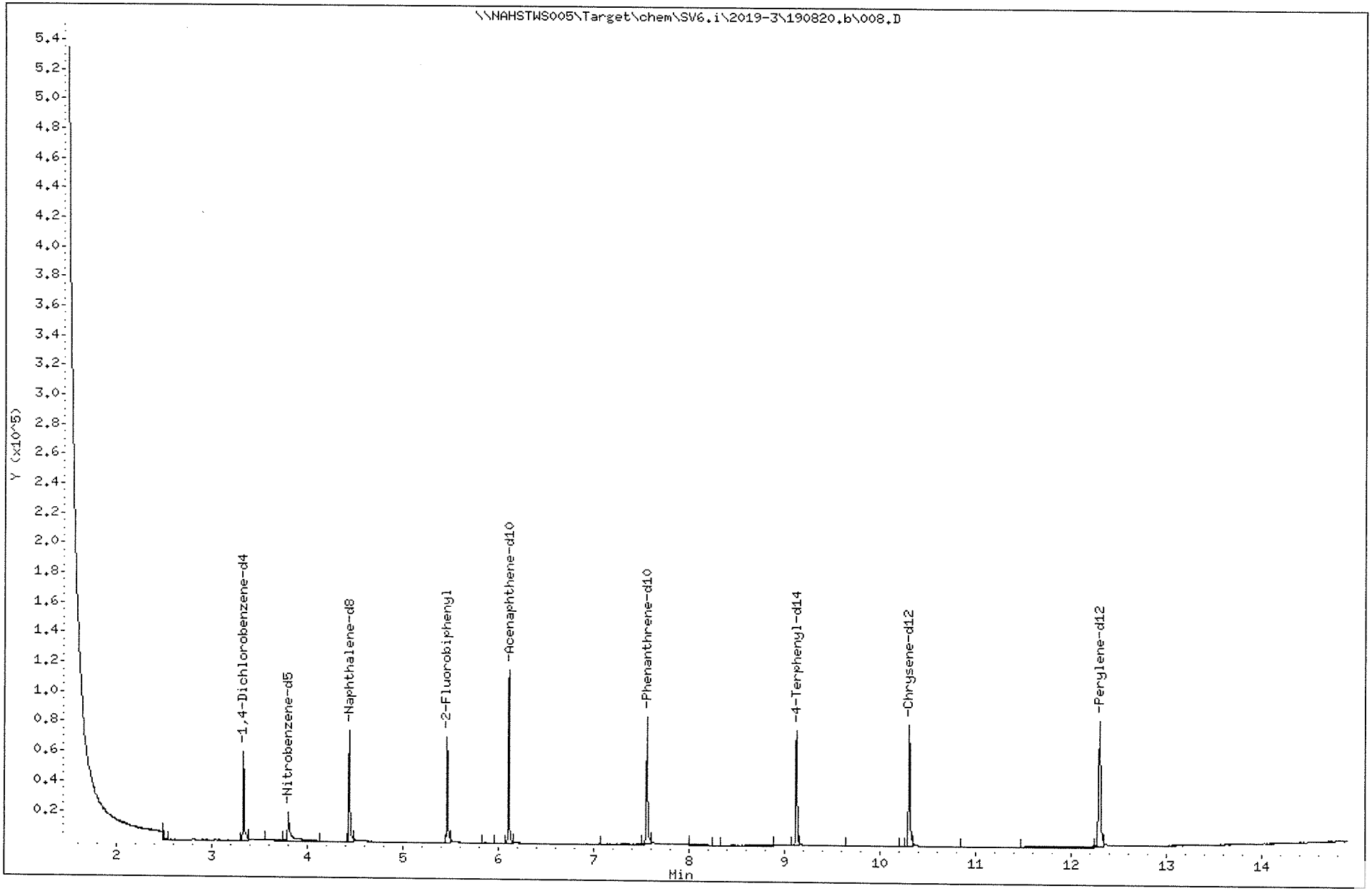
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	18520	0.10000	(a)
* 45 Naphthalene-d8	136	4.443	4.442	(1.000)	77644	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	19915	0.10000	0.1045(M)
* 86 Acenaphthene-d10	164	6.110	6.110	(1.000)	45687	0.10000	
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.894)	54630	0.10000	0.1014
* 126 Phenanthrene-d10	188	7.555	7.555	(1.000)	94205	0.10000	
* 182 Chrysene-d12	240	10.304	10.304	(1.000)	87080	0.10000	
$ 158 4-Terphenyl-d14	244	9.126	9.125	(0.886)	70350	0.10000	0.1002
* 198 Perylene-d12	264	12.297	12.297	(1.000)	96547	0.10000	
1 1,4-Dioxane	58	1.612	1.612	(0.484)	1224	0.10000	0.1040(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\SV6.i\2019-3\190820.b\008.D
Date : 20-AUG-2019 11:10
Client ID: SIMDX-0.1
Sample Info: SIMDX-0.1;SIMDX-0.1
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\009.D
Lab Smp Id: SIMDX-0.15 Client Smp ID: SIMDX-0.15
Inj Date : 20-AUG-2019 11:29 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.15;SIMDX-0.15
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 11:10 Cal File: 008.D
Als bottle: 9 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	18250	0.10000	(a)
* 45 Naphthalene-d8	136	4.443	4.442	(1.000)	69930	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	26336	0.15000	0.1518(AM)
* 86 Acenaphthene-d10	164	6.110	6.110	(1.000)	42317	0.10000	
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.894)	74789	0.15000	0.1493
* 126 Phenanthrene-d10	188	7.550	7.555	(1.000)	87386	0.10000	
* 182 Chrysene-d12	240	10.304	10.304	(1.000)	79255	0.10000	
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.885)	97729	0.15000	0.1529(A)
* 198 Perylene-d12	264	12.297	12.297	(1.000)	88054	0.10000	
1 1,4-Dioxane	58	1.612	1.612	(0.484)	1583	0.15000	0.1351(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\SV6.i\2019-3\190820.b\009.D

Date : 20-AUG-2019 11:29

Client ID: SIMDX-0.15

Instrument: SV6.i

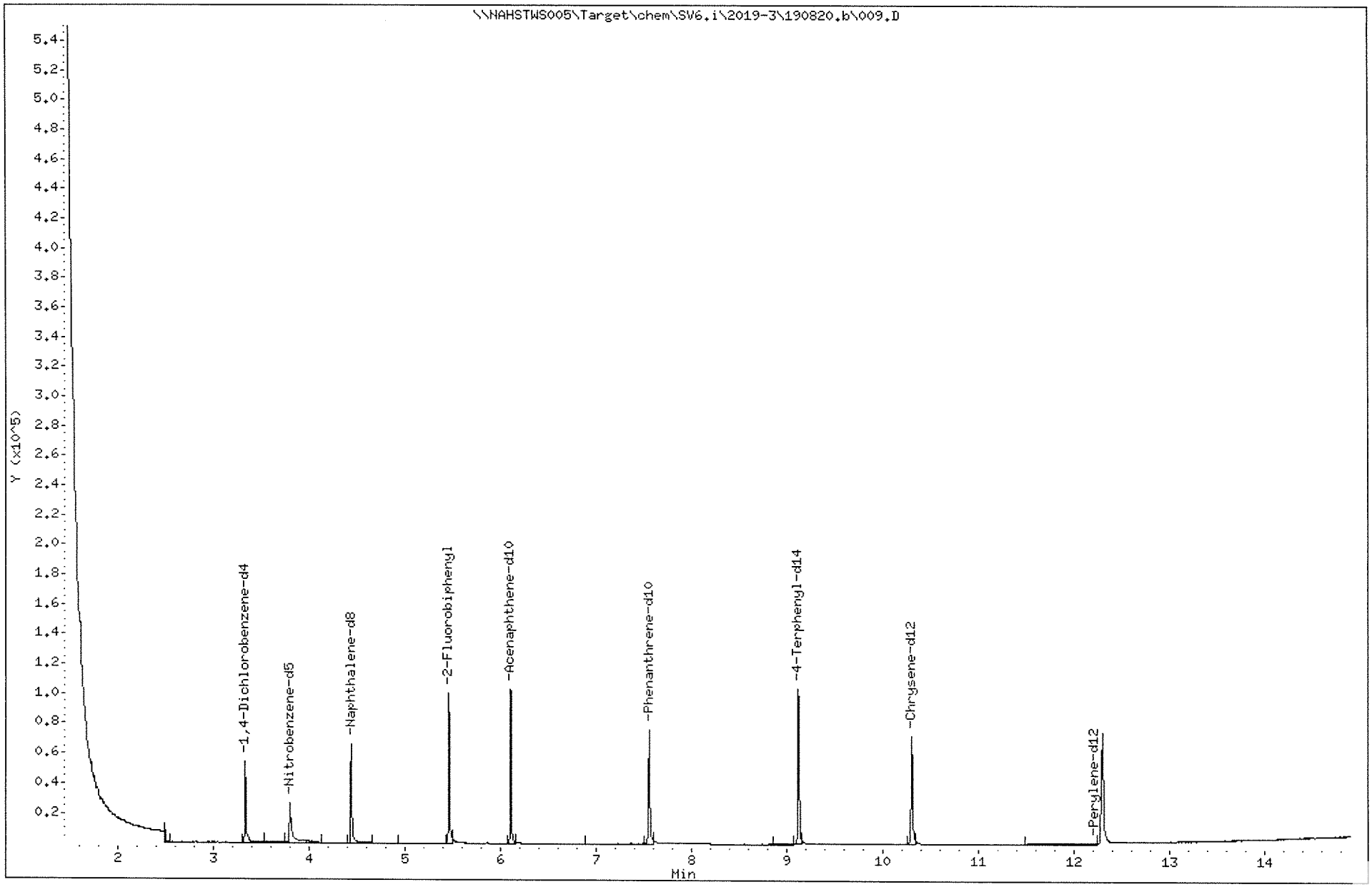
Sample Info: SIMDX-0.15;SIMDX-0.15

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



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GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\010.D
Lab Smp Id: SIMDX-0.2 Client Smp ID: SIMDX-0.2
Inj Date : 20-AUG-2019 11:49 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.2;SIMDX-0.2
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 11:29 Cal File: 009.D
Als bottle: 10 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	29701	0.10000	(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	114404	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	68087	0.20000	0.2331(AM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	67885	0.10000	
$ 69 2-Fluorobiphenyl	172	5.463	5.464	(0.895)	162627	0.20000	0.2022(AM)
* 126 Phenanthrene-d10	188	7.549	7.555	(1.000)	130309	0.10000	
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	128572	0.10000	
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.886)	222096	0.20000	0.2128(A)
* 198 Perylene-d12	264	12.292	12.297	(1.000)	144072	0.10000	
1 1,4-Dioxane	58	1.648	1.612	(0.494)	3958	0.20000	0.2144

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\SV6.i\2019-3\190820.b\010.D

Date : 20-AUG-2019 11:49

Client ID: SIMDX-0.2

Instrument: SV6.i

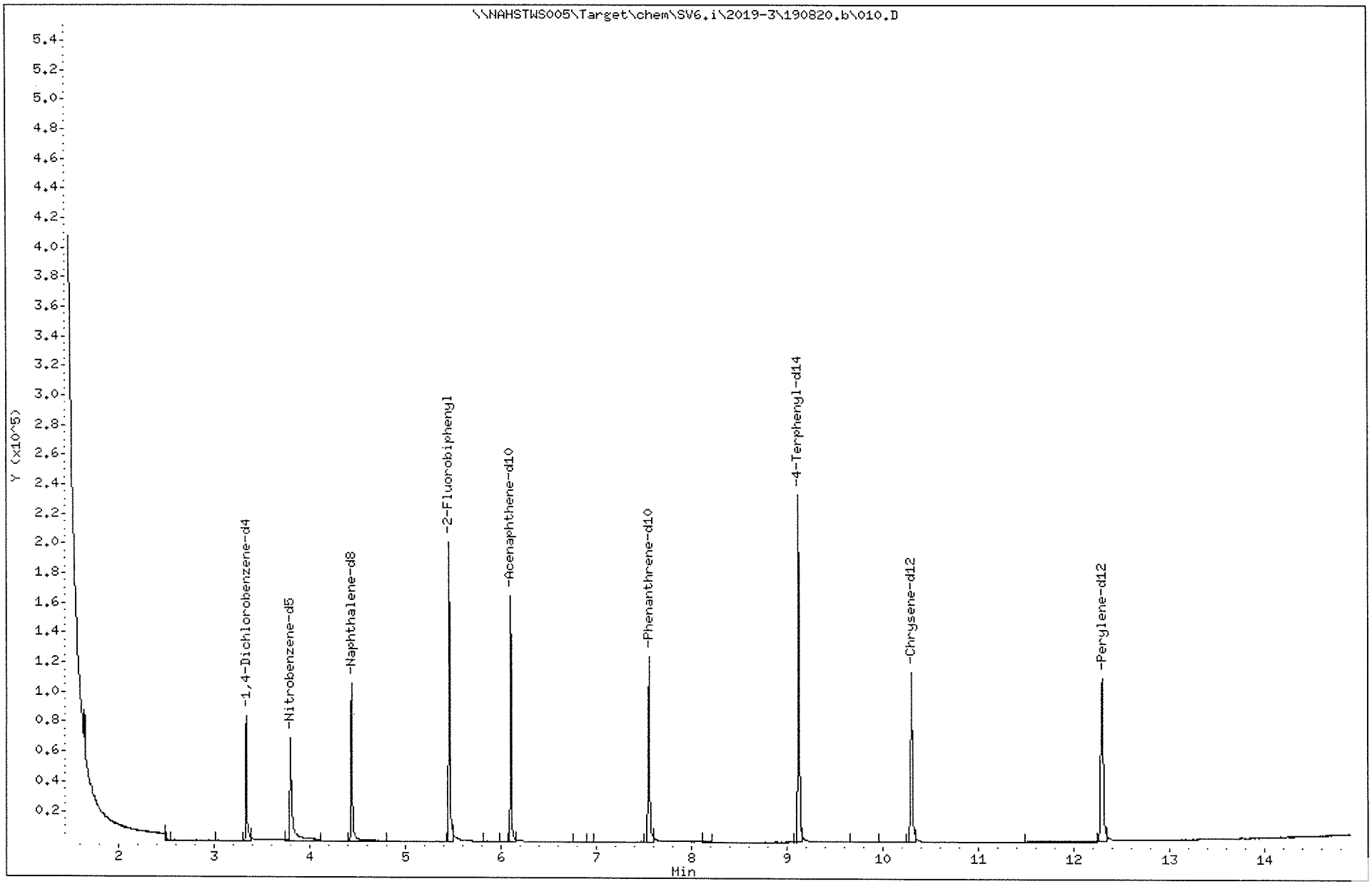
Sample Info: SIMDX-0.2;SIMDX-0.2

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



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GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\011.D
Lab Smp Id: SIMDX-0.5 Client Smp ID: SIMDX-0.5
Inj Date : 20-AUG-2019 12:08 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.5;SIMDX-0.5
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 11:29 Cal File: 009.D
Als bottle: 11 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

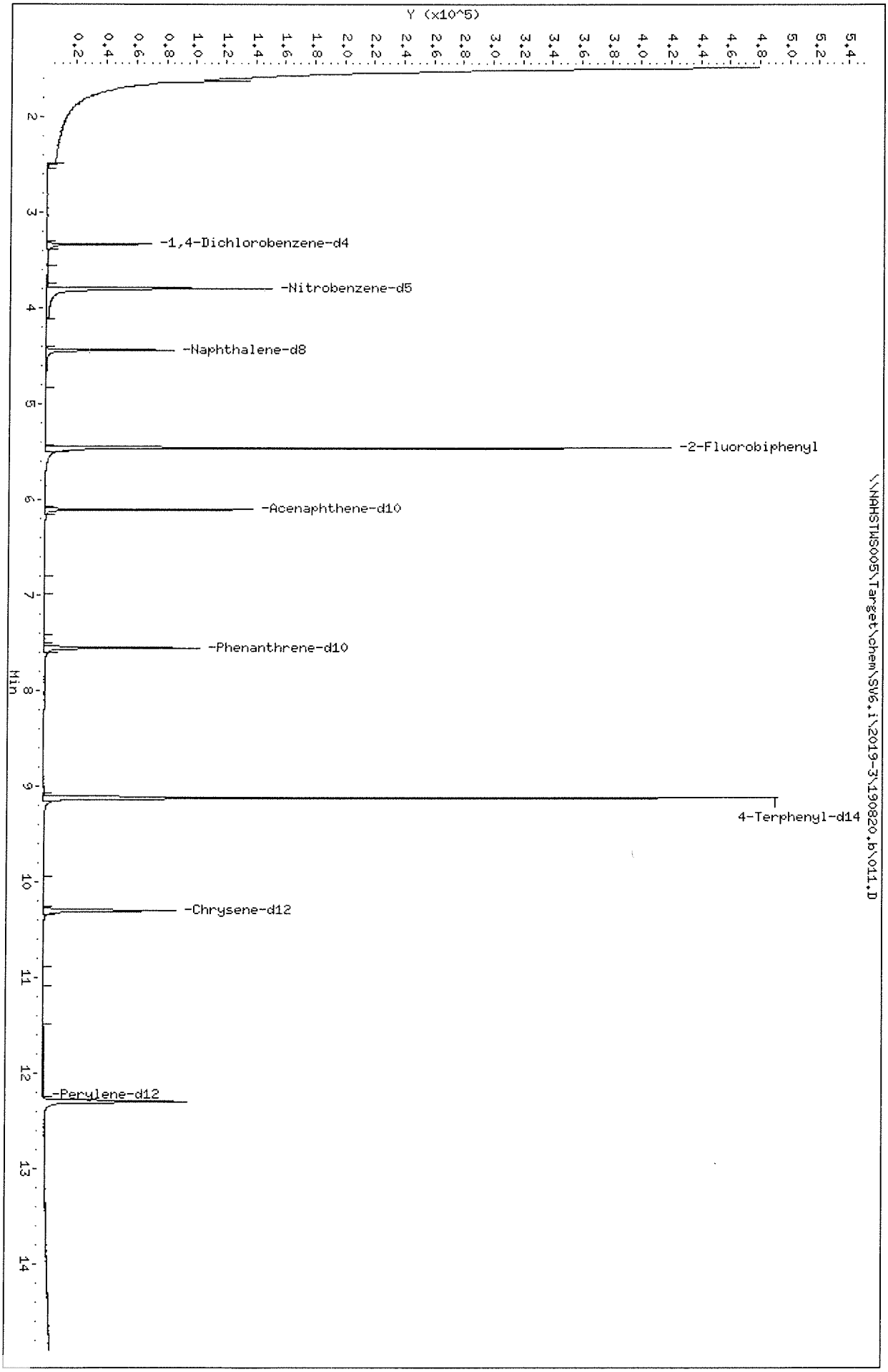
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.334	3.334	(1.000)	24883	0.10000	(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	93180	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	134339	0.50000	0.5521(AM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	55005	0.10000	
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.895)	328985	0.50000	0.5038(A)
* 126 Phenanthrene-d10	188	7.550	7.555	(1.000)	104825	0.10000	
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	99506	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.894)	408835	0.50000	0.4982(A)
* 198 Perylene-d12	264	12.292	12.297	(1.000)	114944	0.10000	
1 1,4-Dioxane	58	1.630	1.612	(0.489)	7255	0.50000	0.4594(M)

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\SV6.i\2019-3\190820.b\011.D
Date : 20-AUG-2019 12:08
Client ID: SIMDX-0.5
Sample Info: SIMDX-0.5;SIMDX-0.5
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\012.D
Lab Smp Id: SIMDX-0.01 Client Smp ID: SIMDX-0.01
Inj Date : 20-AUG-2019 12:27 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-0.01;SIMDX-0.01
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 11:49 Cal File: 010.D
Als bottle: 12 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	AMOUNTS ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	26864	0.10000	(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	99904	0.10000	
$ 33 Nitrobenzene-d5	82	3.806	3.801	(0.857)	2590	0.01000	0.009919(QM)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	62399	0.10000	
$ 69 2-Fluorobiphenyl	172	5.463	5.464	(0.895)	7426	0.01000	0.01003
* 126 Phenanthrene-d10	188	7.549	7.555	(1.000)	119188	0.10000	
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	118702	0.10000	
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.886)	10251	0.01000	0.01054
* 198 Perylene-d12	264	12.292	12.297	(1.000)	130498	0.10000	
1 1,4-Dioxane	58	1.637	1.612	(0.490)	183	0.01000	0.01085(aM)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\012.D

Date : 20-AUG-2019 12:27

Client ID: SIMDX-0.01

Instrument: SV6.i

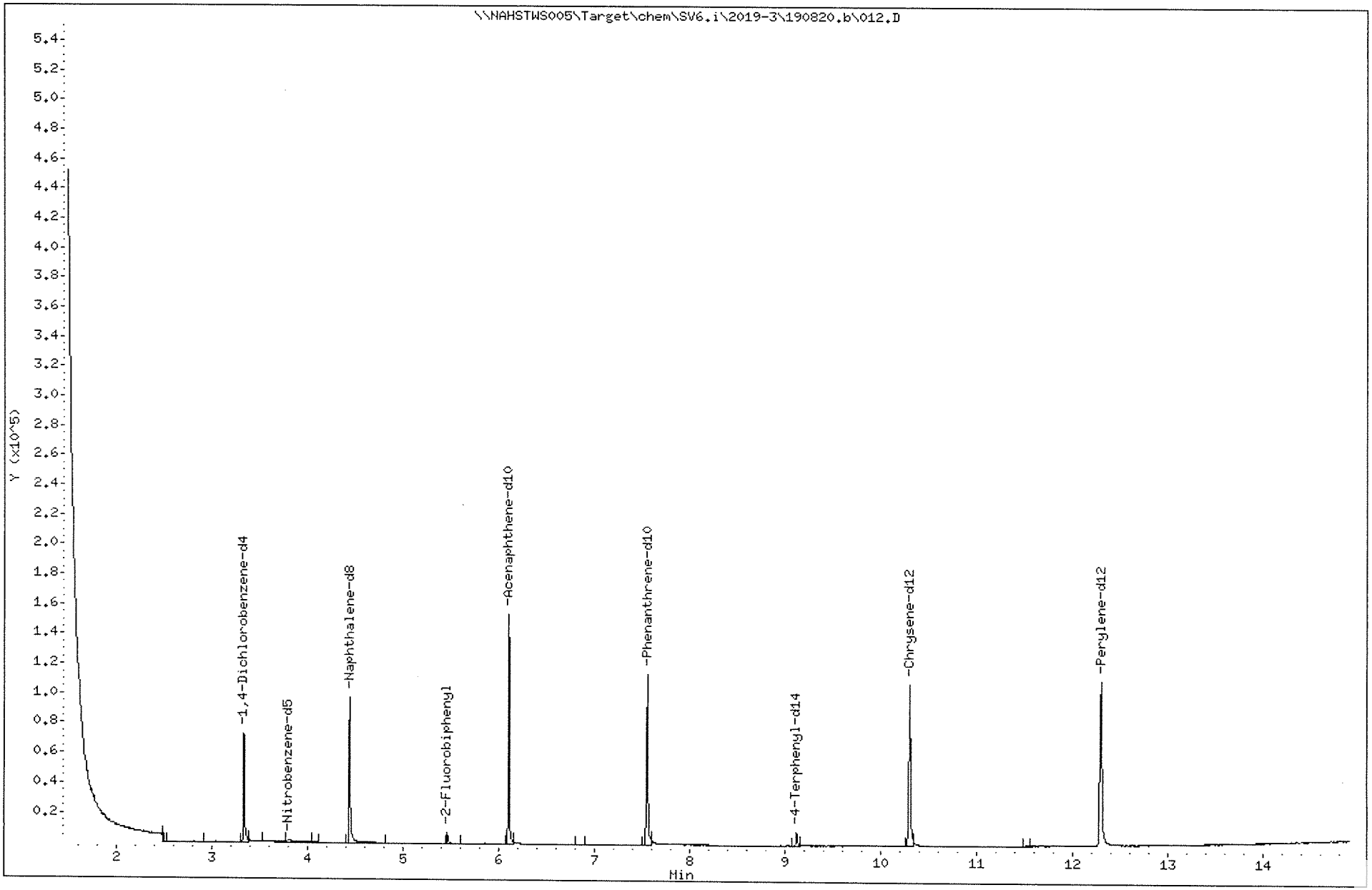
Sample Info: SIMDX-0.01;SIMDX-0.01

Purge Volume: 1000.0

Operator: LG

Column phase: RTX-5SIL MS

Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\013.D
Lab Smp Id: SIMDX-ICV Client Smp ID: SIMDX-ICV
Inj Date : 20-AUG-2019 12:46 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : SIMDX-ICV;SIMDX-ICV
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\DXSIM.m
Meth Date : 23-Mar-2020 17:29 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 13 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

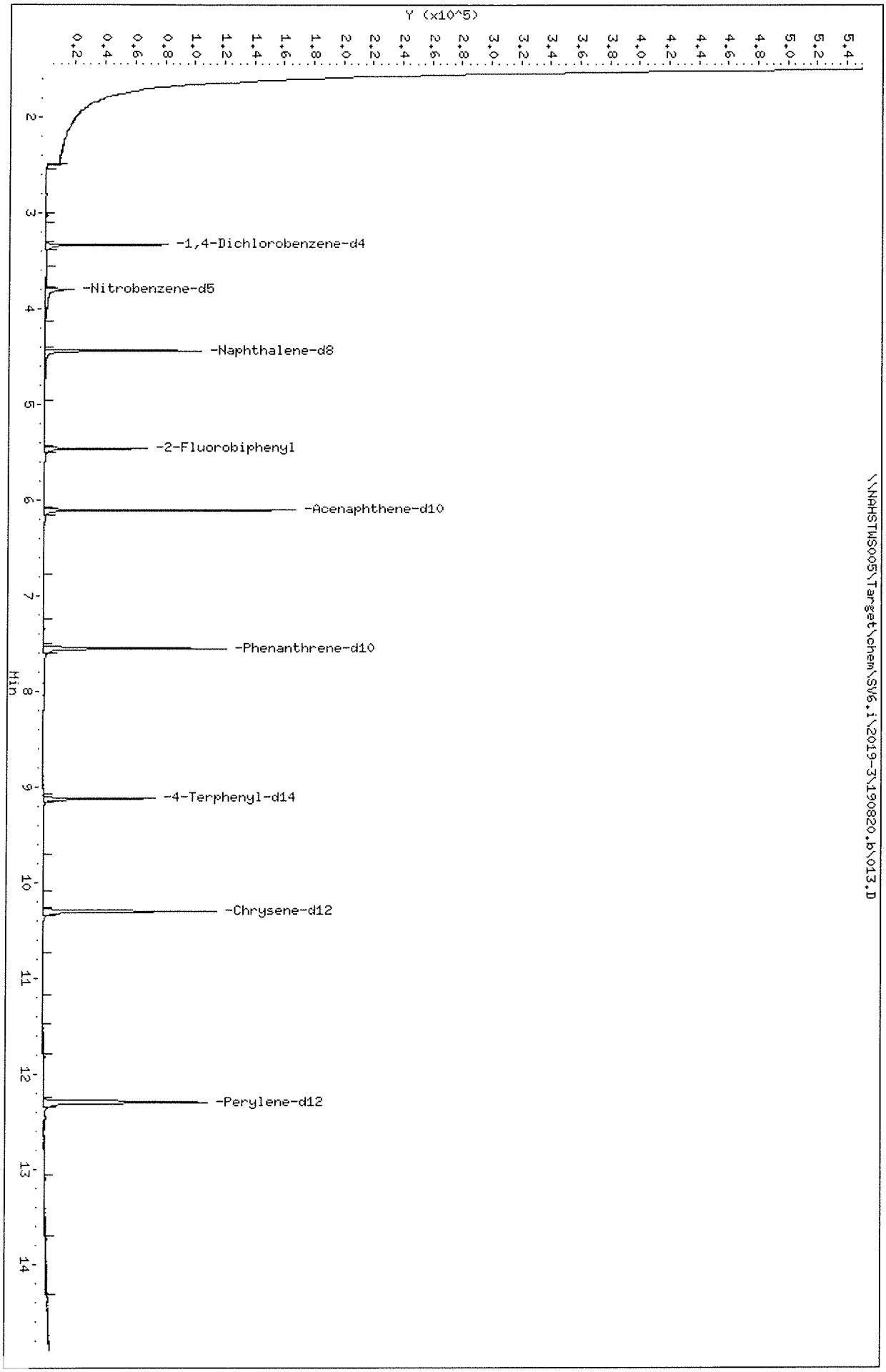
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.339	3.334	(1.000)	28781	0.10000	(a)
* 45 Naphthalene-d8	136	4.439	4.442	(1.000)	106230	0.10000	
$ 33 Nitrobenzene-d5	82	3.801	3.801	(0.856)	21420	0.07722	0.07722(M)
* 86 Acenaphthene-d10	164	6.105	6.110	(1.000)	65527	0.10000	
$ 69 2-Fluorobiphenyl	172	5.464	5.464	(0.895)	55855	0.07181	0.07181
* 126 Phenanthrene-d10	188	7.550	7.555	(1.000)	124804	0.10000	
* 182 Chrysene-d12	240	10.298	10.304	(1.000)	120805	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.120	9.125	(0.896)	70816	0.07109	0.07109
* 198 Perylene-d12	264	12.292	12.297	(1.000)	136762	0.10000	
1 1,4-Dioxane	58	1.634	1.612	(0.489)	1190	0.06515	0.06515(a)

QC Flag Legend

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

Data File: \\NAHSTWS005\Target\chem\SV6.i\2019-3\190820.b\013.D
Date : 20-AUG-2019 12:46
Client ID: SIMDX-ICV
Sample Info: SIMDX-ICV;SIMDX-ICV
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



SV06 -Logbook

Batch: 40276
Date: 04-15-2020
Method: 8270D-LVI & SIM
Comments: MSSV003 & MSSV006

Analyst: Linda Graham
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	DFTPP	TUNE	04-15-2020 07:05 am	1.00			001.D		Y	NA
2	SLSTD-2.5	CCV	04-15-2020 07:16 am	1.00			002.D		Y	NA
3	LVIPAH-0.025	CCV	04-15-2020 07:48 am	1.00			003.D		Y	NA
4	14DX-0.08	CCV	04-15-2020 08:05 am	1.00			004.D		Y	NA
5	CCB	SAMP	04-15-2020 08:27 am	1.00			005.D		Y	NA
6	MBLK-152586	MBLK	04-15-2020 08:46 am	1.00	1000.00 mL	1.00 mL	006.D	Liquid	Y	NA
7	LCS-152586	LCS	04-15-2020 09:05 am	1.00	1000.00 mL	1.00 mL	007.D	Liquid	Y	NA
8	LCSD-152586	LCSD	04-15-2020 09:24 am	1.00	1000.00 mL	1.00 mL	008.D	Liquid	Y	NA
9	HS20040284-01	SAMP	04-15-2020 09:43 am	1.00	1000.00 mL	1.00 mL	009.D	Liquid	Y	NA
10	HS20040284-01	SAMP	04-15-2020 10:02 am	100.0(	1000.00 mL	1.00 mL	010.D	Liquid	Y	NA
11	14DX-0.08	CCV	04-15-2020 10:23 am	1.00			011.D		Y	NA
12	CCB	SAMP	04-15-2020 10:44 am	1.00			012.D		Y	NA
13	HS20040434-01	SAMP	04-15-2020 11:03 am	1.00	33.00 mL	2.00 mL	013.D	Liquid	Y	NA
14	HS20040306-10	SAMP	04-15-2020 11:22 am	1.00	33.00 mL	2.00 mL	014.D	Liquid	Y	NA
15	HS20040434-01	SAMP	04-15-2020 11:41 am	20.00	33.00 mL	2.00 mL	015.D	Liquid	Y	NA
16	HS20040399-02	SAMP	04-15-2020 12:01 pm	1.00	33.00 mL	2.00 mL	016.D	Liquid	Y	NA
17	HS20040399-03	SAMP	04-15-2020 12:20 pm	1.00	33.00 mL	2.00 mL	017.D	Liquid	Y	NA
18	HS20040399-04	SAMP	04-15-2020 12:39 pm	1.00	33.00 mL	2.00 mL	018.D	Liquid	Y	NA
19	HS20040306-10	SAMP	04-15-2020 12:58 pm	5.00	33.00 mL	2.00 mL	019.D	Liquid	Y	NA
20	MBLK-152713	MBLK	04-15-2020 01:17 pm	1.00	33.00 mL	2.00 mL	020.D	Liquid	Y	NA
21	LCS-152713	LCS	04-15-2020 01:36 pm	1.00	33.00 mL	2.00 mL	021.D	Liquid	Y	NA
22	LCSD-152713	LCSD	04-15-2020 01:56 pm	1.00	33.00 mL	2.00 mL	022.D	Liquid	Y	NA
23	HS20040462-04	SAMP	04-15-2020 02:15 pm	1.00	33.00 mL	2.00 mL	023.D	Liquid	Y	NA
24	HS20040462-04MS	MS	04-15-2020 02:34 pm	1.00	33.00 mL	2.00 mL	024.D	Liquid	Y	NA
25	HS20040462-04MSD	MSD	04-15-2020 02:53 pm	1.00	33.00 mL	2.00 mL	025.D	Liquid	Y	NA
26	HS20040507-05	SAMP	04-15-2020 03:12 pm	1.00	33.00 mL	2.00 mL	026.D	Liquid	Y	NA
27	HS20040507-05MS	MS	04-15-2020 03:32 pm	1.00	33.00 mL	2.00 mL	027.D	Liquid	Y	NA
28	HS20040507-05MSD	MSD	04-15-2020 03:51 pm	1.00	33.00 mL	2.00 mL	028.D	Liquid	Y	NA
29	HS20040399-05	SAMP	04-15-2020 04:10 pm	1.00	33.00 mL	2.00 mL	029.D	Liquid	Y	NA
30	HS20040399-06	SAMP	04-15-2020 04:29 pm	1.00	33.00 mL	2.00 mL	030.D	Liquid	Y	NA
31	HS20040399-07	SAMP	04-15-2020 04:49 pm	1.00	33.00 mL	2.00 mL	031.D	Liquid	Y	NA
32	HS20040462-02	SAMP	04-15-2020 05:08 pm	1.00	33.00 mL	2.00 mL	032.D	Liquid	Y	NA
33	HS20040462-03	SAMP	04-15-2020 05:27 pm	1.00	33.00 mL	2.00 mL	033.D	Liquid	Y	NA
34	HS20040507-02	SAMP	04-15-2020 05:46 pm	1.00	33.00 mL	2.00 mL	034.D	Liquid	Y	NA
35	HS20040507-03	SAMP	04-15-2020 06:05 pm	1.00	33.00 mL	2.00 mL	035.D	Liquid	Y	NA
36	HS20040507-04	SAMP	04-15-2020 06:24 pm	1.00	33.00 mL	2.00 mL	036.D	Liquid	Y	NA
37	HS20040507-07	SAMP	04-15-2020 06:44 pm	1.00	33.00 mL	2.00 mL	037.D	Liquid	Y	NA
38	HS20040507-08	SAMP	04-15-2020 07:03 pm	1.00	33.00 mL	2.00 mL	038.D	Liquid	Y	NA

SV06 -Logbook

Chemical	Value
IS ID	3111822-02 & 3111822-07
CAL STD ID	3111816-04 & 3111808-12
DFTPP ID	3111820-01
PCP Tailing	1.5
Benz. Tailing	0.9
Routine SOP Maintenance	LG

FORM 2
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20040284

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 #	S3 (FBP) #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	MBLK-152586	101	131	110						0
02	LCS-152586	103	119	110						0
03	LCS-152586	101	126	106						0
04	HS20040284-0	106	98	119						0
05										
06										
07										
08										
09										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(40-140)
S2 = 4-Terphenyl-d14	(40-140)
S3 (FBP) = 2-Fluorobiphenyl	(40-140)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogate diluted out

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20040284

Lab File ID: 001 DFTPP Injection Date: 04/15/20

Instrument ID: SV6 DFTPP Injection Time: 0705

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	58.1
68	Less than 2.0% of mass 69	1.0 (1.8)1
69	Mass 69 relative abundance	54.6
70	Less than 2.0% of mass 69	0.2 (0.4)1
127	10.0 - 80.0% of mass 198	63.7
197	Less than 2.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	6.7
275	10.0 - 60.0% of mass 198	26.0
365	1.0 - 100.0% of mass 198	3.6
441	Present, but less than mass 443	18.6
442	50.0 - 150.0% of mass 198	112.5
443	15.0 - 24.0% of mass 442	22.2 (19.7)2

1-Value is % mass 69 2-Value is % mass 442

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	14DX-0.08	14DX-0.08	004	04/15/20	0805
02	MBLK-152586	MBLK-152586	006	04/15/20	0846
03	LCS-152586	LCS-152586	007	04/15/20	0905
04	LCS-152586	LCSD-152586	008	04/15/20	0924
05	HS20040284-0	HS20040284-01	010	04/15/20	1002
06	14DX-0.08	14DX-0.08	011	04/15/20	1023
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20040284

Instrument ID: SV6 Calibration Date: 04/15/20 Time: 0805

Lab File ID: 004 Init. Calib. Date(s): 08/20/19 08/20/19

Init. Calib. Times: 1013 1227

GC Column: RTX-5SIL MS ID: 0.28 (mm)

COMPOUND	RRF OR AMOUNT	RRF8e-002 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
1,4-Dioxane	6.3e-002	6.44e-002	0.01	2.22	20.00	AVRG
Nitrobenzene-d5	0.2610000	0.2391304	0.01	-8.38	20.00	AVRG
4-Terphenyl-d14	0.8250000	0.7196954	0.01	-12.76	20.00	AVRG
2-Fluorobiphenyl	1.1870000	1.1375792	0.01	-4.16	20.00	AVRG

FORM VII SV

FORM 7B
SEMIVOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20040284

Instrument ID: SV6 Calibration Date: 04/15/20 Time: 1023

Lab File ID: 011 Init. Calib. Date(s): 08/20/19 08/20/19

Init. Calib. Times: 1013 1227

GC Column: RTX-5SIL MS ID: 0.28 (mm)

COMPOUND	RRF OR AMOUNT	RRF8e-002 OR AMOUNT	MIN RRF	%D OR %DRIFT	MAX %D OR %DRIFT	CURV TYPE
1,4-Dioxane	6.3e-002	6.64e-002	0.01	5.40	50.00	AVRG
Nitrobenzene-d5	0.2610000	0.2277553	0.01	-12.74	50.00	AVRG
4-Terphenyl-d14	0.8250000	0.6948271	0.01	-15.78	50.00	AVRG
2-Fluorobiphenyl	1.1870000	1.0678742	0.01	-10.04	50.00	AVRG

FORM VII SV

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20040284

Lab File ID (Standard): 004 Date Analyzed: 04/15/20

Instrument ID: SV6 Time Analyzed: 0805

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	26744	3.50	99590	4.62	49268	6.29
	UPPER LIMIT	53488	4.00	199180	5.12	98536	6.79
	LOWER LIMIT	13372	3.00	49795	4.12	24634	5.79
	CLIENT SAMPLE NO.						
01	MBLK-152586	31526	3.51	119935	4.62	62383	6.29
02	LCS-152586	27173	3.51	107305	4.62	54948	6.29
03	LCS-152586	29574	3.51	109352	4.62	59988	6.29
04	HS20040284-0	21147	3.50	78477	4.62	42048	6.29
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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

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

FORM VIII SV

FORM 8
SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ALS Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS20040284

Lab File ID (Standard): 004 Date Analyzed: 04/15/20

Instrument ID: SV6 Time Analyzed: 0805

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	86300	7.74	70740	10.56	87683	12.62
	UPPER LIMIT	172600	8.24	141480	11.06	175366	13.12
	LOWER LIMIT	43150	7.24	35370	10.06	43842	12.12
	CLIENT SAMPLE NO.						
01	MBLK-152586	103166	7.74	86906	10.56	103387	12.62
02	LCS-152586	90227	7.74	74870	10.56	91657	12.63
03	LCS-152586	97341	7.74	81997	10.56	98076	12.63
04	HS20040284-0	66383	7.74	55404	10.56	68062	12.63
05							
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

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

FORM VIII SV

Data File: \\NAHSTWS005\Target\chem\SV6.i\200415.b\001.D

Date : 15-APR-2020 07:05

Client ID: DFTPP

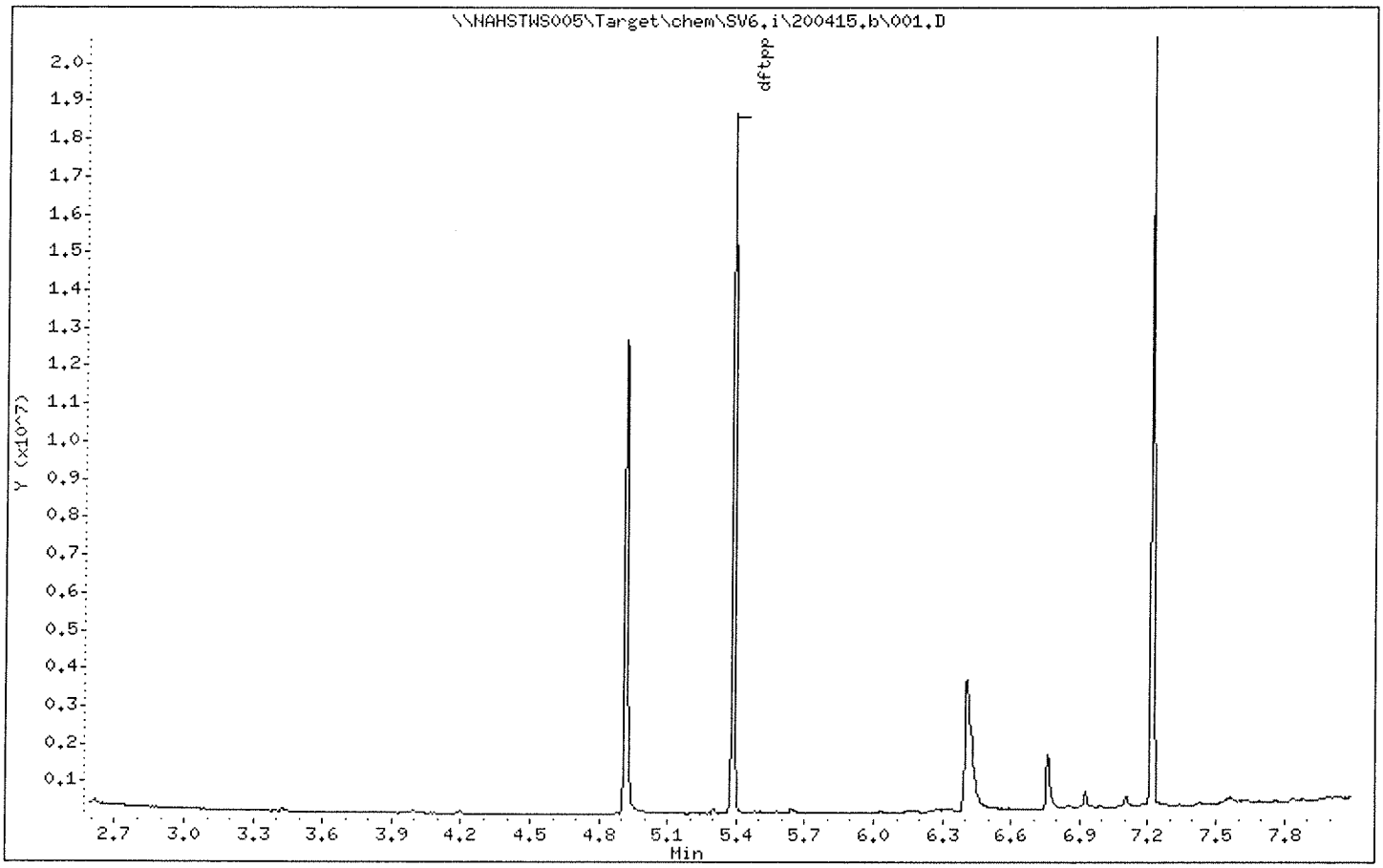
Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\NAHSTWS005\Target\chem\SV6.i\200415.b\001.D

Date : 15-APR-2020 07:05

Client ID: DFTPP

Instrument: SV6.i

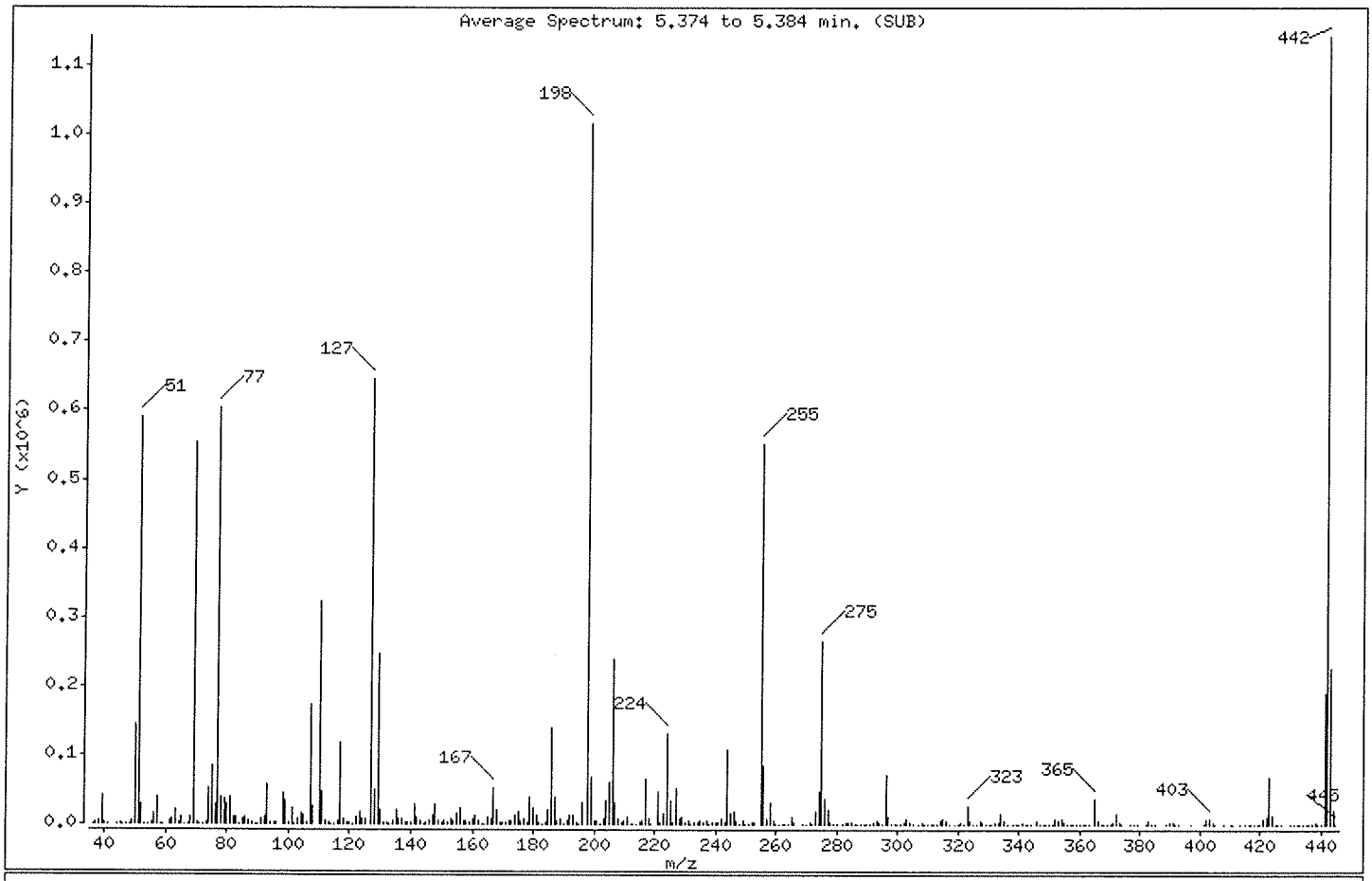
Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

1 dftpp



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
198	Base Peak, 100% relative abundance	100.00
51	10.00 - 80.00% of mass 198	58.06
68	Less than 2.00% of mass 69	0.98 (1.79)
69	Mass 69 relative abundance	54.55
70	Less than 2.00% of mass 69	0.22 (0.40)
127	10.00 - 80.00% of mass 198	63.67
197	Less than 2.00% of mass 198	0.00
199	5.00 - 9.00% of mass 198	6.74
275	10.00 - 60.00% of mass 198	26.00
365	1.00 - 100.00% of mass 198	3.57
441	Present, but less than mass 443	18.61
442	50.00 - 150.00% of mass 198	112.48
443	15.00 - 24.00% of mass 442	22.19 (19.73)

Data File: \\NAHSTWS005\Target\chem\SV6.i\200415.b\001.D Page 3

Date : 15-APR-2020 07:05

Client ID: DFTPP Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.374 to 5.384 min. (SUB)
Location of Maximum: 442.00
Number of points: 373

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	39	136.00	7500	232.00	655	332.00	1825
37.00	1784	137.00	8223	233.00	1671	333.00	2918
38.00	5918	138.00	2571	234.00	3803	334.00	16664
39.00	42512	139.00	1412	235.00	4195	335.00	4244
40.00	1808	140.00	2876	236.00	2686	336.00	362
41.00	801	141.00	28176	237.00	3964	338.00	94
44.00	1264	142.00	9426	238.00	984	339.00	735
45.00	1767	143.00	6183	239.00	2557	340.00	297
46.00	25	144.00	1199	240.00	2108	341.00	3362
47.00	482	145.00	1536	241.00	3447	342.00	788
48.00	737	146.00	4976	242.00	7632	343.00	50
49.00	4978	147.00	13992	243.00	3176	344.00	94
50.00	144960	148.00	28928	244.00	108136	346.00	5236
51.00	589312	149.00	5592	245.00	14619	347.00	1022
52.00	28888	150.00	1937	246.00	19224	348.00	395
53.00	1130	151.00	5782	247.00	3973	349.00	167
54.00	295	152.00	1451	248.00	1011	350.00	353
55.00	3156	153.00	8599	249.00	4210	351.00	351
56.00	16205	154.00	6510	250.00	871	352.00	8058
57.00	39384	155.00	15909	251.00	1260	353.00	6270
58.00	1283	156.00	23936	252.00	2102	354.00	8782
59.00	533	157.00	4051	253.00	3655	355.00	1546
61.00	6237	158.00	5461	255.00	551424	356.00	74
62.00	7391	159.00	3514	256.00	83192	357.00	154
63.00	21912	160.00	8446	257.00	6956	358.00	188
64.00	3393	161.00	12452	258.00	30952	359.00	731
65.00	10897	162.00	3981	259.00	5032	360.00	146
66.00	544	163.00	1012	260.00	993	361.00	284
67.00	145	164.00	1106	261.00	771	362.00	231
68.00	9916	165.00	9829	262.00	404	363.00	209
69.00	553728	166.00	8844	263.00	624	365.00	36216
70.00	2238	167.00	51488	264.00	748	366.00	5299
71.00	441	168.00	19776	265.00	11686	367.00	123
72.00	291	169.00	3656	266.00	2712	368.00	235
73.00	3165	170.00	2013	269.00	520	369.00	121

Data File: \\NAHSTWS005\Target\chem\SV6.i\200415.b\001.D

Date : 15-APR-2020 07:05

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LC

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D
Spectrum: Average Spectrum: 5.374 to 5.384 min. (SUB)
Location of Maximum: 442.00
Number of points: 373

m/z	Y	m/z	Y	m/z	Y	m/z	Y
74.00	52744	171.00	1811	270.00	729	370.00	1221
75.00	82832	172.00	4925	271.00	1356	371.00	3081
76.00	28760	173.00	6084	272.00	1286	372.00	14772
77.00	603200	174.00	12016	273.00	18536	373.00	3673
78.00	39048	175.00	19376	274.00	48448	374.00	463
79.00	36832	176.00	6331	275.00	263936	377.00	401
80.00	28536	177.00	8210	276.00	36232	378.00	308
81.00	39920	178.00	3188	277.00	21160	379.00	81
82.00	10004	179.00	38968	278.00	3787	382.00	216
83.00	9457	180.00	24464	279.00	709	383.00	4643
84.00	976	181.00	12224	280.00	265	384.00	1064
85.00	6593	182.00	2095	282.00	439	385.00	433
86.00	9277	183.00	888	283.00	2496	389.00	134
87.00	4305	184.00	2663	284.00	1621	390.00	2515
88.00	2257	185.00	21568	285.00	3309	391.00	1913
89.00	888	186.00	139136	286.00	887	392.00	1224
90.00	271	187.00	38352	287.00	59	393.00	240
91.00	8189	188.00	4356	288.00	666	397.00	355
92.00	10235	189.00	8182	289.00	896	401.00	1264
93.00	59056	190.00	1097	290.00	664	402.00	6706
94.00	3713	191.00	4158	291.00	840	403.00	8680
95.00	1822	192.00	12270	292.00	1446	404.00	3743
96.00	2867	193.00	13804	293.00	5420	405.00	615
98.00	44792	194.00	3236	294.00	1671	408.00	217
99.00	35088	195.00	514	295.00	148	410.00	426
100.00	3752	196.00	32472	296.00	70592	411.00	91
101.00	23120	198.00	1015040	297.00	10525	413.00	78
102.00	1063	199.00	68400	298.00	1012	415.00	714
103.00	7520	200.00	5377	299.00	484	416.00	130
104.00	15545	201.00	6416	300.00	56	417.00	86
105.00	13626	202.00	157	301.00	1033	418.00	70
106.00	2202	203.00	7314	302.00	1512	419.00	103
107.00	172544	204.00	35336	303.00	8467	420.00	717
108.00	26944	205.00	60392	304.00	2130	421.00	8053
110.00	323072	206.00	238336	305.00	431	422.00	10912

Data File: \\NAHSTWS005\Target\chem\SV6.i\200415.b\001.D

Date : 15-APR-2020 07:05

Client ID: DFTPP

Instrument: SV6.i

Sample Info: DFTPP;DFTPP;3;;DFTPP

Operator: LG

Column phase: DB-5MS

Column diameter: 0.25

Data File: 001.D

Spectrum: Average Spectrum: 5.374 to 5.384 min. (SUB)

Location of Maximum: 442.00

Number of points: 373

m/z	Y	m/z	Y	m/z	Y	m/z	Y
111.00	48008	207.00	32104	307.00	288	423.00	68440
112.00	5715	208.00	8044	308.00	1334	424.00	13037
113.00	1919	209.00	2758	309.00	799	425.00	1276
114.00	257	210.00	4410	310.00	1043	426.00	167
115.00	806	211.00	10144	311.00	247	427.00	50
116.00	4152	212.00	430	312.00	374	430.00	65
117.00	118672	213.00	367	313.00	1186	431.00	264
118.00	8376	214.00	500	314.00	4734	432.00	180
119.00	1325	215.00	2421	315.00	8378	433.00	68
120.00	2074	216.00	5230	316.00	4790	434.00	378
121.00	547	217.00	64872	317.00	1066	435.00	332
122.00	11667	218.00	8379	319.00	475	436.00	740
123.00	17488	219.00	1170	320.00	127	437.00	945
124.00	7899	221.00	48480	321.00	3280	438.00	1882
125.00	8065	222.00	2232	322.00	587	439.00	1223
127.00	646272	223.00	14989	323.00	26056	440.00	536
128.00	50344	224.00	131648	324.00	4539	441.00	188928
129.00	246144	225.00	34248	325.00	588	442.00	1141760
130.00	19776	226.00	1564	326.00	705	443.00	225216
131.00	3690	227.00	51784	327.00	4572	444.00	20360
132.00	2531	228.00	7351	328.00	2995	445.00	1288
133.00	348	229.00	11250	329.00	641		
134.00	6062	230.00	1570	330.00	269		
135.00	19856	231.00	4736	331.00	138		

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\200415.b\004.D
Lab Smp Id: 14DX-0.08 Client Smp ID: 14DX-0.08
Inj Date : 15-APR-2020 08:05 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : 14DX-0.08;14DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200415.b\DXSIM.m
Meth Date : 05-May-2020 07:13 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 4 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTWS005

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)	
* 20 1,4-Dichlorobenzene-d4	152	3.504	3.504	(1.000)	26744	0.10000		
* 45 Naphthalene-d8	136	4.620	4.620	(1.000)	99590	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.976	3.976	(0.861)	19052	0.08000	0.07326	(M)
* 86 Acenaphthene-d10	164	6.294	6.294	(1.000)	49268	0.10000		(Q)
$ 69 2-Fluorobiphenyl	172	5.645	5.645	(0.897)	44837	0.08000	0.07667	
* 126 Phenanthrene-d10	188	7.744	7.744	(1.000)	86300	0.10000		
* 182 Chrysene-d12	240	10.563	10.563	(1.000)	70740	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.325	9.325	(0.883)	40729	0.08000	0.06982	(M)
* 198 Perylene-d12	264	12.620	12.620	(1.000)	87683	0.10000		
1 1,4-Dioxane	58	1.759	1.760	(0.502)	1379	0.08000	0.08125	(M)

QC Flag Legend

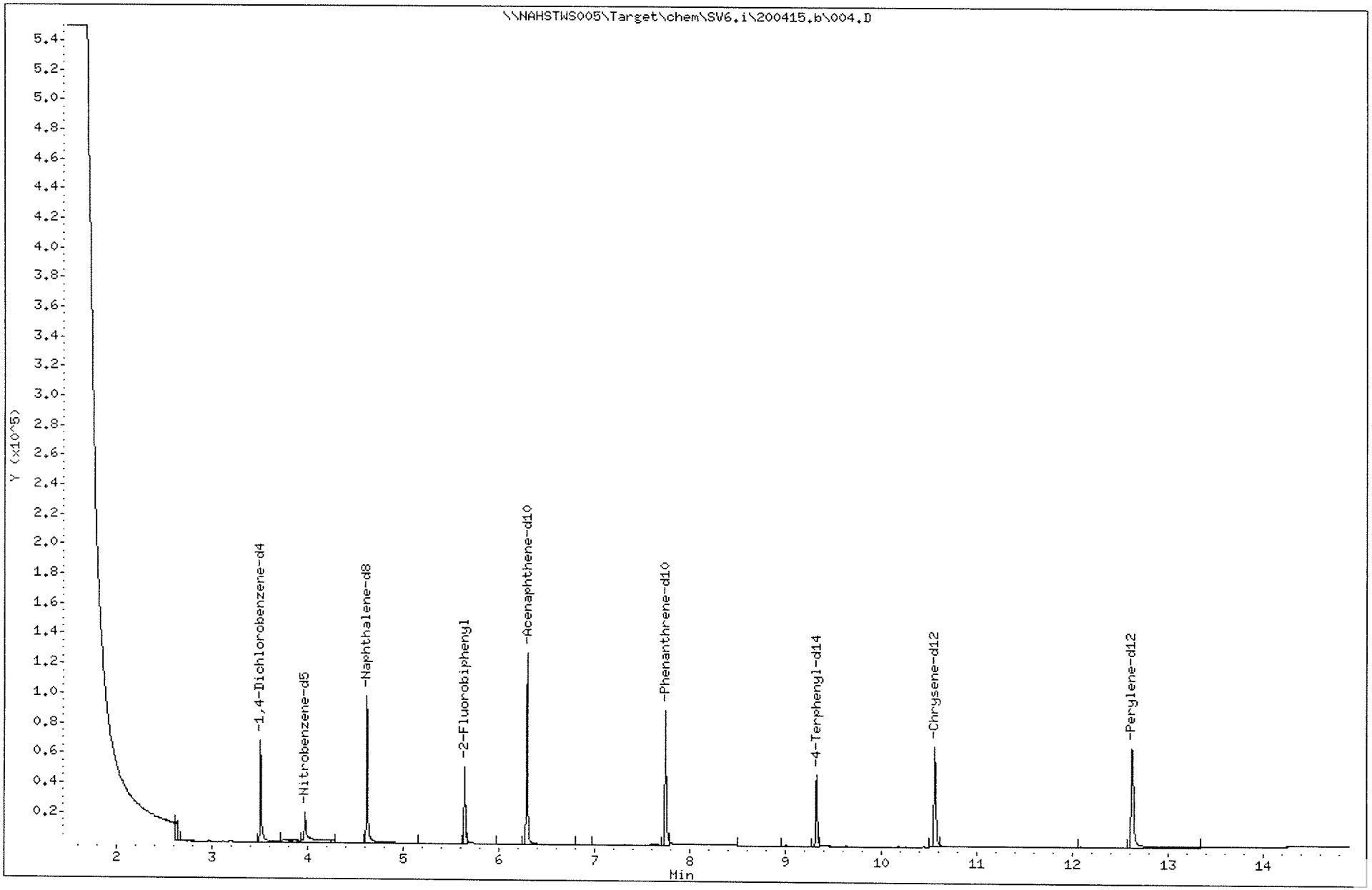
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\SV6.i\200415.b\004.D
Date : 15-APR-2020 08:05
Client ID: 14DX-0.08
Sample Info: 14DX-0.08;14DX-0.08

Column phase: RTX-5SIL MS

Instrument: SV6.i

Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\200415.b\006.D
Lab Smp Id: MBLK-152586 Client Smp ID: MBLK-152586
Inj Date : 15-APR-2020 08:46 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : MBLK-152586;MBLK-152586;3;;BLANK
Misc Info : HS20040284;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200415.b\DXSIM.m
Meth Date : 05-May-2020 07:13 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTWS005

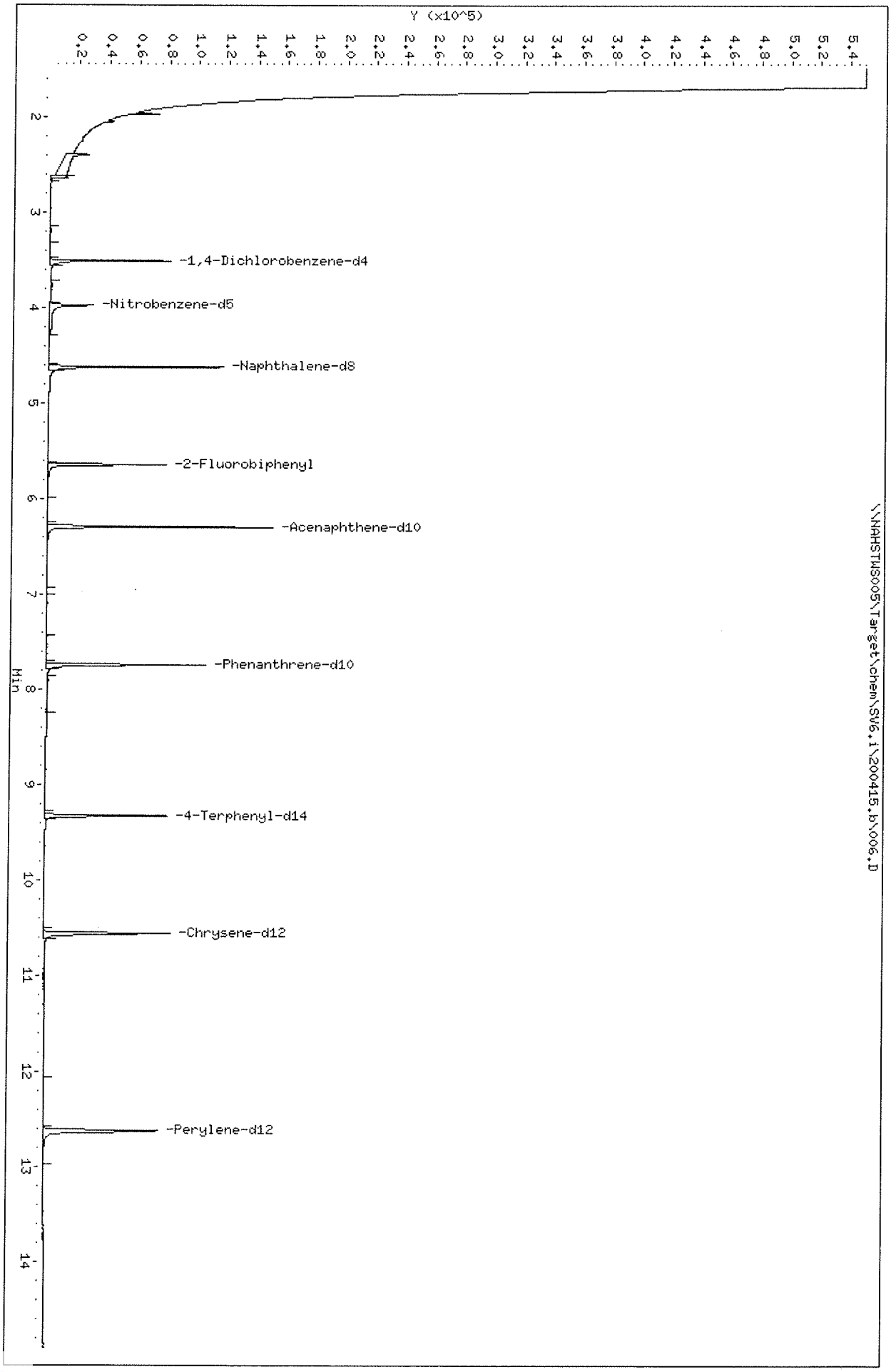
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.509	3.504	(1.000)	31526	0.10000		(a)
* 45 Naphthalene-d8	136	4.620	4.620	(1.000)	119935	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.976	3.976	(0.861)	25358	0.08097	0.08097	(M)
* 86 Acenaphthene-d10	164	6.294	6.294	(1.000)	62383	0.10000		
$ 69 2-Fluorobiphenyl	172	5.645	5.645	(0.897)	65050	0.08784	0.08784	(M)
* 126 Phenanthrene-d10	188	7.744	7.744	(1.000)	103166	0.10000		
* 182 Chrysene-d12	240	10.557	10.563	(1.000)	86906	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.325	9.325	(0.883)	75060	0.10474	0.1047	(M)
* 198 Perylene-d12	264	12.620	12.620	(1.000)	103387	0.10000		

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\SV6.i\200415.b\006.D
Date : 15-APR-2020 08:46
Client ID: MBLK-152586
Sample Info: MBLK-152586;MBLK-152586;3;;BLANK
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\200415.b\007.D
Lab Smp Id: LCS-152586 Client Smp ID: LCS-152586
Inj Date : 15-APR-2020 09:05 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : LCS-152586;LCS-152586;3;;LCS
Misc Info : HS20040284;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200415.b\DXSIM.m
Meth Date : 05-May-2020 07:13 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 7 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTWS005

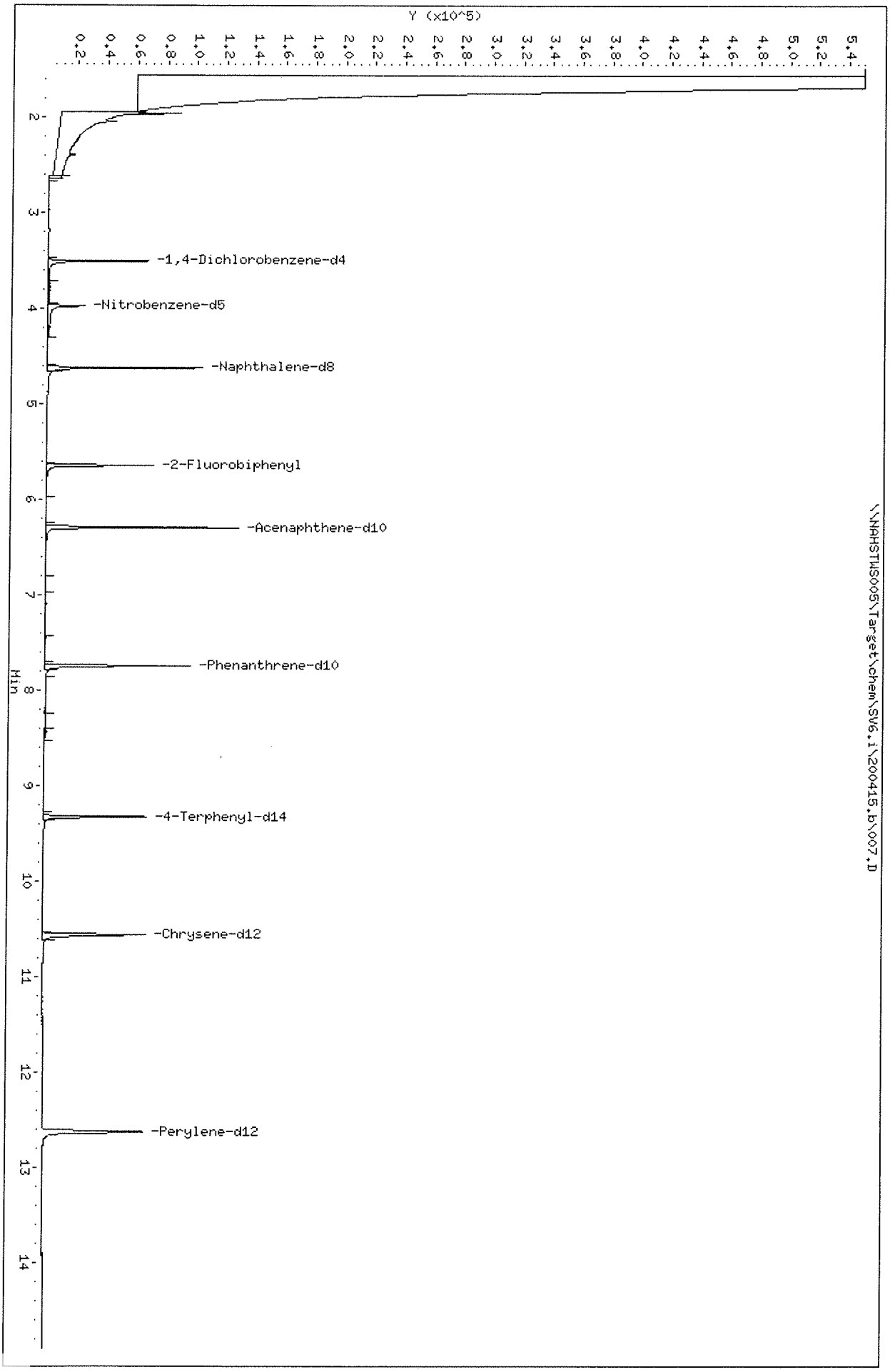
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.509	3.504	(1.000)	27173	0.10000	(a)
* 45 Naphthalene-d8	136	4.620	4.620	(1.000)	107305	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.976	3.976	(0.861)	23136	0.08257	0.08257(M)
* 86 Acenaphthene-d10	164	6.294	6.294	(1.000)	54948	0.10000	
$ 69 2-Fluorobiphenyl	172	5.645	5.645	(0.897)	57261	0.08779	0.08779(M)
* 126 Phenanthrene-d10	188	7.744	7.744	(1.000)	90227	0.10000	
* 182 Chrysene-d12	240	10.557	10.563	(1.000)	74870	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.325	9.325	(0.883)	58938	0.09546	0.09546(M)
* 198 Perylene-d12	264	12.625	12.620	(1.000)	91657	0.10000	
1 1,4-Dioxane	58	1.770	1.760	(0.504)	1449	0.08403	0.08403(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\SV6.i\200415.b\007.D
Date : 15-APR-2020 09:05
Client ID: LCS-152586
Sample Info: LCS-152586;LCS-152586;3;;LCS
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LC
Column diameter: 0.28

ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\200415.b\008.D
Lab Smp Id: LCSD-152586 Client Smp ID: LCS-152586
Inj Date : 15-APR-2020 09:24 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : LCSD-152586;LCS-152586;3;;LCSD
Misc Info : HS20040284;1;0;1
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200415.b\DXSIM.m
Meth Date : 05-May-2020 07:13 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 8 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTWS005

Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

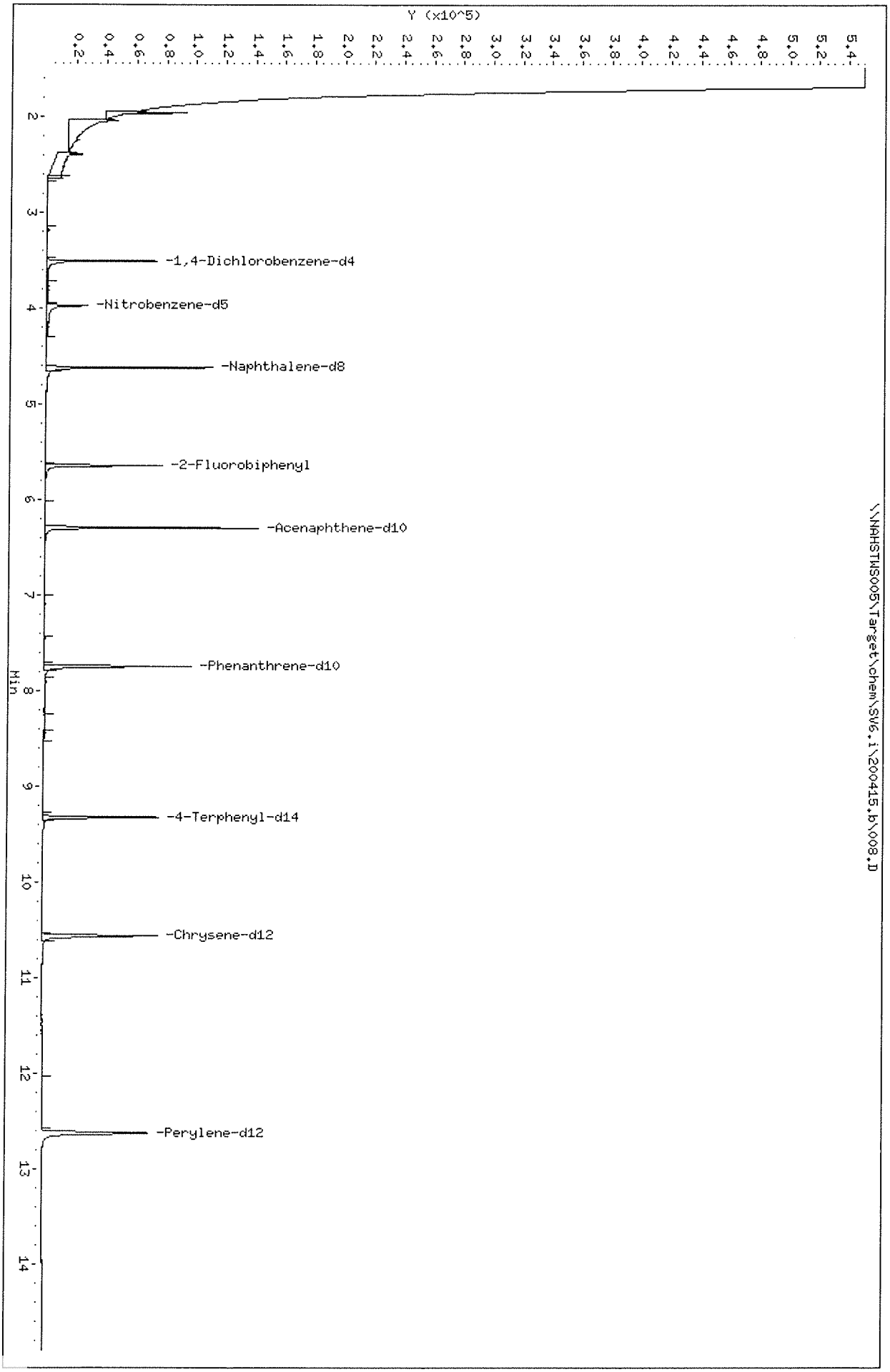
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)	
* 20 1,4-Dichlorobenzene-d4	152	3.509	3.504	(1.000)	29574	0.10000		(a)
* 45 Naphthalene-d8	136	4.620	4.620	(1.000)	109352	0.10000		(M)
$ 33 Nitrobenzene-d5	82	3.976	3.976	(0.861)	23059	0.08076	0.08076	(M)
* 86 Acenaphthene-d10	164	6.294	6.294	(1.000)	59988	0.10000		
$ 69 2-Fluorobiphenyl	172	5.645	5.645	(0.897)	60691	0.08523	0.08523	(M)
* 126 Phenanthrene-d10	188	7.744	7.744	(1.000)	97341	0.10000		
* 182 Chrysene-d12	240	10.563	10.563	(1.000)	81997	0.10000		(M)
$ 158 4-Terphenyl-d14	244	9.325	9.325	(0.883)	68435	0.10121	0.1012	(M)
* 198 Perylene-d12	264	12.625	12.620	(1.000)	98076	0.10000		
1 1,4-Dioxane	58	1.770	1.760	(0.504)	1534	0.08173	0.08173	(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\SV6.i\200415.b\008.D
Date : 15-APR-2020 09:24
Client ID: LCS-152586
Sample Info: LCSD-152586;LCS-152586;3;;LCSD
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28



ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\200415.b\010.D
Lab Smp Id: HS20040284-01 Client Smp ID: HS20040284-01
Inj Date : 15-APR-2020 10:02 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : HS20040284-01;HS20040284-01
Misc Info : HS20040284;1;0;100
Comment :
Method : \\nahstws005\Target\chem\SV6.i\200415.b\DXSIM.m
Meth Date : 05-May-2020 07:13 lgraham Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 10
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14
Processing Host: NAHSTWS005

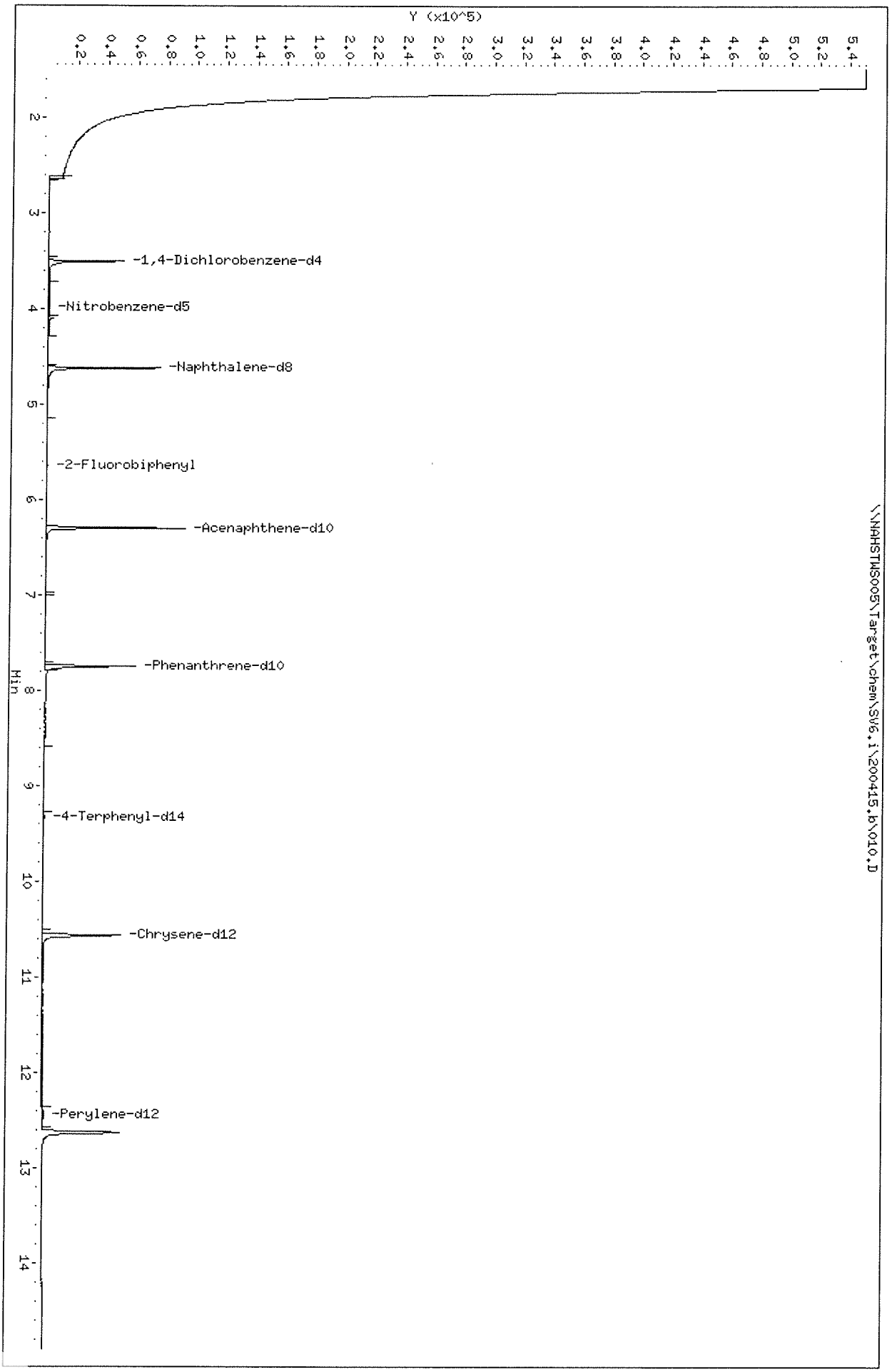
Concentration Formula: Amt * DF * Uf * Vt/Vo * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Uf	1.000	ng unit correction factor
Vt	1000.000	Volume of final extract (uL)
Vo	1000.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (NG)	FINAL (ug/L)
* 20 1,4-Dichlorobenzene-d4	152	3.504	3.504	(1.000)	21147	0.10000	(a)
* 45 Naphthalene-d8	136	4.620	4.620	(1.000)	78477	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.982	3.976	(0.862)	173	8e-004	0.08443 (M)
* 86 Acenaphthene-d10	164	6.294	6.294	(1.000)	42048	0.10000	
$ 69 2-Fluorobiphenyl	172	5.645	5.645	(0.897)	474	0.00095	0.09496 (aM)
* 126 Phenanthrene-d10	188	7.744	7.744	(1.000)	66383	0.10000	
* 182 Chrysene-d12	240	10.563	10.563	(1.000)	55404	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.325	9.325	(0.883)	359	8e-004	0.07858 (aM)
* 198 Perylene-d12	264	12.625	12.620	(1.000)	68062	0.10000	
1 1,4-Dioxane	58	1.755	1.760	(0.501)	4435	0.33047	33.05 (M)

QC Flag Legend

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



Data File: \\NAHSTWS005\Target\chem\SV6.i\200415.b\010.D
Date : 15-APR-2020 10:02
Client ID: HS20040284-01
Sample Info: HS20040284-01;HS20040284-01
Purge Volume: 1000.0
Column phase: RTX-5SIL MS

Instrument: SV6.i
Operator: LG
Column diameter: 0.28

\\NAHSTWS005\Target\chem\SV6.i\200415.b\010.D

Data File: \\NAHSTWS005\Target\chem\SV6.i\200415.b\010.D

Date : 15-APR-2020 10:02

Client ID: HS20040284-01

Instrument: SV6.i

Sample Info: HS20040284-01;HS20040284-01

Purge Volume: 1000.0

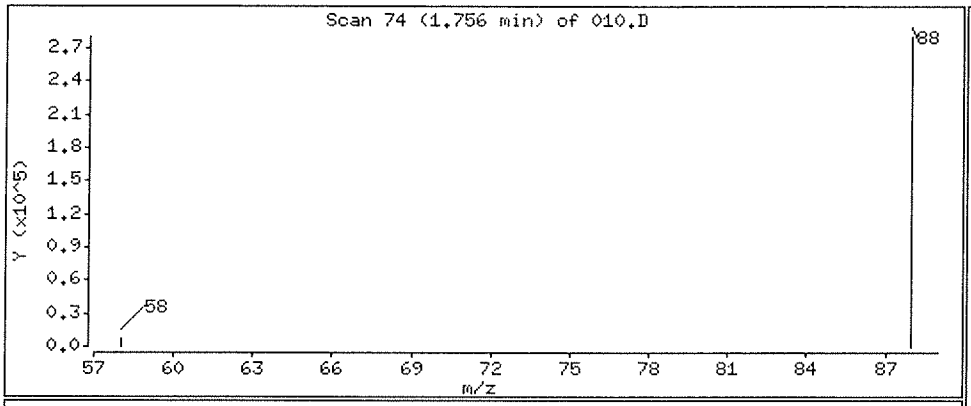
Operator: LC

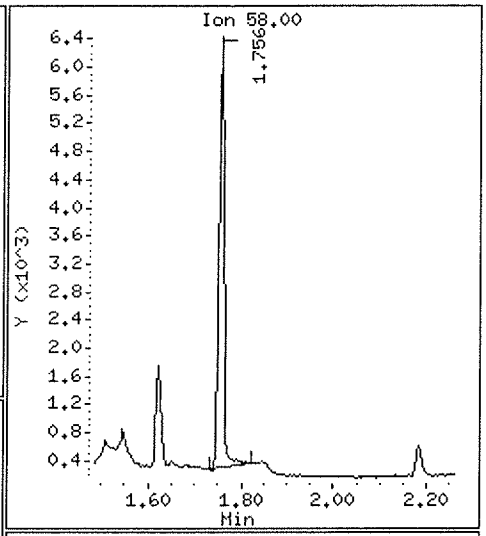
Column phase: RTX-5SIL MS

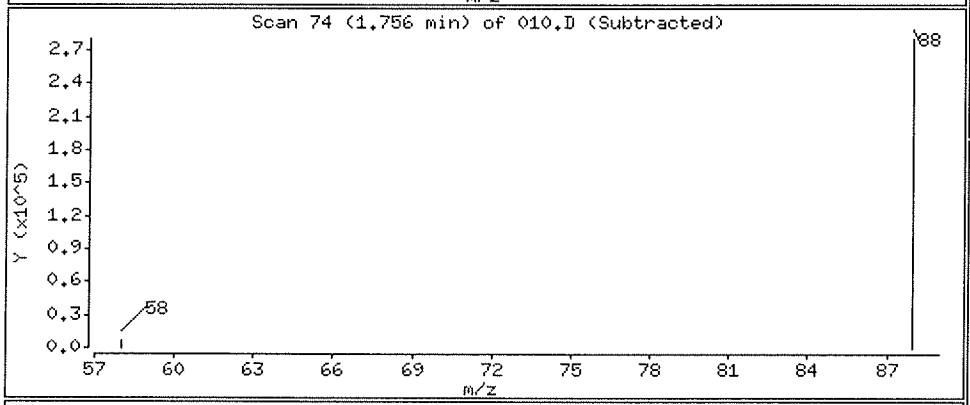
Column diameter: 0.28

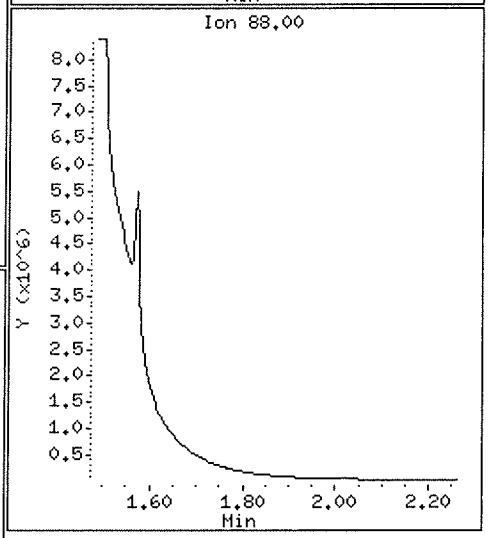
1 1,4-Dioxane

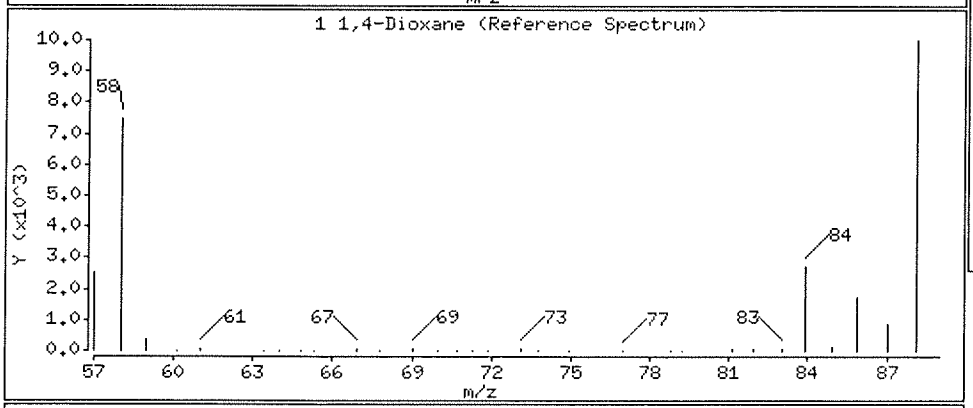
Concentration: 33.05 ug/L

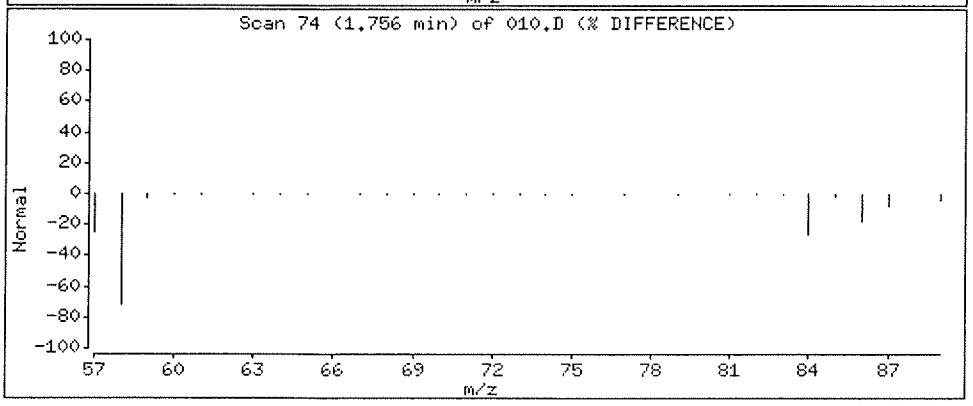












ALS Laboratory Group

GC/MS Semivolatiles EPA method 8270D

Data file : \\NAHSTWS005\Target\chem\SV6.i\200415.b\011.D
Lab Smp Id: 14DX-0.08 Client Smp ID: 14DX-0.08
Inj Date : 15-APR-2020 10:23 MS Autotune Date: 27-FEB-2008 05:32
Operator : LG Inst ID: SV6.i
Smp Info : 14DX-0.08;14DX-0.08
Misc Info : ;1;0;1
Comment :
Method : \\NAHSTWS005\Target\chem\SV6.i\200415.b\DXSIMEND.m
Meth Date : 15-Apr-2020 10:47 SV6.i Quant Type: ISTD
Cal Date : 20-AUG-2019 12:27 Cal File: 012.D
Als bottle: 11 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: 14dx.sub
Target Version: 4.14

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (NG)	ON-COL (NG)
* 20 1,4-Dichlorobenzene-d4	152	3.504	3.504	(1.000)	22245	0.10000	
* 45 Naphthalene-d8	136	4.620	4.620	(1.000)	85953	0.10000	(M)
$ 33 Nitrobenzene-d5	82	3.976	3.976	(0.861)	15661	0.08000	0.06978(QM)
* 86 Acenaphthene-d10	164	6.299	6.299	(1.000)	46623	0.10000	
$ 69 2-Fluorobiphenyl	172	5.645	5.645	(0.896)	39830	0.08000	0.07197
* 126 Phenanthrene-d10	188	7.749	7.749	(1.000)	74497	0.10000	
* 182 Chrysene-d12	240	10.563	10.563	(1.000)	63156	0.10000	(M)
$ 158 4-Terphenyl-d14	244	9.325	9.325	(0.883)	35106	0.08000	0.06741(M)
* 198 Perylene-d12	264	12.630	12.630	(1.000)	79571	0.10000	
1 1,4-Dioxane	58	1.748	1.748	(0.499)	1181	0.08000	0.08366(QM)

QC Flag Legend

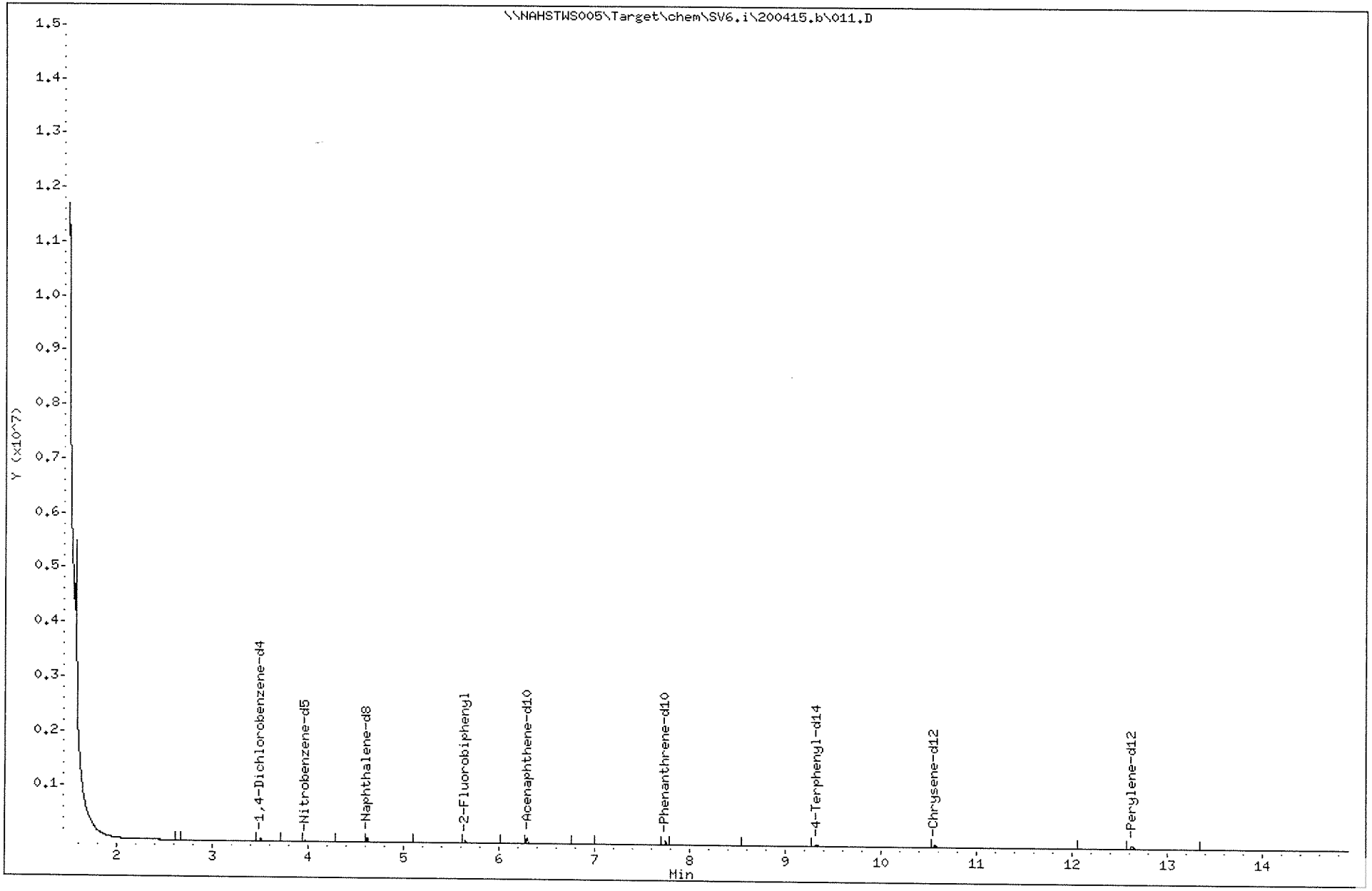
Q - Qualifier signal failed the ratio test.
M - Compound response manually integrated.

Data File: \\NAHSTWS005\Target\chem\SV6.i\200415.b\011.D
Date : 15-APR-2020 10:23
Client ID: 14DX-0.08
Sample Info: 14DX-0.08;14DX-0.08

Column phase: RTX-5SIL MS

Instrument: SV6.i

Operator: LG
Column diameter: 0.28



HS20040284 - ME - ICP_W_DOD

ALS WO# HS20040284

ALS Houston, US

Date: 30-Apr-20

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284
Start Date: 13-Apr-2020 08:00 End Date: 13-Apr-2020 12:00

Batch ID: 152654
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20040284-01	LH18/24-SP650_040720	Water		10	10	1
HS20040284-01MS				10	10	1
HS20040284-01MSD				10	10	1
HS20040284-01PDS				10	10	1
HS20040284-01SD				10	10	1
LCS-152654				10	10	1
MBLK-152654				10	10	1

ALS Houston, US Date: 30-Apr-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284
Start Date: 14-Apr-2020 End Date: 15-Apr-2020

Run ID:ICPMS06_359908
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS06_359908_Tune	1	14-Apr-2020 00:00	ICPMS06_359908_Tune_1	
CAL BLK	1	14-Apr-2020 08:35	010CALB.d_5553114	AG BA PB SE
2/10/200	1	14-Apr-2020 08:37	011CALS.d_5553115	AG BA PB SE
5/25/500	1	14-Apr-2020 08:39	012CALS.d_5553116	AG BA PB SE
10/50/100	1	14-Apr-2020 08:40	013CALS.d_5553117	AG BA PB SE
100/500/10K	1	14-Apr-2020 08:42	014CALS.d_5553118	AG BA PB SE
200/1000/20K	1	14-Apr-2020 08:44	015CALS.d_5553119	AG BA PB SE
ICV	1	14-Apr-2020 08:48	017_ICV.d_5553121	AG BA PB SE
LLICV2	1	14-Apr-2020 08:50	018LCV2.d_5553122	AG BA PB SE
LLICV5	1	14-Apr-2020 08:51	019LCV5.d_5553123	AG BA PB SE
ICB	1	14-Apr-2020 08:53	020_ICB.d_5553124	AG BA PB SE
ICSA	1	14-Apr-2020 08:55	021ICSA.d_5553125	AG BA PB SE
ICSAB	1	14-Apr-2020 08:57	022ICSB.d_5553126	AG BA PB SE
CCV 1	1	14-Apr-2020 09:25	029_CCV.d_5553635	AG BA PB SE
CCB 1	1	14-Apr-2020 09:26	030_CCB.d_5553636	AG BA PB SE
CAL BLK	1	14-Apr-2020 10:55	051CALB.d_5553609	AG BA PB SE
2/10/200	1	14-Apr-2020 10:57	052CALS.d_5553610	AG BA PB SE
5/25/500	1	14-Apr-2020 10:58	053CALS.d_5553611	AG BA PB SE
10/50/100	1	14-Apr-2020 11:00	054CALS.d_5553612	AG BA PB SE
100/500/10K	1	14-Apr-2020 11:02	055CALS.d_5553613	AG BA PB SE
200/1000/20K	1	14-Apr-2020 11:04	056CALS.d_5553614	AG BA PB SE
ICCV 2	1	14-Apr-2020 11:07	058_ICV.d_5553616	AG BA PB SE
LLICCV2	1	14-Apr-2020 11:09	059LCV2.d_5553617	AG BA PB SE
LLICCV5	1	14-Apr-2020 11:11	060LCV5.d_5553618	AG BA PB SE
ICCB 2	1	14-Apr-2020 11:13	061_ICB.d_5553619	AG BA PB SE
CCV 3	1	14-Apr-2020 11:58	081_CCV.d_5553620	AG BA PB SE
CCB 3	1	14-Apr-2020 12:00	082_CCB.d_5553621	AG BA PB SE
CCV 4	1	14-Apr-2020 12:15	089_CCV.d_5553628	AG BA PB SE
CCB 4	1	14-Apr-2020 12:17	090_CCB.d_5553629	AG BA PB SE
CCV 5	1	14-Apr-2020 12:39	100_CCV.d_5553670	AG BA PB SE
CCB 5	1	14-Apr-2020 12:41	101_CCB.d_5553671	AG BA PB SE
CCV 6	1	14-Apr-2020 13:03	112_CCV.d_5553682	AG BA PB SE
CCB 6	1	14-Apr-2020 13:05	113_CCB.d_5553683	AG BA PB SE
CCV 7	1	14-Apr-2020 13:27	124_CCV.d_5553704	AG BA PB SE
CCB 7	1	14-Apr-2020 13:28	125_CCB.d_5553705	AG BA PB SE
CCV 8	1	14-Apr-2020 13:50	136_CCV.d_5553824	AG BA PB SE
CCB 8	1	14-Apr-2020 13:52	137_CCB.d_5553825	AG BA PB SE
CCV 9	1	14-Apr-2020 14:24	147_CCV.d_5554031	AG BA PB SE
CCB 9	1	14-Apr-2020 14:26	148_CCB.d_5554032	AG BA PB SE
CCV 10	1	14-Apr-2020 14:28	149_CCV.d_5554033	AG BA PB SE
CCV 11	1	14-Apr-2020 14:49	158_CCV.d_5554166	AG BA PB SE
CCB 10	1	14-Apr-2020 14:51	159_CCB.d_5554167	AG BA PB SE
CCB 11	1	14-Apr-2020 16:03	171_CCB.d_5554214	AG BA PB SE
CCV 12	1	14-Apr-2020 16:12	173_CCV.d_5554216	AG BA PB SE
CCV 13	1	14-Apr-2020 16:32	182_CCV.d_5554223	AG BA PB SE
CCB 12	1	14-Apr-2020 16:34	183_CCB.d_5554224	AG BA PB SE
CCV 14	1	14-Apr-2020 17:03	194_CCV.d_5554288	AG BA PB SE
CCB 13	1	14-Apr-2020 17:05	195_CCB.d_5554289	AG BA PB SE
CCV 15	1	14-Apr-2020 17:07	196_CCV.d_5554290	AG BA PB SE
CCB 14	1	14-Apr-2020 17:09	197_CCB.d_5554291	AG BA PB SE
CCV 16	1	14-Apr-2020 17:31	208_CCV.d_5554293	AG BA PB SE

ALS Houston, US

Date: 30-Apr-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284
Start Date: 14-Apr-2020 End Date: 15-Apr-2020

Run ID:ICPMS06_359908
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
CCB 15	1	14-Apr-2020 17:33	209_CCB.d_5554294	AG BA PB SE
CAL BLK	1	14-Apr-2020 19:51	218CALB.d_5554386	AG BA PB SE
2/10/200	1	14-Apr-2020 19:53	219CALS.d_5554387	AG BA PB SE
5/25/500	1	14-Apr-2020 19:55	220CALS.d_5554388	AG BA PB SE
10/50/100	1	14-Apr-2020 19:57	221CALS.d_5554389	AG BA PB SE
100/500/10K	1	14-Apr-2020 19:59	222CALS.d_5554390	AG BA PB SE
200/1000/20K	1	14-Apr-2020 20:01	223CALS.d_5554391	AG BA PB SE
ICCV 17	1	14-Apr-2020 20:04	225_ICV.d_5554393	AG BA PB SE
LLICCV2	1	14-Apr-2020 20:06	226LCV2.d_5554394	AG BA PB SE
LLICCV5	1	14-Apr-2020 20:08	227LCV5.d_5554395	AG BA PB SE
ICCB 16	1	14-Apr-2020 20:10	228_ICB.d_5554396	AG BA PB SE
CCV 18	1	14-Apr-2020 20:27	237_CCV.d_5554405	AG BA PB SE
CCB 17	1	14-Apr-2020 20:29	238_CCB.d_5554406	AG BA PB SE
CCB 18	1	14-Apr-2020 20:47	248_CCB.d_5554416	AG BA PB SE
CCV 19	1	14-Apr-2020 20:59	251_CCV.d_5554418	AG BA PB SE
CCV 20	1	14-Apr-2020 21:14	259_CCV.d_5554492	AG BA PB SE
CCB 19	1	14-Apr-2020 21:16	260_CCB.d_5554493	AG BA PB SE
CCV 21	1	14-Apr-2020 21:48	269_CCV.d_5554502	AG BA PB SE
CCB 20	1	14-Apr-2020 21:50	270_CCB.d_5554503	AG BA PB SE
CCV 22	1	14-Apr-2020 22:07	279_CCV.d_5554517	AG BA PB SE
CCB 21	1	14-Apr-2020 22:08	280_CCB.d_5554518	AG BA PB SE
CCV 23	1	14-Apr-2020 22:18	285_CCV.d_5554523	AG BA PB SE
CCB 22	1	14-Apr-2020 22:20	286_CCB.d_5554524	AG BA PB SE
MBLK-152654	1	14-Apr-2020 22:22	287SMPL.d_5554534	AG BA PB SE
LCS-152654	1	14-Apr-2020 22:24	288SMPL.d_5554535	AG BA PB SE
LH18/24-SP650_040720	1	14-Apr-2020 22:26	289SMPL.d_5554536	AG BA PB SE
LH18/24-SP650_040720SD	5	14-Apr-2020 22:28	290SMPL.d_5554537	AG BA PB SE
LH18/24-SP650_040720MS	1	14-Apr-2020 22:30	291SMPL.d_5554538	AG BA PB SE
LH18/24-SP650_040720MSD	1	14-Apr-2020 22:31	292SMPL.d_5554539	AG BA PB SE
LH18/24-SP650_040720PDS	1	14-Apr-2020 22:33	293SMPL.d_5554540	AG BA PB SE
CCV 24	1	14-Apr-2020 22:35	294_CCV.d_5554541	AG BA PB SE
CCB 23	1	14-Apr-2020 22:37	295_CCB.d_5554542	AG BA PB SE
CCV 25	1	14-Apr-2020 22:49	301_CCV.d_5554548	AG BA PB SE
CCB 24	1	14-Apr-2020 22:50	302_CCB.d_5554549	AG BA PB SE
CCV 26	1	14-Apr-2020 23:02	308_CCV.d_5554555	AG BA PB SE
CCB 25	1	14-Apr-2020 23:04	309_CCB.d_5554556	AG BA PB SE
CCV 27	1	14-Apr-2020 23:13	314_CCV.d_5554561	AG BA PB SE
CCB 26	1	14-Apr-2020 23:15	315_CCB.d_5554562	AG BA PB SE
CCB 27	1	14-Apr-2020 23:26	321_CCB.d_5554568	AG BA PB SE
CCV 28	1	14-Apr-2020 23:30	323_CCV.d_5554570	AG BA PB SE
CCV 29	1	14-Apr-2020 23:46	331_CCV.d_5554578	AG BA PB SE
CCB 28	1	14-Apr-2020 23:47	332_CCB.d_5554579	AG BA PB SE
CCV 30	1	15-Apr-2020 00:03	340_CCV.d_5554702	AG BA PB SE
CCB 29	1	15-Apr-2020 00:05	341_CCB.d_5554703	AG BA PB SE
CCV 31	1	15-Apr-2020 00:27	352_CCV.d_5554714	AG BA PB SE
CCB 30	1	15-Apr-2020 00:28	353_CCB.d_5554715	AG BA PB SE
CCV 32	1	15-Apr-2020 00:50	364_CCV.d_5554726	AG BA PB SE
CCB 31	1	15-Apr-2020 00:52	365_CCB.d_5554727	AG BA PB SE
CCV 33	1	15-Apr-2020 00:56	367_CCV.d_5554729	AG BA PB SE
CCB 32	1	15-Apr-2020 00:58	368_CCB.d_5554730	AG BA PB SE
LLCCV2	1	15-Apr-2020 01:01	370LCV2.d_5554696	AG BA PB SE

ALS Houston, US Date: 30-Apr-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284
Start Date: 14-Apr-2020 End Date: 15-Apr-2020

Run ID:ICPMS06_359908
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
LLCCV5	1	15-Apr-2020 01:03	371LCV5.d_5554697	AG BA PB SE
ICSA	1	15-Apr-2020 01:05	372ICSA.d_5554698	AG BA PB SE
ICSAB	1	15-Apr-2020 01:07	373ICSB.d_5554699	AG BA PB SE

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

ICV | Date: 14-Apr-2020 08:48 | Seq: 5553121 | ICV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	96.799	97	90-110	
Lead	100	98.916	99	90-110	
Selenium	100	96.104	96	90-110	
Silver	100	101.747	102	90-110	

CCV1 | Date: 14-Apr-2020 09:25 | Seq: 5553635 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	96.648	97	90-110	
Lead	100	98.019	98	90-110	
Selenium	100	95.648	96	90-110	
Silver	100	99.608	100	90-110	

ICCV2 | Date: 14-Apr-2020 11:07 | Seq: 5553616 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	96.842	97	90-110	
Lead	100	99.693	100	90-110	
Selenium	100	97.589	98	90-110	
Silver	100	100.241	100	90-110	

CCV3 | Date: 14-Apr-2020 11:58 | Seq: 5553620 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	97.361	97	90-110	
Lead	100	98.033	98	90-110	
Selenium	100	99.08	99	90-110	
Silver	100	95.57	96	90-110	

CCV4 | Date: 14-Apr-2020 12:15 | Seq: 5553628 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	95.433	95	90-110	
Lead	100	99.264	99	90-110	
Selenium	100	99.572	100	90-110	
Silver	100	97.223	97	90-110	

CCV5 | Date: 14-Apr-2020 12:39 | Seq: 5553670 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	94.434	94	90-110	
Lead	100	96.916	97	90-110	
Selenium	100	101.208	101	90-110	
Silver	100	99.066	99	90-110	

CCV6 | Date: 14-Apr-2020 13:03 | Seq: 5553682 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	97.849	98	90-110	
Lead	100	97.789	98	90-110	
Selenium	100	100.418	100	90-110	
Silver	100	97.261	97	90-110	

CCV7 | Date: 14-Apr-2020 13:27 | Seq: 5553704 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	97.182	97	90-110	
Lead	100	98.068	98	90-110	
Selenium	100	99.775	100	90-110	
Silver	100	99.936	100	90-110	

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCV8	Date: 14-Apr-2020 13:50		Seq: 5553824	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	94.289	94	90-110	
Lead	100	98.571	99	90-110	
Selenium	100	97.669	98	90-110	
Silver	100	95.652	96	90-110	

CCV9	Date: 14-Apr-2020 14:24		Seq: 5554031	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	107.219	107	90-110	
Lead	100	107.637	108	90-110	
Selenium	100	108.449	108	90-110	
Silver	100	106.599	107	90-110	

CCV10	Date: 14-Apr-2020 14:28		Seq: 5554033	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	96.729	97	90-110	
Lead	100	97.365	97	90-110	
Selenium	100	100.107	100	90-110	
Silver	100	97.222	97	90-110	

CCV11	Date: 14-Apr-2020 14:49		Seq: 5554166	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	107.359	107	90-110	
Lead	100	103.768	104	90-110	
Selenium	100	106.644	107	90-110	
Silver	100	104.782	105	90-110	

CCV12	Date: 14-Apr-2020 16:12		Seq: 5554216	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	94.903	95	90-110	
Lead	100	97.706	98	90-110	
Selenium	100	100.627	101	90-110	
Silver	100	92.79	93	90-110	

CCV13	Date: 14-Apr-2020 16:32		Seq: 5554223	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	102.341	102	90-110	
Lead	100	104.47	104	90-110	
Selenium	100	106.926	107	90-110	
Silver	100	101.865	102	90-110	

CCV14	Date: 14-Apr-2020 17:03		Seq: 5554288	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	102.732	103	90-110	
Lead	100	103.602	104	90-110	
Selenium	100	104.546	105	90-110	
Silver	100	100.685	101	90-110	

CCV15	Date: 14-Apr-2020 17:07		Seq: 5554290	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	103.579	104	90-110	
Lead	100	103.46	103	90-110	
Selenium	100	103.809	104	90-110	
Silver	100	101.459	101	90-110	

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCV16 Date: 14-Apr-2020 17:31 Seq: 5554293 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	99.357	99	90-110	
Lead	100	102.492	102	90-110	
Selenium	100	106.537	107	90-110	
Silver	100	98.338	98	90-110	

ICCV17 Date: 14-Apr-2020 20:04 Seq: 5554393 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	97.309	97	90-110	
Lead	100	100.446	100	90-110	
Selenium	100	100.8	101	90-110	
Silver	100	99.588	100	90-110	

CCV18 Date: 14-Apr-2020 20:27 Seq: 5554405 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	107.194	107	90-110	
Lead	100	105.059	105	90-110	
Selenium	100	104.183	104	90-110	
Silver	100	108.532	109	90-110	

CCV19 Date: 14-Apr-2020 20:59 Seq: 5554418 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	106.973	107	90-110	
Lead	100	105.237	105	90-110	
Selenium	100	106.404	106	90-110	
Silver	100	113.045	113	90-110	S

CCV20 Date: 14-Apr-2020 21:14 Seq: 5554492 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	103.908	104	90-110	
Lead	100	105.586	106	90-110	
Selenium	100	101.685	102	90-110	
Silver	100	107.224	107	90-110	

CCV21 Date: 14-Apr-2020 21:48 Seq: 5554502 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	102.064	102	90-110	
Lead	100	103.9	104	90-110	
Selenium	100	105.179	105	90-110	
Silver	100	105.755	106	90-110	

CCV22 Date: 14-Apr-2020 22:07 Seq: 5554517 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	106.594	107	90-110	
Lead	100	104.79	105	90-110	
Selenium	100	102.528	103	90-110	
Silver	100	103.927	104	90-110	

CCV23 Date: 14-Apr-2020 22:18 Seq: 5554523 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	106.041	106	90-110	
Lead	100	103.704	104	90-110	
Selenium	100	100.107	100	90-110	
Silver	100	105.531	106	90-110	

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCV24 Date: 14-Apr-2020 22:35 Seq: 5554541 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	101.273	101	90-110	
Lead	100	102.559	103	90-110	
Selenium	100	103.116	103	90-110	
Silver	100	105.194	105	90-110	

CCV25 Date: 14-Apr-2020 22:49 Seq: 5554548 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	100.271	100	90-110	
Lead	100	105.048	105	90-110	
Selenium	100	99.787	100	90-110	
Silver	100	103.829	104	90-110	

CCV26 Date: 14-Apr-2020 23:02 Seq: 5554555 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	104.617	105	90-110	
Lead	100	101.526	102	90-110	
Selenium	100	104.084	104	90-110	
Silver	100	106.344	106	90-110	

CCV27 Date: 14-Apr-2020 23:13 Seq: 5554561 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	101.795	102	90-110	
Lead	100	101.603	102	90-110	
Selenium	100	99.922	100	90-110	
Silver	100	103.555	104	90-110	

CCV28 Date: 14-Apr-2020 23:30 Seq: 5554570 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	99.843	100	90-110	
Lead	100	100.531	101	90-110	
Selenium	100	99.304	99	90-110	
Silver	100	102.473	102	90-110	

CCV29 Date: 14-Apr-2020 23:46 Seq: 5554578 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	100.309	100	90-110	
Lead	100	100.525	101	90-110	
Selenium	100	98.027	98	90-110	
Silver	100	101.052	101	90-110	

CCV30 Date: 15-Apr-2020 00:03 Seq: 5554702 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	98.858	99	90-110	
Lead	100	100.618	101	90-110	
Selenium	100	99.396	99	90-110	
Silver	100	99.785	100	90-110	

CCV31 Date: 15-Apr-2020 00:27 Seq: 5554714 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	101.279	101	90-110	
Lead	100	101.571	102	90-110	
Selenium	100	96.991	97	90-110	
Silver	100	100.507	101	90-110	

ALS Houston, US Date: 30-Apr-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCV32	Date: 15-Apr-2020 00:50		Seq: 5554726	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	99.682	100	90-110	
Lead	100	99.428	99	90-110	
Selenium	100	96.037	96	90-110	
Silver	100	101.076	101	90-110	

CCV33	Date: 15-Apr-2020 00:56		Seq: 5554729	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Barium	100	52.8	53	90-110	S
Lead	100	53.487	54	90-110	S
Selenium	100	96.457	97	90-110	
Silver	100	53.858	54	90-110	S

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

ICB	Date: 14-Apr-2020 08:53		Seq: 5553124	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB1	Date: 14-Apr-2020 09:26		Seq: 5553636	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ICCB2	Date: 14-Apr-2020 11:13		Seq: 5553619	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB3	Date: 14-Apr-2020 12:00		Seq: 5553621	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB4	Date: 14-Apr-2020 12:17		Seq: 5553629	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB5	Date: 14-Apr-2020 12:41		Seq: 5553671	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB6	Date: 14-Apr-2020 13:05		Seq: 5553683	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB7	Date: 14-Apr-2020 13:28		Seq: 5553705	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCB8	Date: 14-Apr-2020 13:52		Seq: 5553825	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB9	Date: 14-Apr-2020 14:26		Seq: 5554032	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB10	Date: 14-Apr-2020 14:51		Seq: 5554167	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB11	Date: 14-Apr-2020 16:03		Seq: 5554214	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB12	Date: 14-Apr-2020 16:34		Seq: 5554224	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB13	Date: 14-Apr-2020 17:05		Seq: 5554289	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB14	Date: 14-Apr-2020 17:09		Seq: 5554291	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB15	Date: 14-Apr-2020 17:33		Seq: 5554294	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

ICCB16	Date: 14-Apr-2020 20:10		Seq: 5554396	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB17	Date: 14-Apr-2020 20:29		Seq: 5554406	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB18	Date: 14-Apr-2020 20:47		Seq: 5554416	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB19	Date: 14-Apr-2020 21:16		Seq: 5554493	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB20	Date: 14-Apr-2020 21:50		Seq: 5554503	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB21	Date: 14-Apr-2020 22:08		Seq: 5554518	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB22	Date: 14-Apr-2020 22:20		Seq: 5554524	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

MBLK-152654	Date: 14-Apr-2020 22:22		Seq: 5554534	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	5	1.9	5	U	
Lead	5	0.6	5	U	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCB23	Date: 14-Apr-2020 22:37		Seq: 5554542	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB24	Date: 14-Apr-2020 22:50		Seq: 5554549	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB25	Date: 14-Apr-2020 23:04		Seq: 5554556	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB26	Date: 14-Apr-2020 23:15		Seq: 5554562	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB27	Date: 14-Apr-2020 23:26		Seq: 5554568	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB28	Date: 14-Apr-2020 23:47		Seq: 5554579	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB29	Date: 15-Apr-2020 00:05		Seq: 5554703	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB30	Date: 15-Apr-2020 00:28		Seq: 5554715	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Houston, US Date: 30-Apr-20

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCB31	Date: 15-Apr-2020 00:52		Seq: 5554727	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB32	Date: 15-Apr-2020 00:58		Seq: 5554730	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Barium	4	1.9	4	U	
Lead	2	0.6	2	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Houston, US Date: 30-Apr-20

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS06_359908
Project: Longhorn GW Treatment Plant Monthly Effluent Samples Instrument:ICPMS06
WorkOrder: HS20040284 Method:SW6020

ICSA	Date: 14-Apr-2020 08:55	Seq: 5553125	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium		0.077	0	
Lead		0.034	0	
Selenium		0.038	0	
Silver		0.012	0	
ICSAB	Date: 14-Apr-2020 08:57	Seq: 5553126	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium	100	108.7	109	
Lead	100	104.8	105	
Selenium	100	112.1	112	
Silver	100	100.6	101	
ICSA	Date: 15-Apr-2020 01:05	Seq: 5554698	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium		0.046	0	
Lead		0.03	0	
Selenium		0.23	0	
Silver		0.016	0	
ICSAB	Date: 15-Apr-2020 01:07	Seq: 5554699	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Barium	100	110	110	
Lead	100	107.1	107	
Selenium	100	107.9	108	
Silver	100	102.4	102	

ALS Houston, US Date: 30-Apr-20

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Date Analyzed: 14-Apr-2020 22:31
Date Extracted: 13-Apr-2020 12:00
Units: ug/L

Matrix Spike: HS20040284-01MS
Client Sample ID: LH18/24-SP650_040720

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Barium	92.60	146.7	50.00	108	145.9	50.00	107	86-114	0.551	20
Lead	5.000	47.67	50.00	95.1	46.95	50.00	93.7	88-115	1.51	20
Selenium	5.000	48.39	50.00	95.8	48.64	50.00	96.3	80-120	0.501	20
Silver	5.000	48.59	50.00	97.2	47.48	50.00	94.9	85-116	2.31	20

ALS Houston, US Date: 30-Apr-20

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Date Analyzed: 14-Apr-2020 22:33
Date Extracted: 13-Apr-2020 12:00
Units: ug/L

Lab Sample ID: HS20040284-01PDS
Client Sample ID: LH18/24-SP650_040720
Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Barium	92.6	198.3	100	106	80-120
Lead	0	103.7	100	104	80-120
Selenium	0	106.3	100	106	80-120
Silver	0	87.69	100	88	80-120

ALS Houston, US Date: 30-Apr-20

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Date Analyzed: 14-Apr-2020 22:24
Date Extracted: 13-Apr-2020 12:00
Units: ug/L

Lab Sample ID: LCS-152654 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Barium	50	44.4	89	86-114
Lead	50	47.45	95	88-115
Selenium	50	49.24	99	80-120
Silver	50	49.91	100	85-116

ALS Houston, US Date: 30-Apr-20

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Effluent Samples
WorkOrder: HS20040284

Date Analyzed: 14-Apr-2020 22:28
Date Extracted: 13-Apr-2020 12:00
Units: ug/L

Lab Sample ID: HS20040284-01SD
Client Sample ID:LH18/24-SP650_040720

Analysis Method: SW6020

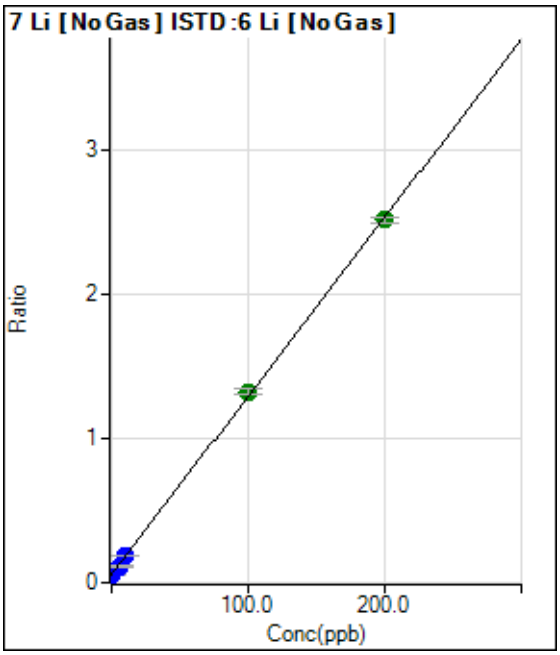
Analyte	Sample Result	C	SD Result	C	RPD	Q
Barium	92.6		90.81		2	
Lead	0	U	0	U	0	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

Calibration for 225_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	218CALB.d	CAL BLK	4/14/2020 7:51:57 PM
2	219CALS.d	2/10/200	4/14/2020 7:53:50 PM
3	220CALS.d	5/25/500	4/14/2020 7:55:42 PM
4	221CALS.d	10/50/100	4/14/2020 7:57:35 PM
5	222CALS.d	100/500/10K	4/14/2020 7:59:26 PM
6	223CALS.d	200/1000/20K	4/14/2020 8:01:10 PM

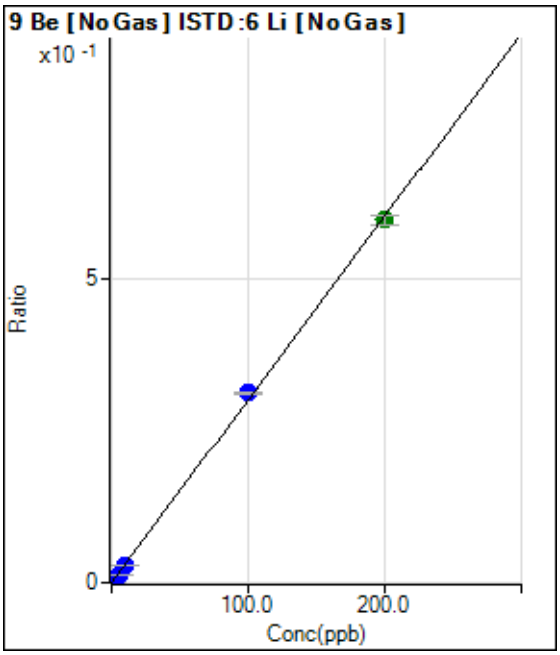
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	117560.68	0.0566	P	0.7
2	☐	2.000	1.774	165723.09	0.0786	P	1.6
3	☐	5.000	4.506	238155.57	0.1123	P	2.5
4	☐	10.000	10.442	381647.38	0.1857	P	1.1
5	☐	100.000	102.390	2609249.65	1.3225	A	2.7
6	☐	200.000	198.798	4877017.85	2.5144	A	1.6

y = 0.0124 * x + 0.0566
R = 0.9999
DL = 0.09319
BEC = 4.58

Weight: <None>
Min Conc: <None>

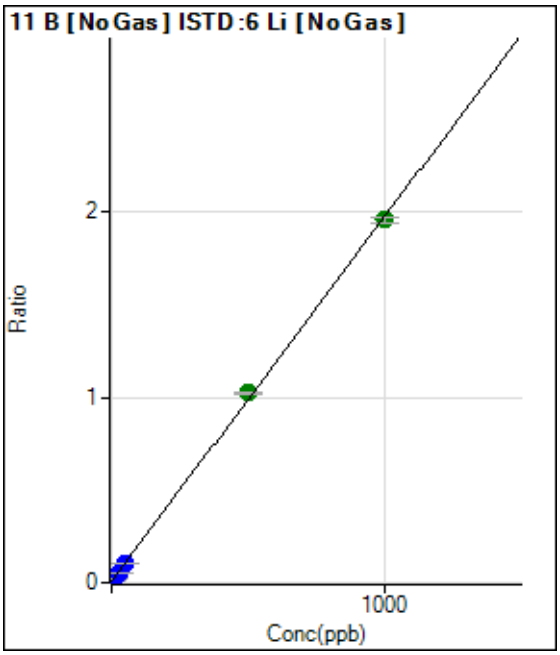


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	0.8
2	☐	2.000	1.849	11748.31	0.0056	P	2.2
3	☐	5.000	4.657	29698.05	0.0140	P	1.9
4	☐	10.000	9.923	61304.37	0.0298	P	0.3
5	☐	100.000	103.587	614364.04	0.3114	P	1.4
6	☐	200.000	198.221	1155516.03	0.5958	A	2.6

y = 0.0030 * x + 9.6343E-006
R = 0.9998
DL = 7.427E-05
BEC = 0.003205

Weight: <None>
Min Conc: <None>

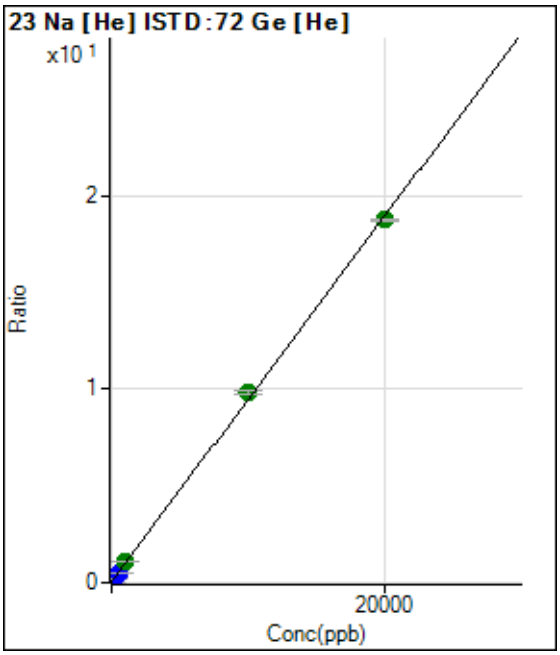
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14844.61	0.0072	P	2.2
2	☐	10.000	8.810	51585.96	0.0245	P	2.9
3	☐	25.000	22.321	108125.34	0.0510	P	3.0
4	☐	50.000	48.835	211844.78	0.1031	P	1.4
5	☐	500.000	516.717	2017444.97	1.0224	A	0.9
6	☐	1000.000	991.778	3793364.21	1.9557	A	1.5

y = 0.0020 * x + 0.0072
R = 0.9998
DL = 0.24
BEC = 3.639

Weight: <None>
Min Conc: <None>

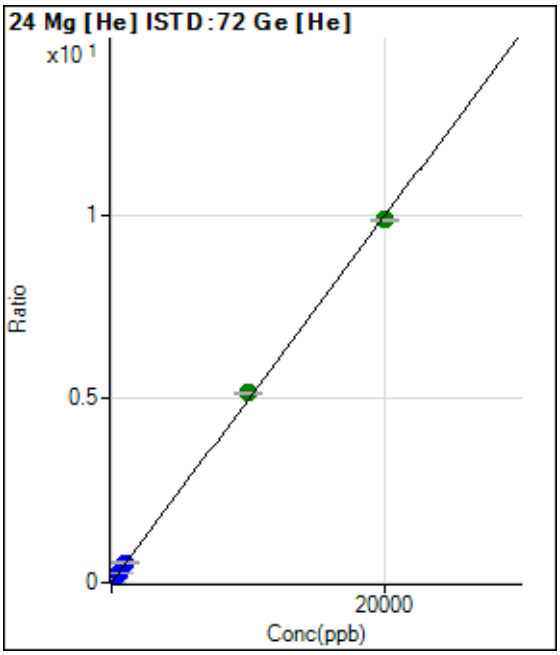


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	54201.96	0.0422	P	3.1
2	☐	200.000	199.661	297679.10	0.2308	P	2.4
3	☐	500.000	493.656	661261.68	0.5085	P	2.2
4	☐	1000.000	1075.172	1348069.04	1.0576	A	2.4
5	☐	10000.00	10374.87	12624036.48	9.8403	A	1.5
6	☐	20000.00	19808.96	23811826.31	18.7500	A	0.7

y = 9.4441E-004 * x + 0.0422
R = 0.9997
DL = 4.154
BEC = 44.74

Weight: <None>
Min Conc: <None>

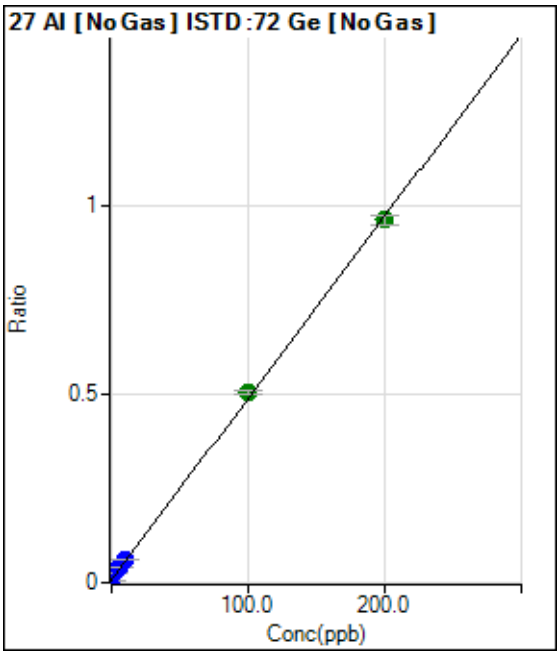
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.02	0.0005	P	2.1
2	☐	200.000	204.244	131892.96	0.1023	P	3.9
3	☐	500.000	504.543	327681.95	0.2520	P	2.8
4	☐	1000.000	1089.533	692857.99	0.5436	P	2.3
5	☐	10000.00	10379.82	6637792.61	5.1746	A	1.2
6	☐	20000.00	19805.45	12539487.31	9.8731	A	0.5

y = 4.9848E-004 * x + 4.7546E-004
R = 0.9997
DL = 0.06097
BEC = 0.9538

Weight: <None>
Min Conc: <None>

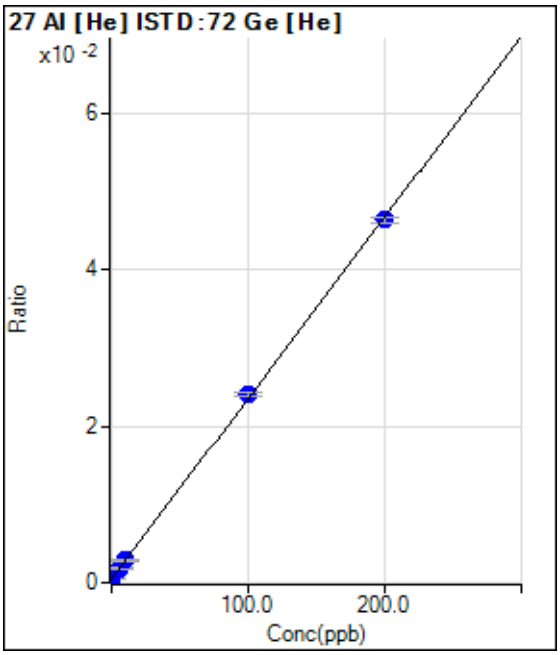


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43708.86	0.0075	P	0.5
2	☐	2.000	3.299	139005.58	0.0233	P	0.9
3	☐	5.000	6.522	231166.06	0.0388	P	0.9
4	☐	10.000	11.314	362355.55	0.0619	P	0.2
5	☐	100.000	103.452	2932348.29	0.5049	A	2.0
6	☐	200.000	198.157	5495455.54	0.9603	A	2.8

y = 0.0048 * x + 0.0075
R = 0.9998
DL = 0.02327
BEC = 1.553

Weight: <None>
Min Conc: <None>

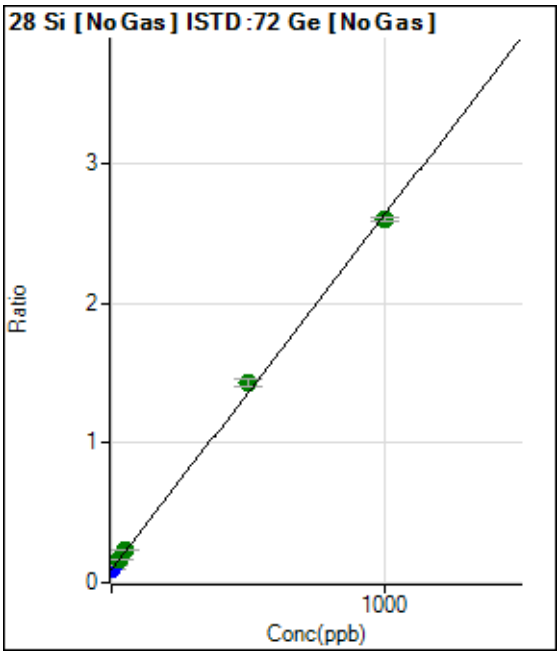
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.03	0.0005	P	6.6
2	☐	2.000	3.169	1530.12	0.0012	P	8.7
3	☐	5.000	5.819	2340.25	0.0018	P	6.0
4	☐	10.000	10.276	3600.55	0.0028	P	13.0
5	☐	100.000	102.694	31034.84	0.0242	P	1.9
6	☐	200.000	198.607	58874.68	0.0464	P	1.5

y = 2.3116E-004 * x + 4.5218E-004
R = 0.9999
DL = 0.3887
BEC = 1.956

Weight: <None>
Min Conc: <None>

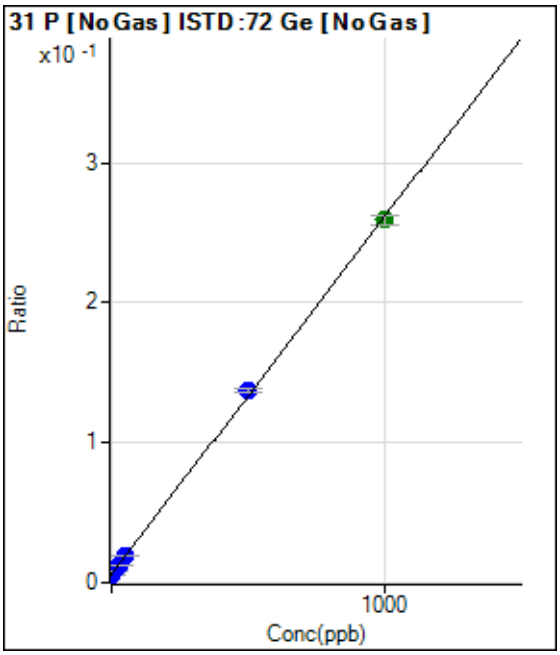


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	542048.82	0.0926	P	0.6
2	☐	10.000	9.991	702863.77	0.1180	P	1.4
3	☐	25.000	26.854	957190.77	0.1608	A	1.8
4	☐	50.000	55.848	1372764.77	0.2344	A	2.6
5	☐	500.000	527.070	8308417.17	1.4309	A	3.3
6	☐	1000.000	986.126	14861831.86	2.5964	A	1.2

y = 0.0025 * x + 0.0926
R = 0.9995
DL = 0.6942
BEC = 36.47

Weight: <None>
Min Conc: <None>

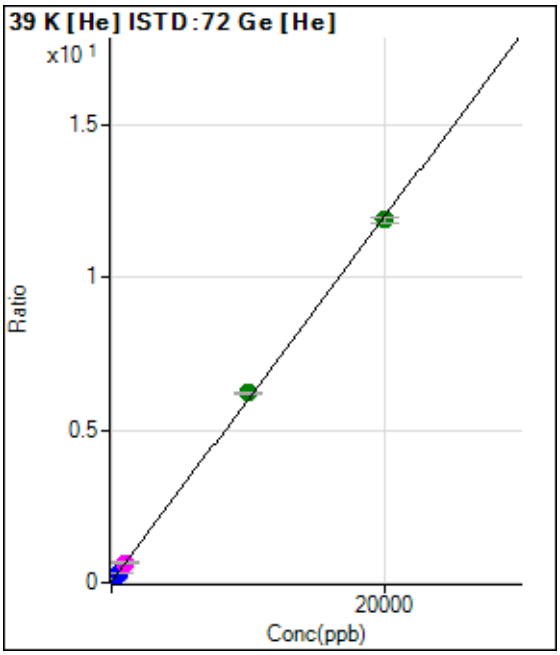
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34847.55	0.0060	P	0.5
2	☐	10.000	8.003	47635.35	0.0080	P	1.8
3	☐	25.000	23.029	70428.23	0.0118	P	0.3
4	☐	50.000	52.191	112859.55	0.0193	P	0.8
5	☐	500.000	516.033	799289.31	0.1376	P	2.1
6	☐	1000.000	991.943	1482542.06	0.2591	A	2.9

y = 2.5517E-004 * x + 0.0060
R = 0.9998
DL = 0.3371
BEC = 23.33

Weight: <None>
Min Conc: <None>

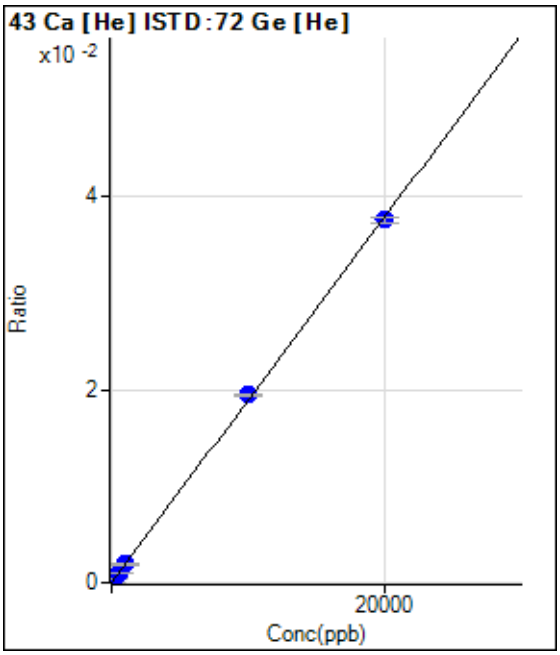


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43707.13	0.0341	P	0.9
2	☐	200.000	197.438	196145.24	0.1521	P	3.4
3	☐	500.000	488.282	423994.90	0.3260	P	2.0
4	☐	1000.000	1047.639	841844.57	0.6604	M	1.6
5	☐	10000.00	10339.02	7973459.26	6.2156	A	0.5
6	☐	20000.00	19828.42	15096581.44	11.8891	A	1.8

y = 5.9788E-004 * x + 0.0341
R = 0.9998
DL = 1.461
BEC = 56.97

Weight: <None>
Min Conc: <None>

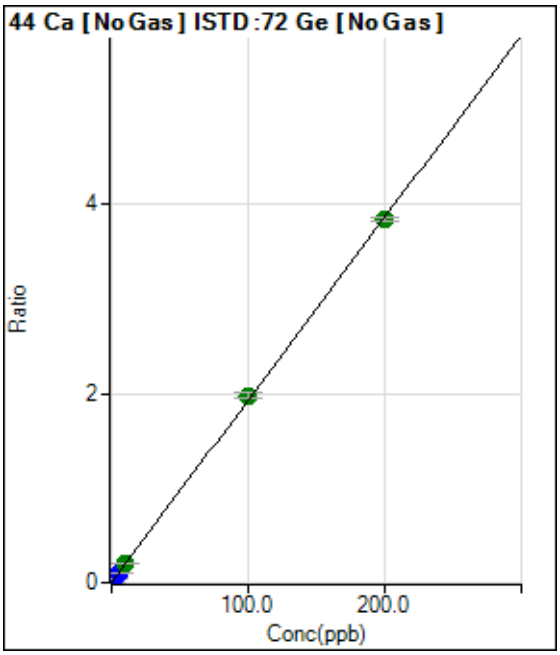
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	0.8
2	☐	200.000	245.917	610.02	0.0005	P	11.8
3	☐	500.000	520.171	1290.09	0.0010	P	12.0
4	☐	1000.000	1011.613	2453.60	0.0019	P	4.1
5	☐	10000.00	10273.87	24973.01	0.0195	P	1.5
6	☐	20000.00	19861.51	47779.81	0.0376	P	1.6

y = 1.8941E-006 * x + 7.7938E-006
R = 0.9999
DL = 0.09259
BEC = 4.115

Weight: <None>
Min Conc: <None>

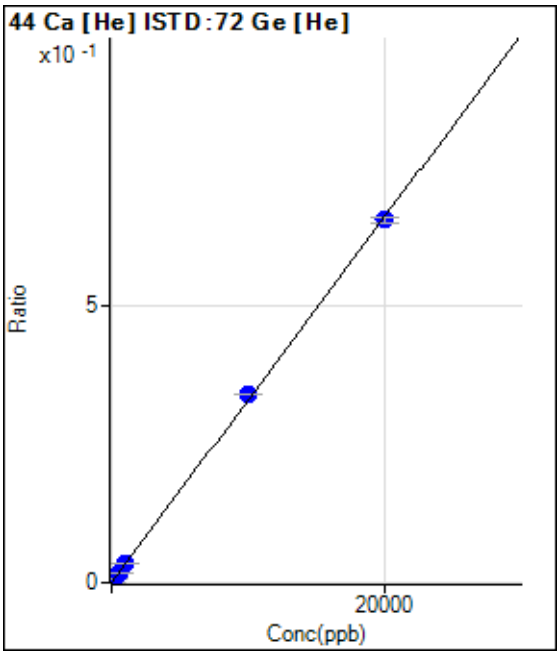


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12455.81	0.0021	P	6.0
2	☐	2.000	1.998	242067.76	0.0406	P	0.8
3	☐	5.000	4.866	570878.83	0.0959	P	2.0
4	☐	10.000	10.707	1220883.58	0.2085	A	2.7
5	☐	100.000	102.339	11463469.00	1.9742	A	3.3
6	☐	200.000	198.799	21941067.18	3.8329	A	1.0

y = 0.0193 * x + 0.0021
R = 0.9999
DL = 0.01972
BEC = 0.1104

Weight: <None>
Min Conc: <None>

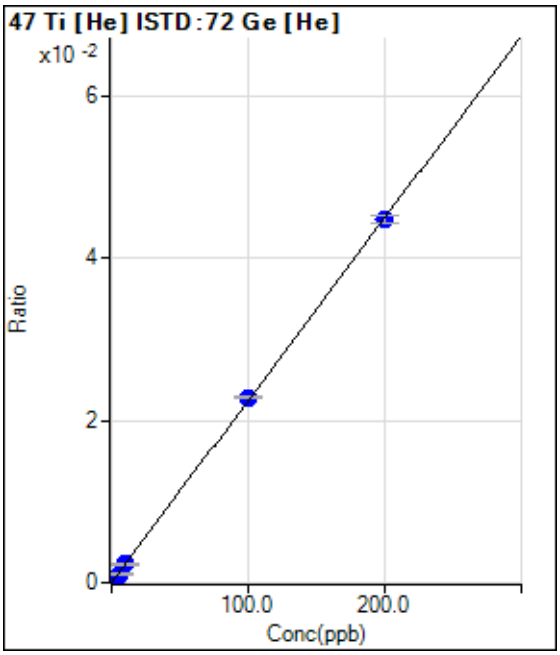
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	303.34	0.0002	P	13.0
2	☐	200.000	195.384	8632.86	0.0067	P	4.9
3	☐	500.000	482.327	21039.72	0.0162	P	4.5
4	☐	1000.000	1024.560	43488.99	0.0341	P	1.2
5	☐	10000.00	10302.09	437225.33	0.3408	P	0.4
6	☐	20000.00	19848.21	833558.27	0.6564	P	1.6

y = 3.3062E-005 * x + 2.3654E-004
R = 0.9998
DL = 2.799
BEC = 7.155

Weight: <None>
Min Conc: <None>

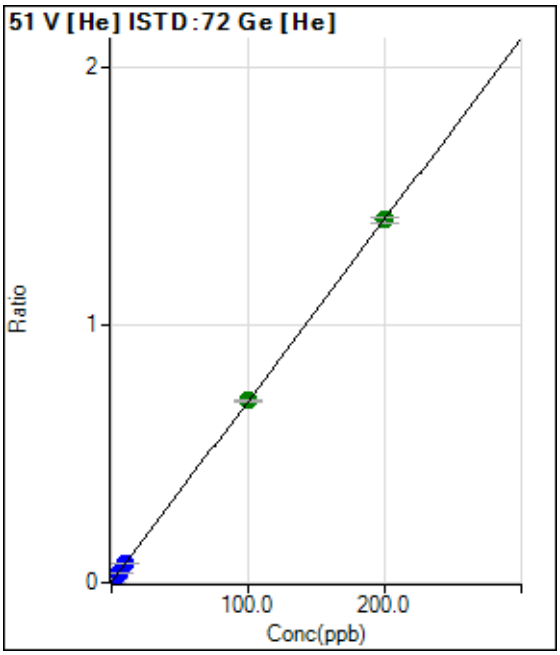


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.031	593.36	0.0005	P	18.2
3	☐	5.000	4.565	1336.76	0.0010	P	10.9
4	☐	10.000	10.279	2950.37	0.0023	P	6.9
5	☐	100.000	101.723	29324.99	0.0229	P	1.5
6	☐	200.000	199.135	56824.37	0.0447	P	2.3

y = 2.2470E-004 * x + 2.6169E-006
R = 0.9999
DL = 0.06052
BEC = 0.01165

Weight: <None>
Min Conc: <None>

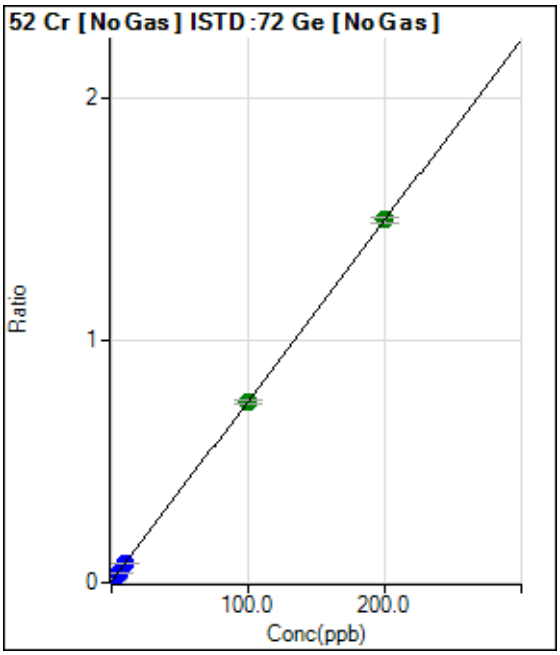
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1960.15	0.0015	P	4.8
2	☐	2.000	1.895	19170.12	0.0149	P	1.8
3	☐	5.000	4.679	44807.33	0.0345	P	1.9
4	☐	10.000	9.969	91376.72	0.0717	P	1.8
5	☐	100.000	100.315	907539.37	0.7075	A	1.2
6	☐	200.000	199.853	1787766.11	1.4079	A	1.5

y = 0.0070 * x + 0.0015
R = 1.0000
DL = 0.03121
BEC = 0.2171

Weight: <None>
Min Conc: <None>

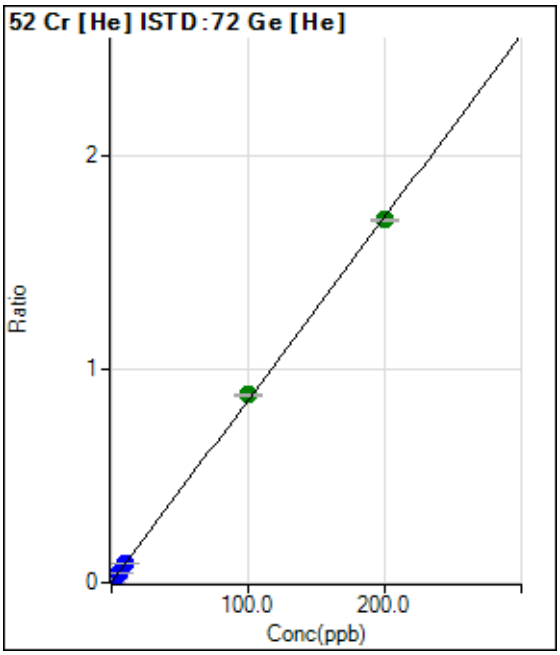


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28914.21	0.0049	P	2.3
2	☐	2.000	1.915	114401.15	0.0192	P	0.7
3	☐	5.000	4.820	243077.09	0.0408	P	1.3
4	☐	10.000	10.348	480224.28	0.0820	P	0.0
5	☐	100.000	99.373	4326184.63	0.7449	A	1.9
6	☐	200.000	200.301	8565096.75	1.4964	A	1.5

y = 0.0074 * x + 0.0049
R = 1.0000
DL = 0.04568
BEC = 0.6633

Weight: <None>
Min Conc: <None>

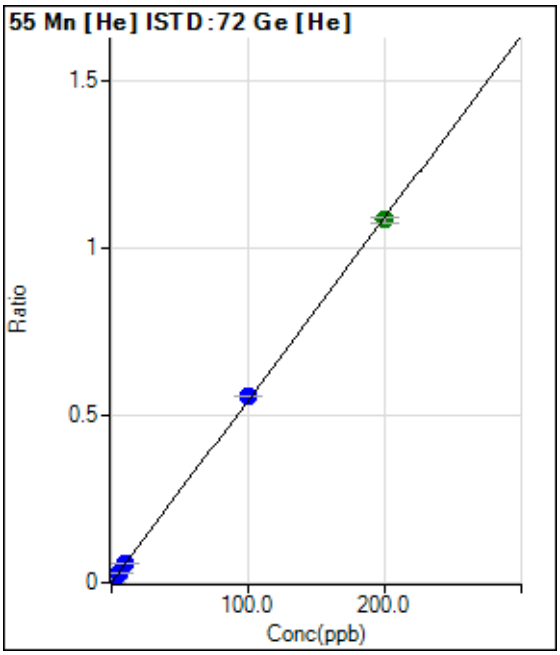
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.41	0.0010	P	9.6
2	☐	2.000	2.018	23617.44	0.0183	P	1.8
3	☐	5.000	4.870	55539.44	0.0427	P	3.7
4	☐	10.000	10.333	114045.58	0.0895	P	1.0
5	☐	100.000	102.724	1129007.95	0.8802	A	1.6
6	☐	200.000	198.625	2160006.94	1.7009	A	0.8

y = 0.0086 * x + 0.0010
R = 0.9999
DL = 0.03463
BEC = 0.1206

Weight: <None>
Min Conc: <None>

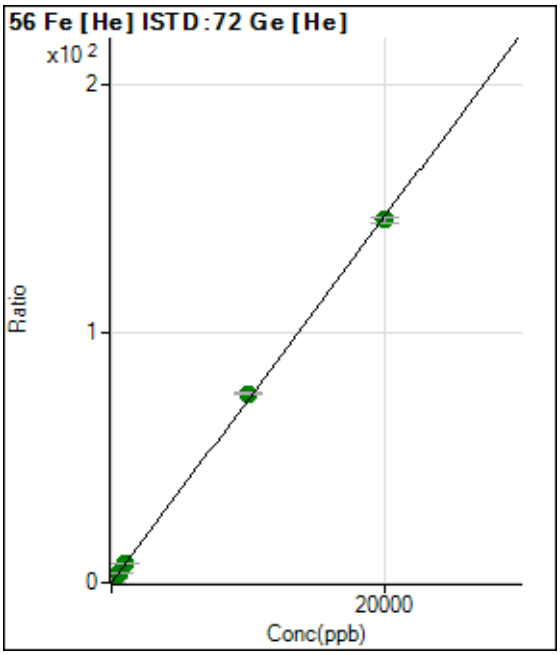


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	483.35	0.0004	P	15.1
2	☐	2.000	1.968	14301.03	0.0111	P	2.2
3	☐	5.000	4.919	35312.74	0.0272	P	4.3
4	☐	10.000	10.245	71577.32	0.0561	P	0.8
5	☐	100.000	102.091	713400.28	0.5561	P	0.6
6	☐	200.000	198.945	1376281.80	1.0834	A	1.7

y = 0.0054 * x + 3.7664E-004
R = 0.9999
DL = 0.03128
BEC = 0.06919

Weight: <None>
Min Conc: <None>

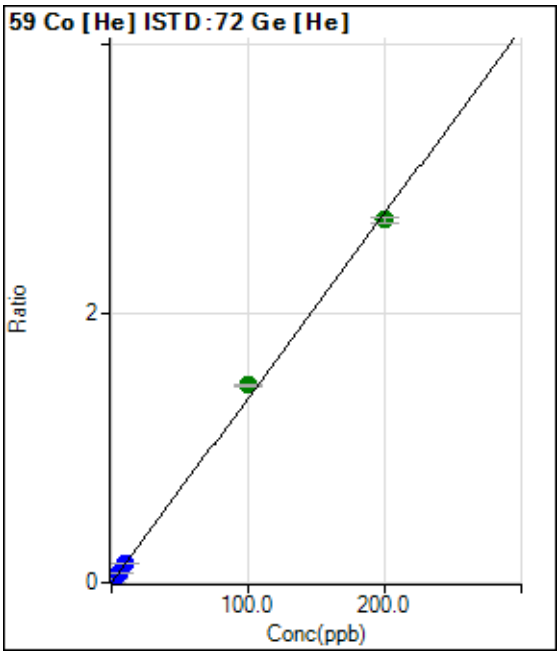
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10841.11	0.0085	P	5.9
2	☐	200.000	201.936	1923039.50	1.4910	A	2.5
3	☐	500.000	489.254	4681862.22	3.6004	A	3.0
4	☐	1000.000	1046.663	9806555.69	7.6927	A	1.1
5	☐	10000.00	10337.19	97365098.55	75.9010	A	0.4
6	☐	20000.00	19829.32	184868570.5	145.589	A	1.6

y = 0.0073 * x + 0.0085
R = 0.9998
DL = 0.2022
BEC = 1.151

Weight: <None>
Min Conc: <None>

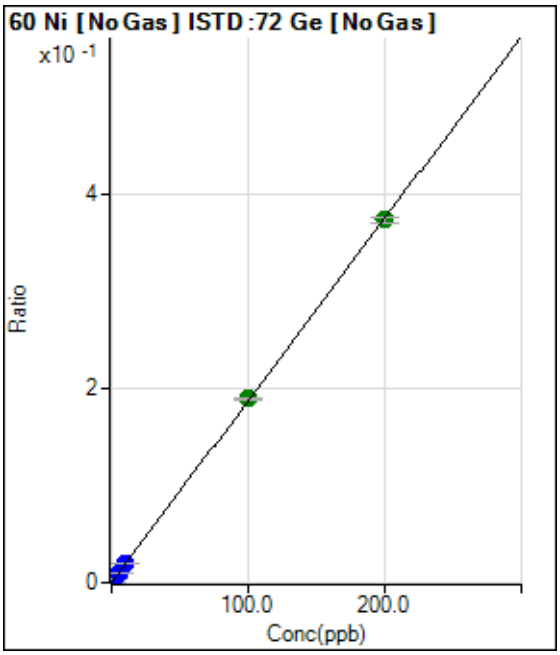


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0002	P	2.4
2	☐	2.000	1.999	35546.69	0.0276	P	2.7
3	☐	5.000	4.976	88915.96	0.0684	P	3.0
4	☐	10.000	10.615	185659.09	0.1457	P	2.7
5	☐	100.000	106.907	1880216.01	1.4656	A	1.0
6	☐	200.000	196.516	3421601.62	2.6940	A	1.3

y = 0.0137 * x + 1.5326E-004
R = 0.9991
DL = 0.0007889
BEC = 0.01118

Weight: <None>
Min Conc: <None>

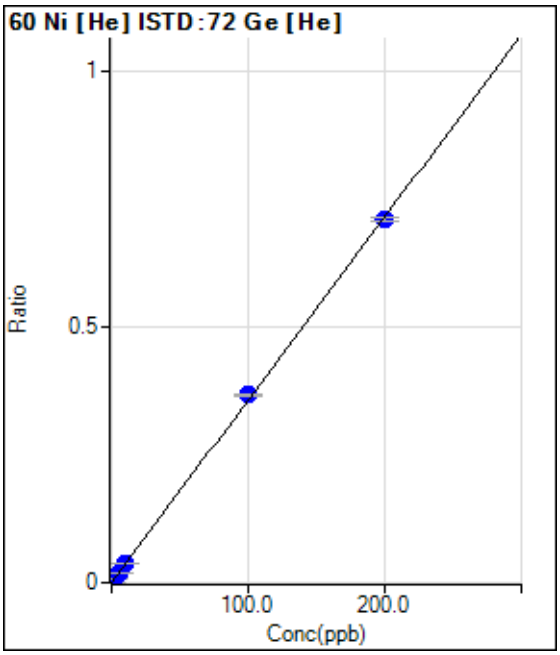
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.02	0.0001	P	6.0
2	☐	2.000	1.977	22669.21	0.0038	P	3.2
3	☐	5.000	5.113	57652.24	0.0097	P	1.2
4	☐	10.000	10.607	117023.01	0.0200	P	1.9
5	☐	100.000	101.234	1102684.33	0.1898	A	0.9
6	☐	200.000	199.350	2139117.42	0.3737	A	1.6

y = 0.0019 * x + 9.9073E-005
R = 1.0000
DL = 0.009438
BEC = 0.05286

Weight: <None>
Min Conc: <None>

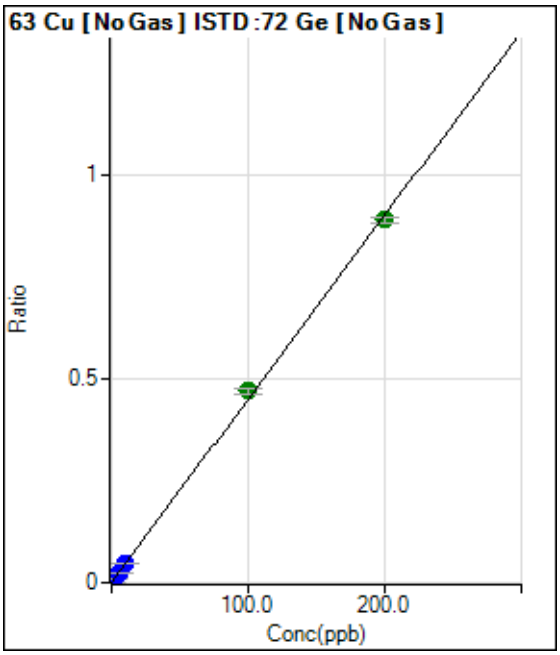


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0001	P	40.7
2	☐	2.000	1.945	9159.88	0.0071	P	4.9
3	☐	5.000	5.110	23967.98	0.0184	P	0.2
4	☐	10.000	10.568	48349.49	0.0379	P	4.4
5	☐	100.000	102.710	471384.42	0.3675	P	1.3
6	☐	200.000	198.614	902179.57	0.7104	P	1.0

y = 0.0036 * x + 1.4784E-004
R = 0.9999
DL = 0.05052
BEC = 0.04134

Weight: <None>
Min Conc: <None>

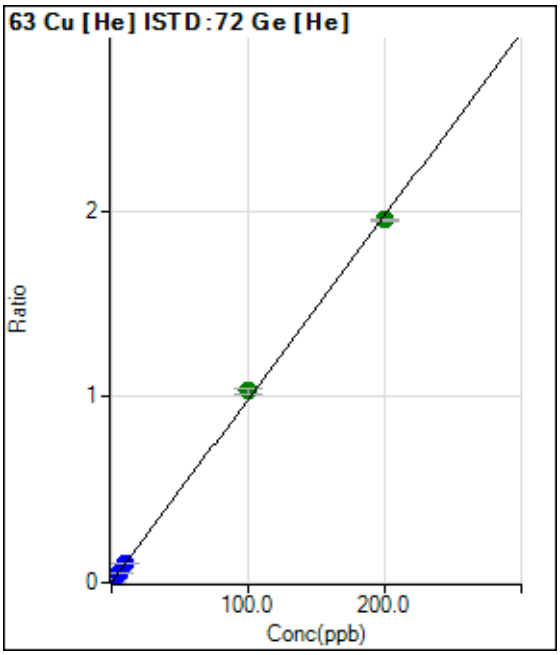
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3003.73	0.0005	P	2.3
2	☐	2.000	2.017	57264.18	0.0096	P	2.5
3	☐	5.000	5.044	138459.59	0.0233	P	2.9
4	☐	10.000	10.558	281852.52	0.0481	P	0.3
5	☐	100.000	104.661	2744117.04	0.4725	A	3.1
6	☐	200.000	197.640	5104372.01	0.8918	A	1.5

y = 0.0045 * x + 5.1308E-004
R = 0.9996
DL = 0.007849
BEC = 0.1138

Weight: <None>
Min Conc: <None>

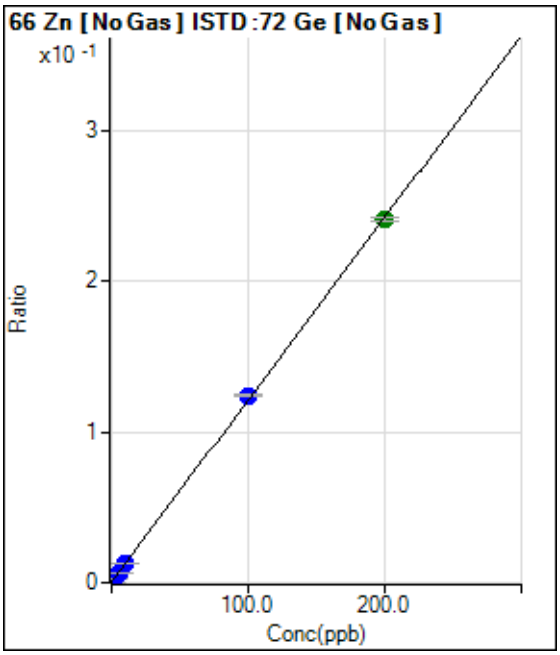


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1300.09	0.0010	P	4.3
2	☐	2.000	1.942	25998.54	0.0202	P	2.8
3	☐	5.000	4.965	64995.33	0.0500	P	2.3
4	☐	10.000	10.394	131898.34	0.1035	P	3.6
5	☐	100.000	104.337	1320889.12	1.0298	A	3.0
6	☐	200.000	197.813	2478475.59	1.9515	A	0.3

y = 0.0099 * x + 0.0010
R = 0.9997
DL = 0.01319
BEC = 0.1028

Weight: <None>
Min Conc: <None>

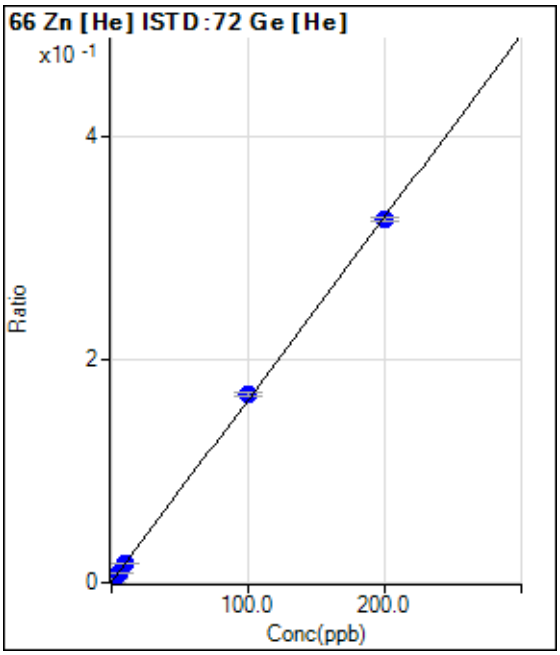
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2343.59	0.0004	P	3.2
2	☐	2.000	2.195	18209.20	0.0031	P	2.4
3	☐	5.000	5.105	39140.01	0.0066	P	1.2
4	☐	10.000	10.392	75958.88	0.0130	P	1.4
5	☐	100.000	102.265	720749.31	0.1241	P	1.2
6	☐	200.000	198.843	1378962.17	0.2409	A	1.0

y = 0.0012 * x + 4.0031E-004
R = 0.9999
DL = 0.0315
BEC = 0.331

Weight: <None>
Min Conc: <None>

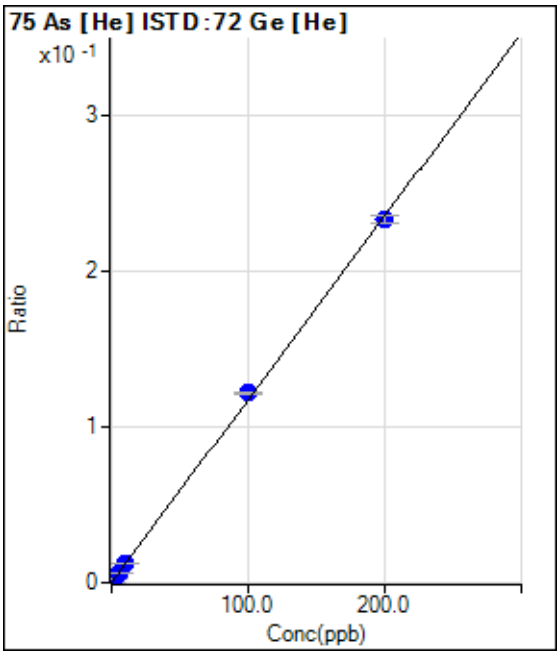


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	696.70	0.0005	P	15.5
2	☐	2.000	2.296	5544.56	0.0043	P	2.4
3	☐	5.000	5.228	11822.01	0.0091	P	3.5
4	☐	10.000	10.452	22475.60	0.0176	P	3.9
5	☐	100.000	102.854	216397.50	0.1687	P	2.1
6	☐	200.000	198.542	412886.66	0.3251	P	1.2

y = 0.0016 * x + 5.4338E-004
R = 0.9999
DL = 0.1543
BEC = 0.3324

Weight: <None>
Min Conc: <None>

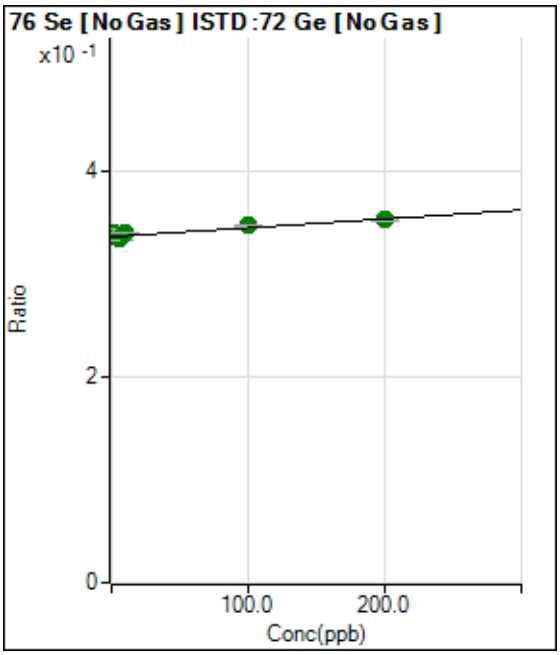
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0001	P	22.9
2	☐	2.000	1.875	2921.45	0.0023	P	0.9
3	☐	5.000	4.929	7613.30	0.0059	P	2.4
4	☐	10.000	10.168	15305.37	0.0120	P	2.8
5	☐	100.000	103.826	156544.39	0.1220	P	1.1
6	☐	200.000	198.082	295544.41	0.2328	P	1.9

y = 0.0012 * x + 6.2322E-005
R = 0.9997
DL = 0.03638
BEC = 0.05305

Weight: <None>
Min Conc: <None>

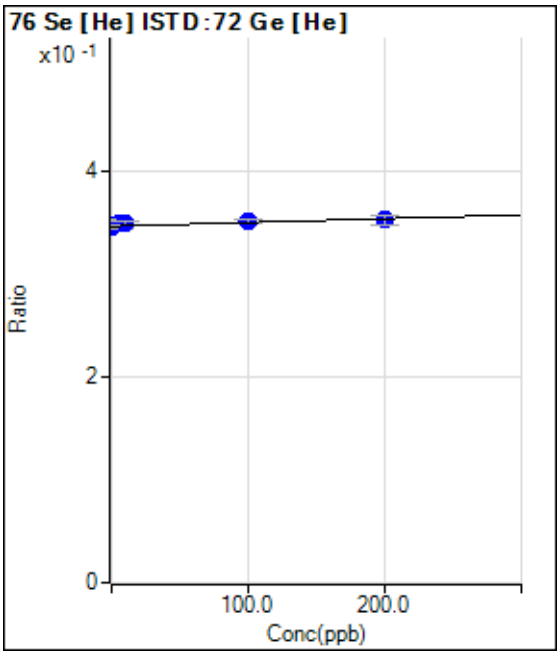


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1967477.42	0.3361	A	0.9
2	☐	2.000	34.690	2020141.95	0.3391	A	3.2
3	☐	5.000	-18.390	1991306.27	0.3345	A	1.4
4	☐	10.000	45.406	1991237.73	0.3400	A	0.2
5	☐	100.000	120.167	2012479.87	0.3464	A	0.3
6	☐	200.000	188.404	2016839.97	0.3523	A	0.8

y = 8.6316E-005 * x + 0.3361
R = 0.9550
DL = 105
BEC = 3893

Weight: <None>
Min Conc: <None>

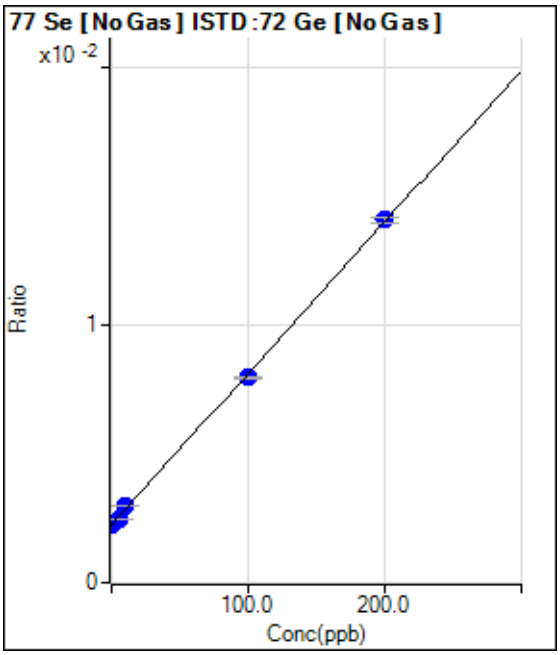
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	444365.30	0.3463	P	0.9
2	☐	2.000	49.205	449078.44	0.3482	P	1.7
3	☐	5.000	58.422	453237.47	0.3485	P	2.2
4	☐	10.000	87.603	445633.55	0.3496	P	1.3
5	☐	100.000	156.372	451742.30	0.3521	P	1.0
6	☐	200.000	166.126	447545.64	0.3525	P	2.7

y = 3.7163E-005 * x + 0.3463
R = 0.8626
DL = 242.2
BEC = 9319

Weight: <None>
Min Conc: <None>

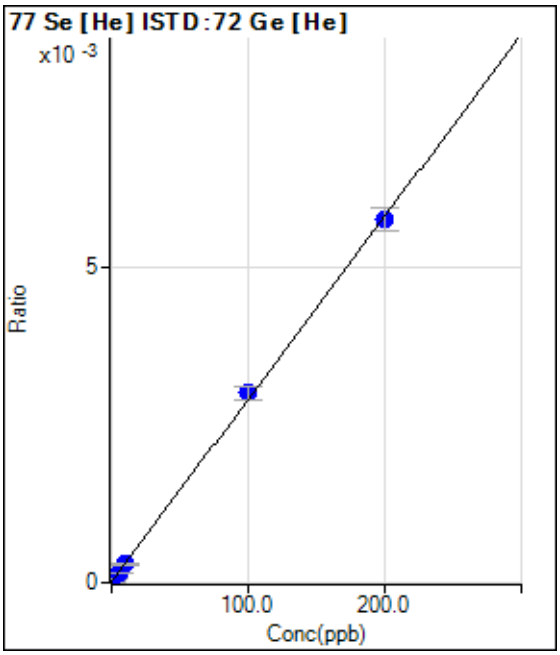


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13220.10	0.0023	P	2.8
2	☐	2.000	1.598	14017.56	0.0024	P	2.0
3	☐	5.000	3.938	14825.08	0.0025	P	0.8
4	☐	10.000	12.288	17458.33	0.0030	P	0.7
5	☐	100.000	97.167	46313.26	0.0080	P	1.3
6	☐	200.000	201.332	80701.47	0.0141	P	1.8

y = 5.8818E-005 * x + 0.0023
R = 0.9998
DL = 3.174
BEC = 38.39

Weight: <None>
Min Conc: <None>

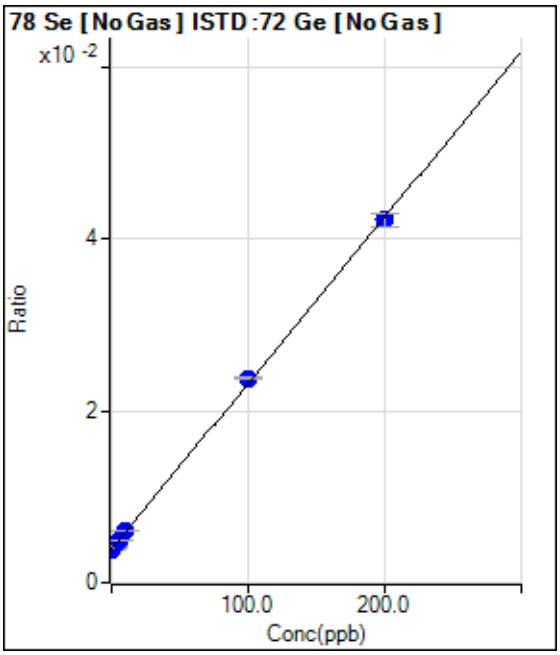
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	91.8
2	☐	2.000	2.506	110.00	0.0001	P	27.6
3	☐	5.000	4.873	200.01	0.0002	P	15.0
4	☐	10.000	9.959	383.34	0.0003	P	9.3
5	☐	100.000	103.394	3847.31	0.0030	P	7.8
6	☐	200.000	198.303	7282.09	0.0057	P	6.2

y = 2.8872E-005 * x + 1.3049E-005
R = 0.9998
DL = 1.245
BEC = 0.452

Weight: <None>
Min Conc: <None>

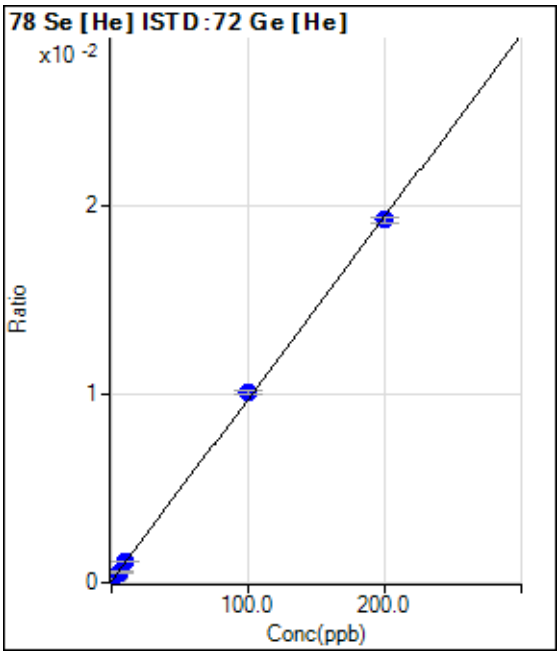


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22802.87	0.0039	P	2.0
2	☐	2.000	1.535	24973.46	0.0042	P	2.5
3	☐	5.000	4.999	28934.73	0.0049	P	1.7
4	☐	10.000	10.675	34885.47	0.0060	P	0.3
5	☐	100.000	102.999	138157.59	0.0238	P	1.4
6	☐	200.000	198.472	241582.89	0.0422	P	3.5

y = 1.9310E-004 * x + 0.0039
R = 0.9998
DL = 1.193
BEC = 20.17

Weight: <None>
Min Conc: <None>

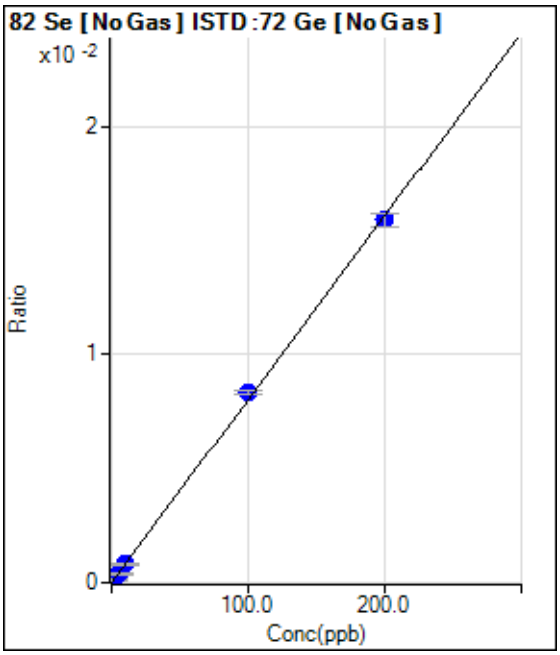
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	102.67	0.0001	P	14.4
2	☐	2.000	1.823	330.67	0.0003	P	1.9
3	☐	5.000	4.963	727.36	0.0006	P	9.2
4	☐	10.000	10.654	1414.75	0.0011	P	1.4
5	☐	100.000	103.328	12914.19	0.0101	P	2.3
6	☐	200.000	198.306	24441.43	0.0192	P	1.7

y = 9.6658E-005 * x + 8.0071E-005
R = 0.9998
DL = 0.3581
BEC = 0.8284

Weight: <None>
Min Conc: <None>

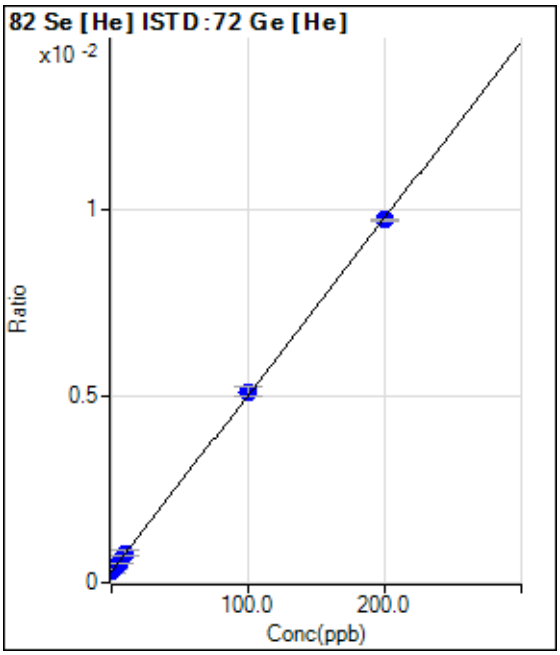


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-121.12	0.0000	P	-418.2
2	☐	2.000	1.646	665.61	0.0001	P	52.9
3	☐	5.000	5.023	2286.75	0.0004	P	19.3
4	☐	10.000	9.975	4585.96	0.0008	P	8.0
5	☐	100.000	103.878	48511.39	0.0083	P	1.2
6	☐	200.000	198.065	91198.06	0.0159	P	3.8

y = 8.0577E-005 * x - 2.0683E-005
R = 0.9997
DL = 3.22
BEC = -0.2567

Weight: <None>
Min Conc: <None>

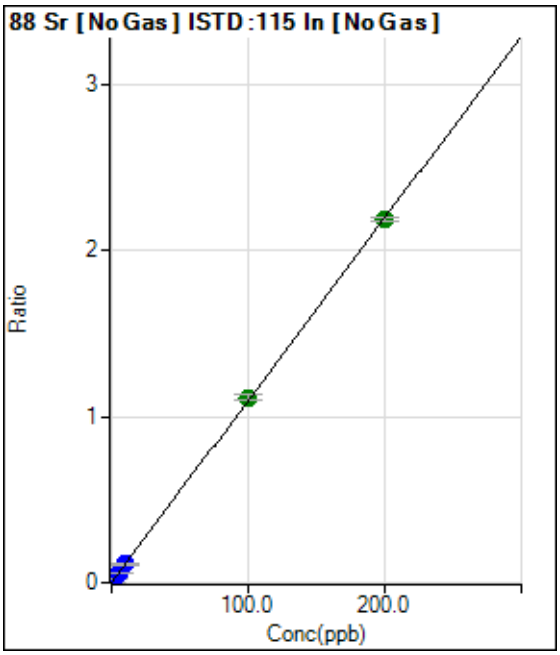
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0003	P	28.6
2	☐	2.000	1.313	463.35	0.0004	P	10.7
3	☐	5.000	4.554	666.70	0.0005	P	5.4
4	☐	10.000	10.206	993.39	0.0008	P	18.4
5	☐	100.000	101.880	6571.74	0.0051	P	4.7
6	☐	200.000	199.068	12352.59	0.0097	P	0.7

y = 4.7363E-005 * x + 2.9656E-004
R = 0.9999
DL = 5.369
BEC = 6.261

Weight: <None>
Min Conc: <None>

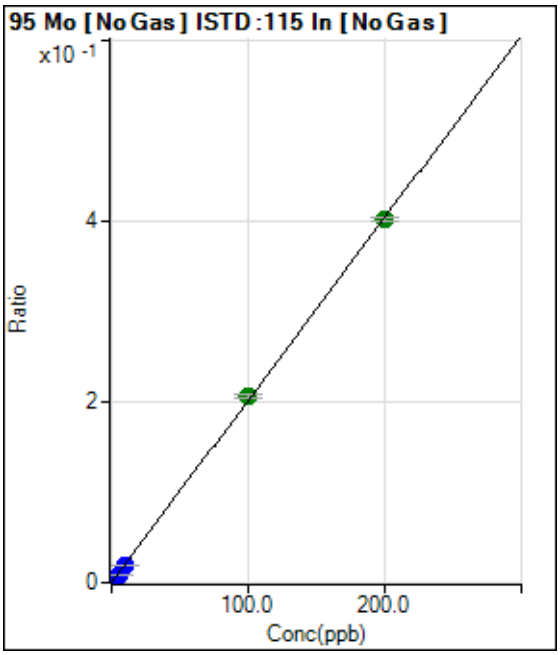


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3160.44	0.0004	P	4.9
2	☐	2.000	1.950	153629.64	0.0218	P	1.8
3	☐	5.000	4.749	375570.31	0.0525	P	1.5
4	☐	10.000	10.090	805955.98	0.1110	P	2.9
5	☐	100.000	101.691	7872586.96	1.1152	A	2.5
6	☐	200.000	199.157	15317249.77	2.1837	A	1.1

y = 0.0110 * x + 4.3983E-004
R = 0.9999
DL = 0.005954
BEC = 0.04012

Weight: <None>
Min Conc: <None>

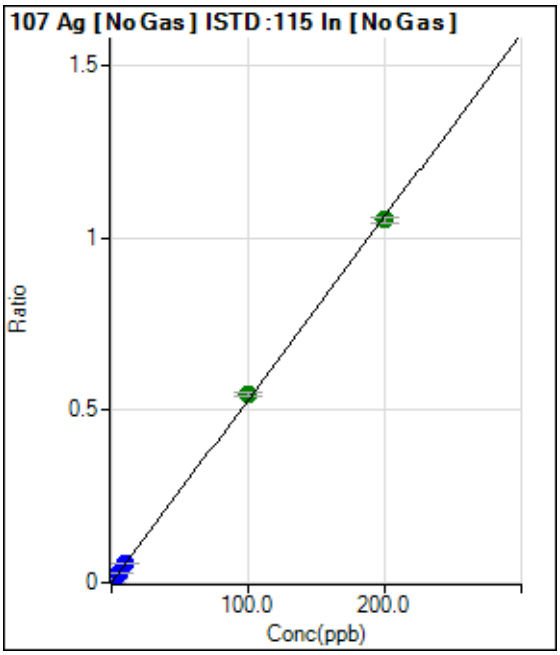
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0000	P	30.4
2	☐	2.000	1.873	26743.89	0.0038	P	1.2
3	☐	5.000	4.650	67263.86	0.0094	P	0.5
4	☐	10.000	9.694	142117.06	0.0196	P	2.9
5	☐	100.000	102.212	1456186.70	0.2063	A	2.4
6	☐	200.000	198.919	2815524.96	0.4014	A	1.0

y = 0.0020 * x + 1.9451E-005
R = 0.9999
DL = 0.008797
BEC = 0.009639

Weight: <None>
Min Conc: <None>

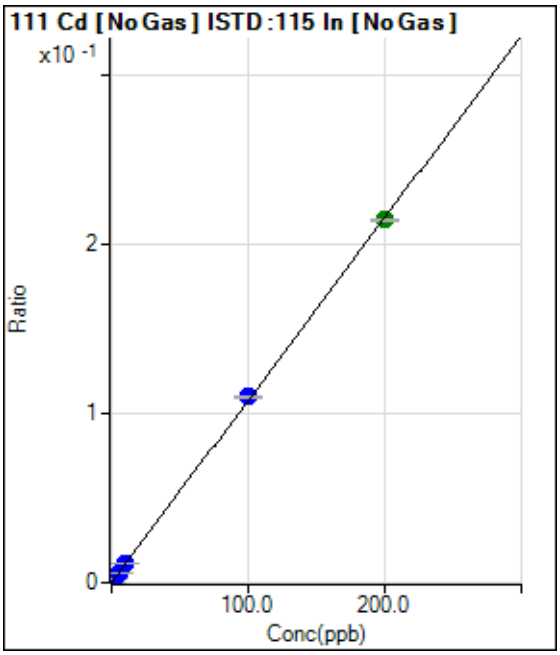


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	356.68	0.0000	P	5.6
2	☐	2.000	2.065	77531.23	0.0110	P	1.2
3	☐	5.000	4.938	187922.35	0.0263	P	0.5
4	☐	10.000	10.488	404437.09	0.0557	P	3.1
5	☐	100.000	103.436	3876816.19	0.5492	A	1.9
6	☐	200.000	198.259	7381696.14	1.0525	A	1.9

y = 0.0053 * x + 4.9631E-005
R = 0.9998
DL = 0.001573
BEC = 0.009349

Weight: <None>
Min Conc: <None>

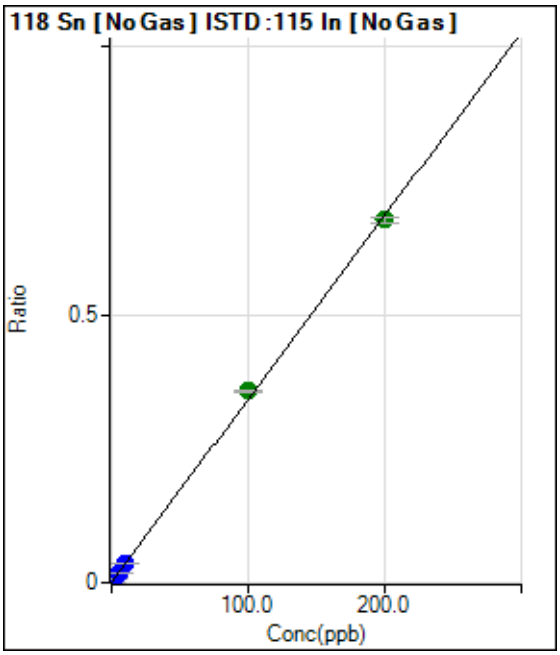
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	16.3
2	☐	2.000	1.960	14925.38	0.0021	P	1.5
3	☐	5.000	4.937	38145.78	0.0053	P	2.7
4	☐	10.000	10.282	80569.91	0.0111	P	1.2
5	☐	100.000	101.931	776423.51	0.1100	P	1.0
6	☐	200.000	199.022	1505987.22	0.2147	A	0.4

y = 0.0011 * x + 5.1074E-006
R = 0.9999
DL = 0.002317
BEC = 0.004734

Weight: <None>
Min Conc: <None>

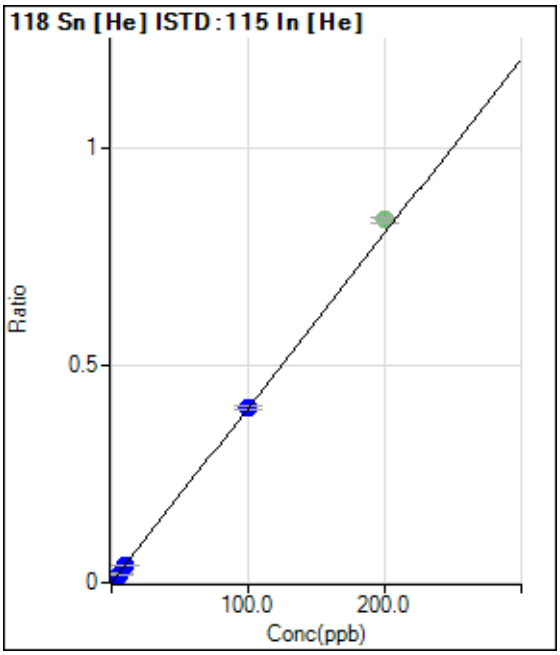


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3563.89	0.0005	P	8.3
2	☐	2.000	1.995	51525.31	0.0073	P	1.4
3	☐	5.000	4.901	123467.30	0.0173	P	1.7
4	☐	10.000	10.356	260719.36	0.0359	P	2.1
5	☐	100.000	104.370	2524397.20	0.3575	A	0.3
6	☐	200.000	197.800	4748482.43	0.6771	A	1.5

y = 0.0034 * x + 4.9588E-004
R = 0.9997
DL = 0.03625
BEC = 0.145

Weight: <None>
Min Conc: <None>

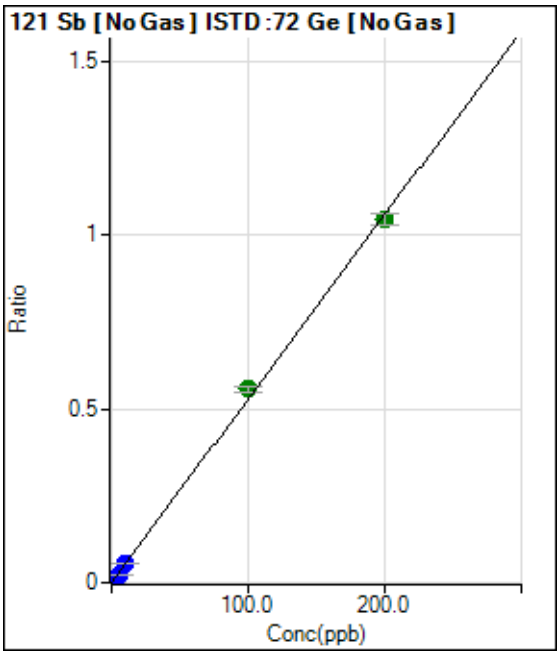
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1523.45	0.0006	P	5.5
2	☐	2.000	1.922	20750.06	0.0083	P	1.6
3	☐	5.000	4.782	49574.95	0.0198	P	2.3
4	☐	10.000	10.214	103241.28	0.0416	P	1.0
5	☐	100.000	99.991	976547.62	0.4016	P	1.7
6	☑	200.000		1990122.21	0.8338	A	1.9

y = 0.0040 * x + 6.1397E-004
R = 1.0000
DL = 0.0254
BEC = 0.1531

Weight: <None>
Min Conc: <None>

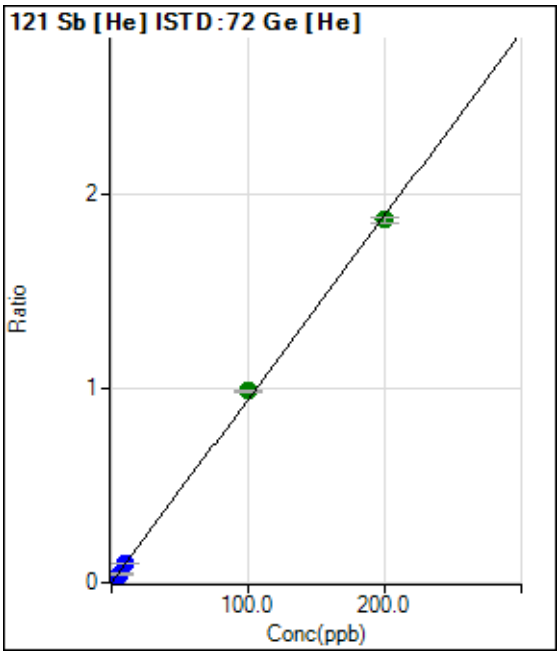


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	890.05	0.0002	P	9.1
2	☐	2.000	1.862	59552.51	0.0100	P	1.1
3	☐	5.000	4.638	146885.12	0.0247	P	0.9
4	☐	10.000	10.143	314927.15	0.0538	P	0.6
5	☐	100.000	105.334	3234429.32	0.5570	A	2.5
6	☐	200.000	197.336	5970505.75	1.0433	A	3.3

y = 0.0053 * x + 1.5202E-004
R = 0.9995
DL = 0.007875
BEC = 0.02876

Weight: <None>
Min Conc: <None>

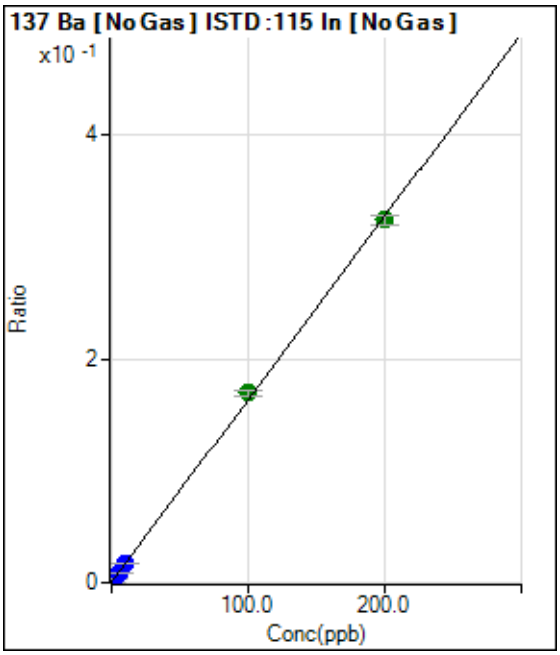
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	326.68	0.0003	P	14.6
2	☐	2.000	1.832	22606.54	0.0175	P	1.3
3	☐	5.000	4.637	57161.30	0.0440	P	3.0
4	☐	10.000	10.031	120857.61	0.0948	P	0.7
5	☐	100.000	104.549	1264523.29	0.9857	A	1.4
6	☐	200.000	197.735	2367390.22	1.8640	A	1.5

y = 0.0094 * x + 2.5446E-004
R = 0.9996
DL = 0.01182
BEC = 0.027

Weight: <None>
Min Conc: <None>

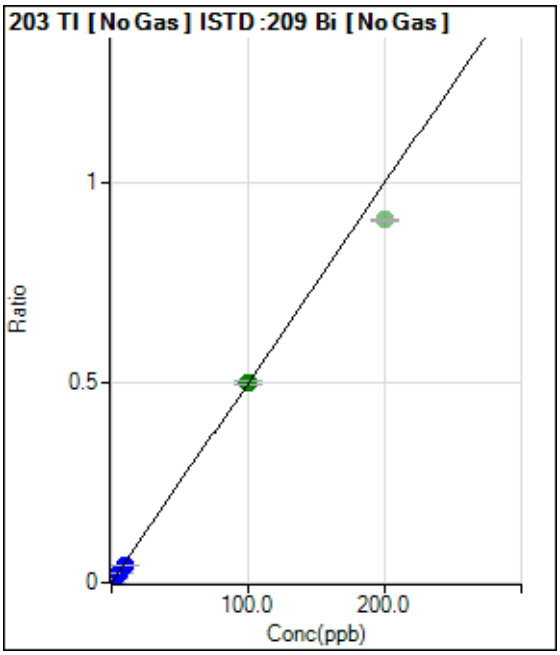


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2090.20	0.0003	P	3.5
2	☐	2.000	2.053	25642.29	0.0036	P	2.1
3	☐	5.000	4.928	59644.05	0.0083	P	1.4
4	☐	10.000	10.173	122665.95	0.0169	P	2.3
5	☐	100.000	103.561	1195568.76	0.1694	A	2.6
6	☐	200.000	198.212	2272263.46	0.3239	A	2.4

y = 0.0016 * x + 2.9089E-004
R = 0.9998
DL = 0.01848
BEC = 0.1782

Weight: <None>
Min Conc: <None>

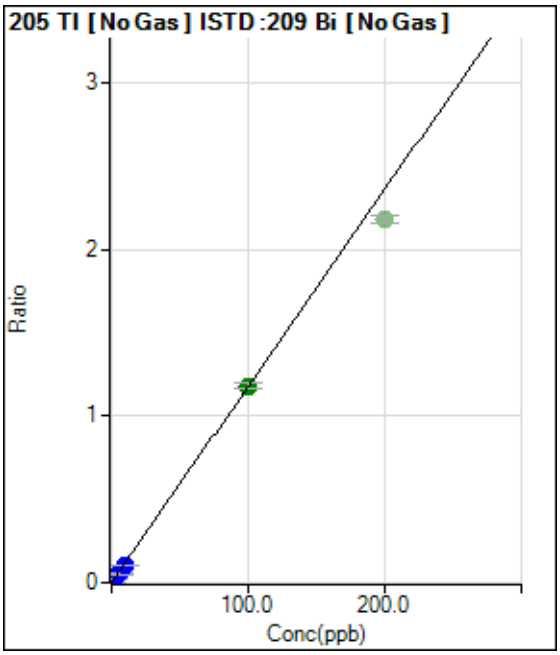
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170.00	0.0000	P	24.6
2	☐	2.000	1.785	49007.41	0.0089	P	6.1
3	☐	5.000	4.432	121442.81	0.0221	P	2.9
4	☐	10.000	9.103	253210.47	0.0455	P	0.9
5	☐	100.000	100.122	2637551.00	0.4997	A	2.6
6	☑	200.000		4891973.05	0.9071	A	0.3

y = 0.0050 * x + 3.0226E-005
R = 1.0000
DL = 0.004461
BEC = 0.006057

Weight: <None>
Min Conc: <None>

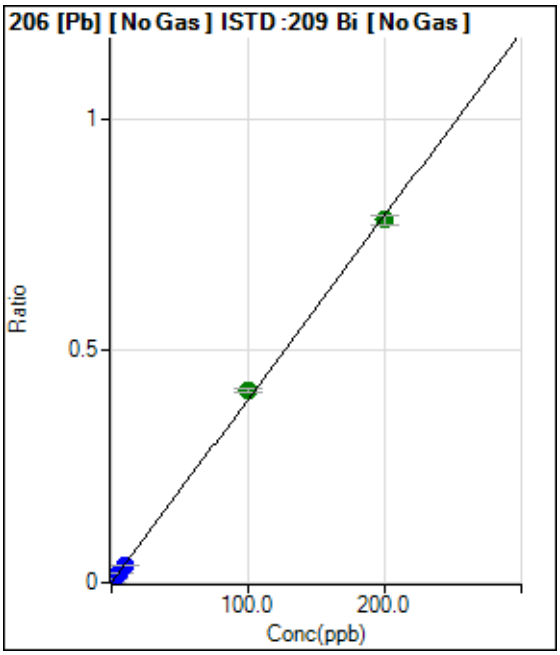


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	333.35	0.0001	P	21.0
2	☐	2.000	1.820	117891.97	0.0215	P	5.4
3	☐	5.000	4.479	289597.91	0.0528	P	4.0
4	☐	10.000	9.135	599715.38	0.1077	P	2.9
5	☐	100.000	100.116	6225833.24	1.1795	A	2.5
6	☑	200.000		11737576.07	2.1762	A	2.2

y = 0.0118 * x + 5.9050E-005
R = 1.0000
DL = 0.003153
BEC = 0.005013

Weight: <None>
Min Conc: <None>

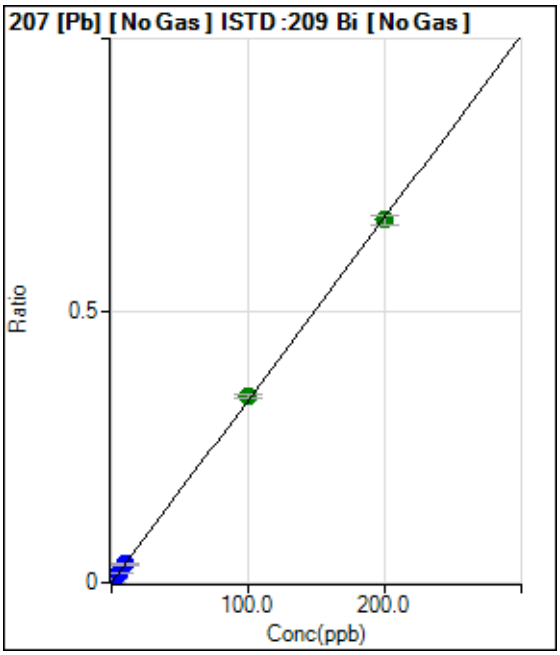
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0001	P	3.7
2	☐	2.000	1.878	41052.38	0.0075	P	4.5
3	☐	5.000	4.770	103694.92	0.0189	P	2.9
4	☐	10.000	9.494	209246.67	0.0376	P	3.5
5	☐	100.000	104.601	2181426.94	0.4133	A	2.3
6	☐	200.000	197.732	4213805.35	0.7812	A	2.9

y = 0.0040 * x + 6.7440E-005
R = 0.9996
DL = 0.001883
BEC = 0.01707

Weight: <None>
Min Conc: <None>

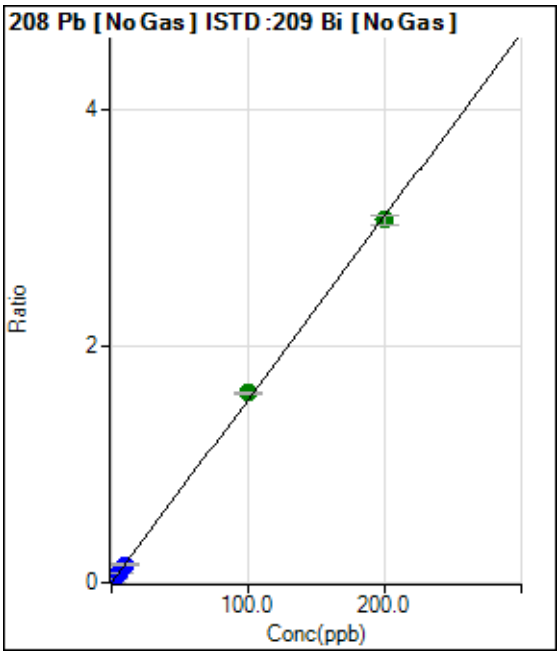


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	363.34	0.0001	P	10.3
2	☐	2.000	1.866	34709.61	0.0063	P	3.8
3	☐	5.000	4.863	89870.56	0.0164	P	1.5
4	☐	10.000	10.011	187496.27	0.0337	P	2.3
5	☐	100.000	102.353	1813194.29	0.3436	A	1.8
6	☐	200.000	198.828	3599494.11	0.6674	A	2.5

y = 0.0034 * x + 6.4469E-005
R = 0.9999
DL = 0.005931
BEC = 0.01921

Weight: <None>
Min Conc: <None>

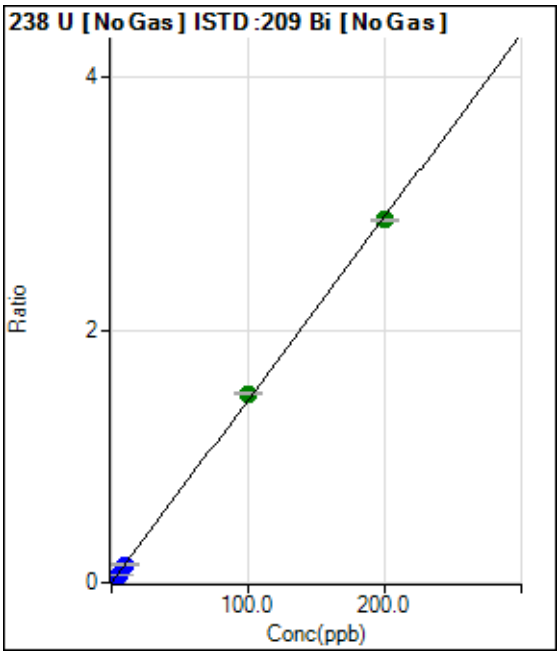
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1650.08	0.0003	P	4.0
2	☐	2.000	1.880	161151.09	0.0294	P	2.6
3	☐	5.000	4.779	406863.95	0.0742	P	2.5
4	☐	10.000	9.938	857644.88	0.1540	P	2.0
5	☐	100.000	103.895	8482721.59	1.6070	A	1.0
6	☐	200.000	198.063	16522800.38	3.0634	A	2.9

y = 0.0155 * x + 2.9285E-004
R = 0.9997
DL = 0.002261
BEC = 0.01894

Weight: <None>
Min Conc: <None>

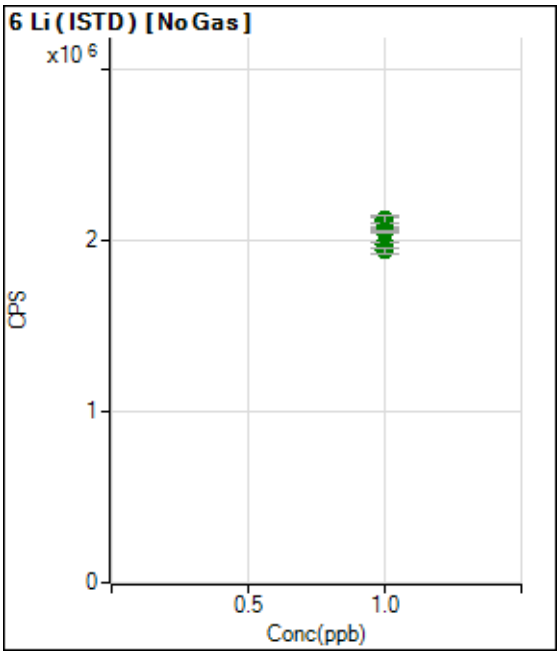


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0000	P	18.8
2	☐	2.000	1.861	148037.80	0.0270	P	3.2
3	☐	5.000	4.651	369811.87	0.0674	P	0.5
4	☐	10.000	9.926	801177.85	0.1439	P	3.5
5	☐	100.000	103.309	7903940.72	1.4972	A	1.4
6	☐	200.000	198.359	15503802.69	2.8747	A	0.5

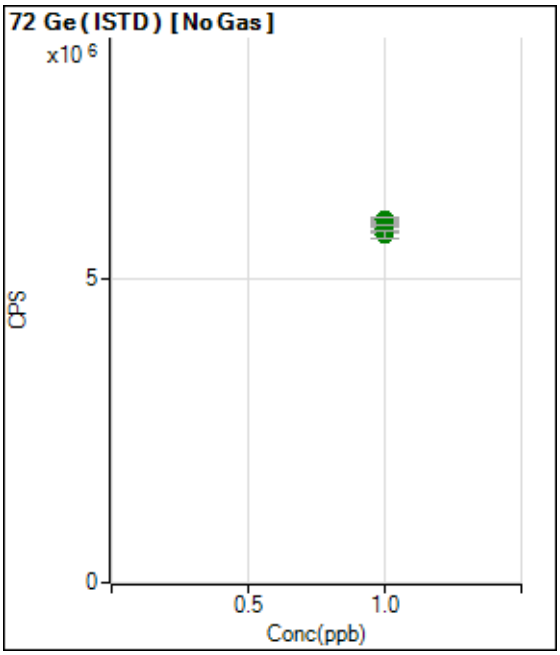
y = 0.0145 * x + 5.9284E-006
R = 0.9998
DL = 0.0002311
BEC = 0.0004091

Weight: <None>
Min Conc: <None>

Calibration for 225_ICV.d

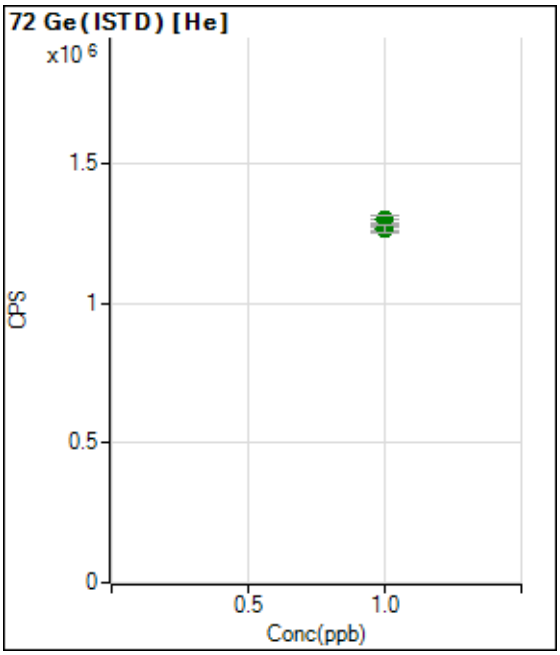


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2076006.97		A	0.8
2	☐	1.000		2110097.15		A	2.7
3	☐	1.000		2120843.18		A	2.3
4	☐	1.000		2054928.81		A	0.6
5	☐	1.000		1973480.47		A	1.5
6	☐	1.000		1939908.73		A	1.5

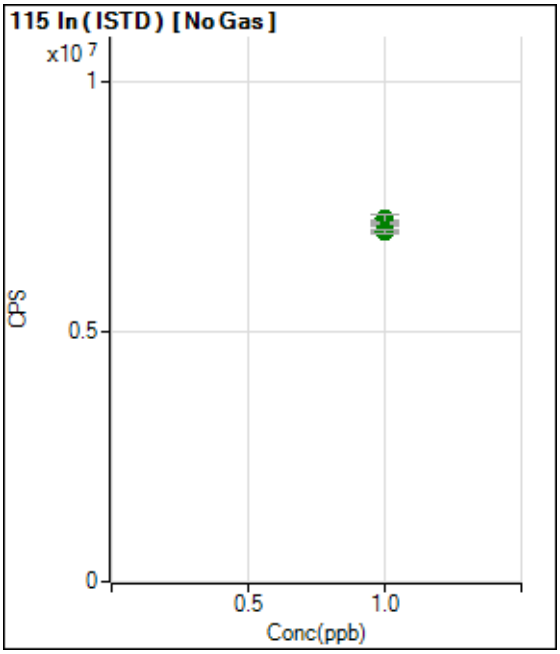


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5854434.29		A	0.1
2	☐	1.000		5959027.00		A	0.8
3	☐	1.000		5954110.54		A	1.2
4	☐	1.000		5856828.25		A	0.2
5	☐	1.000		5809304.71		A	2.2
6	☐	1.000		5724952.21		A	2.2

Calibration for 225_ICV.d

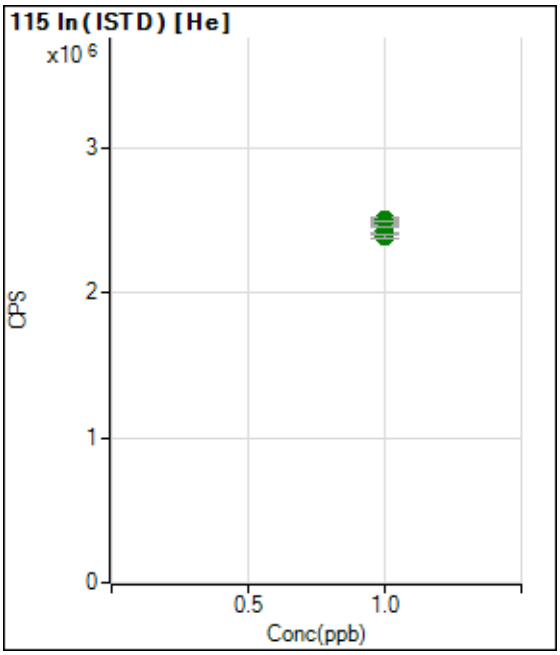


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1283118.52		A	0.8
2	☐	1.000		1290210.92		A	2.4
3	☐	1.000		1300933.81		A	2.1
4	☐	1.000		1274944.93		A	1.8
5	☐	1.000		1282806.44		A	0.6
6	☐	1.000		1270062.01		A	2.0

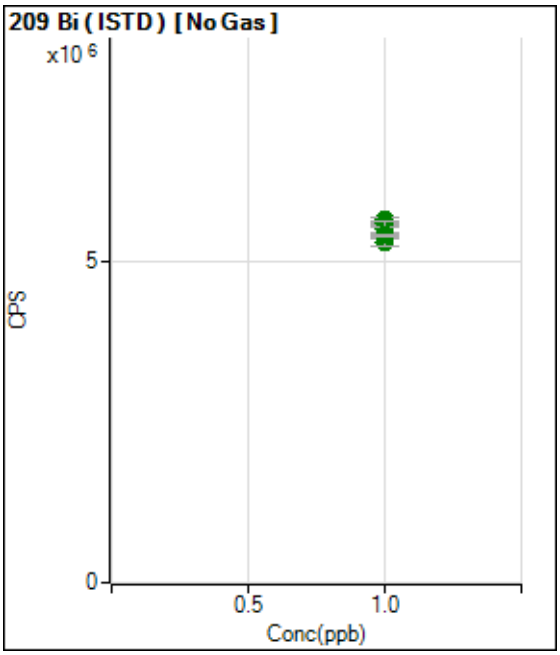


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		7184199.16		A	0.9
2	☐	1.000		7040829.79		A	0.6
3	☐	1.000		7154600.31		A	1.2
4	☐	1.000		7260771.49		A	2.2
5	☐	1.000		7061805.20		A	2.5
6	☐	1.000		7014134.89		A	1.0

Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2482663.88		A	2.5
2	☐	1.000		2493912.51		A	2.3
3	☐	1.000		2506058.01		A	1.9
4	☐	1.000		2483642.03		A	1.1
5	☐	1.000		2432278.47		A	1.7
6	☐	1.000		2387123.49		A	1.3



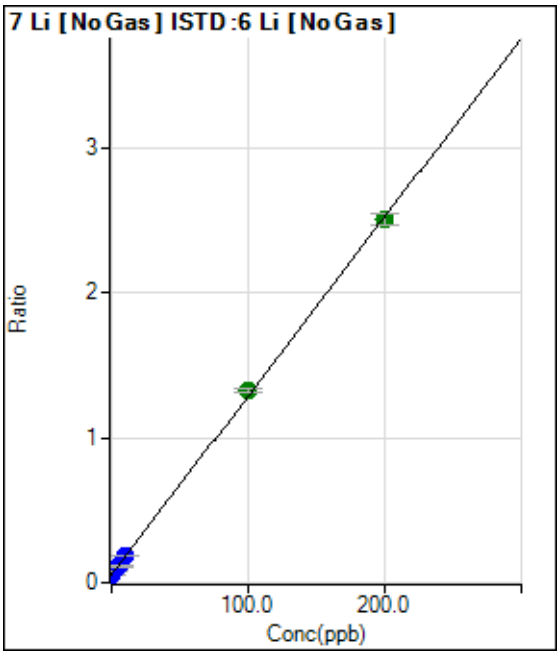
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5632659.08		A	1.6
2	☐	1.000		5489551.17		A	3.2
3	☐	1.000		5485664.92		A	2.2
4	☐	1.000		5570838.25		A	1.7
5	☐	1.000		5278137.53		A	2.1
6	☐	1.000		5393299.08		A	0.4

Calibration for 058_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	051CALB.d	CAL BLK	4/14/2020 10:55:12 AM
2	052CALS.d	2/10/200	4/14/2020 10:57:04 AM
3	053CALS.d	5/25/500	4/14/2020 10:58:56 AM
4	054CALS.d	10/50/100	4/14/2020 11:00:48 AM
5	055CALS.d	100/500/10K	4/14/2020 11:02:39 AM
6	056CALS.d	200/1000/20K	4/14/2020 11:04:21 AM

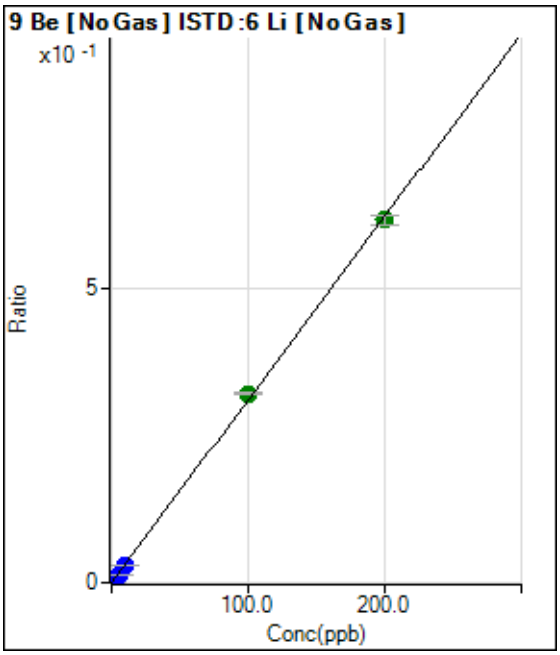
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	153482.29	0.0557	P	3.0
2	☐	2.000	1.842	219142.19	0.0784	P	1.2
3	☐	5.000	4.674	307802.44	0.1133	P	1.8
4	☐	10.000	10.091	494398.08	0.1800	P	0.7
5	☐	100.000	102.991	3403454.22	1.3242	A	1.5
6	☐	200.000	198.510	6358755.11	2.5007	A	3.1

y = 0.0123 * x + 0.0557
R = 0.9998
DL = 0.4113
BEC = 4.524

Weight: <None>
Min Conc: <None>

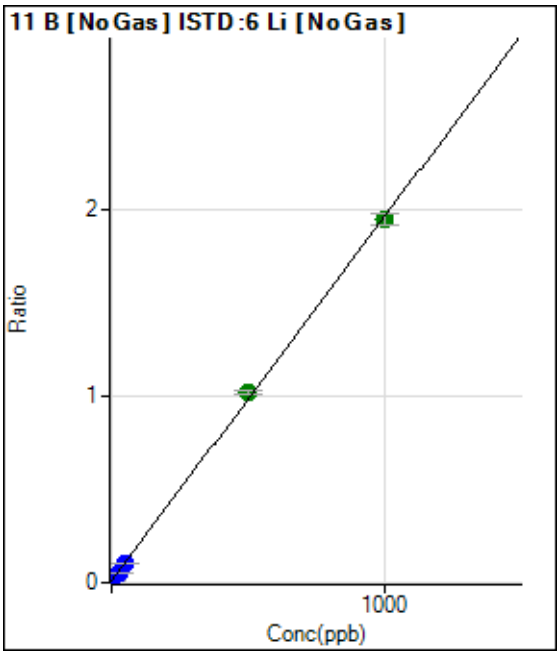


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38.33	0.0000	P	29.6
2	☐	2.000	1.837	16010.85	0.0057	P	3.0
3	☐	5.000	4.646	39316.36	0.0145	P	2.9
4	☐	10.000	9.650	82527.01	0.0300	P	0.9
5	☐	100.000	103.365	826867.07	0.3217	A	1.1
6	☐	200.000	198.346	1569949.56	0.6173	A	2.5

y = 0.0031 * x + 1.3968E-005
R = 0.9998
DL = 0.003981
BEC = 0.004488

Weight: <None>
Min Conc: <None>

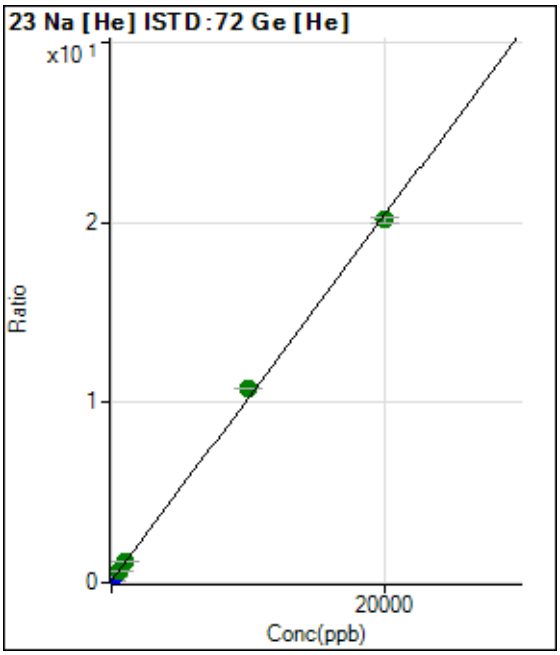
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26593.55	0.0097	P	2.3
2	☐	10.000	9.006	76034.32	0.0272	P	1.7
3	☐	25.000	23.383	150026.25	0.0552	P	2.7
4	☐	50.000	49.063	289140.56	0.1053	P	1.2
5	☐	500.000	517.538	2617259.34	1.0183	A	1.2
6	☐	1000.000	991.328	4937597.84	1.9417	A	3.3

y = 0.0019 * x + 0.0097
R = 0.9998
DL = 0.3466
BEC = 4.953

Weight: <None>
Min Conc: <None>

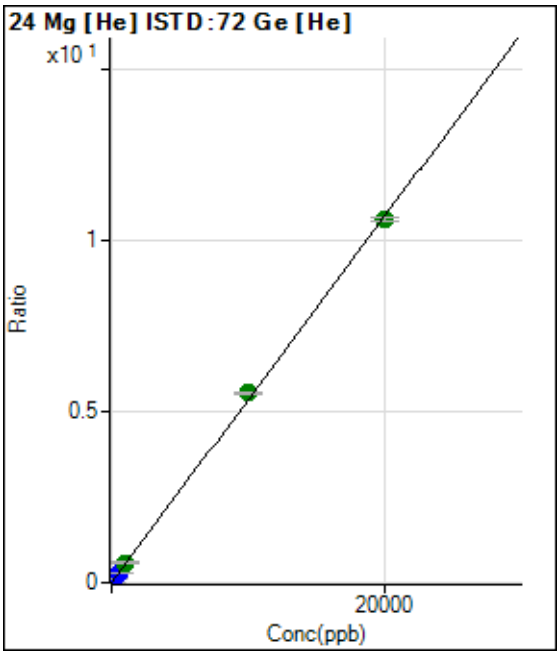


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	135330.39	0.0868	P	1.7
2	☐	200.000	202.541	443984.45	0.2926	P	1.7
3	☐	500.000	523.935	939433.55	0.6192	A	4.5
4	☐	1000.000	1080.872	1773708.77	1.1852	A	1.1
5	☐	10000.00	10510.37	15889182.26	10.7669	A	0.4
6	☐	20000.00	19740.14	29694778.72	20.1456	A	1.7

y = 0.0010 * x + 0.0868
R = 0.9995
DL = 4.461
BEC = 85.45

Weight: <None>
Min Conc: <None>

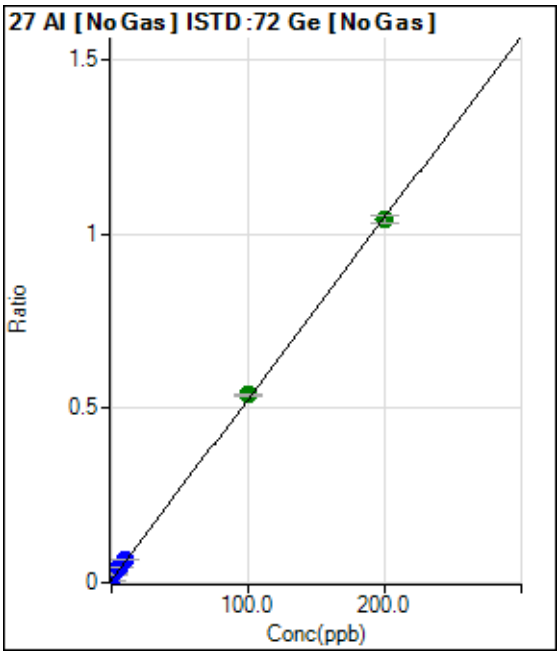
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1360.09	0.0009	P	6.6
2	☐	200.000	204.181	166789.50	0.1099	P	1.3
3	☐	500.000	506.990	412331.31	0.2717	P	1.4
4	☐	1000.000	1097.038	878300.35	0.5868	A	1.2
5	☐	10000.00	10356.09	8164462.79	5.5324	A	0.8
6	☐	20000.00	19816.88	15604247.68	10.5857	A	1.1

y = 5.3413E-004 * x + 8.7291E-004
R = 0.9998
DL = 0.3226
BEC = 1.634

Weight: <None>
Min Conc: <None>

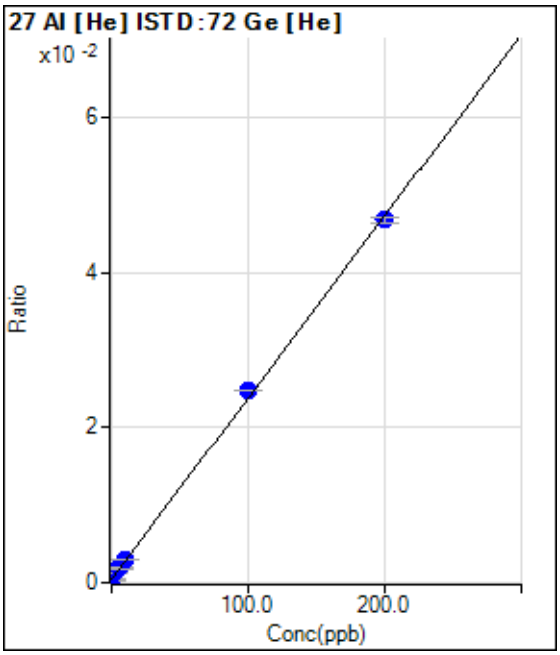


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48913.14	0.0071	P	2.3
2	☐	2.000	3.445	172305.76	0.0250	P	4.3
3	☐	5.000	6.806	291863.88	0.0425	P	0.4
4	☐	10.000	11.298	447057.57	0.0659	P	1.9
5	☐	100.000	102.236	3636200.15	0.5394	A	1.5
6	☐	200.000	198.758	6808533.86	1.0418	A	1.9

y = 0.0052 * x + 0.0071
R = 0.9999
DL = 0.09617
BEC = 1.365

Weight: <None>
Min Conc: <None>

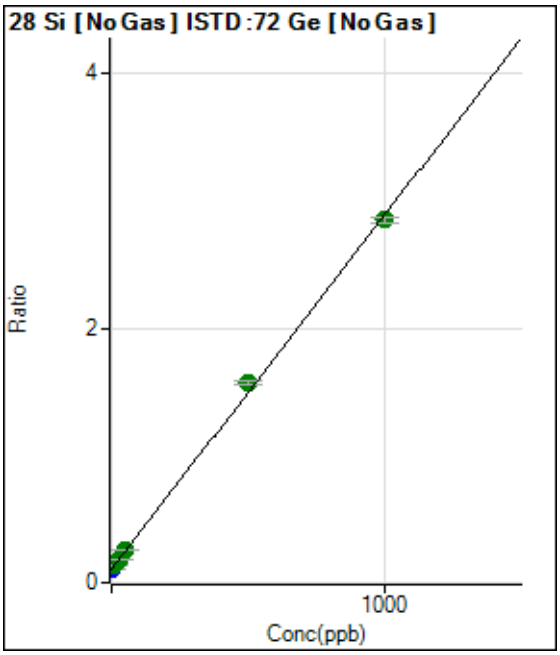
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	630.03	0.0004	P	19.8
2	☐	2.000	3.395	1820.15	0.0012	P	0.7
3	☐	5.000	6.276	2843.68	0.0019	P	1.8
4	☐	10.000	10.510	4287.40	0.0029	P	0.9
5	☐	100.000	103.932	36498.27	0.0247	P	0.7
6	☐	200.000	197.963	68896.97	0.0467	P	1.5

y = 2.3406E-004 * x + 4.0466E-004
R = 0.9997
DL = 1.026
BEC = 1.729

Weight: <None>
Min Conc: <None>

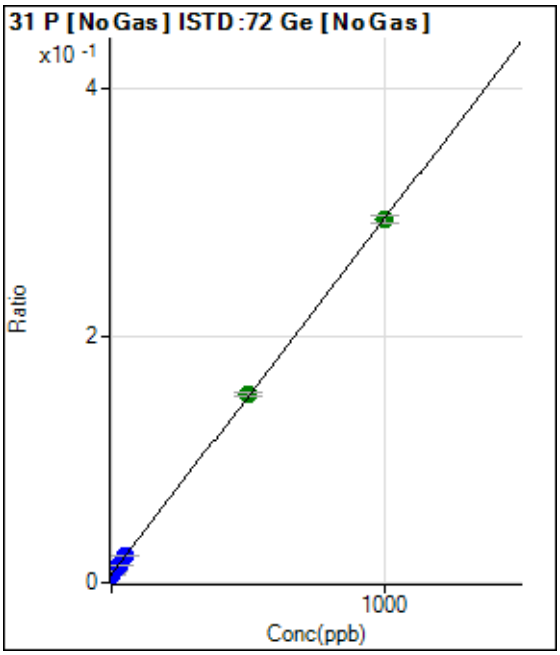


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	726456.11	0.1055	P	1.8
2	☐	10.000	12.619	967703.61	0.1406	A	3.2
3	☐	25.000	28.864	1274756.54	0.1858	A	0.1
4	☐	50.000	55.832	1768656.06	0.2608	A	1.6
5	☐	500.000	525.435	10563431.09	1.5669	A	1.6
6	☐	1000.000	986.868	18623432.64	2.8504	A	1.9

y = 0.0028 * x + 0.1055
R = 0.9996
DL = 2.034
BEC = 37.93

Weight: <None>
Min Conc: <None>

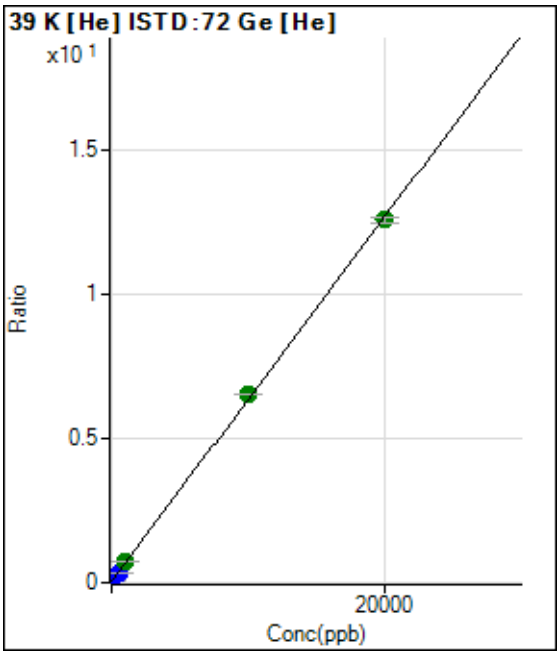
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47755.82	0.0069	P	3.7
2	☐	10.000	8.129	63850.47	0.0093	P	2.4
3	☐	25.000	22.765	92564.27	0.0135	P	0.7
4	☐	50.000	51.443	147481.58	0.0217	P	1.9
5	☐	500.000	506.145	1029254.98	0.1527	A	2.4
6	☐	1000.000	996.930	1920832.52	0.2940	A	2.1

y = 2.8794E-004 * x + 0.0069
R = 1.0000
DL = 2.644
BEC = 24.09

Weight: <None>
Min Conc: <None>

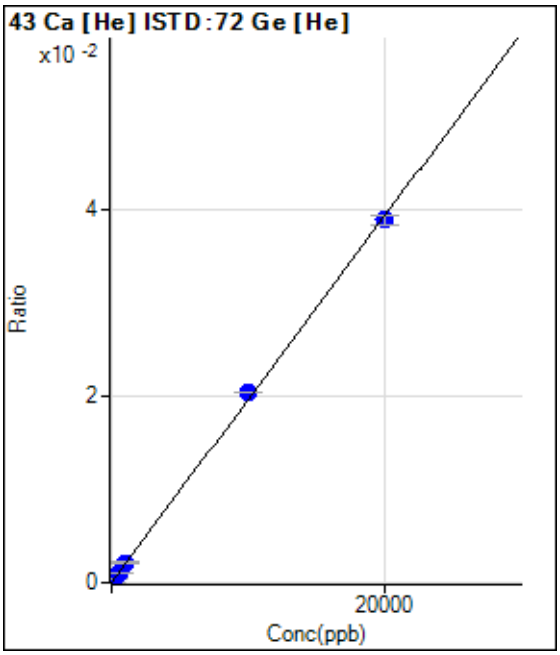


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66561.86	0.0427	P	1.5
2	☐	200.000	198.938	255694.10	0.1685	P	1.3
3	☐	500.000	490.156	535309.43	0.3527	P	1.8
4	☐	1000.000	1084.230	1090243.37	0.7285	A	0.9
5	☐	10000.00	10291.19	9668437.57	6.5517	A	0.7
6	☐	20000.00	19850.44	18569146.39	12.5977	A	1.8

y = 6.3248E-004 * x + 0.0427
R = 0.9998
DL = 3.052
BEC = 67.51

Weight: <None>
Min Conc: <None>

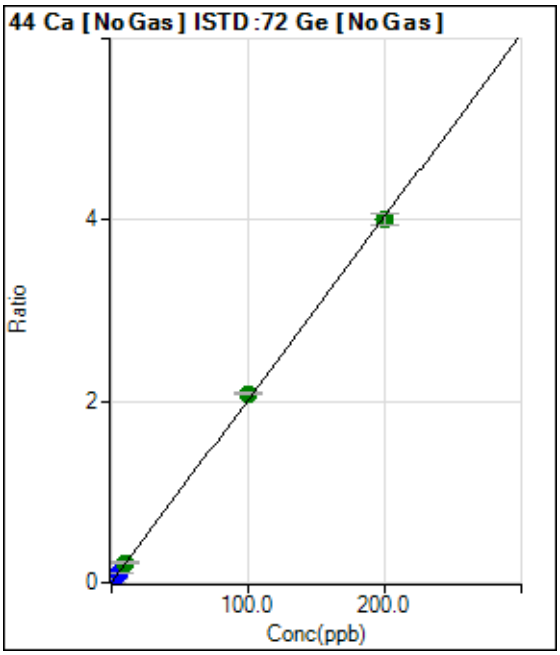
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	56.6
2	☐	200.000	203.605	630.03	0.0004	P	21.1
3	☐	500.000	532.058	1606.80	0.0011	P	9.0
4	☐	1000.000	1076.830	3183.76	0.0021	P	10.2
5	☐	10000.00	10383.68	30046.36	0.0204	P	0.9
6	☐	20000.00	19803.48	57205.55	0.0388	P	2.8

y = 1.9592E-006 * x + 1.7047E-005
R = 0.9997
DL = 14.76
BEC = 8.701

Weight: <None>
Min Conc: <None>

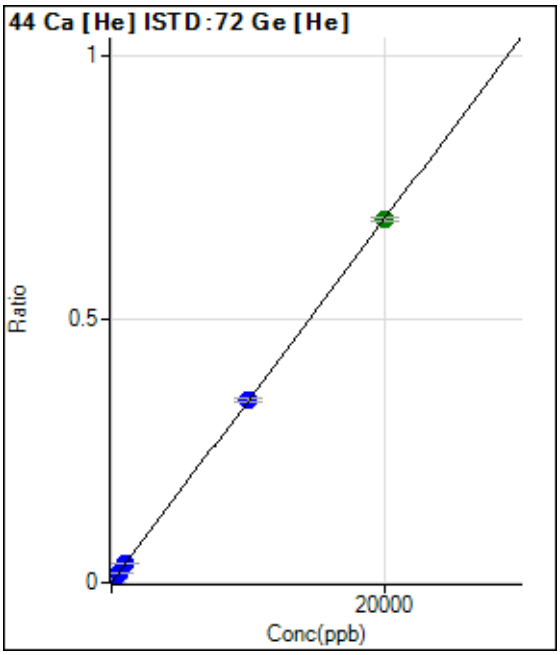


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19881.29	0.0029	P	5.1
2	☐	2.000	2.000	297438.04	0.0432	P	2.0
3	☐	5.000	4.878	694423.48	0.1012	P	1.3
4	☐	10.000	10.873	1505548.94	0.2220	A	3.0
5	☐	100.000	103.276	14054082.71	2.0846	A	0.8
6	☐	200.000	198.322	26133416.28	4.0004	A	3.3

y = 0.0202 * x + 0.0029
R = 0.9998
DL = 0.02181
BEC = 0.1433

Weight: <None>
Min Conc: <None>

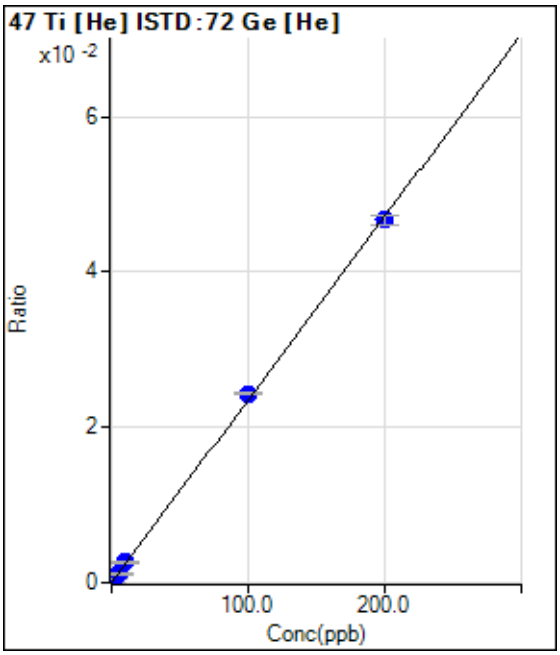
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	353.34	0.0002	P	13.3
2	☐	200.000	193.029	10447.50	0.0069	P	0.6
3	☐	500.000	487.422	25857.94	0.0170	P	2.3
4	☐	1000.000	1045.684	54320.70	0.0363	P	0.5
5	☐	10000.00	10089.72	513863.47	0.3482	P	2.1
6	☐	20000.00	19953.23	1014869.23	0.6885	A	1.2

y = 3.4493E-005 * x + 2.2650E-004
R = 1.0000
DL = 2.614
BEC = 6.567

Weight: <None>
Min Conc: <None>

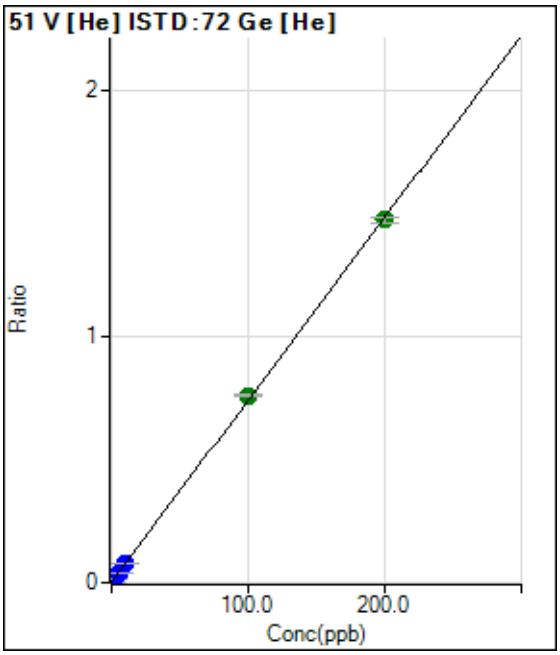


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	1.992	713.37	0.0005	P	15.5
3	☐	5.000	4.882	1750.14	0.0012	P	11.0
4	☐	10.000	11.060	3900.63	0.0026	P	11.1
5	☐	100.000	103.125	35833.86	0.0243	P	1.2
6	☐	200.000	198.387	68839.38	0.0467	P	2.8

y = 2.3544E-004 * x + 2.1473E-006
R = 0.9998
DL = 0.04739
BEC = 0.009121

Weight: <None>
Min Conc: <None>

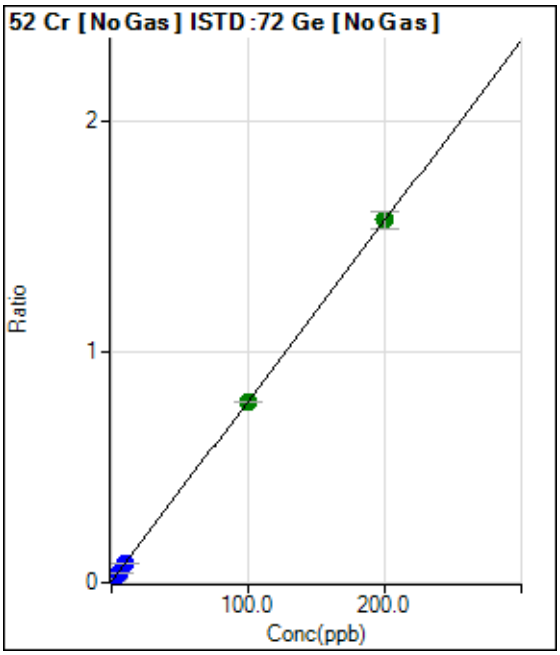
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2284.65	0.0015	P	4.2
2	☐	2.000	1.904	23604.80	0.0156	P	2.2
3	☐	5.000	4.725	55318.79	0.0364	P	1.8
4	☐	10.000	10.024	113255.63	0.0757	P	0.8
5	☐	100.000	102.249	1119196.76	0.7584	A	1.2
6	☐	200.000	198.882	2172410.68	1.4739	A	1.6

y = 0.0074 * x + 0.0015
R = 0.9999
DL = 0.02519
BEC = 0.198

Weight: <None>
Min Conc: <None>

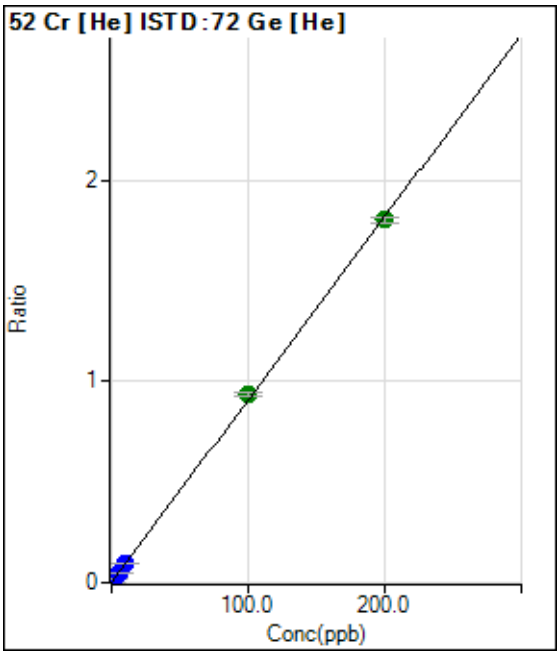


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33180.55	0.0048	P	3.4
2	☐	2.000	1.953	138518.03	0.0201	P	1.9
3	☐	5.000	4.828	292663.21	0.0427	P	1.2
4	☐	10.000	10.155	572117.49	0.0844	P	3.6
5	☐	100.000	99.100	5267846.38	0.7813	A	0.1
6	☐	200.000	200.447	10289977.34	1.5754	A	4.6

y = 0.0078 * x + 0.0048
R = 1.0000
DL = 0.06328
BEC = 0.6151

Weight: <None>
Min Conc: <None>

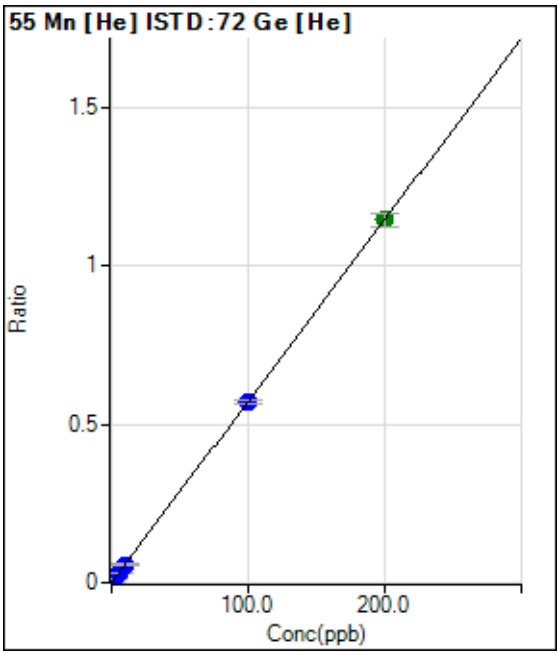
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1573.45	0.0010	P	0.9
2	☐	2.000	2.008	29204.82	0.0192	P	1.5
3	☐	5.000	4.881	68826.27	0.0453	P	2.6
4	☐	10.000	10.087	138645.52	0.0926	P	1.4
5	☐	100.000	103.117	1383793.52	0.9377	A	1.3
6	☐	200.000	198.440	2658482.36	1.8036	A	1.5

y = 0.0091 * x + 0.0010
R = 0.9998
DL = 0.003125
BEC = 0.1111

Weight: <None>
Min Conc: <None>

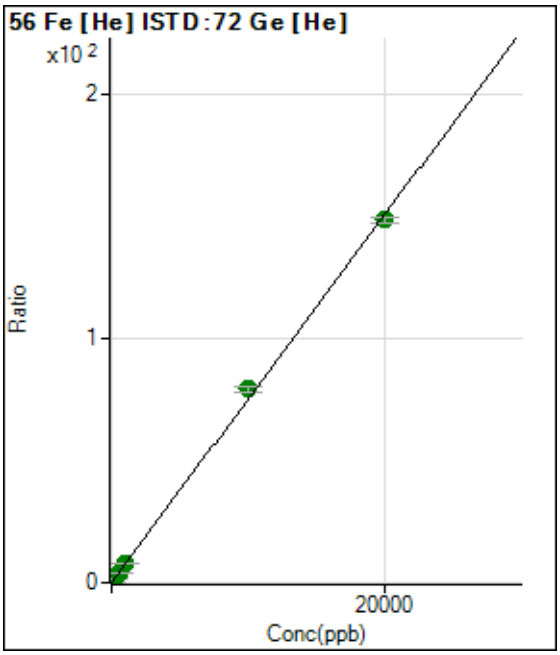


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	536.68	0.0003	P	12.0
2	☐	2.000	2.008	17972.13	0.0118	P	2.1
3	☐	5.000	4.812	42342.56	0.0279	P	2.3
4	☐	10.000	9.979	86044.21	0.0575	P	0.8
5	☐	100.000	99.934	844933.58	0.5726	P	2.3
6	☐	200.000	200.039	1689008.88	1.1459	A	3.6

y = 0.0057 * x + 3.4422E-004
R = 1.0000
DL = 0.02173
BEC = 0.06011

Weight: <None>
Min Conc: <None>

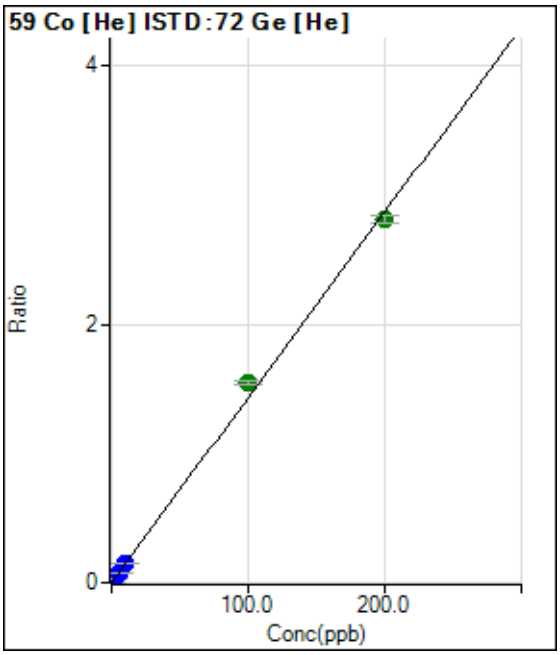
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13703.80	0.0088	P	1.7
2	☐	200.000	206.182	2366320.48	1.5596	A	0.9
3	☐	500.000	499.691	5716395.54	3.7672	A	3.0
4	☐	1000.000	1062.706	11975226.49	8.0019	A	2.3
5	☐	10000.00	10521.35	116773724.9	79.1447	A	3.2
6	☐	20000.00	19736.13	218811436.7	148.453	A	1.7

y = 0.0075 * x + 0.0088
R = 0.9995
DL = 0.05966
BEC = 1.169

Weight: <None>
Min Conc: <None>

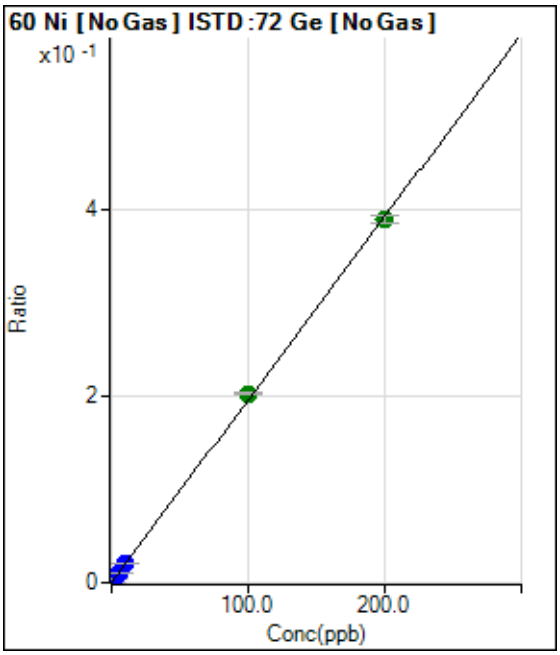


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.01	0.0002	P	4.1
2	☐	2.000	1.957	42814.27	0.0282	P	3.4
3	☐	5.000	5.005	109179.69	0.0719	P	2.7
4	☐	10.000	10.452	224603.54	0.1501	P	1.8
5	☐	100.000	108.107	2288500.80	1.5509	A	1.9
6	☐	200.000	195.924	4142571.61	2.8106	A	2.1

y = 0.0143 * x + 1.5398E-004
R = 0.9988
DL = 0.001326
BEC = 0.01073

Weight: <None>
Min Conc: <None>

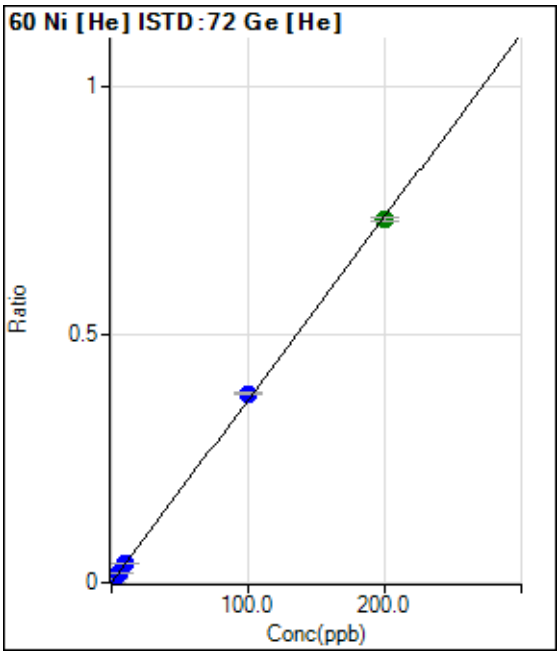
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	973.39	0.0001	P	5.6
2	☐	2.000	1.952	27267.69	0.0040	P	3.5
3	☐	5.000	5.012	68271.55	0.0099	P	1.1
4	☐	10.000	10.406	139043.48	0.0205	P	3.7
5	☐	100.000	103.191	1362501.49	0.2021	A	1.2
6	☐	200.000	198.384	2537653.71	0.3884	A	2.1

y = 0.0020 * x + 1.4141E-004
R = 0.9998
DL = 0.01208
BEC = 0.07226

Weight: <None>
Min Conc: <None>

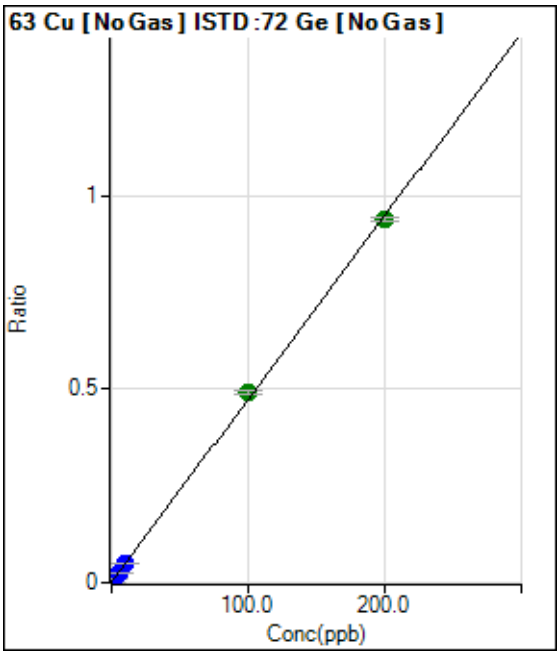


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	226.67	0.0001	P	19.7
2	☐	2.000	1.940	11067.99	0.0073	P	5.8
3	☐	5.000	5.106	28790.88	0.0190	P	3.4
4	☐	10.000	10.739	59489.98	0.0397	P	1.5
5	☐	100.000	103.317	562446.06	0.3812	P	1.4
6	☐	200.000	198.302	1078321.96	0.7314	A	1.1

y = 0.0037 * x + 1.4522E-004
R = 0.9998
DL = 0.02325
BEC = 0.03938

Weight: <None>
Min Conc: <None>

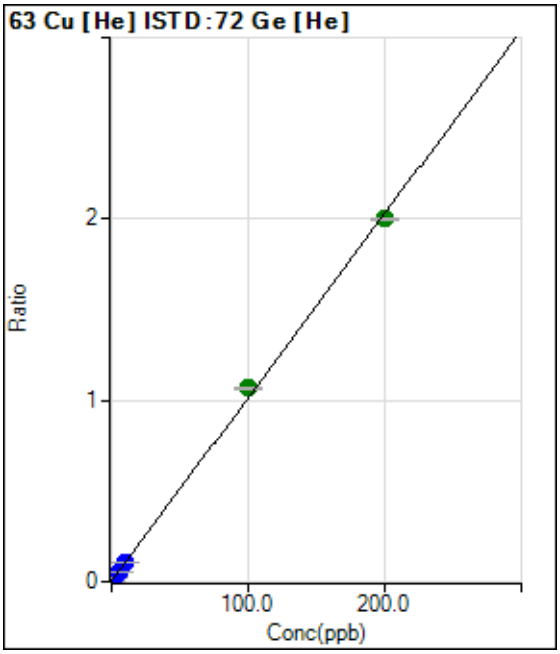
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8306.03	0.0012	P	7.2
2	☐	2.000	1.961	72117.83	0.0105	P	2.1
3	☐	5.000	4.880	166555.83	0.0243	P	1.2
4	☐	10.000	10.428	342486.45	0.0505	P	2.6
5	☐	100.000	104.143	3326896.00	0.4935	A	2.0
6	☐	200.000	197.911	6121414.07	0.9368	A	1.0

y = 0.0047 * x + 0.0012
R = 0.9997
DL = 0.05545
BEC = 0.2553

Weight: <None>
Min Conc: <None>

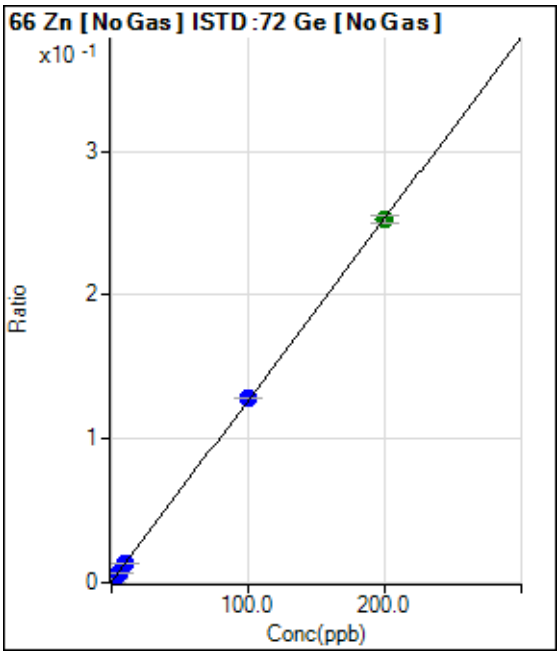


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2903.71	0.0019	P	7.3
2	☐	2.000	1.972	33124.14	0.0218	P	3.1
3	☐	5.000	4.965	79150.81	0.0521	P	1.1
4	☐	10.000	10.341	159523.62	0.1066	P	1.5
5	☐	100.000	105.287	1576342.95	1.0682	A	0.6
6	☐	200.000	197.341	2949157.87	2.0005	A	0.2

y = 0.0101 * x + 0.0019
R = 0.9995
DL = 0.04049
BEC = 0.1839

Weight: <None>
Min Conc: <None>

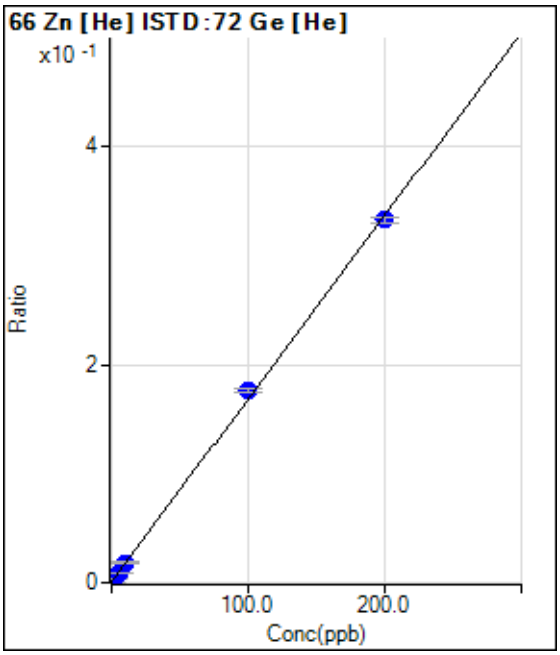
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4167.37	0.0006	P	1.7
2	☐	2.000	2.163	22957.03	0.0033	P	3.5
3	☐	5.000	5.097	48296.42	0.0070	P	2.1
4	☐	10.000	10.357	92755.93	0.0137	P	2.5
5	☐	100.000	101.190	865223.45	0.1283	P	0.8
6	☐	200.000	199.383	1648640.39	0.2523	A	2.0

y = 0.0013 * x + 6.0519E-004
R = 1.0000
DL = 0.0239
BEC = 0.4794

Weight: <None>
Min Conc: <None>

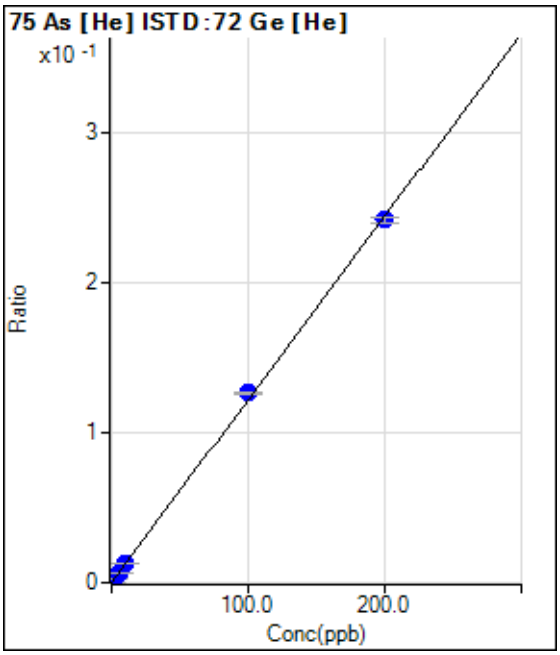


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1160.07	0.0007	P	6.9
2	☐	2.000	2.113	6504.98	0.0043	P	3.2
3	☐	5.000	5.274	14558.08	0.0096	P	1.2
4	☐	10.000	10.544	27585.14	0.0184	P	3.1
5	☐	100.000	104.369	259431.90	0.1758	P	1.8
6	☐	200.000	197.780	490111.50	0.3325	P	1.3

y = 0.0017 * x + 7.4395E-004
R = 0.9997
DL = 0.09236
BEC = 0.4435

Weight: <None>
Min Conc: <None>

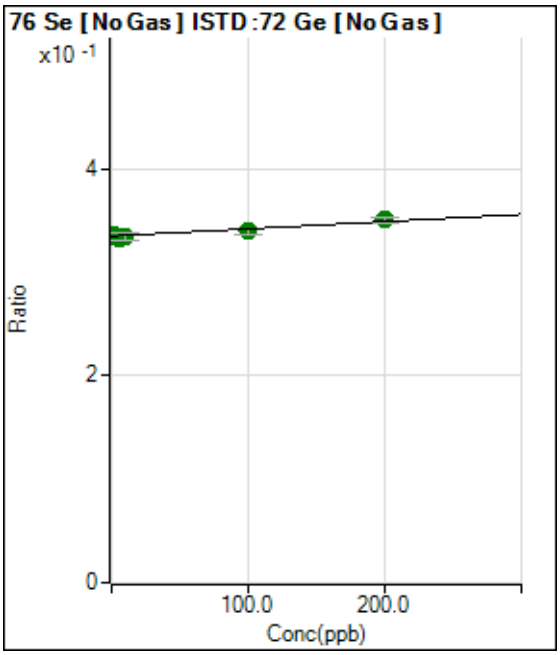
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	98.89	0.0001	P	12.9
2	☐	2.000	2.031	3859.46	0.0025	P	2.1
3	☐	5.000	4.871	9123.12	0.0060	P	3.4
4	☐	10.000	10.145	18636.23	0.0125	P	1.0
5	☐	100.000	103.513	186616.89	0.1265	P	0.9
6	☐	200.000	198.239	356880.21	0.2421	P	1.8

y = 0.0012 * x + 6.3502E-005
R = 0.9998
DL = 0.02005
BEC = 0.052

Weight: <None>
Min Conc: <None>

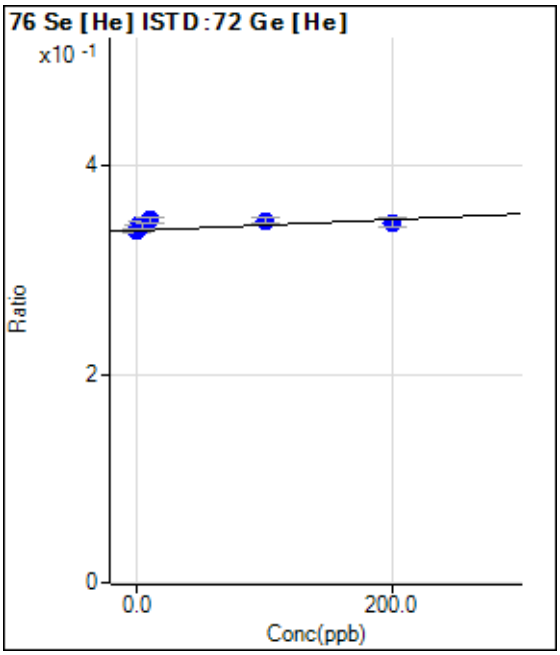


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2308282.88	0.3352	A	1.7
2	☐	2.000	15.737	2316258.56	0.3363	A	1.1
3	☐	5.000	-34.962	2283219.55	0.3327	A	0.7
4	☐	10.000	-11.254	2267738.61	0.3344	A	2.0
5	☐	100.000	59.398	2287785.43	0.3394	A	1.5
6	☐	200.000	222.226	2292096.53	0.3508	A	1.4

y = 7.0037E-005 * x + 0.3352
R = 0.9618
DL = 247.7
BEC = 4786

Weight: <None>
Min Conc: <None>

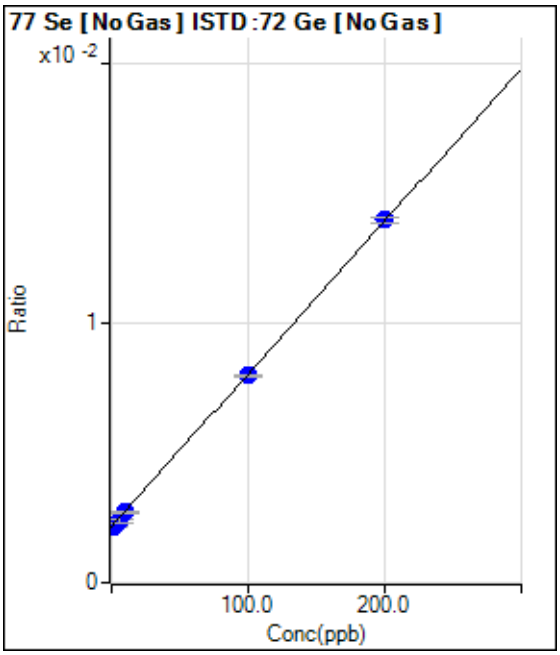
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	526607.17	0.3379	P	0.7
2	☐	2.000	103.922	521201.43	0.3435	P	0.1
3	☐	5.000	94.135	520448.48	0.3429	P	2.3
4	☐	10.000	191.667	521097.06	0.3482	P	1.6
5	☐	100.000	179.207	512812.04	0.3475	P	1.5
6	☐	200.000	148.065	509697.86	0.3458	P	2.5

y = 5.3829E-005 * x + 0.3379
R = 0.4261
DL = 140.6
BEC = 6277

Weight: <None>
Min Conc: <None>

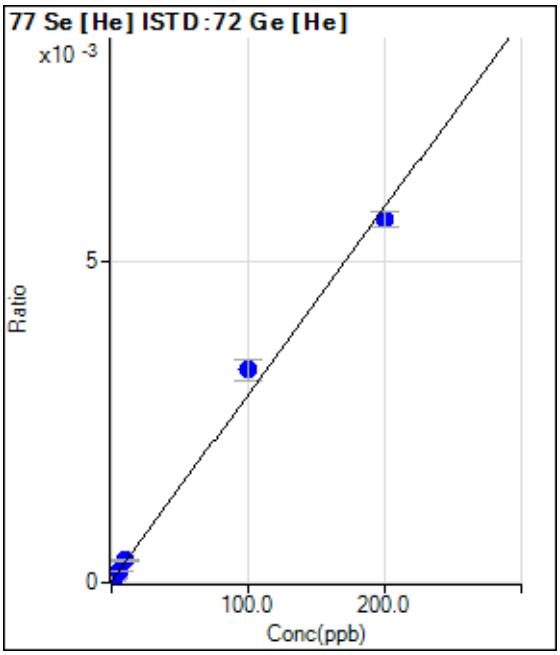


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14915.18	0.0022	P	1.0
2	☐	2.000	-0.686	14634.80	0.0021	P	1.1
3	☐	5.000	2.958	16049.85	0.0023	P	5.9
4	☐	10.000	9.168	18349.48	0.0027	P	2.1
5	☐	100.000	98.697	53720.71	0.0080	P	0.7
6	☐	200.000	200.771	91272.59	0.0140	P	1.8

y = 5.8791E-005 * x + 0.0022
R = 0.9999
DL = 1.134
BEC = 36.84

Weight: <None>
Min Conc: <None>

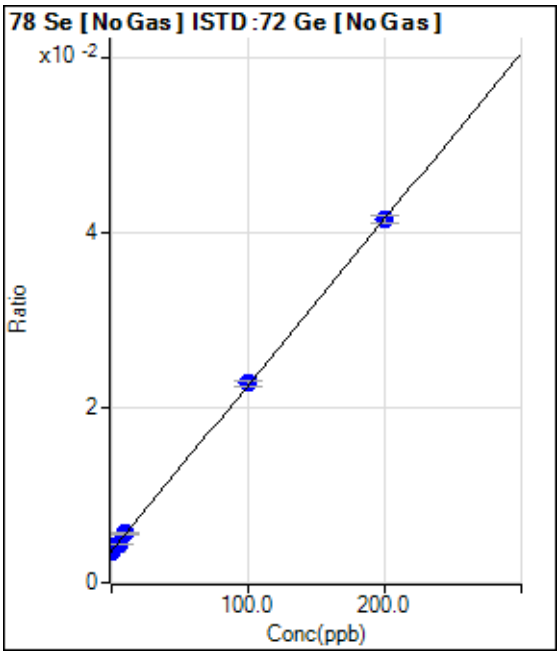
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0000	P	25.9
2	☐	2.000	1.454	103.33	0.0001	P	30.2
3	☐	5.000	5.165	266.68	0.0002	P	6.3
4	☐	10.000	11.068	520.02	0.0003	P	7.3
5	☐	100.000	113.059	4884.31	0.0033	P	10.5
6	☐	200.000	193.419	8322.72	0.0056	P	4.1

y = 2.9063E-005 * x + 2.5709E-005
R = 0.9969
DL = 0.6885
BEC = 0.8846

Weight: <None>
Min Conc: <None>

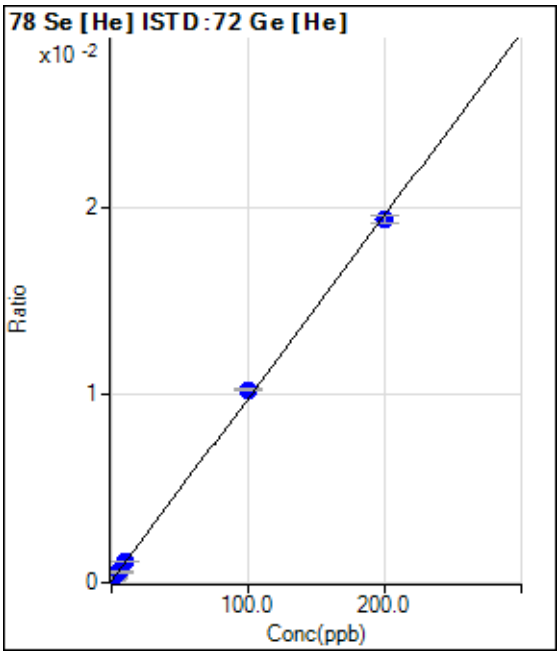


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24829.78	0.0036	P	2.9
2	☐	2.000	2.457	28029.45	0.0041	P	1.9
3	☐	5.000	4.382	30441.52	0.0044	P	2.0
4	☐	10.000	10.602	38070.81	0.0056	P	2.8
5	☐	100.000	101.041	153351.20	0.0227	P	3.2
6	☐	200.000	199.460	270454.97	0.0414	P	2.2

y = 1.8946E-004 * x + 0.0036
R = 1.0000
DL = 1.671
BEC = 19.03

Weight: <None>
Min Conc: <None>

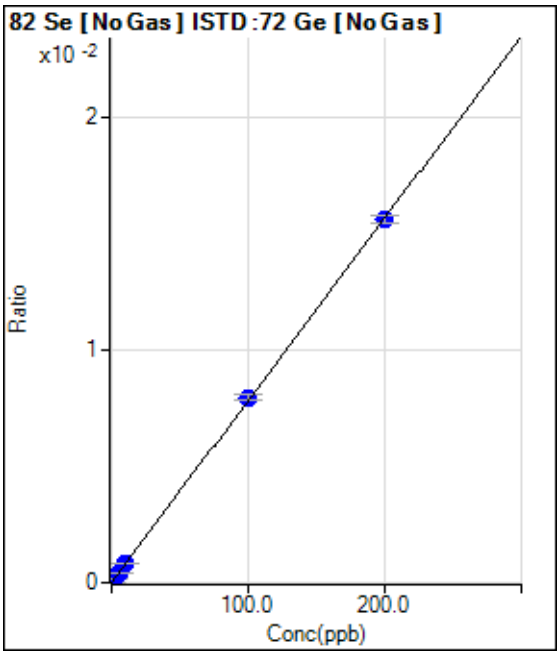
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0001	P	6.1
2	☐	2.000	1.888	406.01	0.0003	P	15.6
3	☐	5.000	4.940	856.70	0.0006	P	6.9
4	☐	10.000	10.916	1716.78	0.0011	P	2.5
5	☐	100.000	104.757	15185.91	0.0103	P	1.1
6	☐	200.000	197.578	28498.05	0.0193	P	2.0

y = 9.7438E-005 * x + 8.3431E-005
R = 0.9996
DL = 0.1574
BEC = 0.8562

Weight: <None>
Min Conc: <None>

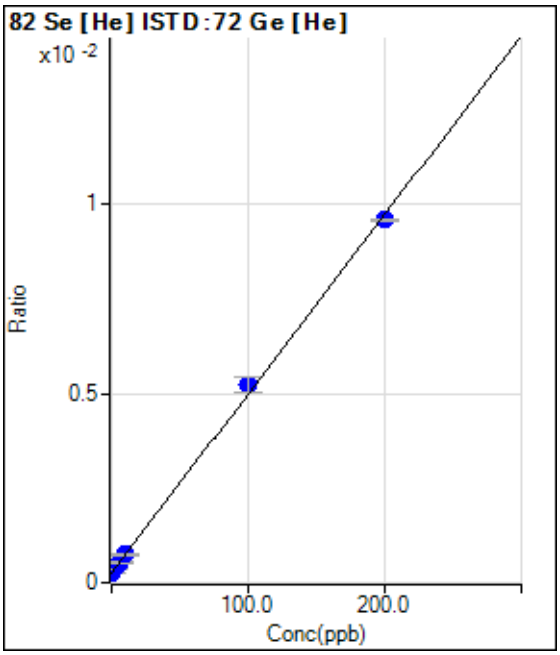


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31.54	0.0000	P	1039.5
2	☐	2.000	2.247	1242.64	0.0002	P	12.4
3	☐	5.000	4.865	2642.27	0.0004	P	6.5
4	☐	10.000	10.370	5534.32	0.0008	P	2.2
5	☐	100.000	101.587	53638.88	0.0080	P	2.8
6	☐	200.000	199.189	101912.89	0.0156	P	2.0

y = 7.8287E-005 * x + 4.1836E-006
R = 1.0000
DL = 1.666
BEC = 0.05344

Weight: <None>
Min Conc: <None>

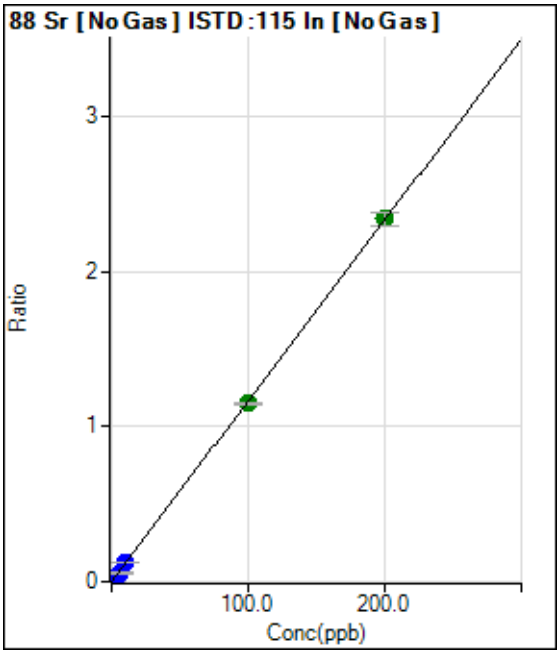
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	403.35	0.0003	P	13.4
2	☐	2.000	2.468	570.02	0.0004	P	5.0
3	☐	5.000	5.768	806.71	0.0005	P	6.8
4	☐	10.000	10.535	1133.40	0.0008	P	5.3
5	☐	100.000	105.527	7752.38	0.0053	P	7.7
6	☐	200.000	197.186	14147.70	0.0096	P	0.3

y = 4.7356E-005 * x + 2.5852E-004
R = 0.9995
DL = 2.19
BEC = 5.459

Weight: <None>
Min Conc: <None>

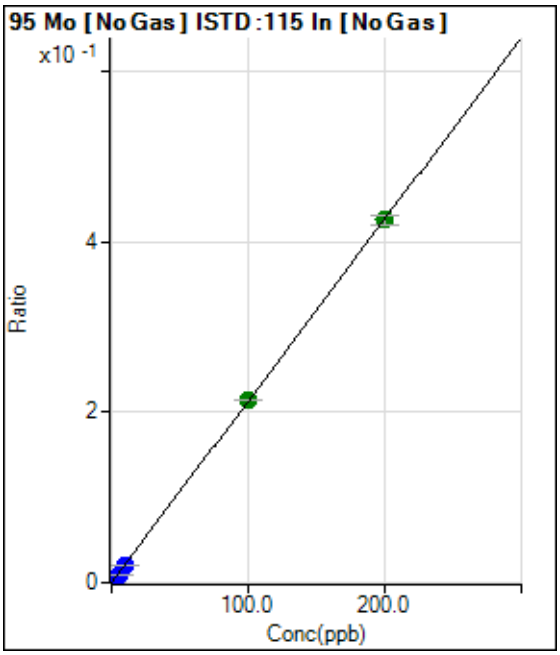


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3443.83	0.0004	P	1.1
2	☐	2.000	1.885	170881.60	0.0224	P	4.0
3	☐	5.000	4.749	418818.47	0.0557	P	2.0
4	☐	10.000	10.278	901404.42	0.1201	P	2.4
5	☐	100.000	98.454	8569087.58	1.1466	A	0.9
6	☐	200.000	200.766	17062115.58	2.3376	A	3.4

y = 0.0116 * x + 4.4598E-004
R = 1.0000
DL = 0.001213
BEC = 0.03831

Weight: <None>
Min Conc: <None>

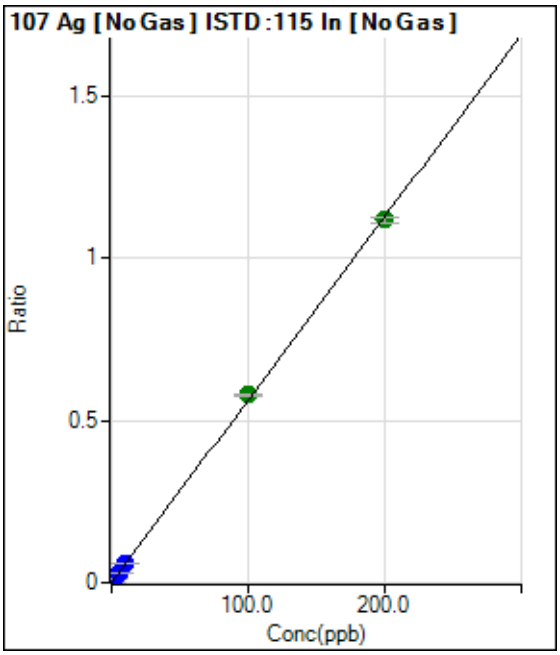
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	180.01	0.0000	P	29.7
2	☐	2.000	1.846	30228.14	0.0040	P	4.7
3	☐	5.000	4.727	75957.53	0.0101	P	0.3
4	☐	10.000	9.927	159134.60	0.0212	P	1.4
5	☐	100.000	100.425	1601034.45	0.2142	A	0.4
6	☐	200.000	199.800	3110394.33	0.4262	A	2.9

y = 0.0021 * x + 2.3351E-005
R = 1.0000
DL = 0.009739
BEC = 0.01095

Weight: <None>
Min Conc: <None>

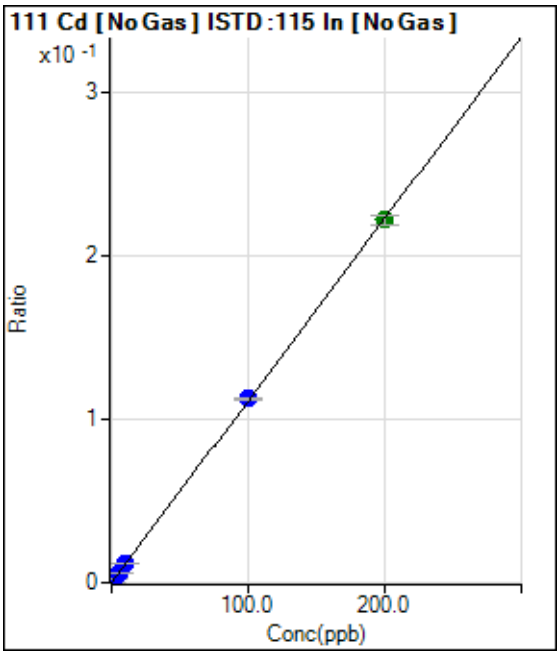


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1373.43	0.0002	P	4.2
2	☐	2.000	1.930	84252.65	0.0110	P	2.1
3	☐	5.000	4.971	211439.18	0.0281	P	2.4
4	☐	10.000	10.410	440977.94	0.0587	P	0.9
5	☐	100.000	102.786	4321986.71	0.5783	A	0.4
6	☐	200.000	198.588	8155549.25	1.1171	A	1.9

y = 0.0056 * x + 1.7802E-004
R = 0.9999
DL = 0.004012
BEC = 0.03165

Weight: <None>
Min Conc: <None>

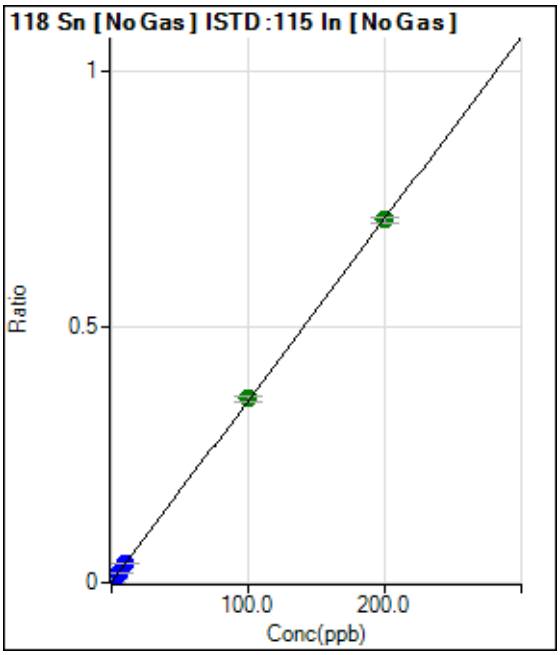
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	89.5
2	☐	2.000	1.953	16604.16	0.0022	P	2.7
3	☐	5.000	4.861	40616.70	0.0054	P	3.4
4	☐	10.000	10.294	85928.00	0.0114	P	2.0
5	☐	100.000	101.032	839178.89	0.1123	P	1.2
6	☐	200.000	199.473	1618252.32	0.2217	A	2.6

y = 0.0011 * x + 2.9719E-006
R = 1.0000
DL = 0.007177
BEC = 0.002674

Weight: <None>
Min Conc: <None>

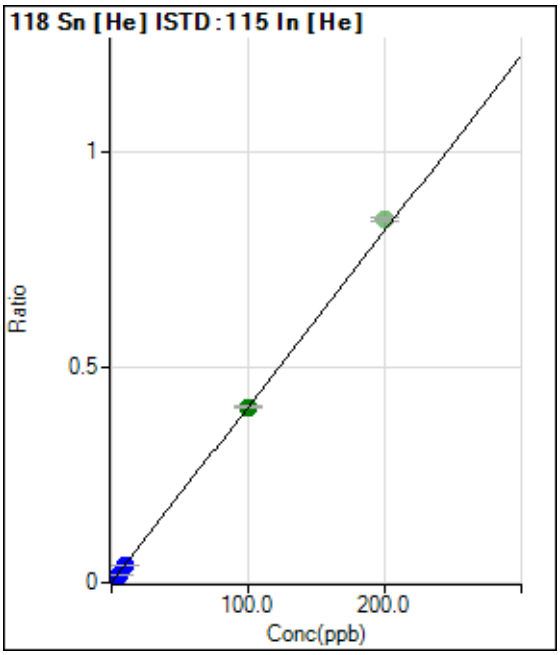


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4517.53	0.0006	P	0.6
2	☐	2.000	1.918	56418.83	0.0074	P	2.0
3	☐	5.000	4.774	131667.12	0.0175	P	1.2
4	☐	10.000	10.153	274725.52	0.0366	P	2.0
5	☐	100.000	100.992	2681677.46	0.3588	A	3.2
6	☐	200.000	199.503	5170264.09	0.7083	A	1.5

y = 0.0035 * x + 5.8520E-004
R = 1.0000
DL = 0.002761
BEC = 0.165

Weight: <None>
Min Conc: <None>

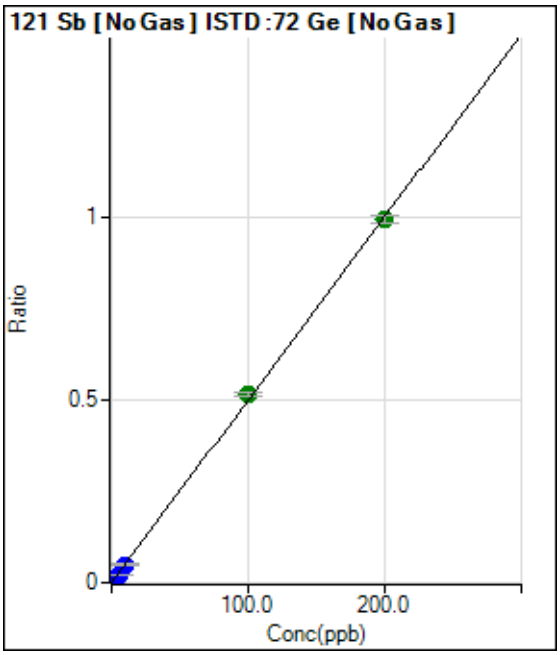
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1833.50	0.0007	P	15.1
2	☐	2.000	1.952	23521.67	0.0086	P	3.1
3	☐	5.000	4.645	54785.17	0.0196	P	1.6
4	☐	10.000	10.078	112820.15	0.0418	P	2.0
5	☐	100.000	100.011	1096747.07	0.4086	A	1.5
6	☑	200.000		2195177.88	0.8426	A	1.1

y = 0.0041 * x + 6.6408E-004
R = 1.0000
DL = 0.07389
BEC = 0.1628

Weight: <None>
Min Conc: <None>

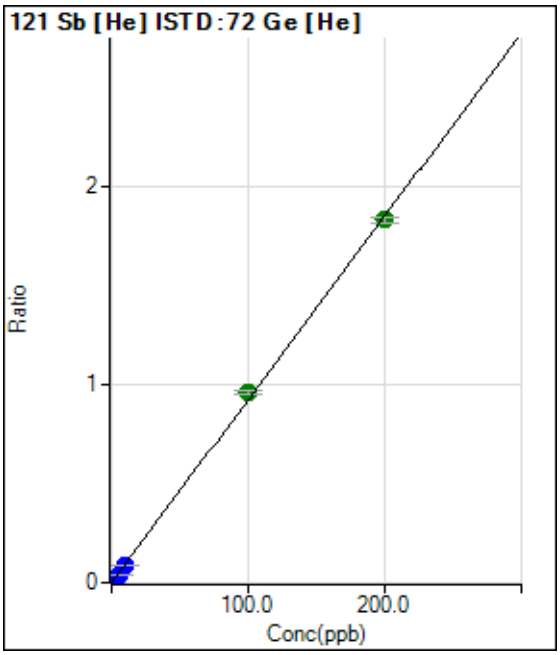


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	670.03	0.0001	P	9.2
2	☐	2.000	1.851	64452.40	0.0094	P	1.7
3	☐	5.000	4.659	160686.23	0.0234	P	2.0
4	☐	10.000	9.912	337089.89	0.0497	P	2.3
5	☐	100.000	103.036	3477598.07	0.5158	A	1.5
6	☐	200.000	198.496	6492269.07	0.9936	A	2.1

y = 0.0050 * x + 9.7372E-005
R = 0.9998
DL = 0.005383
BEC = 0.01945

Weight: <None>
Min Conc: <None>

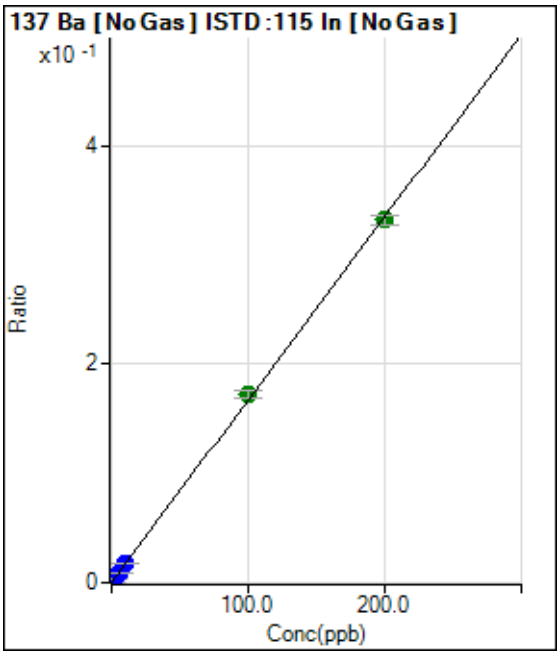
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	296.68	0.0002	P	10.4
2	☐	2.000	1.794	25411.85	0.0168	P	1.9
3	☐	5.000	4.585	64532.57	0.0425	P	0.5
4	☐	10.000	9.723	134603.99	0.0899	P	0.4
5	☐	100.000	103.783	1413784.35	0.9581	A	1.8
6	☐	200.000	198.135	2696239.96	1.8290	A	1.6

y = 0.0092 * x + 1.9035E-004
R = 0.9997
DL = 0.006432
BEC = 0.02062

Weight: <None>
Min Conc: <None>

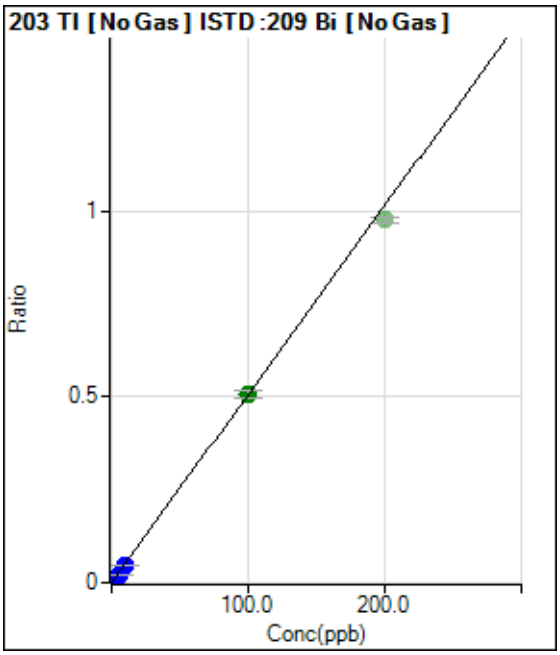


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.43	0.0002	P	0.8
2	☐	2.000	1.906	25642.53	0.0034	P	5.4
3	☐	5.000	4.801	61658.50	0.0082	P	2.3
4	☐	10.000	10.112	128299.52	0.0171	P	3.0
5	☐	100.000	102.871	1287621.54	0.1723	A	3.8
6	☐	200.000	198.565	2426422.26	0.3324	A	2.5

y = 0.0017 * x + 1.7141E-004
R = 0.9999
DL = 0.002405
BEC = 0.1024

Weight: <None>
Min Conc: <None>

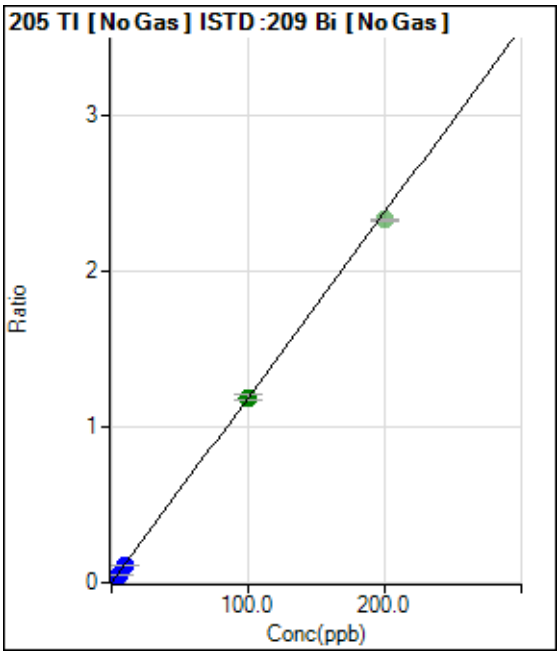
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0000	P	61.2
2	☐	2.000	1.768	49566.67	0.0090	P	4.5
3	☐	5.000	4.360	120498.68	0.0221	P	4.7
4	☐	10.000	9.289	257036.68	0.0471	P	7.1
5	☐	100.000	100.108	2698425.79	0.5073	A	4.3
6	☑	200.000		5064301.07	0.9762	A	1.6

y = 0.0051 * x + 1.1241E-005
R = 1.0000
DL = 0.004074
BEC = 0.002218

Weight: <None>
Min Conc: <None>

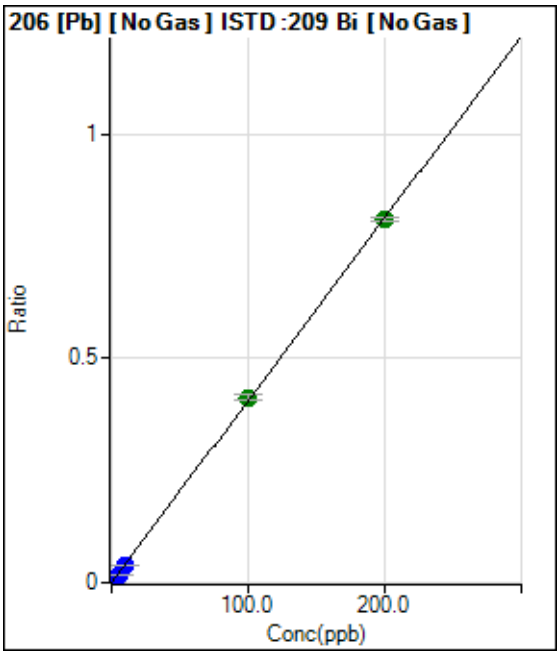


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	246.67	0.0000	P	30.1
2	☐	2.000	1.761	115889.83	0.0210	P	4.3
3	☐	5.000	4.466	289712.00	0.0531	P	4.4
4	☐	10.000	9.355	607451.76	0.1113	P	7.0
5	☐	100.000	100.096	6331910.12	1.1901	A	2.9
6	☑	200.000		12093338.57	2.3308	A	0.4

y = 0.0119 * x + 4.6080E-005
R = 1.0000
DL = 0.003505
BEC = 0.003876

Weight: <None>
Min Conc: <None>

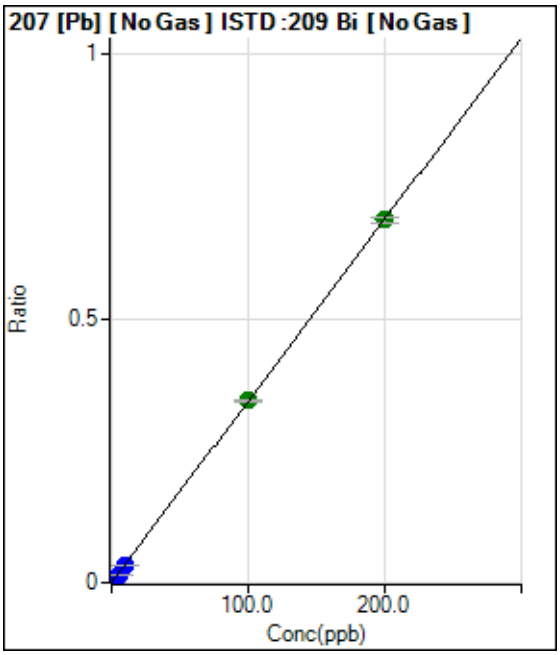
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	576.70	0.0001	P	6.2
2	☐	2.000	1.728	39370.38	0.0071	P	4.4
3	☐	5.000	4.456	99326.23	0.0182	P	1.7
4	☐	10.000	9.347	208010.19	0.0381	P	5.4
5	☐	100.000	101.789	2200845.33	0.4136	A	2.8
6	☐	200.000	199.155	4198284.52	0.8092	A	1.0

y = 0.0041 * x + 1.0775E-004
R = 0.9999
DL = 0.00497
BEC = 0.02652

Weight: <None>
Min Conc: <None>

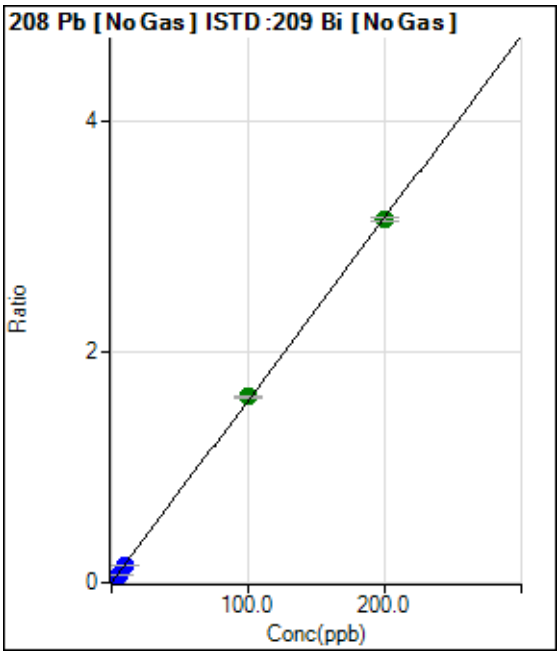


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	453.35	0.0001	P	19.8
2	☐	2.000	1.781	34271.39	0.0062	P	2.9
3	☐	5.000	4.652	87625.85	0.0161	P	2.2
4	☐	10.000	9.476	178461.99	0.0326	P	2.5
5	☐	100.000	100.292	1834212.68	0.3447	A	1.6
6	☐	200.000	199.891	3563290.36	0.6869	A	1.3

y = 0.0034 * x + 8.4772E-005
R = 1.0000
DL = 0.01469
BEC = 0.02467

Weight: <None>
Min Conc: <None>

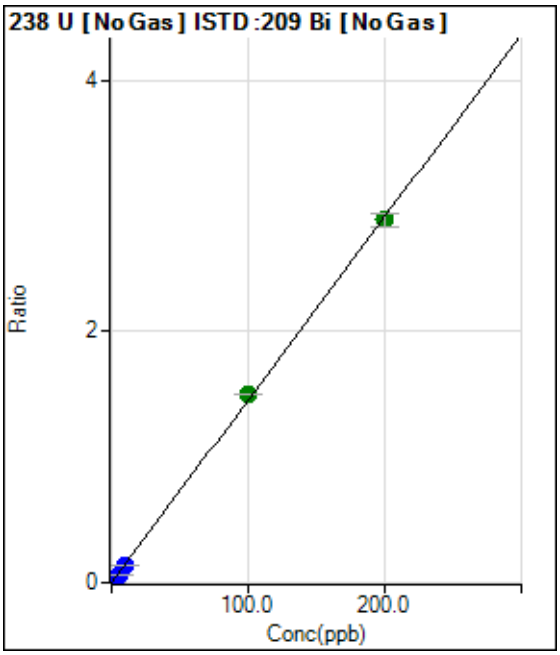
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2206.79	0.0004	P	7.7
2	☐	2.000	1.795	159070.35	0.0288	P	2.9
3	☐	5.000	4.649	403165.76	0.0739	P	1.4
4	☐	10.000	9.548	827486.56	0.1514	P	2.7
5	☐	100.000	102.215	8602913.05	1.6164	A	1.0
6	☐	200.000	198.926	16318843.51	3.1455	A	1.1

y = 0.0158 * x + 4.1221E-004
R = 0.9999
DL = 0.006051
BEC = 0.02607

Weight: <None>
Min Conc: <None>

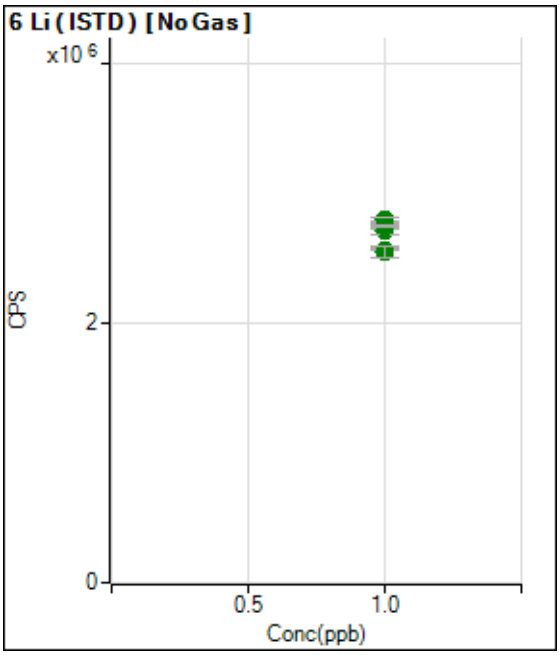


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0000	P	1.6
2	☐	2.000	1.784	143416.47	0.0260	P	4.8
3	☐	5.000	4.630	367571.18	0.0674	P	0.8
4	☐	10.000	9.828	782275.27	0.1430	P	1.5
5	☐	100.000	102.954	7975055.30	1.4983	A	0.4
6	☐	200.000	198.543	14984756.03	2.8894	A	3.7

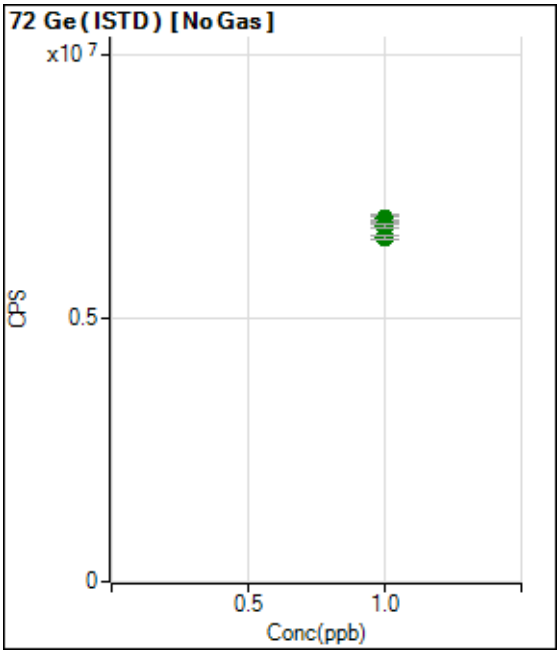
y = 0.0146 * x + 5.6033E-006
R = 0.9998
DL = 1.809E-05
BEC = 0.000385

Weight: <None>
Min Conc: <None>

Calibration for 058_ICV.d

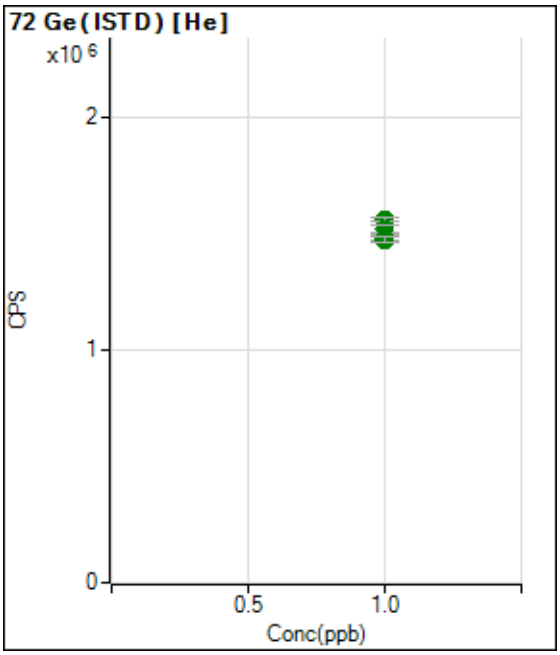


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2755843.10		A	2.6
2	☐	1.000		2795305.57		A	1.8
3	☐	1.000		2717869.68		A	2.6
4	☐	1.000		2746624.04		A	0.6
5	☐	1.000		2570284.96		A	0.5
6	☐	1.000		2544684.62		A	3.5

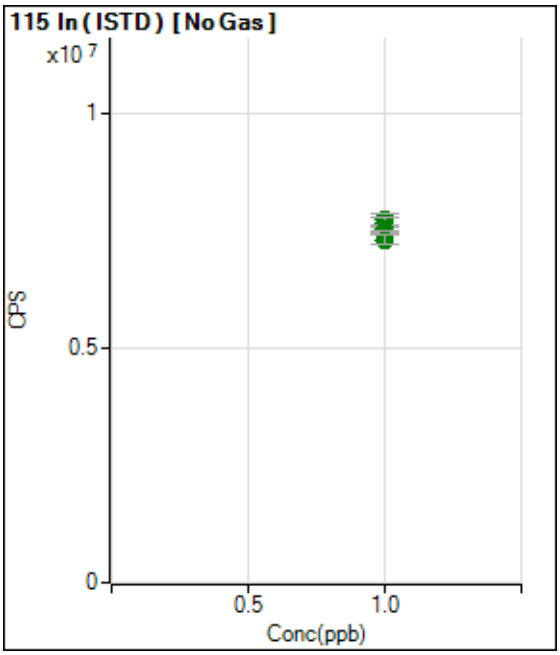


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		6887145.52		A	1.5
2	☐	1.000		6886294.69		A	2.7
3	☐	1.000		6861701.98		A	0.5
4	☐	1.000		6783334.27		A	2.3
5	☐	1.000		6742389.48		A	1.3
6	☐	1.000		6534974.69		A	1.6

Calibration for 058_ICV.d

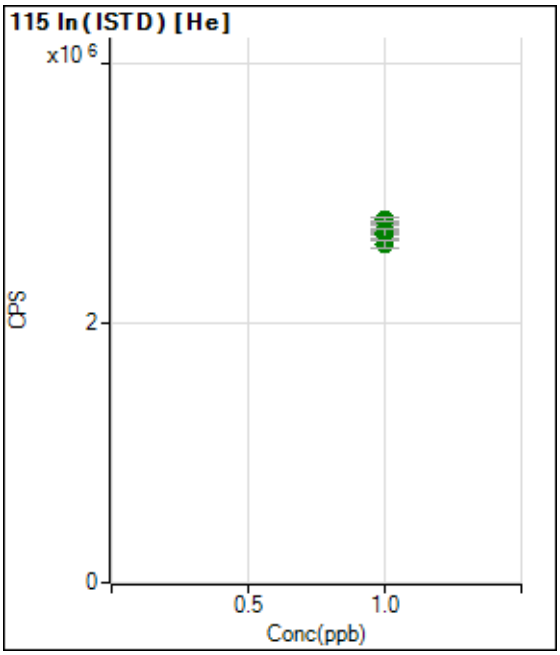


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1558698.15		A	1.1
2	☐	1.000		1517485.76		A	2.2
3	☐	1.000		1517999.14		A	2.0
4	☐	1.000		1496638.94		A	0.4
5	☐	1.000		1475759.46		A	1.0
6	☐	1.000		1474249.40		A	1.8

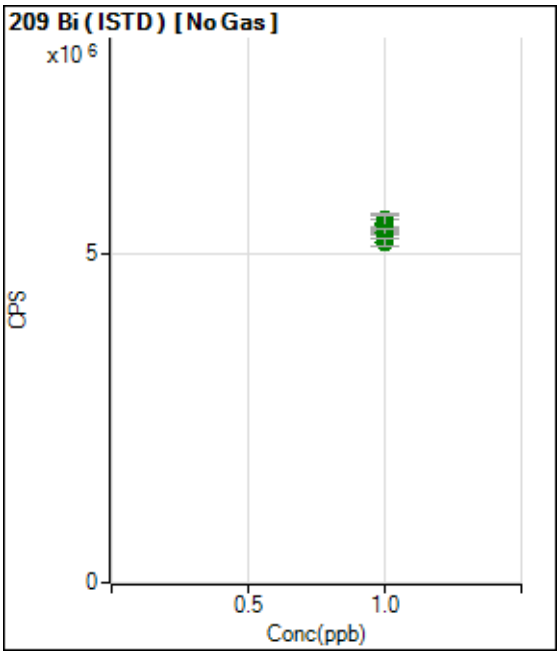


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		7720243.72		A	3.2
2	☐	1.000		7640288.98		A	4.0
3	☐	1.000		7516456.13		A	2.0
4	☐	1.000		7508754.98		A	2.5
5	☐	1.000		7473741.61		A	0.9
6	☐	1.000		7301870.36		A	2.7

Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2760329.10		A	0.3
2	☐	1.000		2727321.36		A	2.2
3	☐	1.000		2793710.43		A	1.1
4	☐	1.000		2701074.35		A	1.2
5	☐	1.000		2684641.56		A	2.5
6	☐	1.000		2605474.05		A	2.1



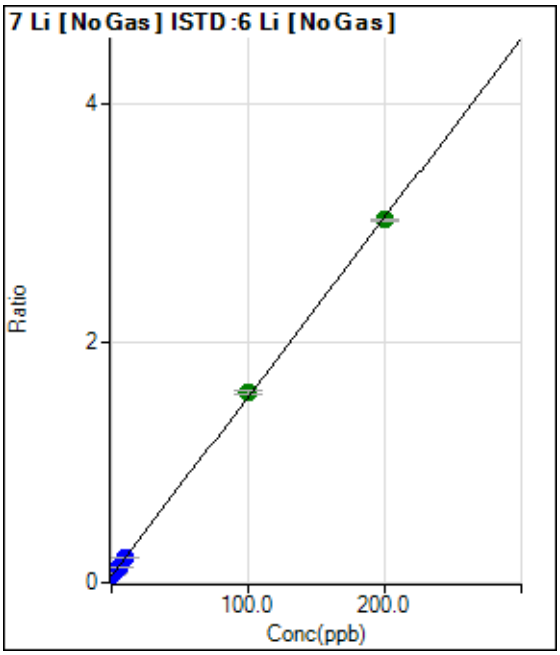
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5354842.42		A	1.6
2	☐	1.000		5528727.21		A	3.8
3	☐	1.000		5455525.96		A	3.2
4	☐	1.000		5471256.79		A	4.7
5	☐	1.000		5322986.38		A	2.6
6	☐	1.000		5188880.86		A	2.3

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	010CALB.d	CAL BLK	4/14/2020 8:35:20 AM
2	011CALS.d	2/10/200	4/14/2020 8:37:12 AM
3	012CALS.d	5/25/500	4/14/2020 8:39:05 AM
4	013CALS.d	10/50/100	4/14/2020 8:40:57 AM
5	014CALS.d	100/500/10K	4/14/2020 8:42:48 AM
6	015CALS.d	200/1000/20K	4/14/2020 8:44:32 AM

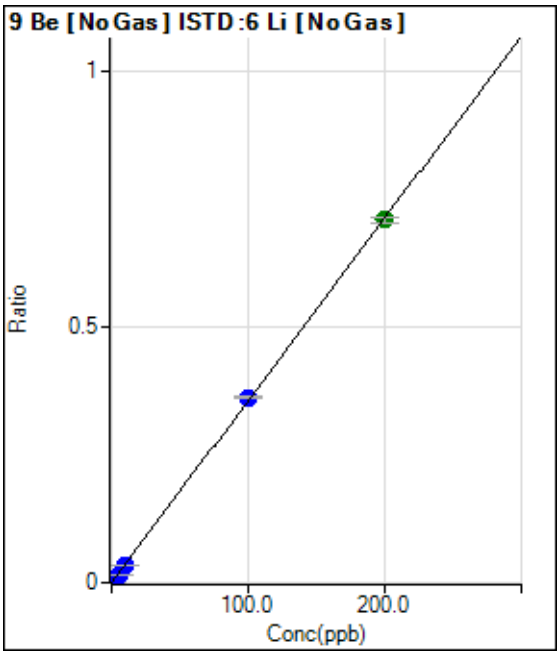
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	109231.13	0.0565	P	0.6
2	☐	2.000	1.816	163987.78	0.0837	P	0.9
3	☐	5.000	4.759	245262.11	0.1277	P	1.4
4	☐	10.000	10.055	402531.93	0.2069	P	3.0
5	☐	100.000	102.535	2921902.04	1.5902	A	1.1
6	☐	200.000	198.738	5388221.59	3.0292	A	0.6

y = 0.0150 * x + 0.0565
R = 0.9999
DL = 0.06565
BEC = 3.78

Weight: <None>
Min Conc: <None>

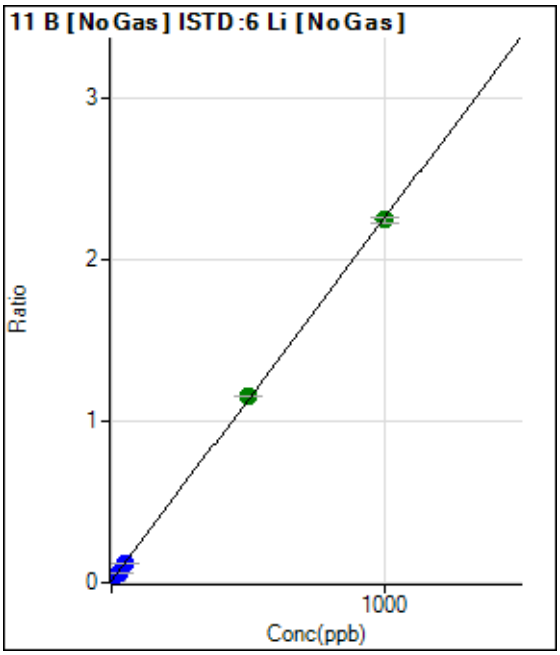


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	28.5
2	☐	2.000	1.796	12575.68	0.0064	P	3.1
3	☐	5.000	4.622	31643.86	0.0165	P	1.0
4	☐	10.000	9.707	67269.66	0.0346	P	2.2
5	☐	100.000	101.599	664472.44	0.3616	P	1.4
6	☐	200.000	199.227	1261257.87	0.7091	A	1.9

y = 0.0036 * x + 2.9339E-005
R = 0.9999
DL = 0.007052
BEC = 0.008243

Weight: <None>
Min Conc: <None>

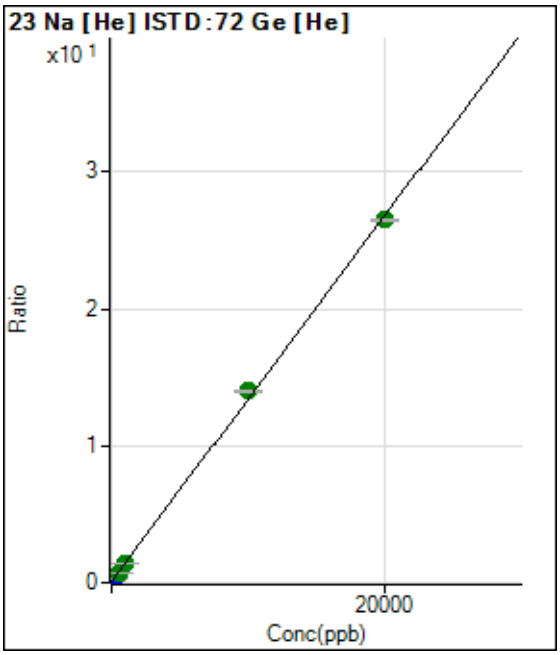
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20054.34	0.0104	P	2.0
2	☐	10.000	8.947	59768.24	0.0305	P	0.9
3	☐	25.000	23.228	120266.59	0.0626	P	1.9
4	☐	50.000	48.574	232750.40	0.1197	P	3.0
5	☐	500.000	510.064	2127570.75	1.1578	A	0.5
6	☐	1000.000	995.094	4000419.94	2.2490	A	1.9

y = 0.0022 * x + 0.0104
R = 0.9999
DL = 0.2734
BEC = 4.614

Weight: <None>
Min Conc: <None>

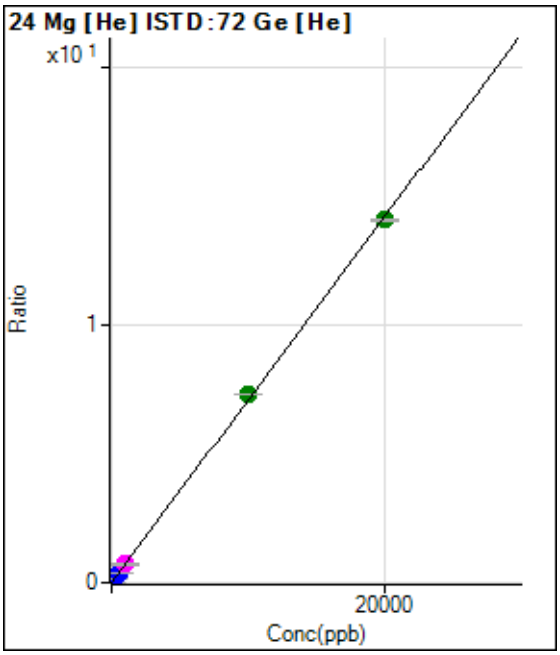


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	84887.26	0.0831	P	3.8
2	☐	200.000	190.729	350480.79	0.3378	P	1.8
3	☐	500.000	496.975	757136.21	0.7467	A	0.7
4	☐	1000.000	1014.355	1487931.49	1.4374	A	1.3
5	☐	10000.00	10411.95	13683541.46	13.9847	A	0.3
6	☐	20000.00	19793.47	25398862.95	26.5105	A	0.8

y = 0.0013 * x + 0.0831
R = 0.9997
DL = 7.183
BEC = 62.26

Weight: <None>
Min Conc: <None>

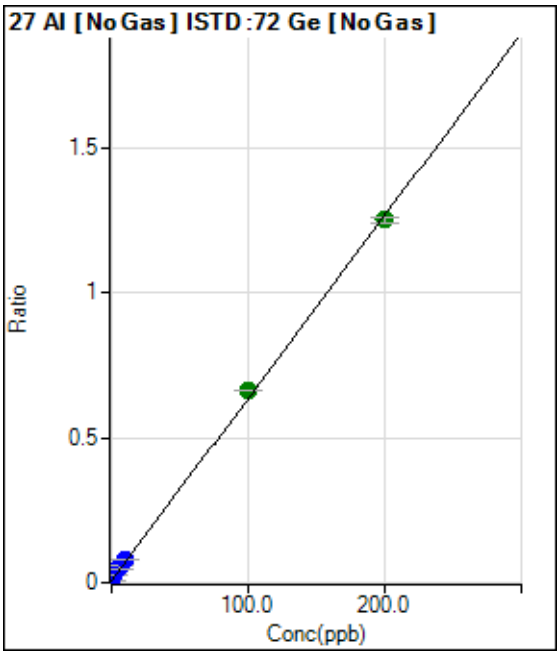
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.36	0.0006	P	12.0
2	☐	200.000	195.054	144233.04	0.1390	P	2.5
3	☐	500.000	494.148	356134.71	0.3513	P	3.0
4	☐	1000.000	1012.278	744026.09	0.7191	M	3.4
5	☐	10000.00	10312.41	7162779.89	7.3205	A	0.3
6	☐	20000.00	19843.37	13495781.05	14.0858	A	0.3

y = 7.0982E-004 * x + 5.5965E-004
R = 0.9998
DL = 0.2845
BEC = 0.7884

Weight: <None>
Min Conc: <None>

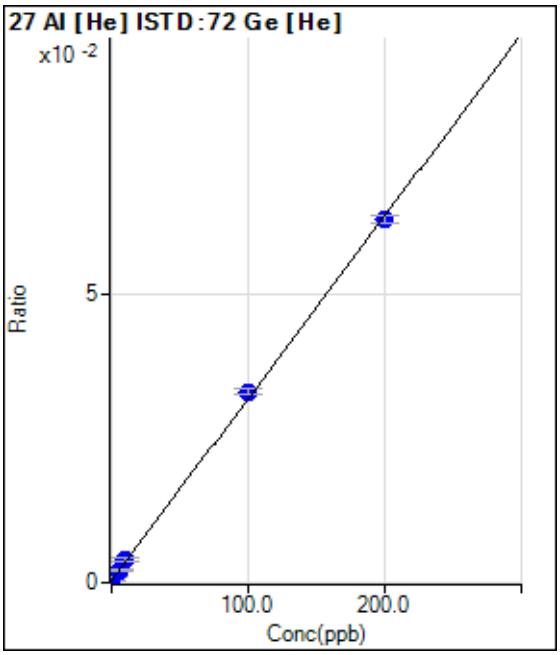


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30907.92	0.0065	P	3.7
2	☐	2.000	2.929	119436.31	0.0249	P	1.7
3	☐	5.000	7.144	245673.15	0.0515	P	21.4
4	☐	10.000	11.324	374199.75	0.0778	P	1.7
5	☐	100.000	104.195	3098462.25	0.6632	A	0.7
6	☐	200.000	197.773	5717278.67	1.2530	A	1.3

y = 0.0063 * x + 0.0065
R = 0.9997
DL = 0.1135
BEC = 1.027

Weight: <None>
Min Conc: <None>

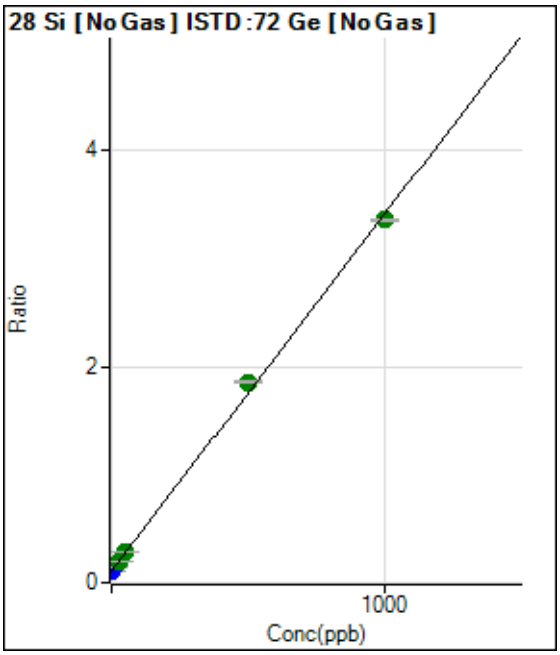
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.68	0.0003	P	10.6
2	☐	2.000	2.691	1233.41	0.0012	P	9.6
3	☐	5.000	5.742	2180.21	0.0022	P	4.9
4	☐	10.000	11.511	4107.33	0.0040	P	10.0
5	☐	100.000	103.706	32344.50	0.0331	P	3.3
6	☐	200.000	198.046	60180.00	0.0628	P	2.2

y = 3.1548E-004 * x + 3.3967E-004
R = 0.9998
DL = 0.3411
BEC = 1.077

Weight: <None>
Min Conc: <None>

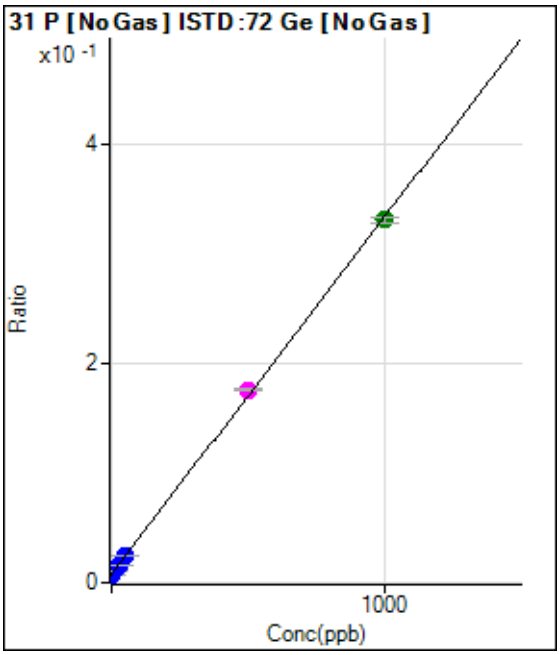


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	509787.55	0.1067	P	0.9
2	☐	10.000	10.319	674371.84	0.1408	P	1.2
3	☐	25.000	27.204	934355.17	0.1965	A	0.7
4	☐	50.000	54.973	1384914.67	0.2881	A	0.9
5	☐	500.000	530.530	8677055.70	1.8572	A	0.7
6	☐	1000.000	984.428	15307535.60	3.3548	A	0.5

y = 0.0033 * x + 0.1067
R = 0.9993
DL = 0.8524
BEC = 32.34

Weight: <None>
Min Conc: <None>

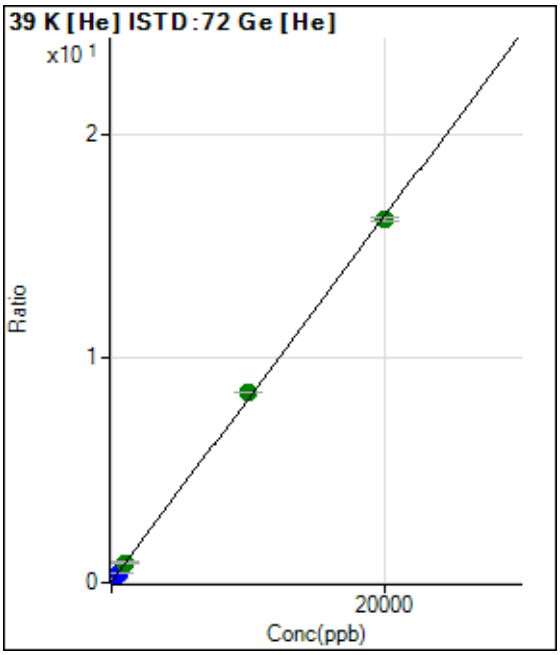
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37133.34	0.0078	P	2.1
2	☐	10.000	8.722	50853.29	0.0106	P	1.0
3	☐	25.000	24.115	74305.22	0.0156	P	2.1
4	☐	50.000	51.046	117296.94	0.0244	P	1.6
5	☐	500.000	515.603	820899.05	0.1757	M	1.3
6	☐	1000.000	992.181	1509890.60	0.3309	A	1.9

y = 3.2570E-004 * x + 0.0078
R = 0.9998
DL = 1.491
BEC = 23.87

Weight: <None>
Min Conc: <None>

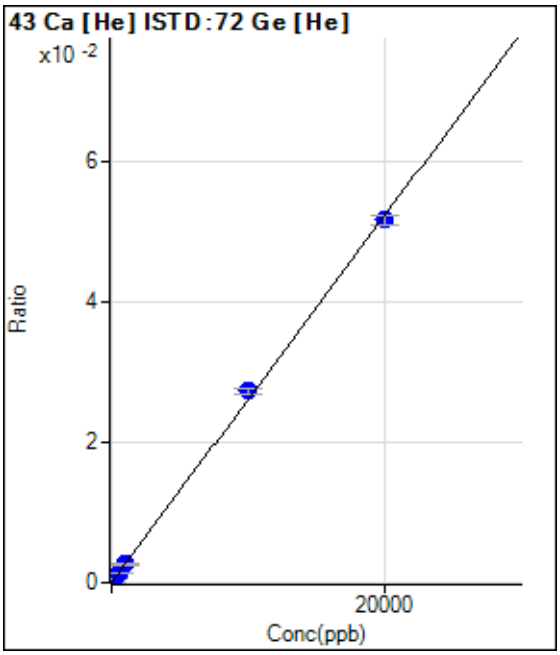


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50901.49	0.0498	P	3.8
2	☐	200.000	187.625	210221.43	0.2026	P	2.6
3	☐	500.000	486.373	452052.14	0.4459	P	2.2
4	☐	1000.000	1037.645	926048.66	0.8948	A	2.2
5	☐	10000.00	10397.09	8333147.17	8.5166	A	0.3
6	☐	20000.00	19800.03	15495603.52	16.1738	A	1.1

y = 8.1434E-004 * x + 0.0498
R = 0.9997
DL = 6.951
BEC = 61.19

Weight: <None>
Min Conc: <None>

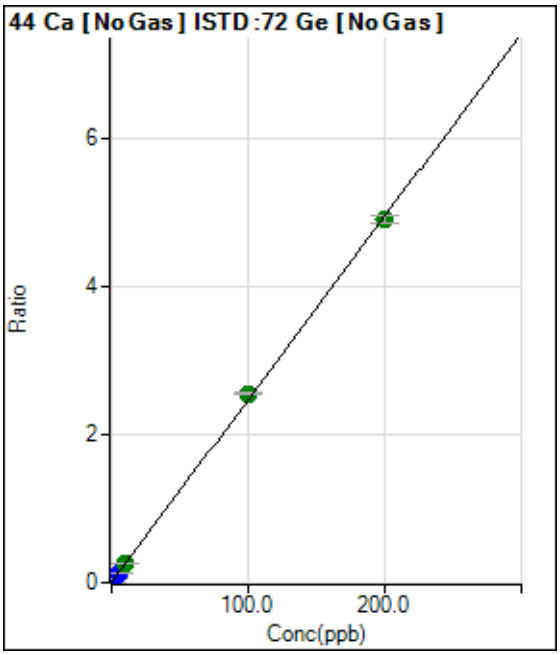
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	98.2
2	☐	200.000	194.796	536.69	0.0005	P	5.8
3	☐	500.000	479.013	1276.75	0.0013	P	3.6
4	☐	1000.000	993.670	2690.31	0.0026	P	5.4
5	☐	10000.00	10434.60	26622.73	0.0272	P	3.2
6	☐	20000.00	19783.59	49422.38	0.0516	P	2.4

y = 2.6069E-006 * x + 9.5864E-006
R = 0.9997
DL = 10.84
BEC = 3.677

Weight: <None>
Min Conc: <None>

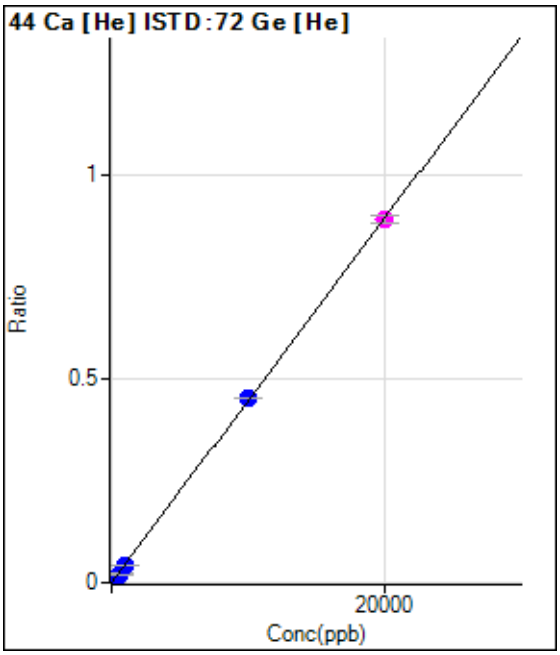


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13843.93	0.0029	P	4.2
2	☐	2.000	1.984	248377.13	0.0518	P	0.8
3	☐	5.000	4.924	591361.71	0.1244	P	3.7
4	☐	10.000	10.558	1266149.93	0.2634	A	1.8
5	☐	100.000	103.436	11937736.49	2.5551	A	0.4
6	☐	200.000	198.256	22331442.16	4.8947	A	2.2

y = 0.0247 * x + 0.0029
R = 0.9998
DL = 0.01497
BEC = 0.1175

Weight: <None>
Min Conc: <None>

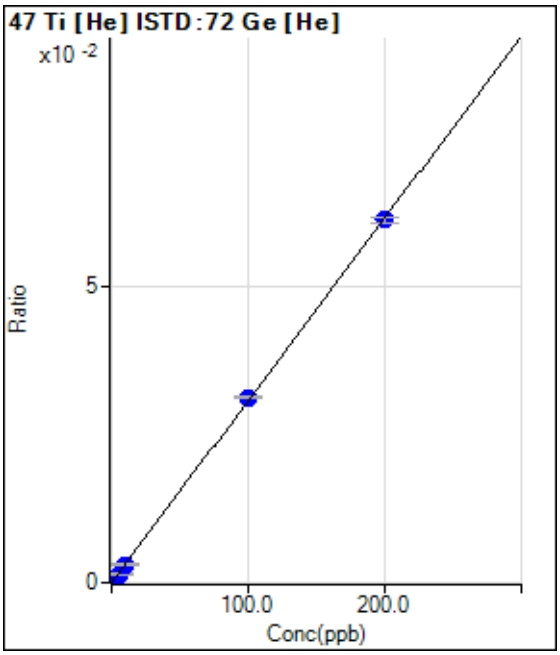
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	250.01	0.0002	P	20.5
2	☐	200.000	183.931	8779.62	0.0085	P	0.9
3	☐	500.000	463.868	21250.04	0.0210	P	3.6
4	☐	1000.000	984.920	45779.64	0.0442	P	1.8
5	☐	10000.00	10156.97	444086.84	0.4539	P	0.1
6	☐	20000.00	19923.33	852654.99	0.8900	M	2.0

y = 4.4661E-005 * x + 2.4547E-004
R = 1.0000
DL = 3.383
BEC = 5.496

Weight: <None>
Min Conc: <None>

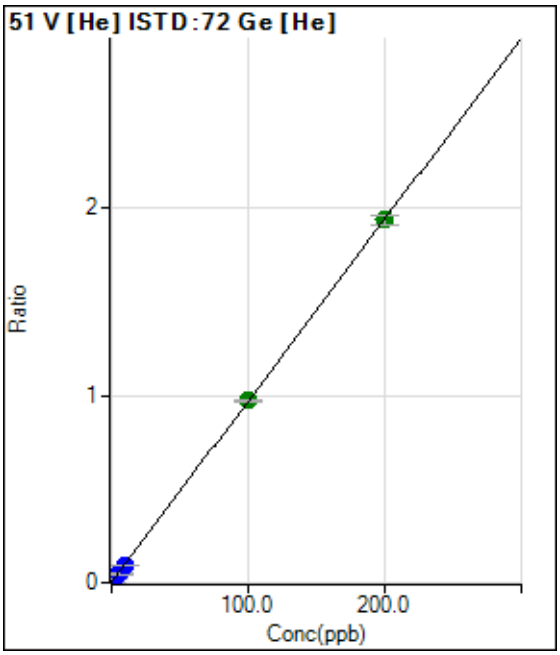


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	1.735	553.36	0.0005	P	12.2
3	☐	5.000	4.732	1473.44	0.0015	P	7.0
4	☐	10.000	10.005	3177.09	0.0031	P	4.5
5	☐	100.000	101.596	30494.19	0.0312	P	1.1
6	☐	200.000	199.211	58548.21	0.0611	P	1.9

y = 3.0677E-004 * x + 0.0000E+000
R = 1.0000
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

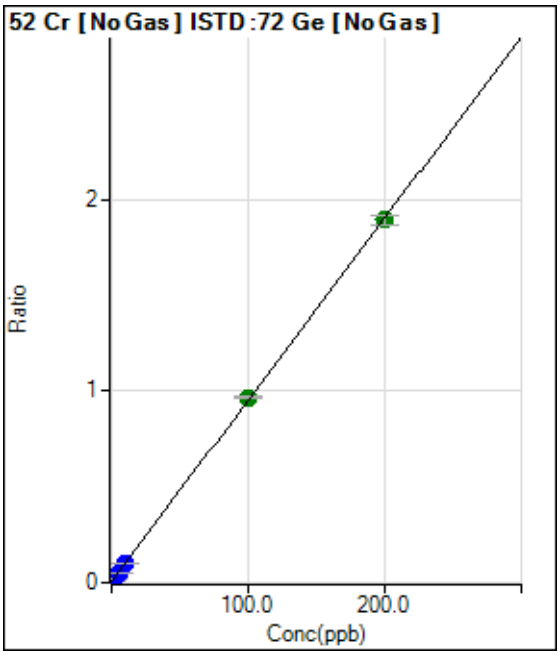
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1677.89	0.0016	P	8.4
2	☐	2.000	1.795	19759.81	0.0190	P	0.1
3	☐	5.000	4.632	47187.52	0.0465	P	1.7
4	☐	10.000	9.454	96508.19	0.0933	P	3.5
5	☐	100.000	100.322	952975.38	0.9740	A	0.9
6	☐	200.000	199.878	1857484.51	1.9389	A	2.3

y = 0.0097 * x + 0.0016
R = 1.0000
DL = 0.04276
BEC = 0.1697

Weight: <None>
Min Conc: <None>

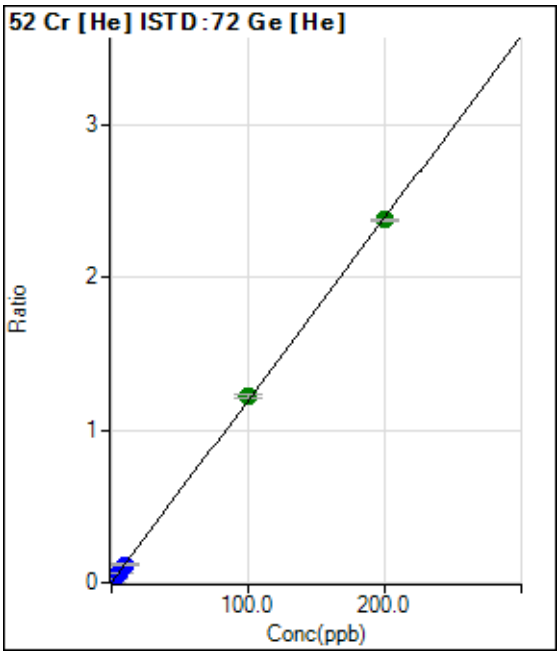


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26198.61	0.0055	P	0.7
2	☐	2.000	1.954	115010.55	0.0240	P	1.0
3	☐	5.000	4.908	247302.30	0.0520	P	1.0
4	☐	10.000	10.344	497667.30	0.1035	P	0.4
5	☐	100.000	101.537	4521960.56	0.9678	A	0.4
6	☐	200.000	199.217	8639162.58	1.8937	A	2.9

y = 0.0095 * x + 0.0055
R = 1.0000
DL = 0.01234
BEC = 0.5785

Weight: <None>
Min Conc: <None>

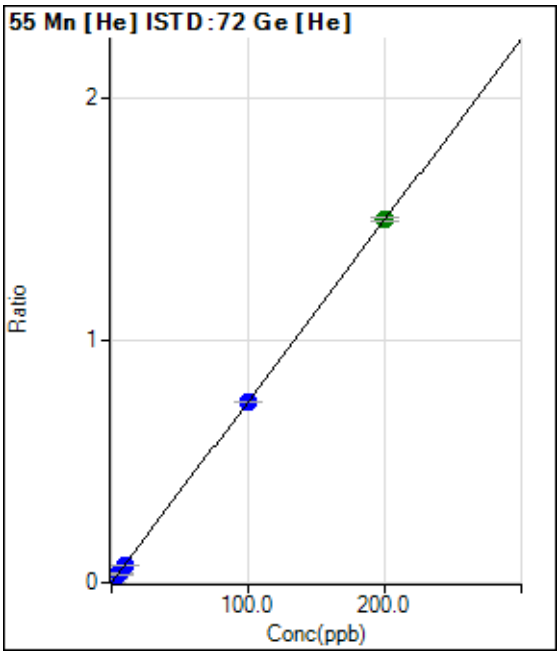
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1380.09	0.0014	P	13.6
2	☐	2.000	1.826	23998.00	0.0231	P	4.9
3	☐	5.000	4.753	58850.12	0.0581	P	3.5
4	☐	10.000	9.724	121405.45	0.1174	P	4.4
5	☐	100.000	102.078	1192781.02	1.2191	A	1.8
6	☐	200.000	198.983	2275546.32	2.3751	A	0.3

y = 0.0119 * x + 0.0014
R = 0.9999
DL = 0.04633
BEC = 0.1135

Weight: <None>
Min Conc: <None>

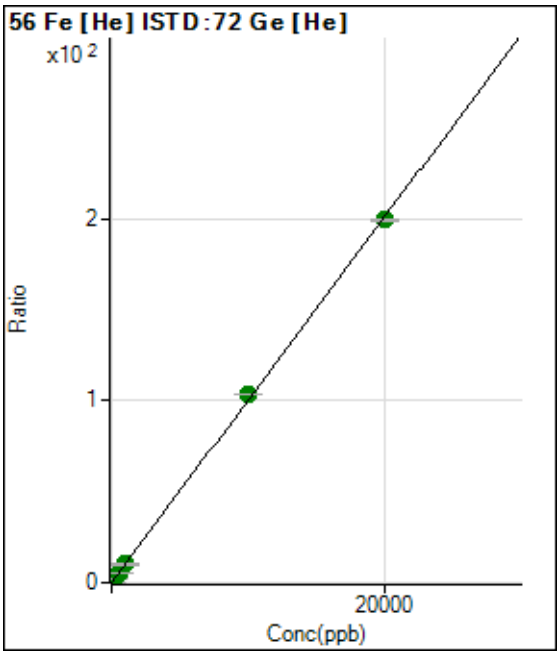


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0004	P	23.0
2	☐	2.000	1.858	14794.97	0.0143	P	5.2
3	☐	5.000	4.781	36619.29	0.0361	P	3.5
4	☐	10.000	9.681	75297.43	0.0728	P	3.8
5	☐	100.000	99.639	729539.73	0.7456	P	0.2
6	☐	200.000	200.204	1434931.17	1.4978	A	1.1

y = 0.0075 * x + 3.7202E-004
R = 1.0000
DL = 0.03432
BEC = 0.04974

Weight: <None>
Min Conc: <None>

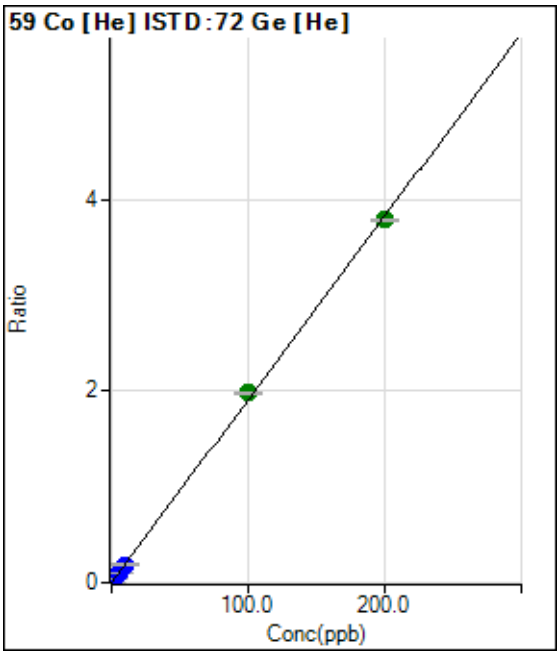
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9513.47	0.0093	P	0.7
2	☐	200.000	199.997	2092011.95	2.0165	A	2.9
3	☐	500.000	486.104	4955363.68	4.8879	A	2.2
4	☐	1000.000	1001.318	10407721.93	10.0586	A	3.1
5	☐	10000.00	10301.43	101167861.8	103.395	A	0.0
6	☐	20000.00	19849.56	190867950.4	199.221	A	0.7

y = 0.0100 * x + 0.0093
R = 0.9998
DL = 0.01986
BEC = 0.9274

Weight: <None>
Min Conc: <None>

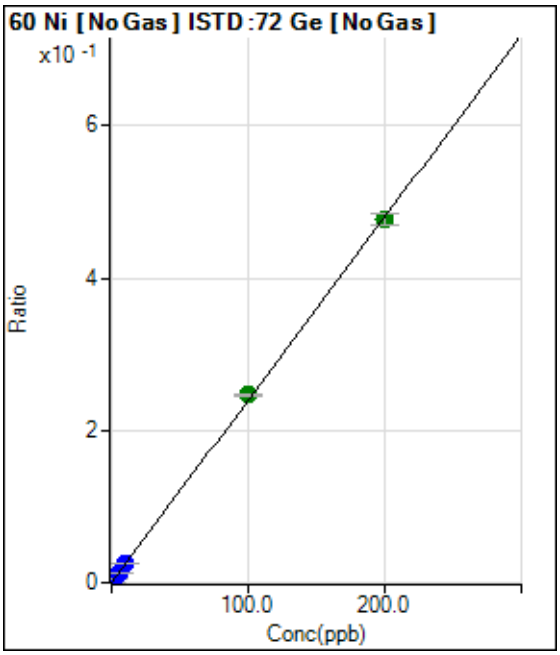


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	133.33	0.0001	P	33.2
2	☐	2.000	1.894	37742.52	0.0364	P	2.5
3	☐	5.000	4.793	93130.31	0.0918	P	0.4
4	☐	10.000	9.907	196348.17	0.1897	P	1.6
5	☐	100.000	103.786	1943237.63	1.9860	A	0.7
6	☐	200.000	198.118	3632254.01	3.7910	A	0.3

y = 0.0191 * x + 1.3093E-004
R = 0.9997
DL = 0.006815
BEC = 0.006843

Weight: <None>
Min Conc: <None>

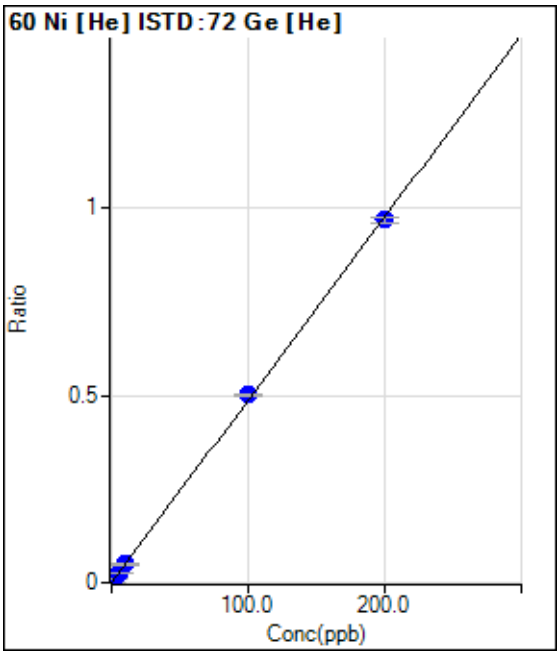
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.03	0.0001	P	18.4
2	☐	2.000	2.006	23660.83	0.0049	P	1.8
3	☐	5.000	4.976	57361.27	0.0121	P	0.2
4	☐	10.000	10.354	119992.16	0.0250	P	0.7
5	☐	100.000	102.643	1150769.51	0.2463	A	1.7
6	☐	200.000	198.661	2174187.72	0.4766	A	3.0

y = 0.0024 * x + 1.2758E-004
R = 0.9999
DL = 0.02935
BEC = 0.0532

Weight: <None>
Min Conc: <None>

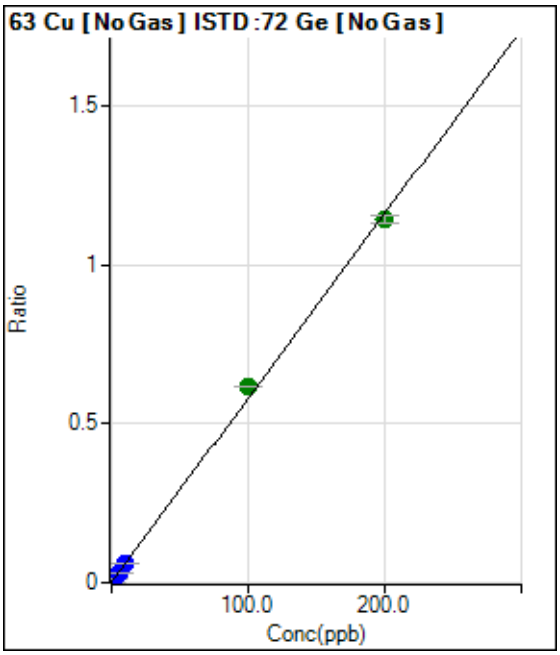


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0002	P	28.5
2	☐	2.000	1.932	9983.84	0.0096	P	3.9
3	☐	5.000	4.939	24642.70	0.0243	P	1.7
4	☐	10.000	10.090	51156.59	0.0494	P	3.5
5	☐	100.000	102.726	490892.13	0.5017	P	1.4
6	☐	200.000	198.635	929330.64	0.9699	P	1.3

y = 0.0049 * x + 1.8482E-004
R = 0.9999
DL = 0.03231
BEC = 0.03786

Weight: <None>
Min Conc: <None>

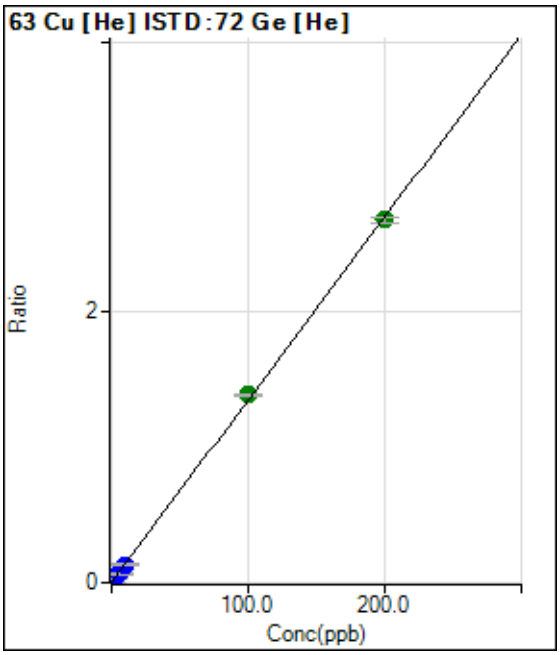
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4917.67	0.0010	P	4.4
2	☐	2.000	1.985	60042.88	0.0125	P	2.1
3	☐	5.000	4.957	141470.30	0.0298	P	3.2
4	☐	10.000	10.402	294754.58	0.0613	P	1.2
5	☐	100.000	106.376	2885403.81	0.6176	A	0.7
6	☐	200.000	196.793	5208479.19	1.1416	A	2.2

y = 0.0058 * x + 0.0010
R = 0.9993
DL = 0.02351
BEC = 0.1775

Weight: <None>
Min Conc: <None>

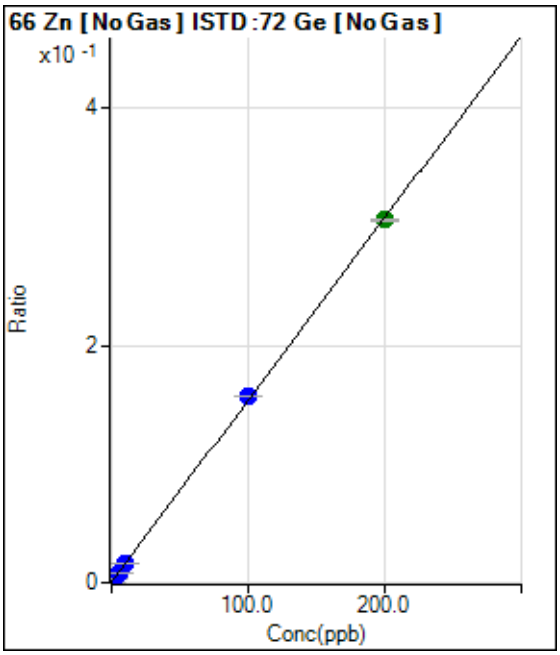


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1660.13	0.0016	P	6.6
2	☐	2.000	1.846	27568.24	0.0266	P	2.1
3	☐	5.000	4.702	66073.76	0.0652	P	3.4
4	☐	10.000	9.842	139295.63	0.1346	P	2.9
5	☐	100.000	102.809	1360873.73	1.3908	A	0.8
6	☐	200.000	198.613	2572697.20	2.6854	A	1.8

y = 0.0135 * x + 0.0016
R = 0.9999
DL = 0.02395
BEC = 0.1204

Weight: <None>
Min Conc: <None>

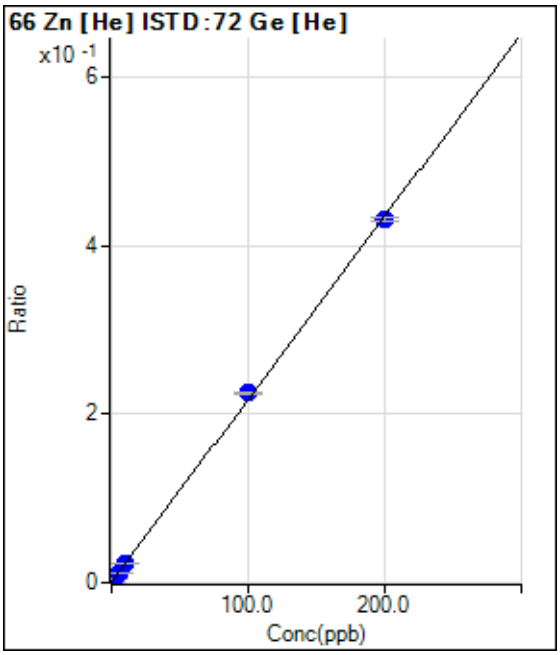
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2676.98	0.0006	P	5.5
2	☐	2.000	2.075	17922.13	0.0037	P	2.0
3	☐	5.000	4.858	38080.49	0.0080	P	2.9
4	☐	10.000	10.277	78409.30	0.0163	P	1.4
5	☐	100.000	101.908	732409.34	0.1568	P	0.3
6	☐	200.000	199.035	1394531.54	0.3056	A	0.6

y = 0.0015 * x + 5.6001E-004
R = 0.9999
DL = 0.06055
BEC = 0.3654

Weight: <None>
Min Conc: <None>

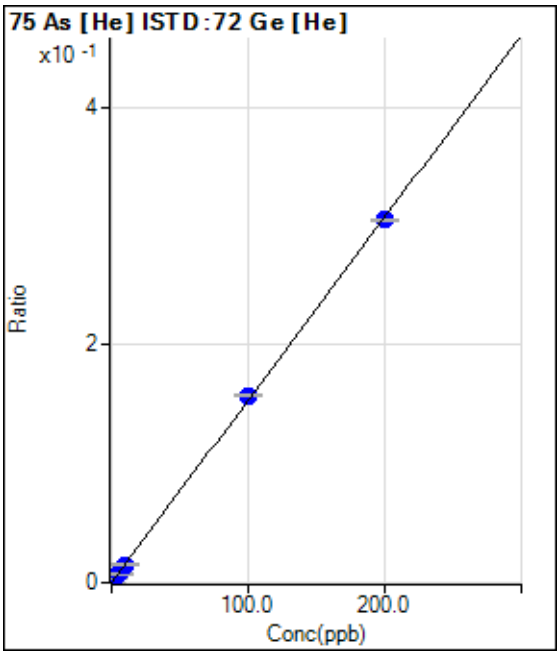


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	716.70	0.0007	P	4.6
2	☐	2.000	1.998	5227.75	0.0050	P	3.0
3	☐	5.000	4.974	11651.87	0.0115	P	5.0
4	☐	10.000	10.060	23320.41	0.0225	P	2.5
5	☐	100.000	103.590	220658.44	0.2255	P	0.6
6	☐	200.000	198.203	412770.49	0.4308	P	1.2

y = 0.0022 * x + 7.0192E-004
R = 0.9998
DL = 0.04427
BEC = 0.3234

Weight: <None>
Min Conc: <None>

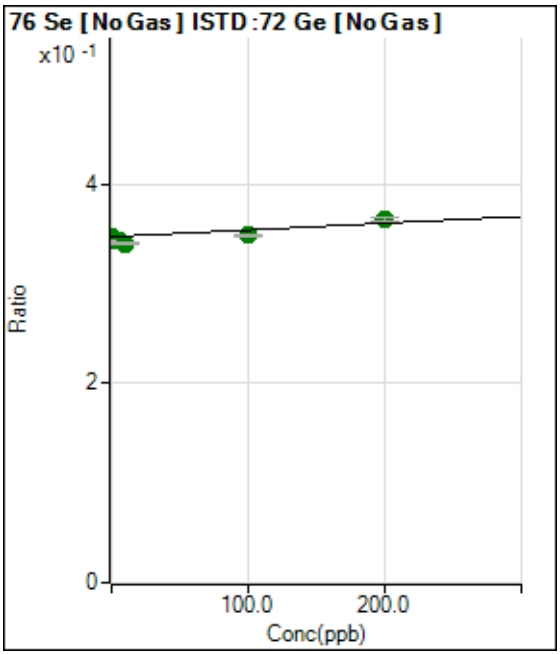
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	74.45	0.0001	P	38.5
2	☐	2.000	1.816	2967.01	0.0029	P	5.0
3	☐	5.000	4.743	7452.09	0.0074	P	2.8
4	☐	10.000	9.948	15873.82	0.0153	P	2.5
5	☐	100.000	102.549	154046.71	0.1574	P	0.8
6	☐	200.000	198.737	292258.97	0.3050	P	0.8

y = 0.0015 * x + 7.3459E-005
R = 0.9999
DL = 0.05527
BEC = 0.04787

Weight: <None>
Min Conc: <None>

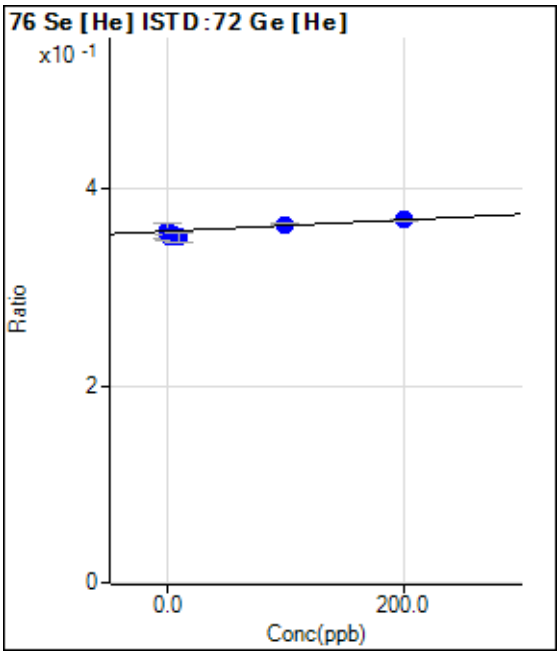


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1657476.95	0.3469	A	0.8
2	☐	2.000	-58.848	1643014.56	0.3429	A	1.1
3	☐	5.000	-58.065	1630983.05	0.3429	A	0.3
4	☐	10.000	-98.274	1635326.49	0.3402	A	1.0
5	☐	100.000	21.073	1627510.19	0.3483	A	0.6
6	☐	200.000	247.062	1659968.10	0.3638	A	1.1

y = 6.8330E-005 * x + 0.3469
R = 0.9305
DL = 122.3
BEC = 5077

Weight: <None>
Min Conc: <None>

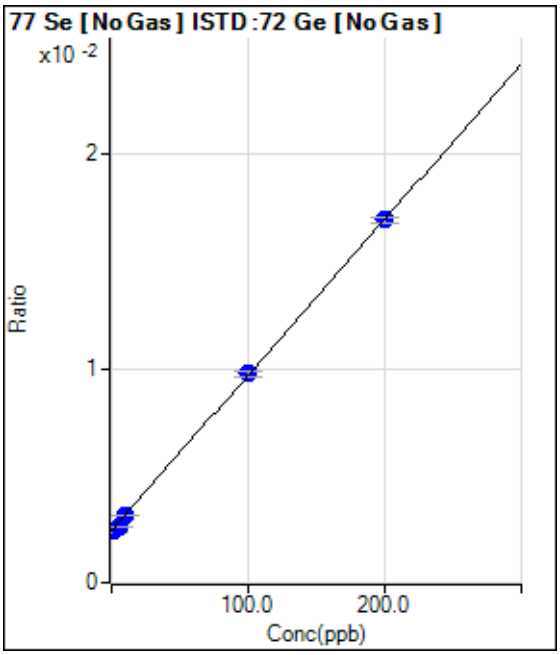
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	364956.52	0.3574	P	4.2
2	☐	2.000	-107.776	364410.49	0.3512	P	1.5
3	☐	5.000	-69.577	358241.18	0.3534	P	2.8
4	☐	10.000	-106.494	363463.09	0.3513	P	2.9
5	☐	100.000	121.375	356594.12	0.3644	P	0.8
6	☐	200.000	198.100	353416.23	0.3689	P	0.8

y = 5.7873E-005 * x + 0.3574
R = 0.9246
DL = 782.3
BEC = 6176

Weight: <None>
Min Conc: <None>

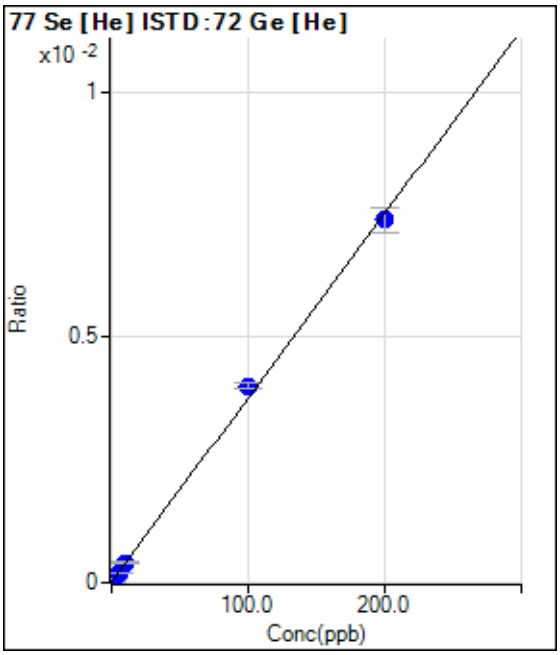


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11651.94	0.0024	P	3.7
2	☐	2.000	-0.531	11501.80	0.0024	P	3.7
3	☐	5.000	2.311	12395.89	0.0026	P	2.4
4	☐	10.000	9.841	15158.79	0.0032	P	2.0
5	☐	100.000	100.744	45557.36	0.0098	P	2.6
6	☐	200.000	199.728	77270.73	0.0169	P	1.4

y = 7.2583E-005 * x + 0.0024
R = 0.9999
DL = 3.698
BEC = 33.6

Weight: <None>
Min Conc: <None>

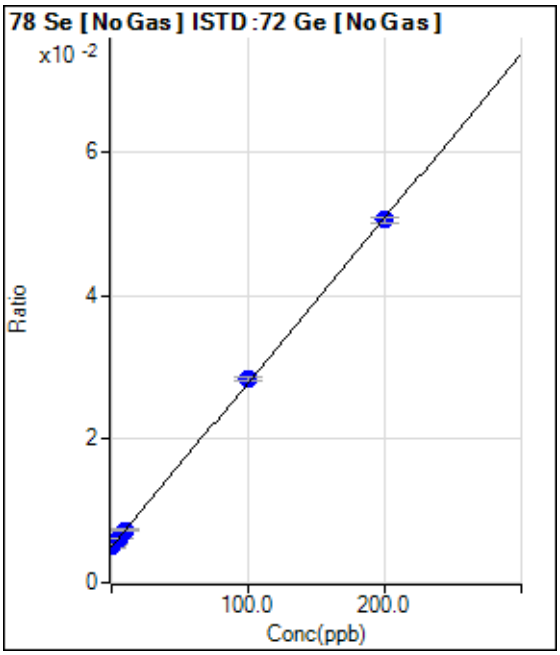
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	93.0
2	☐	2.000	1.872	90.00	0.0001	P	27.5
3	☐	5.000	4.827	200.01	0.0002	P	13.3
4	☐	10.000	10.469	423.35	0.0004	P	11.4
5	☐	100.000	106.502	3923.99	0.0040	P	2.3
6	☐	200.000	196.731	7082.00	0.0074	P	6.8

y = 3.7505E-005 * x + 1.6209E-005
R = 0.9992
DL = 1.206
BEC = 0.4322

Weight: <None>
Min Conc: <None>

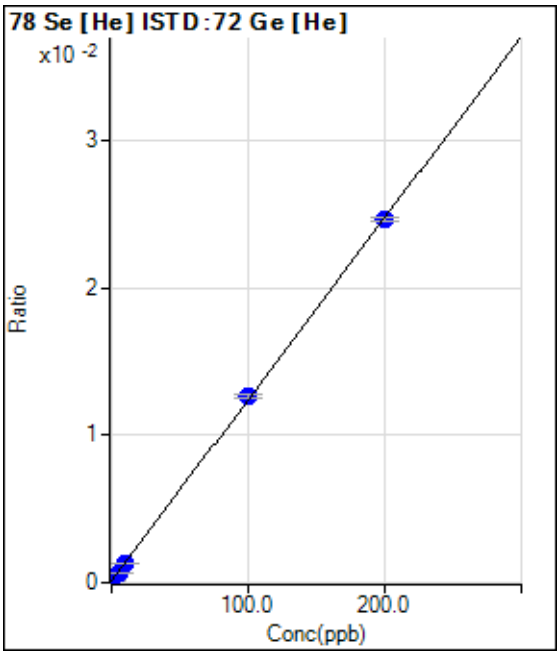


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23888.15	0.0050	P	3.6
2	☐	2.000	2.456	26660.04	0.0056	P	2.3
3	☐	5.000	4.806	29024.88	0.0061	P	1.5
4	☐	10.000	10.283	35383.38	0.0074	P	1.5
5	☐	100.000	102.046	132732.97	0.0284	P	1.7
6	☐	200.000	198.963	231047.26	0.0506	P	1.8

y = 2.2939E-004 * x + 0.0050
R = 0.9999
DL = 2.383
BEC = 21.8

Weight: <None>
Min Conc: <None>

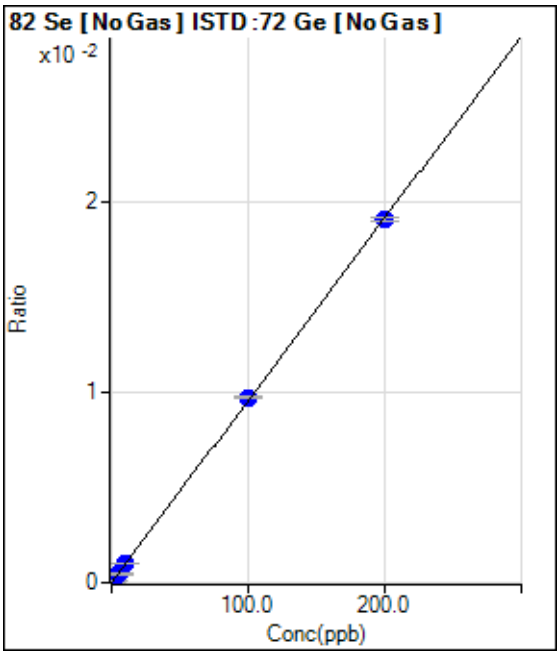
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0001	P	9.7
2	☐	2.000	2.008	374.68	0.0004	P	11.9
3	☐	5.000	4.486	675.35	0.0007	P	10.2
4	☐	10.000	9.820	1368.08	0.0013	P	6.6
5	☐	100.000	101.963	12389.71	0.0127	P	1.4
6	☐	200.000	199.040	23577.23	0.0246	P	1.0

y = 1.2307E-004 * x + 1.1440E-004
R = 0.9999
DL = 0.2718
BEC = 0.9296

Weight: <None>
Min Conc: <None>

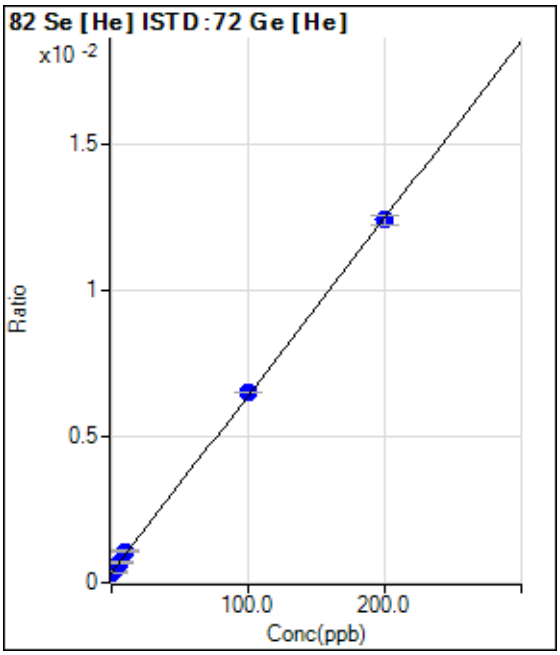


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.09	0.0000	P	936.1
2	☐	2.000	1.273	592.64	0.0001	P	29.9
3	☐	5.000	4.821	2204.41	0.0005	P	19.9
4	☐	10.000	10.342	4771.82	0.0010	P	2.1
5	☐	100.000	101.640	45501.24	0.0097	P	1.0
6	☐	200.000	199.175	87069.44	0.0191	P	0.9

y = 9.5799E-005 * x + 1.9538E-006
R = 0.9999
DL = 0.5727
BEC = 0.02039

Weight: <None>
Min Conc: <None>

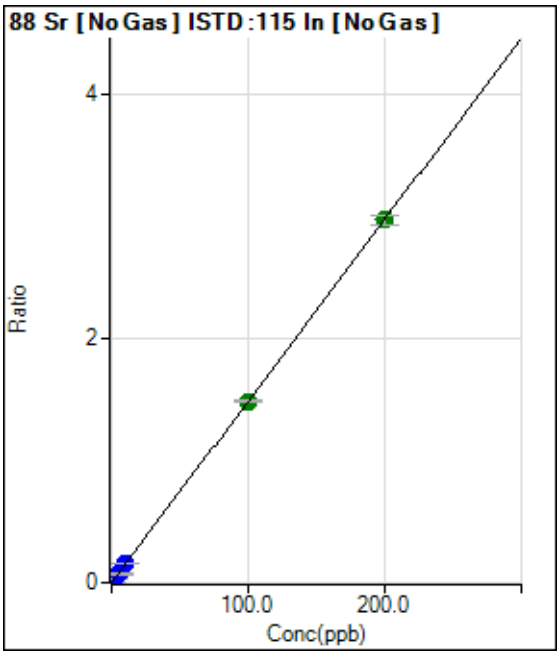
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.68	0.0003	P	18.1
2	☐	2.000	0.746	400.01	0.0004	P	15.8
3	☐	5.000	5.665	693.37	0.0007	P	12.2
4	☐	10.000	12.030	1106.74	0.0011	P	3.7
5	☐	100.000	101.695	6371.63	0.0065	P	0.2
6	☐	200.000	199.047	11898.85	0.0124	P	2.3

y = 6.0696E-005 * x + 3.3939E-004
R = 0.9999
DL = 3.039
BEC = 5.592

Weight: <None>
Min Conc: <None>

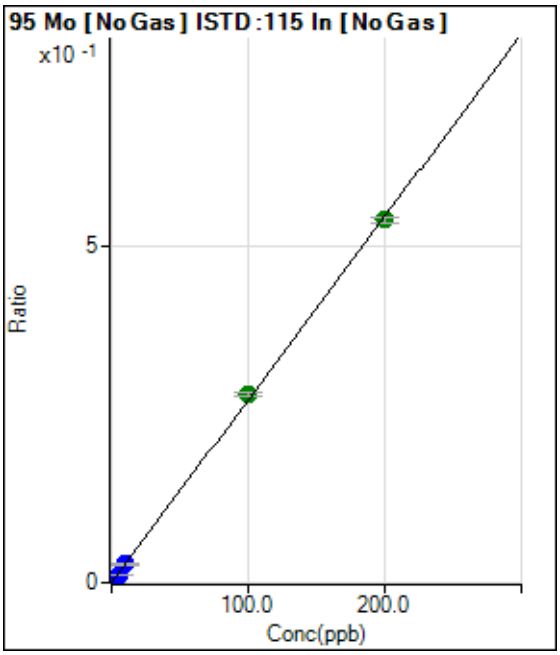


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2656.97	0.0005	P	10.4
2	☐	2.000	1.876	153014.09	0.0284	P	2.1
3	☐	5.000	4.761	380615.43	0.0712	P	1.7
4	☐	10.000	10.351	814635.67	0.1543	P	2.1
5	☐	100.000	100.108	7773150.51	1.4883	A	1.2
6	☐	200.000	199.936	15230622.69	2.9719	A	2.6

y = 0.0149 * x + 4.9016E-004
R = 1.0000
DL = 0.01031
BEC = 0.03298

Weight: <None>
Min Conc: <None>

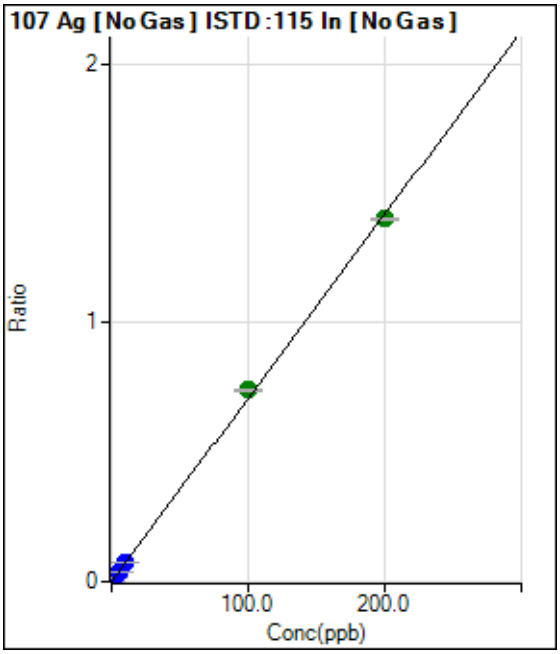
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.33	0.0000	P	28.5
2	☐	2.000	1.865	27422.19	0.0051	P	2.7
3	☐	5.000	4.670	67873.34	0.0127	P	1.7
4	☐	10.000	10.025	143829.63	0.0272	P	2.4
5	☐	100.000	103.235	1464485.29	0.2804	A	1.5
6	☐	200.000	198.391	2761975.38	0.5388	A	1.4

y = 0.0027 * x + 2.0901E-005
R = 0.9998
DL = 0.006578
BEC = 0.007696

Weight: <None>
Min Conc: <None>

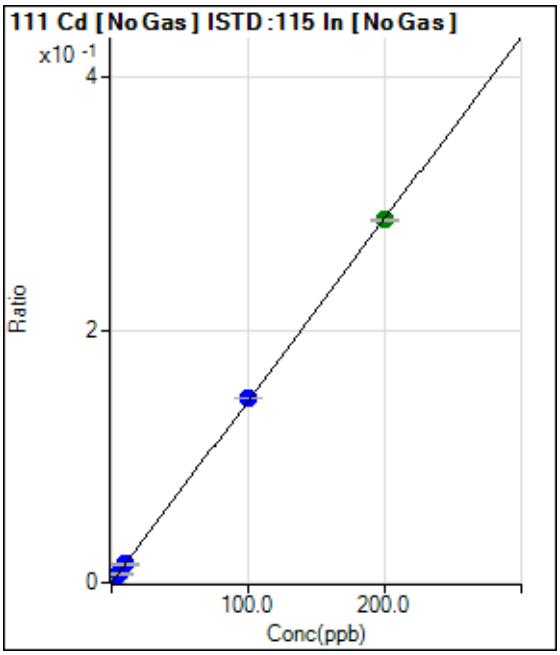


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	383.35	0.0001	P	29.7
2	☐	2.000	1.973	75801.18	0.0141	P	2.0
3	☐	5.000	4.882	185298.27	0.0347	P	1.4
4	☐	10.000	10.565	395690.07	0.0750	P	2.8
5	☐	100.000	104.496	3869775.67	0.7409	A	1.2
6	☐	200.000	197.727	7186666.77	1.4019	A	0.8

y = 0.0071 * x + 7.0521E-005
R = 0.9996
DL = 0.008874
BEC = 0.009947

Weight: <None>
Min Conc: <None>

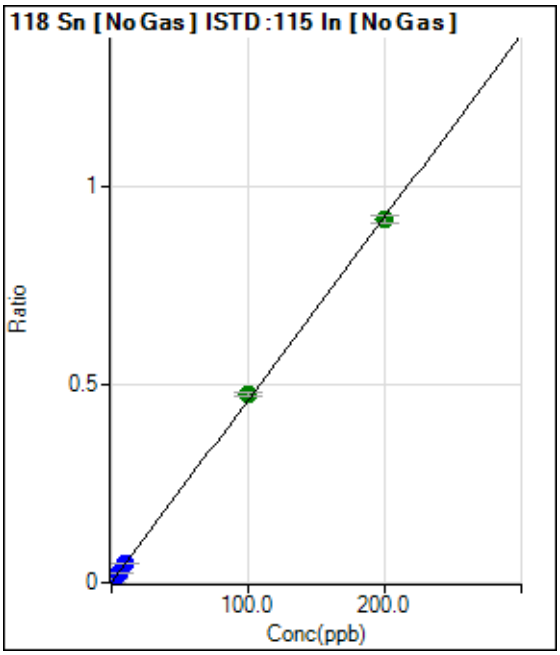
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	1.2
2	☐	2.000	1.979	15365.88	0.0028	P	0.6
3	☐	5.000	4.777	36734.93	0.0069	P	1.7
4	☐	10.000	10.063	76459.40	0.0145	P	1.8
5	☐	100.000	101.137	760190.04	0.1455	P	0.4
6	☐	200.000	199.434	1471286.96	0.2870	A	0.8

y = 0.0014 * x + 1.8435E-006
R = 1.0000
DL = 4.736E-05
BEC = 0.001281

Weight: <None>
Min Conc: <None>

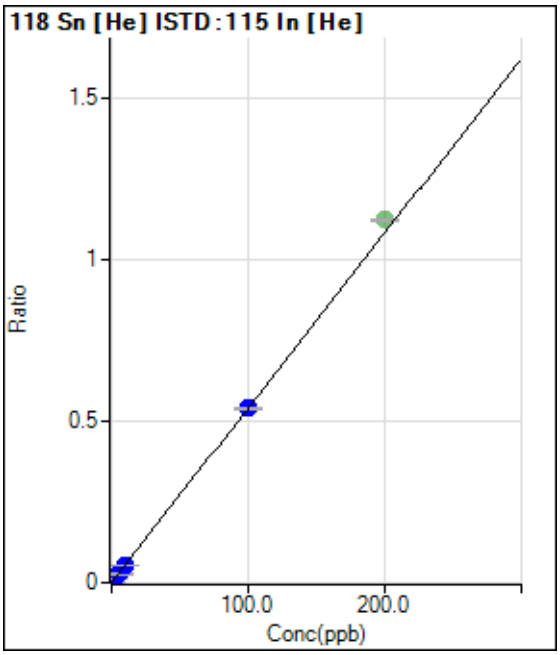


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3540.56	0.0007	P	6.9
2	☐	2.000	1.859	49811.81	0.0092	P	1.7
3	☐	5.000	4.868	123580.81	0.0231	P	2.2
4	☐	10.000	10.402	257067.11	0.0487	P	1.8
5	☐	100.000	102.833	2483419.75	0.4755	A	1.9
6	☐	200.000	198.568	4702685.24	0.9175	A	2.2

y = 0.0046 * x + 6.5267E-004
R = 0.9999
DL = 0.02907
BEC = 0.1414

Weight: <None>
Min Conc: <None>

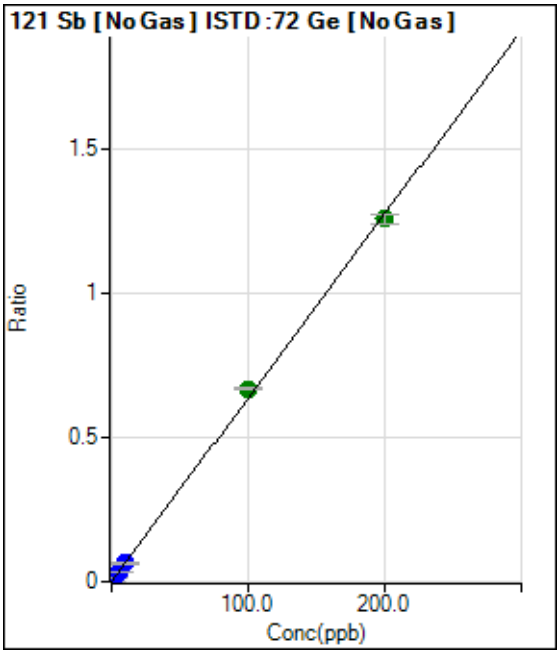
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1386.77	0.0007	P	9.9
2	☐	2.000	1.867	20452.95	0.0108	P	3.6
3	☐	5.000	4.844	49172.48	0.0269	P	1.4
4	☐	10.000	10.138	103863.63	0.0556	P	3.2
5	☐	100.000	99.997	970238.66	0.5418	P	1.0
6	☑	200.000		1982955.86	1.1247	A	0.7

y = 0.0054 * x + 7.3370E-004
R = 1.0000
DL = 0.04017
BEC = 0.1356

Weight: <None>
Min Conc: <None>

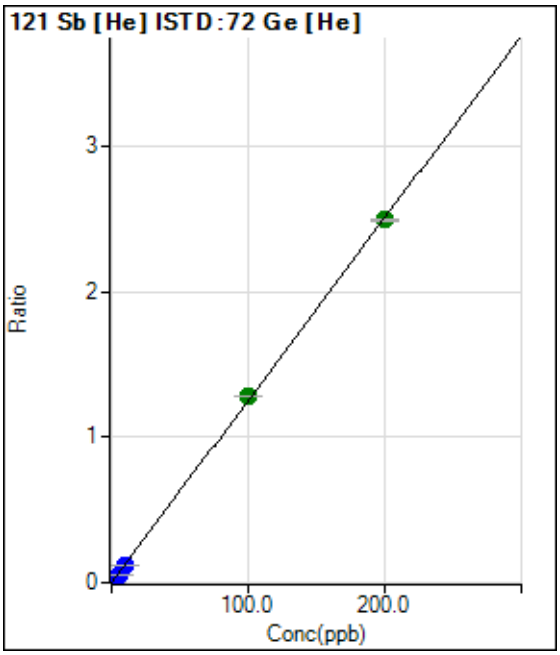


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	740.04	0.0002	P	27.7
2	☐	2.000	1.895	58688.67	0.0122	P	0.8
3	☐	5.000	4.810	146637.60	0.0308	P	3.3
4	☐	10.000	9.947	305849.84	0.0636	P	1.1
5	☐	100.000	105.058	3132742.35	0.6705	A	1.5
6	☐	200.000	197.479	5749340.33	1.2602	A	2.8

y = 0.0064 * x + 1.5531E-004
R = 0.9995
DL = 0.02026
BEC = 0.02434

Weight: <None>
Min Conc: <None>

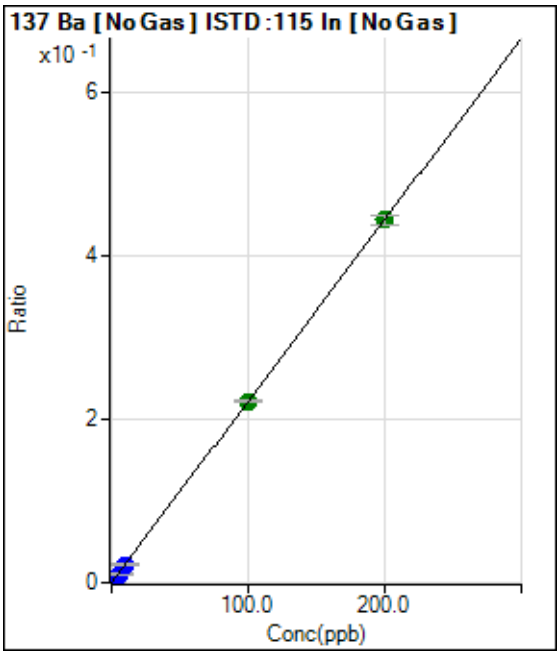
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	286.68	0.0003	P	25.4
2	☐	2.000	1.739	22903.70	0.0221	P	4.7
3	☐	5.000	4.474	57178.37	0.0564	P	2.0
4	☐	10.000	9.207	119790.36	0.1157	P	2.0
5	☐	100.000	101.919	1250912.35	1.2785	A	0.2
6	☐	200.000	199.096	2392575.69	2.4972	A	0.4

y = 0.0125 * x + 2.8008E-004
R = 0.9999
DL = 0.01703
BEC = 0.02233

Weight: <None>
Min Conc: <None>

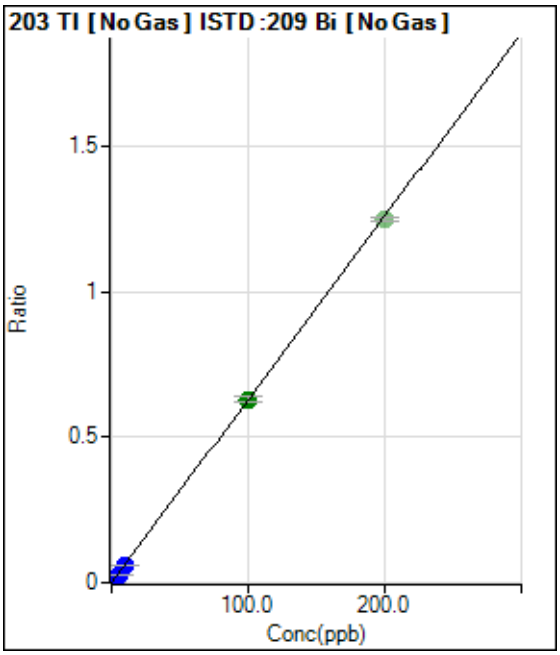


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	870.05	0.0002	P	4.9
2	☐	2.000	1.902	23651.96	0.0044	P	1.5
3	☐	5.000	4.683	56447.47	0.0106	P	2.7
4	☐	10.000	9.938	117398.10	0.0222	P	3.3
5	☐	100.000	99.963	1160962.90	0.2223	A	0.7
6	☐	200.000	200.031	2278887.99	0.4446	A	2.5

y = 0.0022 * x + 1.6033E-004
R = 1.0000
DL = 0.01064
BEC = 0.07216

Weight: <None>
Min Conc: <None>

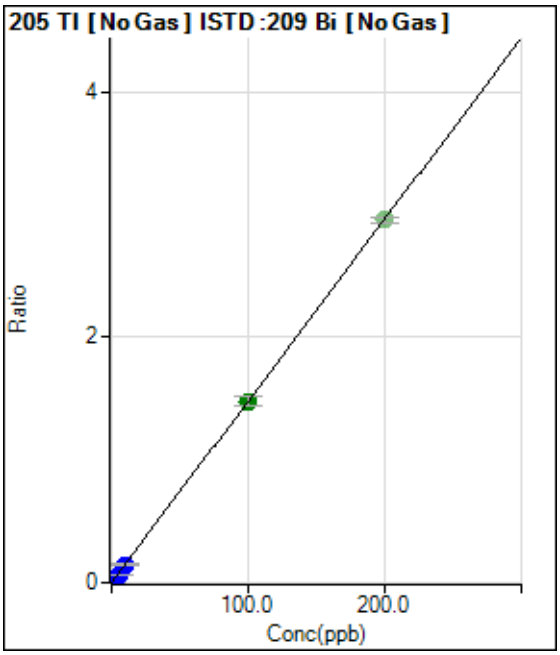
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	160.01	0.0000	P	18.7
2	☐	2.000	1.768	47009.65	0.0112	P	1.6
3	☐	5.000	4.508	116723.95	0.0284	P	2.3
4	☐	10.000	9.662	251669.02	0.0608	P	2.1
5	☐	100.000	100.063	2561347.31	0.6291	A	3.0
6	☑	200.000		4809090.45	1.2455	A	0.9

y = 0.0063 * x + 3.9147E-005
R = 1.0000
DL = 0.003502
BEC = 0.006227

Weight: <None>
Min Conc: <None>

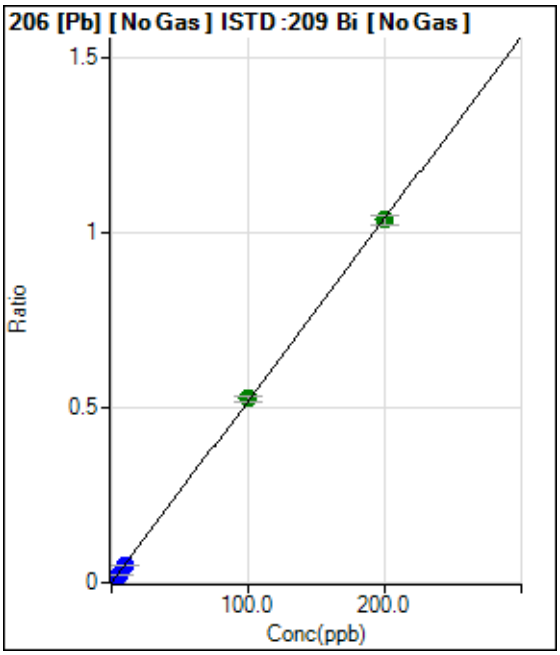


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230.01	0.0001	P	12.4
2	☐	2.000	1.778	111205.56	0.0264	P	1.9
3	☐	5.000	4.596	280151.20	0.0681	P	3.3
4	☐	10.000	9.857	604439.47	0.1460	P	4.5
5	☐	100.000	100.039	6030404.91	1.4814	A	4.4
6	☑	200.000		11422845.25	2.9586	A	1.8

y = 0.0148 * x + 5.6235E-005
R = 1.0000
DL = 0.001409
BEC = 0.003798

Weight: <None>
Min Conc: <None>

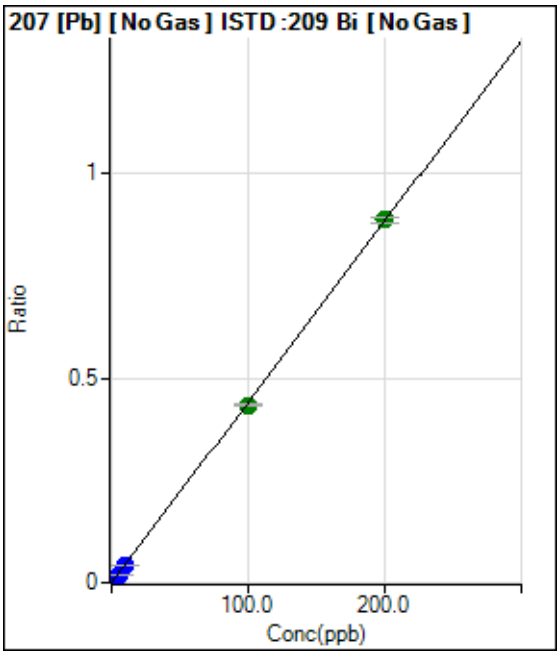
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	430.02	0.0001	P	13.4
2	☐	2.000	1.726	38203.07	0.0091	P	3.4
3	☐	5.000	4.489	96306.40	0.0234	P	0.6
4	☐	10.000	9.752	210056.24	0.0507	P	2.8
5	☐	100.000	101.301	2141551.90	0.5260	A	3.3
6	☐	200.000	199.378	3996514.00	1.0351	A	2.3

y = 0.0052 * x + 1.0512E-004
R = 1.0000
DL = 0.008158
BEC = 0.02025

Weight: <None>
Min Conc: <None>

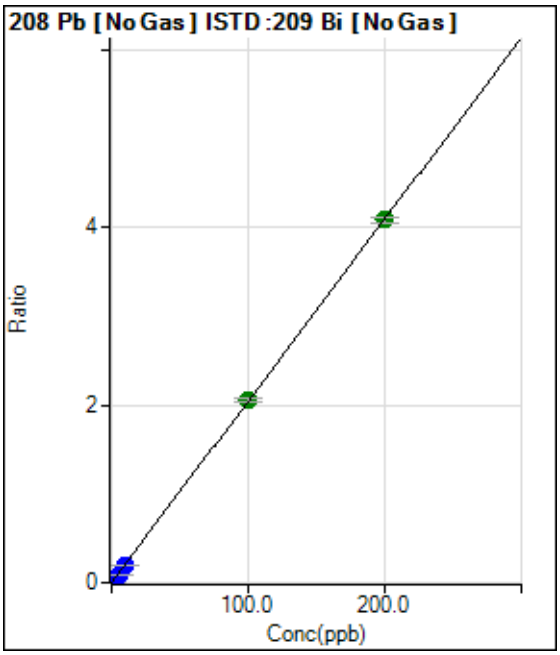


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	316.68	0.0001	P	29.2
2	☐	2.000	1.845	34682.50	0.0082	P	0.8
3	☐	5.000	4.612	84111.16	0.0204	P	2.1
4	☐	10.000	9.963	182534.94	0.0441	P	2.2
5	☐	100.000	98.312	1768578.31	0.4343	A	1.5
6	☐	200.000	200.857	3425457.45	0.8872	A	1.6

y = 0.0044 * x + 7.7588E-005
R = 1.0000
DL = 0.01538
BEC = 0.01757

Weight: <None>
Min Conc: <None>

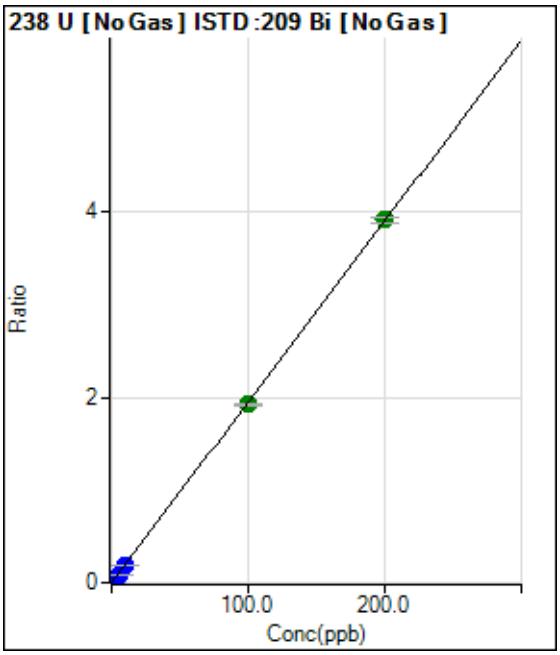
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1616.74	0.0004	P	5.8
2	☐	2.000	1.832	159496.17	0.0378	P	0.6
3	☐	5.000	4.631	391088.47	0.0951	P	1.1
4	☐	10.000	9.805	831719.00	0.2008	P	0.9
5	☐	100.000	100.458	8364492.74	2.0539	A	1.4
6	☐	200.000	199.792	15769861.12	4.0844	A	1.3

y = 0.0204 * x + 3.9547E-004
R = 1.0000
DL = 0.003344
BEC = 0.01935

Weight: <None>
Min Conc: <None>

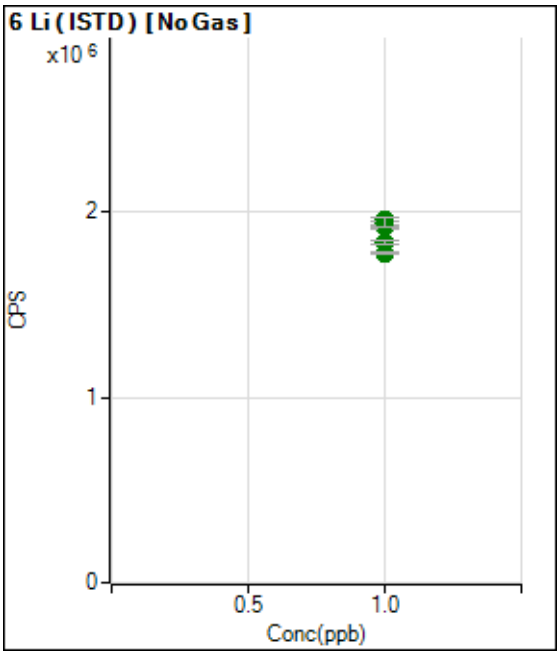


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	124.9
2	☐	2.000	1.778	146180.97	0.0347	P	0.3
3	☐	5.000	4.535	363732.10	0.0884	P	0.8
4	☐	10.000	9.568	772741.99	0.1866	P	1.1
5	☐	100.000	98.549	7828936.55	1.9215	A	1.6
6	☐	200.000	200.761	15116025.19	3.9144	A	1.3

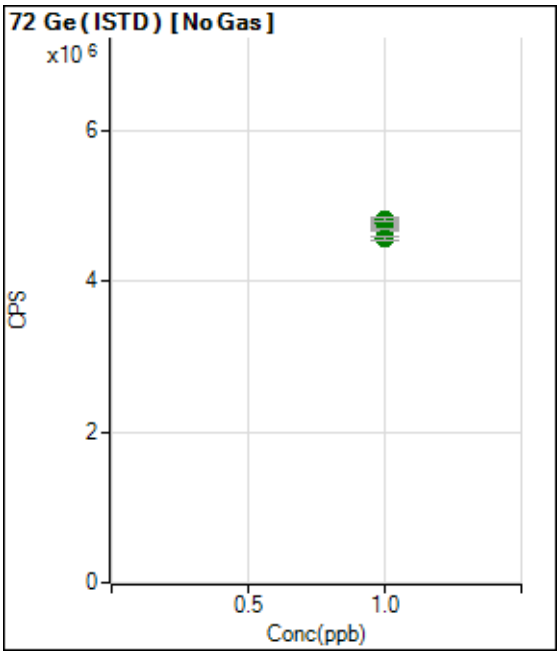
y = 0.0195 * x + 4.0573E-006
R = 1.0000
DL = 0.0007795
BEC = 0.0002081

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

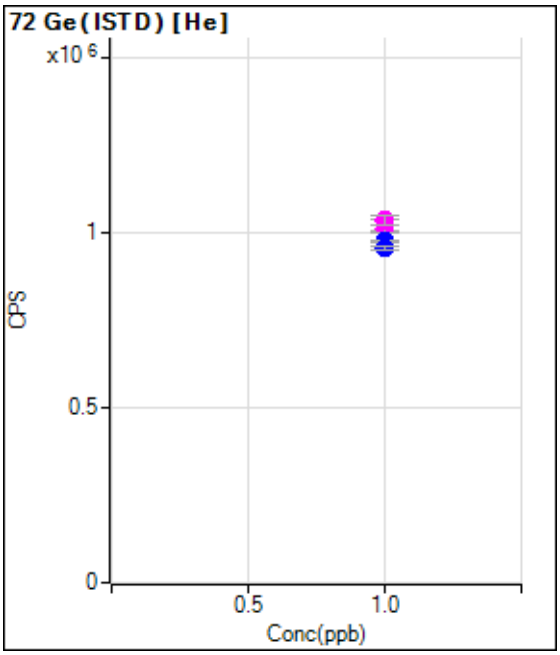


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1931903.02		A	0.2
2	☐	1.000		1959158.60		A	1.0
3	☐	1.000		1920390.32		A	1.3
4	☐	1.000		1946320.84		A	2.9
5	☐	1.000		1837610.32		A	1.3
6	☐	1.000		1778791.67		A	0.7

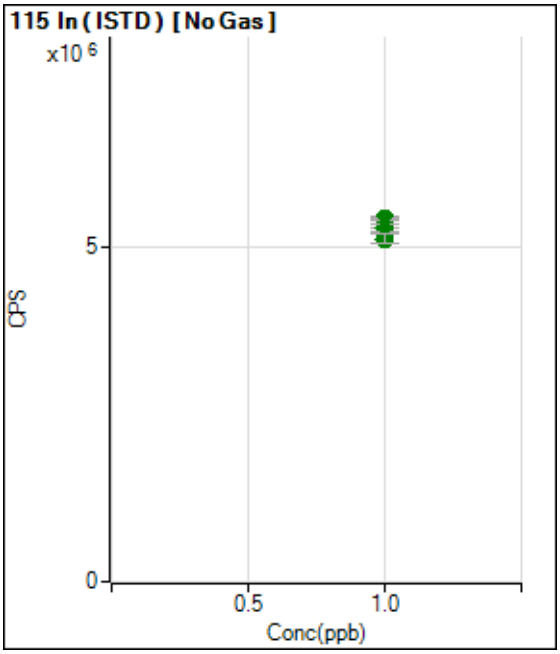


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4777859.93		A	1.5
2	☐	1.000		4791501.60		A	1.1
3	☐	1.000		4756165.76		A	2.1
4	☐	1.000		4807388.78		A	1.0
5	☐	1.000		4672169.10		A	0.3
6	☐	1.000		4562996.18		A	1.1

Calibration for 017_ICV.d

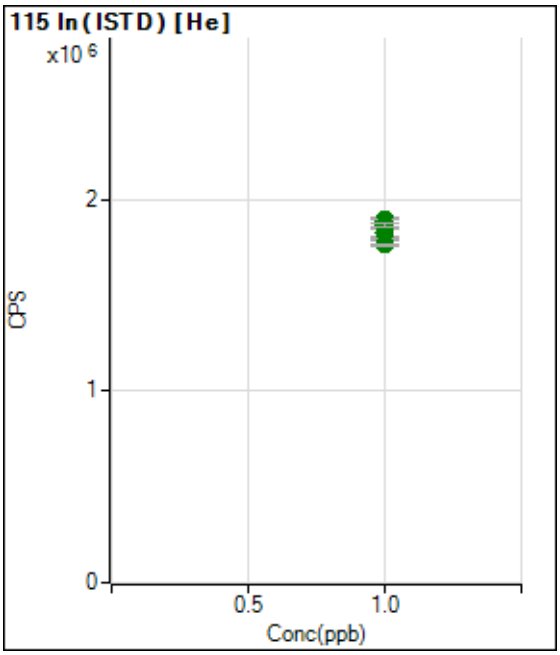


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1022076.81		M	3.5
2	☐	1.000		1037940.24		M	2.5
3	☐	1.000		1014123.40		M	2.2
4	☐	1.000		1035316.96		M	2.8
5	☐	1.000		978457.46		P	0.4
6	☐	1.000		958114.46		P	1.0

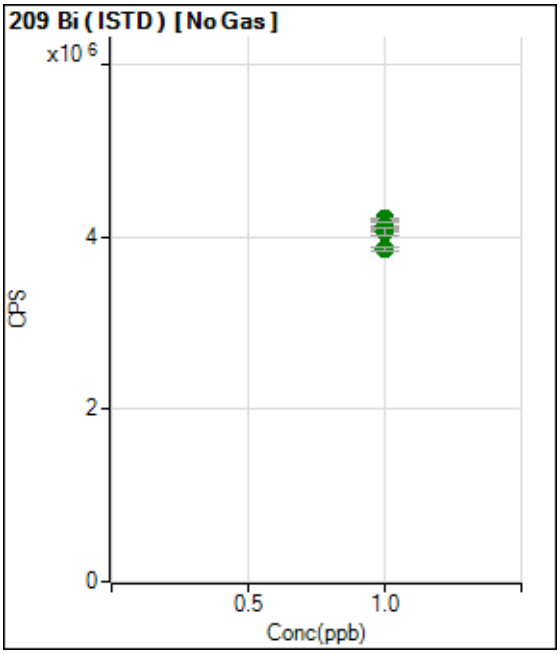


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5424891.18		A	1.2
2	☐	1.000		5393097.55		A	1.4
3	☐	1.000		5343674.78		A	2.1
4	☐	1.000		5280395.15		A	2.5
5	☐	1.000		5223121.00		A	0.6
6	☐	1.000		5127191.81		A	2.8

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1891723.37		A	1.5
2	☐	1.000		1887682.67		A	1.0
3	☐	1.000		1825149.96		A	2.4
4	☐	1.000		1868665.01		A	1.0
5	☐	1.000		1790609.77		A	0.8
6	☐	1.000		1763055.13		A	0.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4087764.11		A	0.8
2	☐	1.000		4215442.85		A	0.7
3	☐	1.000		4113981.92		A	1.2
4	☐	1.000		4142021.19		A	1.9
5	☐	1.000		4073413.69		A	2.3
6	☐	1.000		3861350.46		A	1.1

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	010CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:35:20-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	109231	0.00
Be	9	1	No Gas	57	50.05
V	51	2	He	1678	0.30
Cr	52	2	He	1380	0.77
Fe	56	2	He	9513	0.04
Se	78	2	He	117	5.56
Sn	118	2	He	1387	0.62
As	75	2	He	74	48.24
Ca	44	2	He	250	7.33
Na	23	2	He	84887	0.00
Mg	24	2	He	573	2.66
K	39	2	He	50901	0.01
Mn	55	2	He	380	5.92
Co	59	2	He	133	23.42
Ni	60	2	He	190	16.62
Cu	63	2	He	1660	0.25
Zn	66	2	He	717	0.22
Al	27	2	He	347	2.54
B	11	1	No Gas	20054	0.01
Al	27	1	No Gas	30908	0.01
Si	28	1	No Gas	509788	0.00
P	31	1	No Gas	37133	0.00
Ag	107	1	No Gas	383	8.06
Cd	111	1	No Gas	10	0.00
Sr	88	1	No Gas	2657	0.35
Mo	95	1	No Gas	113	25.03
Sn	118	1	No Gas	3541	0.19
Sb	121	1	No Gas	740	3.56
Ba	137	1	No Gas	870	0.69
Tl	205	1	No Gas	230	5.67
Tl	203	1	No Gas	160	11.72
Pb	208	1	No Gas	1617	0.38
U	238	1	No Gas	17	749.40
Ca	43	2	He	10	1000.00
Sb	121	2	He	287	9.13
Cu	63	1	No Gas	4918	0.12

QC ISTD Table

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	No Gas	1931903	0.19
Ge	72	2	He	1022077	3.45
Ge	72	1	No Gas	4777860	1.48

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
In	115	1	No Gas	5424891	1.23
Bi	209	1	No Gas	4087764	0.79

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	011CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:37:12-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	12576	0.02
V	51	2	He	19760	0.01
Cr	52	2	He	23998	0.01
Fe	56	2	He	2092012	0.00
Se	78	2	He	375	2.76
Sn	118	2	He	20453	0.02
As	75	2	He	2967	0.12
Ca	44	2	He	8780	0.02
Na	23	2	He	350481	0.00
Mg	24	2	He	144233	0.00
K	39	2	He	210221	0.00
Mn	55	2	He	14795	0.02
Co	59	2	He	37743	0.01
Ni	60	2	He	9984	0.05
Cu	63	2	He	27568	0.00
Zn	66	2	He	5228	0.05
Al	27	2	He	1233	0.76
B	11	1	No Gas	59768	0.00
Al	27	1	No Gas	119436	0.00
Si	28	1	No Gas	674372	0.00
P	31	1	No Gas	50853	0.00
Ag	107	1	No Gas	75801	0.00
Cd	111	1	No Gas	15366	0.01
Sr	88	1	No Gas	153014	0.00
Mo	95	1	No Gas	27422	0.01
Sn	118	1	No Gas	49812	0.00
Sb	121	1	No Gas	58689	0.00
Ba	137	1	No Gas	23652	0.00
Tl	205	1	No Gas	111206	0.00
Tl	203	1	No Gas	47010	0.00
Pb	208	1	No Gas	159496	0.00
U	238	1	No Gas	146181	0.00
Ca	43	2	He	537	0.87
Sb	121	2	He	22904	0.01
Cu	63	1	No Gas	60043	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1959159	0.98	1931903	101.41	70	120	

Calibration Standard Report

Ge	72	2	He	1037940	2.50	1022077	101.55	70	120	
Ge	72	1	No Gas	4791502	1.06	4777860	100.29	70	120	
In	115	1	No Gas	5393098	1.36	5424891	99.41	70	120	
Bi	209	1	No Gas	4215443	0.66	4087764	103.12	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	012CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:39:05-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	31644	0.00
V	51	2	He	47188	0.00
Cr	52	2	He	58850	0.00
Fe	56	2	He	4955364	0.00
Se	78	2	He	675	1.35
Sn	118	2	He	49172	0.00
As	75	2	He	7452	0.01
Ca	44	2	He	21250	0.01
Na	23	2	He	757136	0.00
Mg	24	2	He	356135	0.00
K	39	2	He	452052	0.00
Mn	55	2	He	36619	0.00
Co	59	2	He	93130	0.00
Ni	60	2	He	24643	0.01
Cu	63	2	He	66074	0.00
Zn	66	2	He	11652	0.03
Al	27	2	He	2180	0.14
B	11	1	No Gas	120267	0.00
Al	27	1	No Gas	245673	0.01
Si	28	1	No Gas	934355	0.00
P	31	1	No Gas	74305	0.00
Ag	107	1	No Gas	185298	0.00
Cd	111	1	No Gas	36735	0.00
Sr	88	1	No Gas	380615	0.00
Mo	95	1	No Gas	67873	0.00
Sn	118	1	No Gas	123581	0.00
Sb	121	1	No Gas	146638	0.00
Ba	137	1	No Gas	56447	0.00
Tl	205	1	No Gas	280151	0.00
Tl	203	1	No Gas	116724	0.00
Pb	208	1	No Gas	391088	0.00
U	238	1	No Gas	363732	0.00
Ca	43	2	He	1277	0.45
Sb	121	2	He	57178	0.00
Cu	63	1	No Gas	141470	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1920390	1.29	1931903	99.40	70	120	

Calibration Standard Report

Ge	72	2	He	1014123	2.17	1022077	99.22	70	120	
Ge	72	1	No Gas	4756166	2.11	4777860	99.55	70	120	
In	115	1	No Gas	5343675	2.10	5424891	98.50	70	120	
Bi	209	1	No Gas	4113982	1.17	4087764	100.64	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:40:57-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	67270	0.00
V	51	2	He	96508	0.00
Cr	52	2	He	121405	0.00
Fe	56	2	He	10407722	0.00
Se	78	2	He	1368	0.29
Sn	118	2	He	103864	0.00
As	75	2	He	15874	0.01
Ca	44	2	He	45780	0.00
Na	23	2	He	1487931	0.00
Mg	24	2	He	744026	0.00
K	39	2	He	926049	0.00
Mn	55	2	He	75297	0.00
Co	59	2	He	196348	0.00
Ni	60	2	He	51157	0.00
Cu	63	2	He	139296	0.00
Zn	66	2	He	23320	0.00
Al	27	2	He	4107	0.22
B	11	1	No Gas	232750	0.00
Al	27	1	No Gas	374200	0.00
Si	28	1	No Gas	1384915	0.00
P	31	1	No Gas	117297	0.00
Ag	107	1	No Gas	395690	0.00
Cd	111	1	No Gas	76459	0.00
Sr	88	1	No Gas	814636	0.00
Mo	95	1	No Gas	143830	0.00
Sn	118	1	No Gas	257067	0.00
Sb	121	1	No Gas	305850	0.00
Ba	137	1	No Gas	117398	0.00
Tl	205	1	No Gas	604439	0.00
Tl	203	1	No Gas	251669	0.00
Pb	208	1	No Gas	831719	0.00
U	238	1	No Gas	772742	0.00
Ca	43	2	He	2690	0.17
Sb	121	2	He	119790	0.00
Cu	63	1	No Gas	294755	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1946321	2.93	1931903	100.75	70	120	

Calibration Standard Report

Ge	72	2	He	1035317	2.84	1022077	101.30	70	120	
Ge	72	1	No Gas	4807389	0.97	4777860	100.62	70	120	
In	115	1	No Gas	5280395	2.48	5424891	97.34	70	120	
Bi	209	1	No Gas	4142021	1.95	4087764	101.33	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:42:48-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	664472	0.00
V	51	2	He	952975	0.00
Cr	52	2	He	1192781	0.00
Fe	56	2	He	101167862	0.00
Se	78	2	He	12390	0.01
Sn	118	2	He	970239	0.00
As	75	2	He	154047	0.00
Ca	44	2	He	444087	0.00
Na	23	2	He	13683541	0.00
Mg	24	2	He	7162780	0.00
K	39	2	He	8333147	0.00
Mn	55	2	He	729540	0.00
Co	59	2	He	1943238	0.00
Ni	60	2	He	490892	0.00
Cu	63	2	He	1360874	0.00
Zn	66	2	He	220658	0.00
Al	27	2	He	32345	0.01
B	11	1	No Gas	2127571	0.00
Al	27	1	No Gas	3098462	0.00
Si	28	1	No Gas	8677056	0.00
P	31	1	No Gas	820899	0.00
Ag	107	1	No Gas	3869776	0.00
Cd	111	1	No Gas	760190	0.00
Sr	88	1	No Gas	7773151	0.00
Mo	95	1	No Gas	1464485	0.00
Sn	118	1	No Gas	2483420	0.00
Sb	121	1	No Gas	3132742	0.00
Ba	137	1	No Gas	1160963	0.00
Tl	205	1	No Gas	6030405	0.00
Tl	203	1	No Gas	2561347	0.00
Pb	208	1	No Gas	8364493	0.00
U	238	1	No Gas	7828937	0.00
Ca	43	2	He	26623	0.01
Sb	121	2	He	1250912	0.00
Cu	63	1	No Gas	2885404	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1837610	1.32	1931903	95.12	70	120	

Calibration Standard Report

Ge	72	2	He	978457	0.42	1022077	95.73	70	120	
Ge	72	1	No Gas	4672169	0.26	4777860	97.79	70	120	
In	115	1	No Gas	5223121	0.56	5424891	96.28	70	120	
Bi	209	1	No Gas	4073414	2.34	4087764	99.65	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:44:32-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	1261258	0.00
V	51	2	He	1857485	0.00
Cr	52	2	He	2275546	0.00
Fe	56	2	He	190867950	0.00
Se	78	2	He	23577	0.00
Sn	118	2	He	1982956	0.00
As	75	2	He	292259	0.00
Ca	44	2	He	852655	0.00
Na	23	2	He	25398863	0.00
Mg	24	2	He	13495781	0.00
K	39	2	He	15495604	0.00
Mn	55	2	He	1434931	0.00
Co	59	2	He	3632254	0.00
Ni	60	2	He	929331	0.00
Cu	63	2	He	2572697	0.00
Zn	66	2	He	412770	0.00
Al	27	2	He	60180	0.00
B	11	1	No Gas	4000420	0.00
Al	27	1	No Gas	5717279	0.00
Si	28	1	No Gas	15307536	0.00
P	31	1	No Gas	1509891	0.00
Ag	107	1	No Gas	7186667	0.00
Cd	111	1	No Gas	1471287	0.00
Sr	88	1	No Gas	15230623	0.00
Mo	95	1	No Gas	2761975	0.00
Sn	118	1	No Gas	4702685	0.00
Sb	121	1	No Gas	5749340	0.00
Ba	137	1	No Gas	2278888	0.00
Tl	205	1	No Gas	11422845	0.00
Tl	203	1	No Gas	4809090	0.00
Pb	208	1	No Gas	15769861	0.00
U	238	1	No Gas	15116025	0.00
Ca	43	2	He	49422	0.01
Sb	121	2	He	2392576	0.00
Cu	63	1	No Gas	5208479	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1778792	0.71	1931903	92.07	70	120	

Calibration Standard Report

Ge	72	2	He	958114	0.96	1022077	93.74	70	120	
Ge	72	1	No Gas	4562996	1.06	4777860	95.50	70	120	
In	115	1	No Gas	5127192	2.82	5424891	94.51	70	120	
Bi	209	1	No Gas	3861350	1.07	4087764	94.46	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	017_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:48:19-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	97.234	2.404	2761234	0.95	100	97.2	90	110	
Be	9	1	No Gas	101.402	1.419	659678	0.55	100	101.4	90	110	
V	51	2	He	95.795	2.279	967516	1.10	100	95.8	90	110	
Cr	52	2	He	95.907	2.028	1191571	1.19	100	95.9	90	110	
Fe	56	2	He	9538.264	3.878	99552745	0.82	10000	95.4	90	110	
Se	78	2	He	96.104	3.893	12418	0.98	100	96.1	90	110	
Sn	118	2	He	89.197	1.274	929706	1.70	100	89.2	90	110	ICV Main CR1 Failed
As	75	2	He	98.463	3.938	157196	0.89	100	98.5	90	110	
Ca	44	2	He	9499.807	3.842	441447	0.98	10000	95.0	90	110	
Na	23	2	He	9463.405	3.735	13225703	0.64	10000	94.6	90	110	
Mg	24	2	He	9455.799	3.168	6981281	0.96	10000	94.6	90	110	
K	39	2	He	9609.781	4.126	8189096	1.05	10000	96.1	90	110	
Mn	55	2	He	93.427	4.058	727007	1.40	100	93.4	90	110	
Co	59	2	He	97.453	2.941	1939622	0.99	100	97.5	90	110	
Ni	60	2	He	94.963	3.428	482357	1.05	100	95.0	90	110	
Cu	63	2	He	97.835	1.267	1377136	2.01	100	97.8	90	110	
Zn	66	2	He	96.275	2.027	218088	1.50	100	96.3	90	110	
Al	27	2	He	94.484	3.891	31352	1.89	100	94.5	90	110	
B	11	1	No Gas	517.923	1.179	2148693	1.72	500	103.6	90	110	
Al	27	1	No Gas	99.886	1.480	3037787	1.48	100	99.9	90	110	
Si	28	1	No Gas	557.025	1.017	9288094	1.24	500	111.4	90	110	ICV Main CR1 Failed
P	31	1	No Gas	497.392	1.052	810857	0.76	500	99.5	90	110	
Ag	107	1	No Gas	101.747	2.734	3824905	1.76	100	101.7	90	110	
Cd	111	1	No Gas	97.500	1.197	743993	1.15	100	97.5	90	110	
Sr	88	1	No Gas	95.426	2.291	7521873	1.19	100	95.4	90	110	
Mo	95	1	No Gas	100.948	0.538	1453941	0.86	100	100.9	90	110	
Sn	118	1	No Gas	97.520	2.194	2391278	2.53	100	97.5	90	110	
Sb	121	1	No Gas	102.183	1.310	3114877	1.22	100	102.2	90	110	
Ba	137	1	No Gas	96.799	2.087	1141264	1.18	100	96.8	90	110	
Tl	205	1	No Gas	100.482	1.860	6070468	0.43	100	100.5	90	110	
Tl	203	1	No Gas	102.186	2.516	2603067	0.71	100	102.2	90	110	
Pb	208	1	No Gas	98.916	1.035	8258255	1.18	100	98.9	90	110	
U	238	1	No Gas	93.381	2.490	7433768	1.41	100	93.4	90	110	
Ca	43	2	He	9446.180	3.095	25621	0.42	10000	94.5	90	110	
Sb	121	2	He	95.016	2.807	1239673	0.44	100	95.0	90	110	
Ti	47	2	He	93.298	4.251	29763	2.16	100	93.3	90	110	
Cu	63	1	No Gas	104.994	0.433	2911410	0.19	100	105.0	90	110	

QC ISTD Table

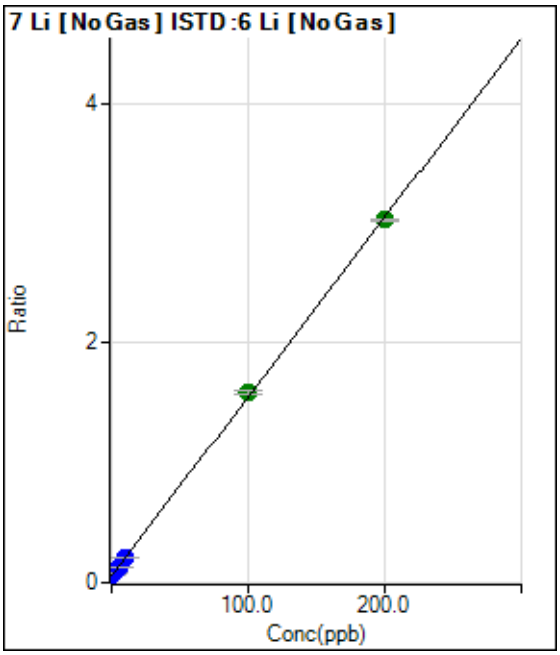
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1827978	1.80	1931903	94.62	70	120	
Ge	72	2	He	1040677	3.02	1022077	101.82	70	120	
Ge	72	1	No Gas	4776247	0.28	4777860	99.97	70	120	
In	115	1	No Gas	5302960	1.39	5424891	97.75	70	120	
Bi	209	1	No Gas	4083889	1.84	4087764	99.91	70	120	

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	010CALB.d	CAL BLK	4/14/2020 8:35:20 AM
2	011CALS.d	2/10/200	4/14/2020 8:37:12 AM
3	012CALS.d	5/25/500	4/14/2020 8:39:05 AM
4	013CALS.d	10/50/100	4/14/2020 8:40:57 AM
5	014CALS.d	100/500/10K	4/14/2020 8:42:48 AM
6	015CALS.d	200/1000/20K	4/14/2020 8:44:32 AM

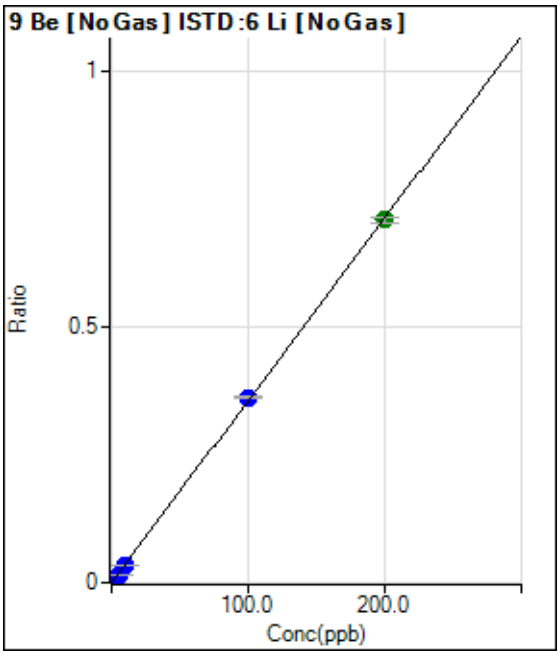
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	109231.13	0.0565	P	0.6
2	☐	2.000	1.816	163987.78	0.0837	P	0.9
3	☐	5.000	4.759	245262.11	0.1277	P	1.4
4	☐	10.000	10.055	402531.93	0.2069	P	3.0
5	☐	100.000	102.535	2921902.04	1.5902	A	1.1
6	☐	200.000	198.738	5388221.59	3.0292	A	0.6

y = 0.0150 * x + 0.0565
R = 0.9999
DL = 0.06565
BEC = 3.78

Weight: <None>
Min Conc: <None>

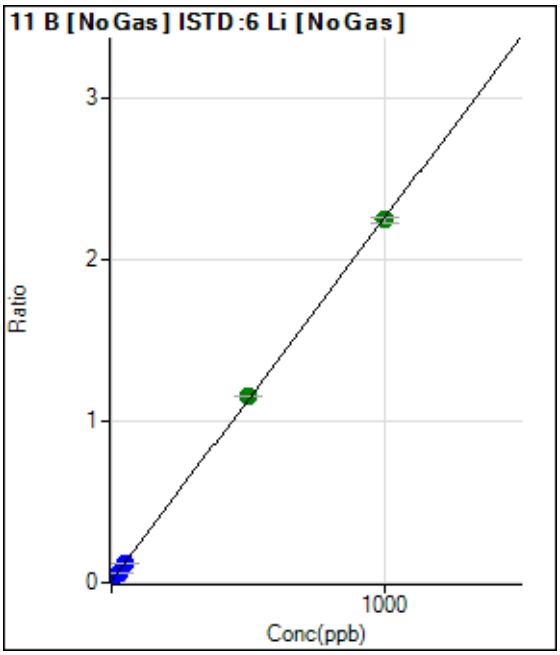


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	28.5
2	☐	2.000	1.796	12575.68	0.0064	P	3.1
3	☐	5.000	4.622	31643.86	0.0165	P	1.0
4	☐	10.000	9.707	67269.66	0.0346	P	2.2
5	☐	100.000	101.599	664472.44	0.3616	P	1.4
6	☐	200.000	199.227	1261257.87	0.7091	A	1.9

y = 0.0036 * x + 2.9339E-005
R = 0.9999
DL = 0.007052
BEC = 0.008243

Weight: <None>
Min Conc: <None>

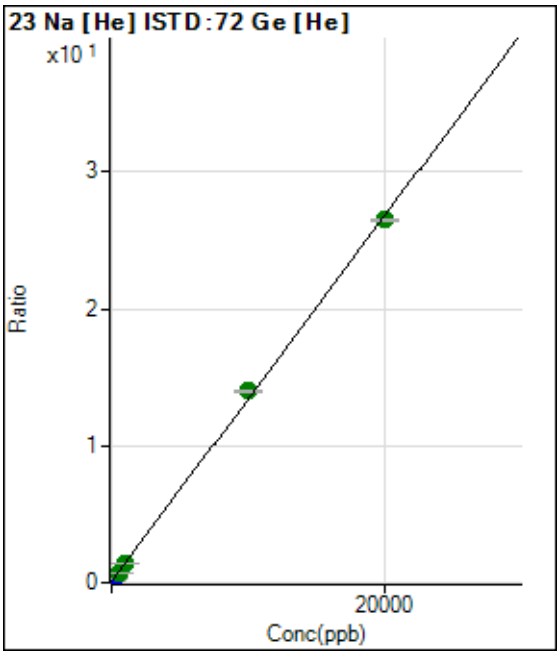
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20054.34	0.0104	P	2.0
2	☐	10.000	8.947	59768.24	0.0305	P	0.9
3	☐	25.000	23.228	120266.59	0.0626	P	1.9
4	☐	50.000	48.574	232750.40	0.1197	P	3.0
5	☐	500.000	510.064	2127570.75	1.1578	A	0.5
6	☐	1000.000	995.094	4000419.94	2.2490	A	1.9

y = 0.0022 * x + 0.0104
R = 0.9999
DL = 0.2734
BEC = 4.614

Weight: <None>
Min Conc: <None>

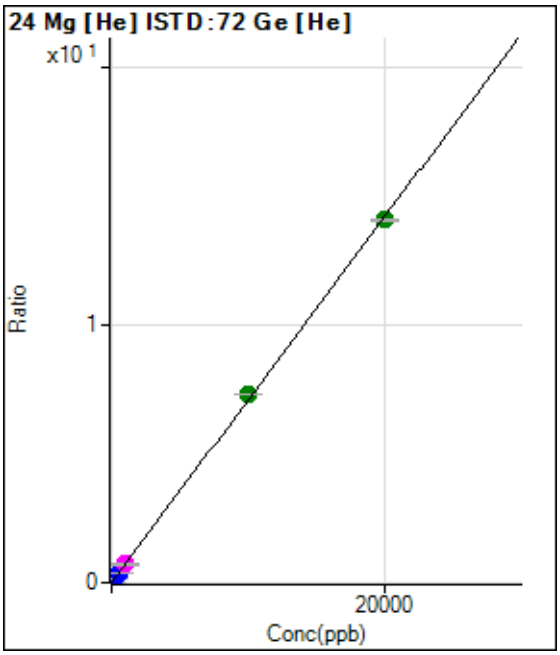


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	84887.26	0.0831	P	3.8
2	☐	200.000	190.729	350480.79	0.3378	P	1.8
3	☐	500.000	496.975	757136.21	0.7467	A	0.7
4	☐	1000.000	1014.355	1487931.49	1.4374	A	1.3
5	☐	10000.00	10411.95	13683541.46	13.9847	A	0.3
6	☐	20000.00	19793.47	25398862.95	26.5105	A	0.8

y = 0.0013 * x + 0.0831
R = 0.9997
DL = 7.183
BEC = 62.26

Weight: <None>
Min Conc: <None>

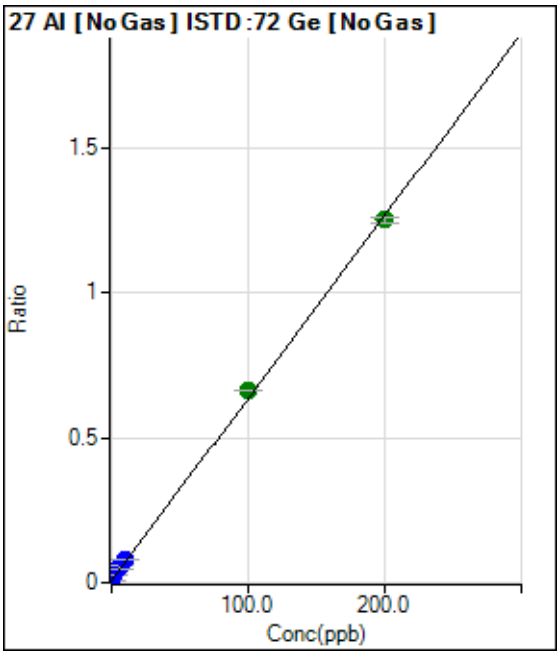
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.36	0.0006	P	12.0
2	☐	200.000	195.054	144233.04	0.1390	P	2.5
3	☐	500.000	494.148	356134.71	0.3513	P	3.0
4	☐	1000.000	1012.278	744026.09	0.7191	M	3.4
5	☐	10000.00	10312.41	7162779.89	7.3205	A	0.3
6	☐	20000.00	19843.37	13495781.05	14.0858	A	0.3

y = 7.0982E-004 * x + 5.5965E-004
R = 0.9998
DL = 0.2845
BEC = 0.7884

Weight: <None>
Min Conc: <None>

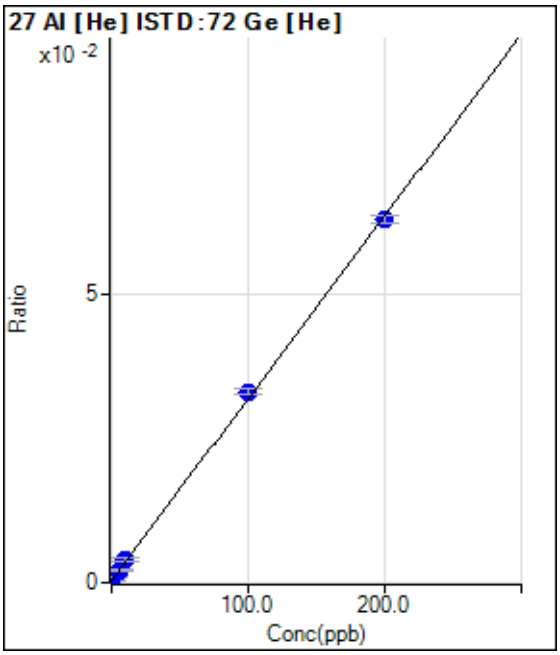


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30907.92	0.0065	P	3.7
2	☐	2.000	2.929	119436.31	0.0249	P	1.7
3	☐	5.000	7.144	245673.15	0.0515	P	21.4
4	☐	10.000	11.324	374199.75	0.0778	P	1.7
5	☐	100.000	104.195	3098462.25	0.6632	A	0.7
6	☐	200.000	197.773	5717278.67	1.2530	A	1.3

y = 0.0063 * x + 0.0065
R = 0.9997
DL = 0.1135
BEC = 1.027

Weight: <None>
Min Conc: <None>

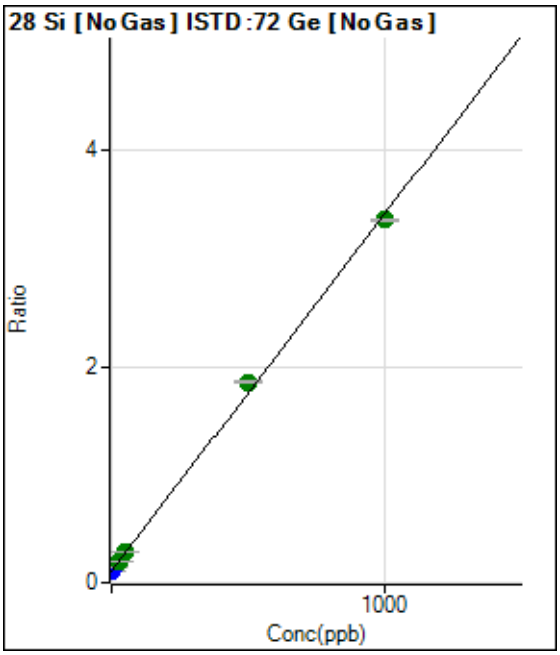
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.68	0.0003	P	10.6
2	☐	2.000	2.691	1233.41	0.0012	P	9.6
3	☐	5.000	5.742	2180.21	0.0022	P	4.9
4	☐	10.000	11.511	4107.33	0.0040	P	10.0
5	☐	100.000	103.706	32344.50	0.0331	P	3.3
6	☐	200.000	198.046	60180.00	0.0628	P	2.2

y = 3.1548E-004 * x + 3.3967E-004
R = 0.9998
DL = 0.3411
BEC = 1.077

Weight: <None>
Min Conc: <None>

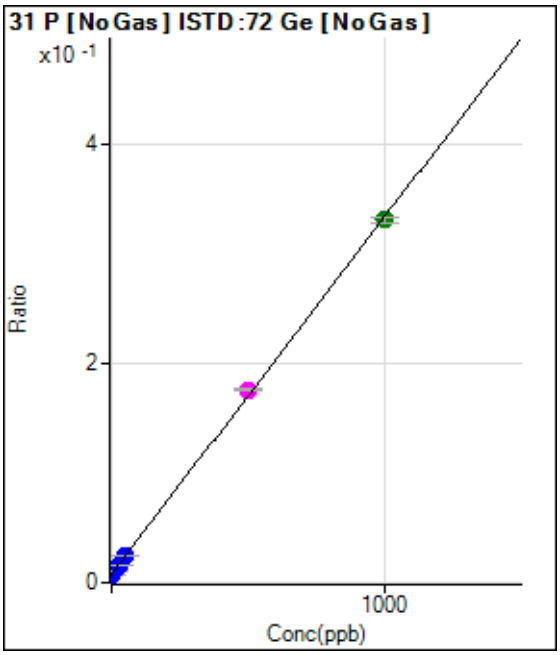


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	509787.55	0.1067	P	0.9
2	☐	10.000	10.319	674371.84	0.1408	P	1.2
3	☐	25.000	27.204	934355.17	0.1965	A	0.7
4	☐	50.000	54.973	1384914.67	0.2881	A	0.9
5	☐	500.000	530.530	8677055.70	1.8572	A	0.7
6	☐	1000.000	984.428	15307535.60	3.3548	A	0.5

y = 0.0033 * x + 0.1067
R = 0.9993
DL = 0.8524
BEC = 32.34

Weight: <None>
Min Conc: <None>

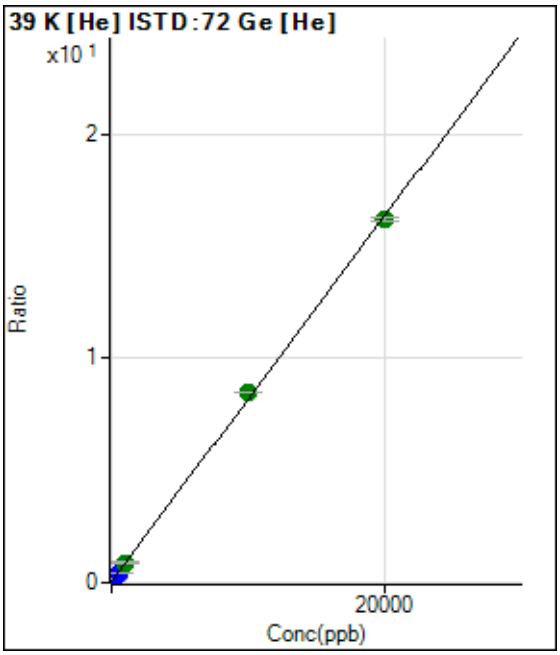
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37133.34	0.0078	P	2.1
2	☐	10.000	8.722	50853.29	0.0106	P	1.0
3	☐	25.000	24.115	74305.22	0.0156	P	2.1
4	☐	50.000	51.046	117296.94	0.0244	P	1.6
5	☐	500.000	515.603	820899.05	0.1757	M	1.3
6	☐	1000.000	992.181	1509890.60	0.3309	A	1.9

y = 3.2570E-004 * x + 0.0078
R = 0.9998
DL = 1.491
BEC = 23.87

Weight: <None>
Min Conc: <None>

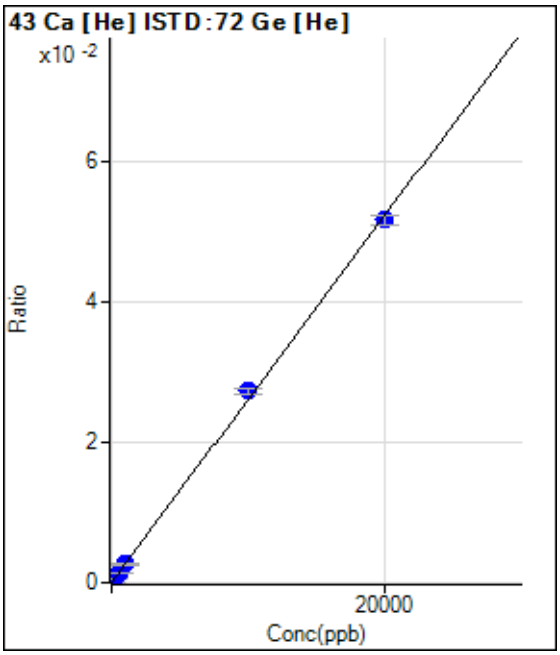


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50901.49	0.0498	P	3.8
2	☐	200.000	187.625	210221.43	0.2026	P	2.6
3	☐	500.000	486.373	452052.14	0.4459	P	2.2
4	☐	1000.000	1037.645	926048.66	0.8948	A	2.2
5	☐	10000.00	10397.09	8333147.17	8.5166	A	0.3
6	☐	20000.00	19800.03	15495603.52	16.1738	A	1.1

y = 8.1434E-004 * x + 0.0498
R = 0.9997
DL = 6.951
BEC = 61.19

Weight: <None>
Min Conc: <None>

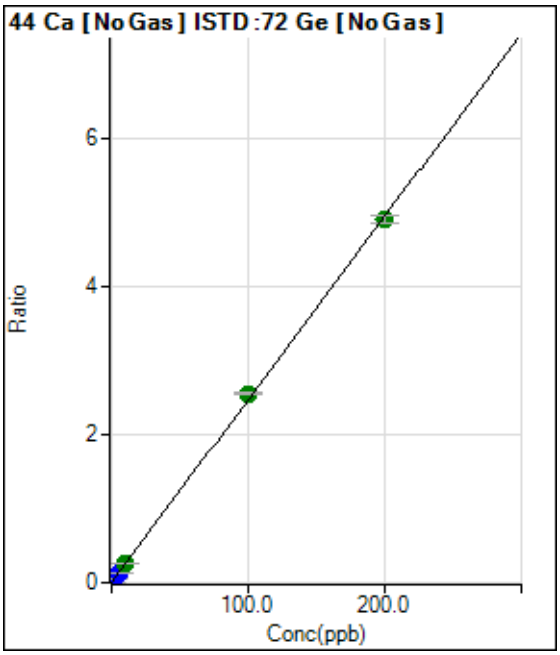
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	98.2
2	☐	200.000	194.796	536.69	0.0005	P	5.8
3	☐	500.000	479.013	1276.75	0.0013	P	3.6
4	☐	1000.000	993.670	2690.31	0.0026	P	5.4
5	☐	10000.00	10434.60	26622.73	0.0272	P	3.2
6	☐	20000.00	19783.59	49422.38	0.0516	P	2.4

y = 2.6069E-006 * x + 9.5864E-006
R = 0.9997
DL = 10.84
BEC = 3.677

Weight: <None>
Min Conc: <None>

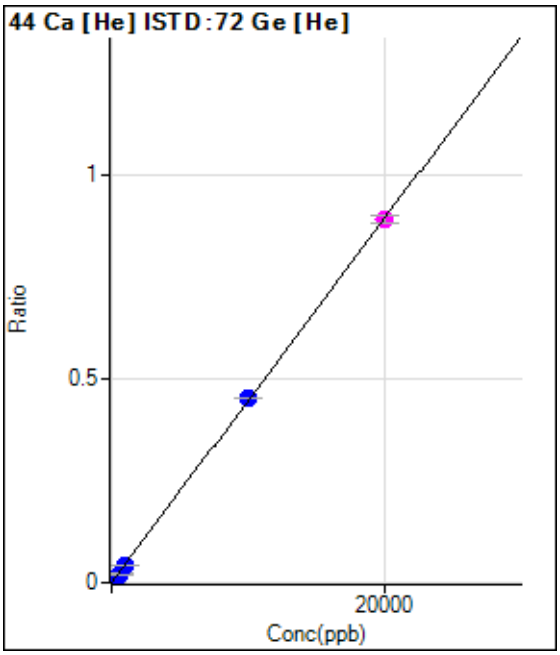


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13843.93	0.0029	P	4.2
2	☐	2.000	1.984	248377.13	0.0518	P	0.8
3	☐	5.000	4.924	591361.71	0.1244	P	3.7
4	☐	10.000	10.558	1266149.93	0.2634	A	1.8
5	☐	100.000	103.436	11937736.49	2.5551	A	0.4
6	☐	200.000	198.256	22331442.16	4.8947	A	2.2

y = 0.0247 * x + 0.0029
R = 0.9998
DL = 0.01497
BEC = 0.1175

Weight: <None>
Min Conc: <None>

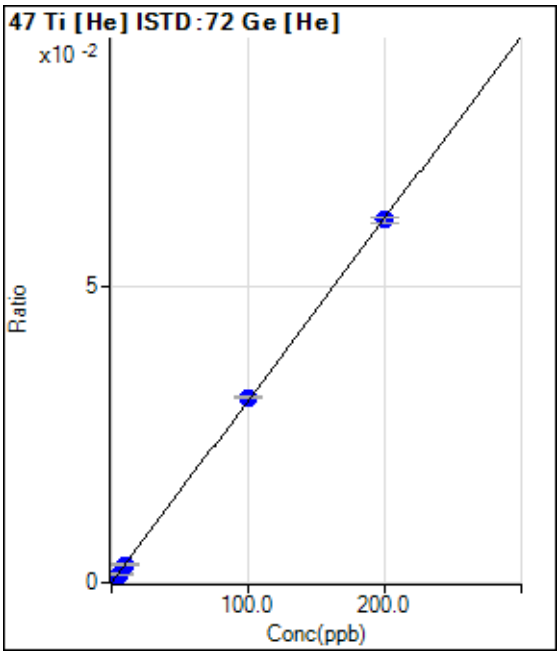
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	250.01	0.0002	P	20.5
2	☐	200.000	183.931	8779.62	0.0085	P	0.9
3	☐	500.000	463.868	21250.04	0.0210	P	3.6
4	☐	1000.000	984.920	45779.64	0.0442	P	1.8
5	☐	10000.00	10156.97	444086.84	0.4539	P	0.1
6	☐	20000.00	19923.33	852654.99	0.8900	M	2.0

y = 4.4661E-005 * x + 2.4547E-004
R = 1.0000
DL = 3.383
BEC = 5.496

Weight: <None>
Min Conc: <None>

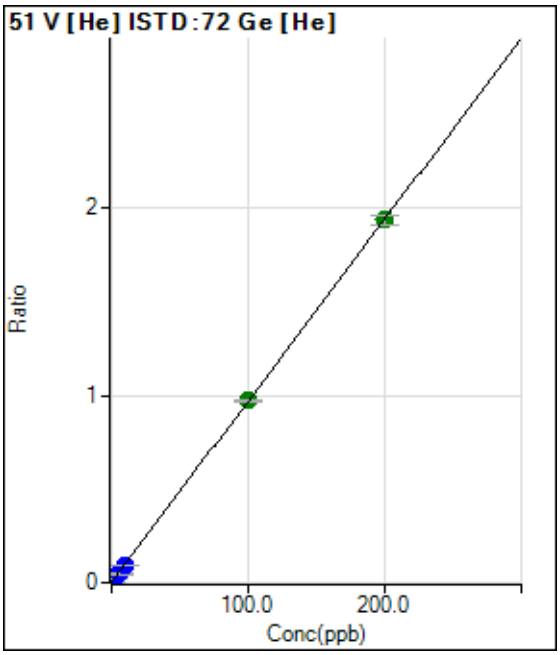


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	1.735	553.36	0.0005	P	12.2
3	☐	5.000	4.732	1473.44	0.0015	P	7.0
4	☐	10.000	10.005	3177.09	0.0031	P	4.5
5	☐	100.000	101.596	30494.19	0.0312	P	1.1
6	☐	200.000	199.211	58548.21	0.0611	P	1.9

y = 3.0677E-004 * x + 0.0000E+000
R = 1.0000
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

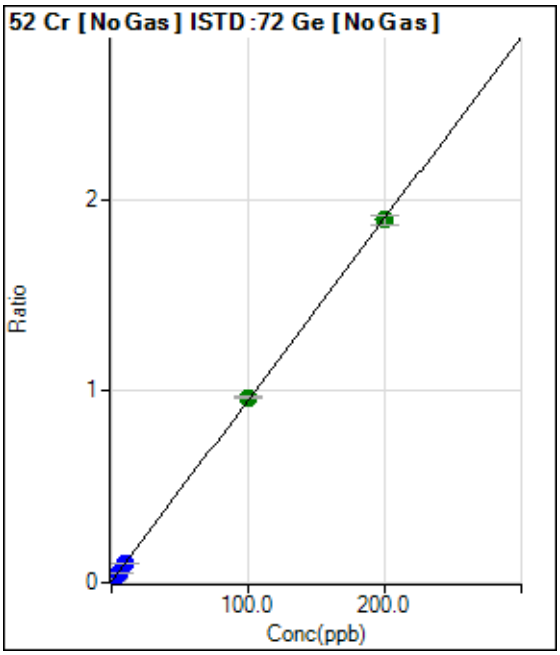
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1677.89	0.0016	P	8.4
2	☐	2.000	1.795	19759.81	0.0190	P	0.1
3	☐	5.000	4.632	47187.52	0.0465	P	1.7
4	☐	10.000	9.454	96508.19	0.0933	P	3.5
5	☐	100.000	100.322	952975.38	0.9740	A	0.9
6	☐	200.000	199.878	1857484.51	1.9389	A	2.3

y = 0.0097 * x + 0.0016
R = 1.0000
DL = 0.04276
BEC = 0.1697

Weight: <None>
Min Conc: <None>

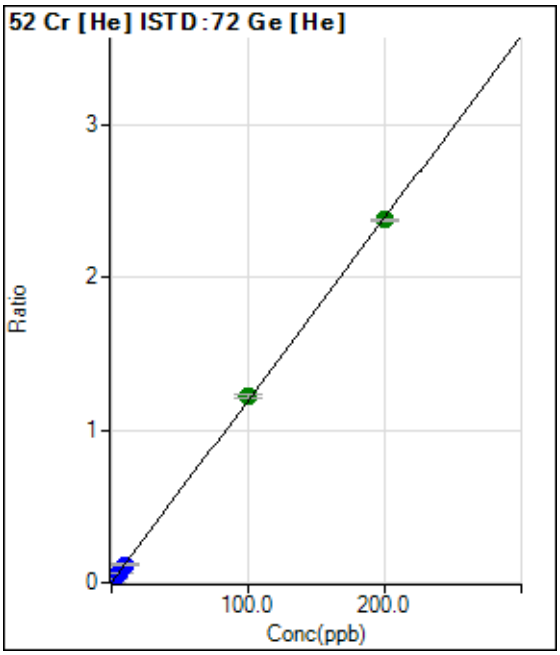


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26198.61	0.0055	P	0.7
2	☐	2.000	1.954	115010.55	0.0240	P	1.0
3	☐	5.000	4.908	247302.30	0.0520	P	1.0
4	☐	10.000	10.344	497667.30	0.1035	P	0.4
5	☐	100.000	101.537	4521960.56	0.9678	A	0.4
6	☐	200.000	199.217	8639162.58	1.8937	A	2.9

y = 0.0095 * x + 0.0055
R = 1.0000
DL = 0.01234
BEC = 0.5785

Weight: <None>
Min Conc: <None>

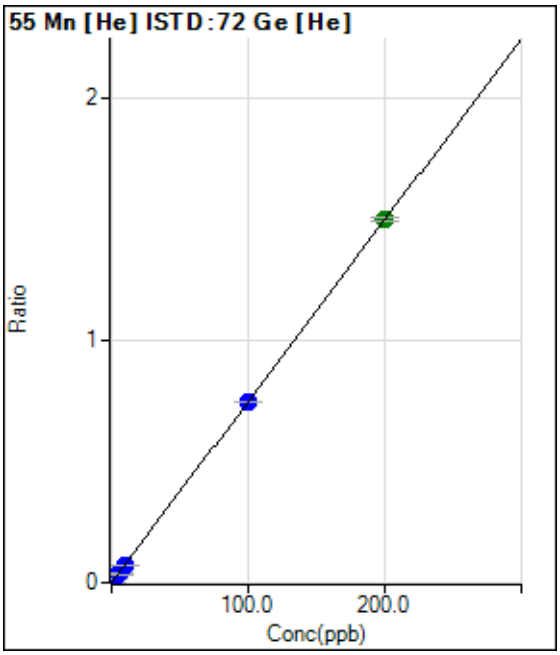
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1380.09	0.0014	P	13.6
2	☐	2.000	1.826	23998.00	0.0231	P	4.9
3	☐	5.000	4.753	58850.12	0.0581	P	3.5
4	☐	10.000	9.724	121405.45	0.1174	P	4.4
5	☐	100.000	102.078	1192781.02	1.2191	A	1.8
6	☐	200.000	198.983	2275546.32	2.3751	A	0.3

y = 0.0119 * x + 0.0014
R = 0.9999
DL = 0.04633
BEC = 0.1135

Weight: <None>
Min Conc: <None>

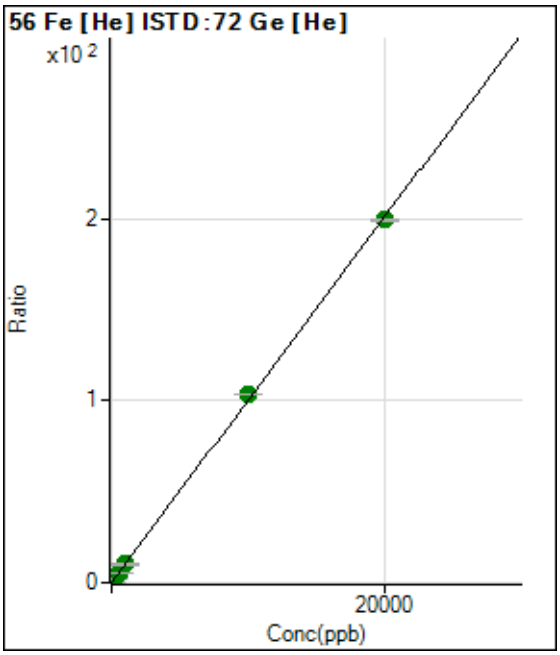


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0004	P	23.0
2	☐	2.000	1.858	14794.97	0.0143	P	5.2
3	☐	5.000	4.781	36619.29	0.0361	P	3.5
4	☐	10.000	9.681	75297.43	0.0728	P	3.8
5	☐	100.000	99.639	729539.73	0.7456	P	0.2
6	☐	200.000	200.204	1434931.17	1.4978	A	1.1

y = 0.0075 * x + 3.7202E-004
R = 1.0000
DL = 0.03432
BEC = 0.04974

Weight: <None>
Min Conc: <None>

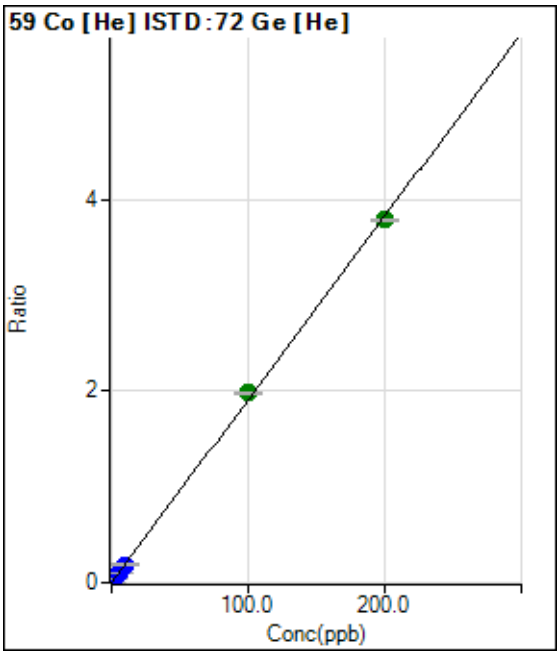
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9513.47	0.0093	P	0.7
2	☐	200.000	199.997	2092011.95	2.0165	A	2.9
3	☐	500.000	486.104	4955363.68	4.8879	A	2.2
4	☐	1000.000	1001.318	10407721.93	10.0586	A	3.1
5	☐	10000.00	10301.43	101167861.8	103.395	A	0.0
6	☐	20000.00	19849.56	190867950.4	199.221	A	0.7

y = 0.0100 * x + 0.0093
R = 0.9998
DL = 0.01986
BEC = 0.9274

Weight: <None>
Min Conc: <None>

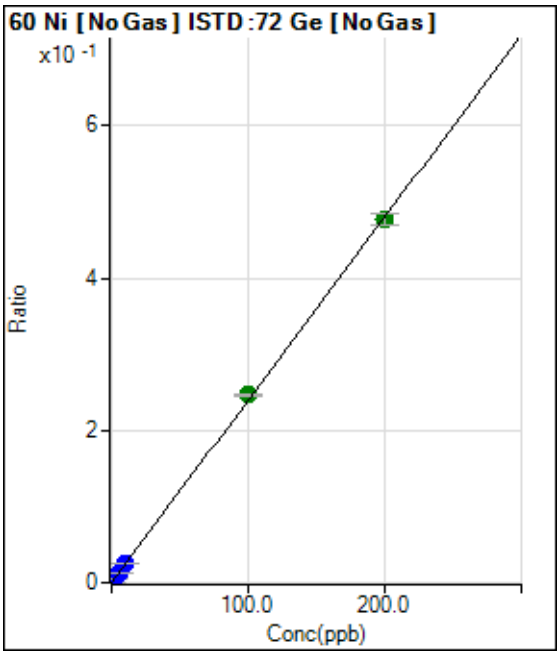


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	133.33	0.0001	P	33.2
2	☐	2.000	1.894	37742.52	0.0364	P	2.5
3	☐	5.000	4.793	93130.31	0.0918	P	0.4
4	☐	10.000	9.907	196348.17	0.1897	P	1.6
5	☐	100.000	103.786	1943237.63	1.9860	A	0.7
6	☐	200.000	198.118	3632254.01	3.7910	A	0.3

y = 0.0191 * x + 1.3093E-004
R = 0.9997
DL = 0.006815
BEC = 0.006843

Weight: <None>
Min Conc: <None>

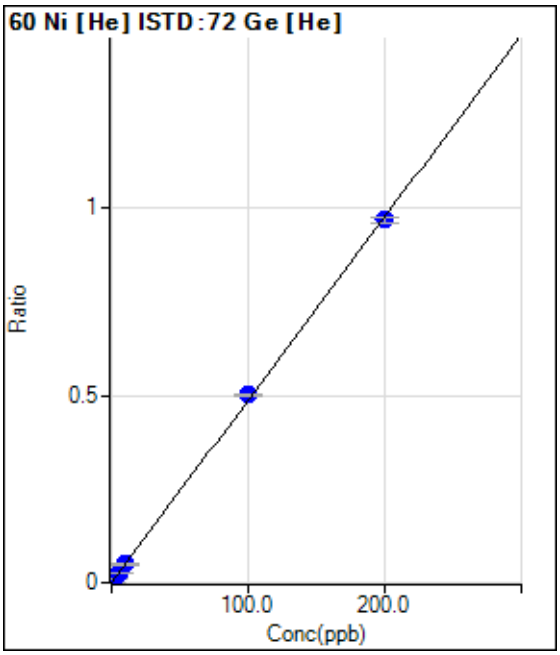
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.03	0.0001	P	18.4
2	☐	2.000	2.006	23660.83	0.0049	P	1.8
3	☐	5.000	4.976	57361.27	0.0121	P	0.2
4	☐	10.000	10.354	119992.16	0.0250	P	0.7
5	☐	100.000	102.643	1150769.51	0.2463	A	1.7
6	☐	200.000	198.661	2174187.72	0.4766	A	3.0

y = 0.0024 * x + 1.2758E-004
R = 0.9999
DL = 0.02935
BEC = 0.0532

Weight: <None>
Min Conc: <None>

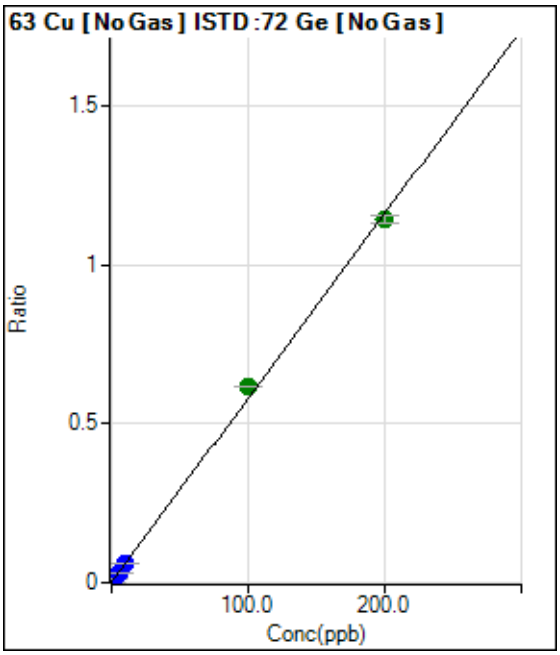


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0002	P	28.5
2	☐	2.000	1.932	9983.84	0.0096	P	3.9
3	☐	5.000	4.939	24642.70	0.0243	P	1.7
4	☐	10.000	10.090	51156.59	0.0494	P	3.5
5	☐	100.000	102.726	490892.13	0.5017	P	1.4
6	☐	200.000	198.635	929330.64	0.9699	P	1.3

y = 0.0049 * x + 1.8482E-004
R = 0.9999
DL = 0.03231
BEC = 0.03786

Weight: <None>
Min Conc: <None>

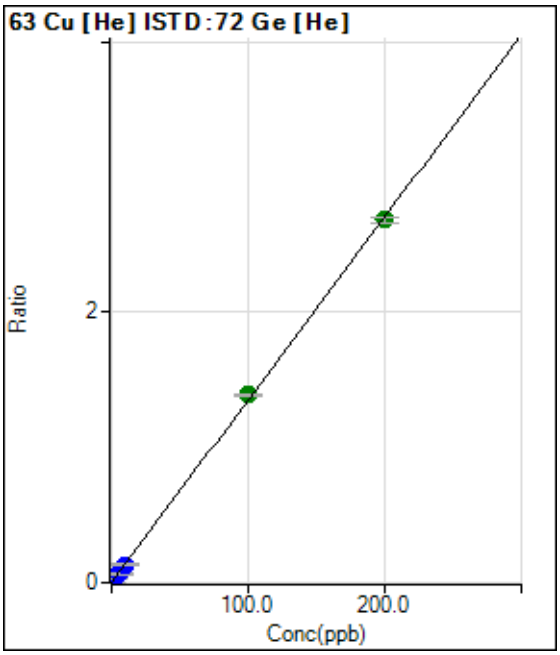
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4917.67	0.0010	P	4.4
2	☐	2.000	1.985	60042.88	0.0125	P	2.1
3	☐	5.000	4.957	141470.30	0.0298	P	3.2
4	☐	10.000	10.402	294754.58	0.0613	P	1.2
5	☐	100.000	106.376	2885403.81	0.6176	A	0.7
6	☐	200.000	196.793	5208479.19	1.1416	A	2.2

y = 0.0058 * x + 0.0010
R = 0.9993
DL = 0.02351
BEC = 0.1775

Weight: <None>
Min Conc: <None>

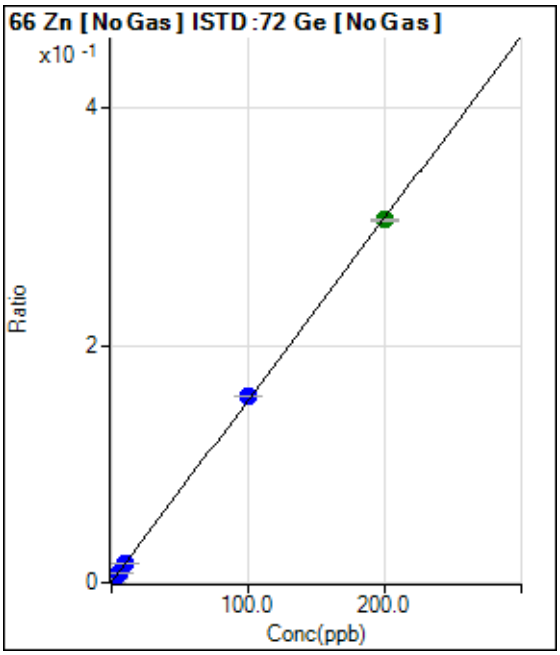


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1660.13	0.0016	P	6.6
2	☐	2.000	1.846	27568.24	0.0266	P	2.1
3	☐	5.000	4.702	66073.76	0.0652	P	3.4
4	☐	10.000	9.842	139295.63	0.1346	P	2.9
5	☐	100.000	102.809	1360873.73	1.3908	A	0.8
6	☐	200.000	198.613	2572697.20	2.6854	A	1.8

y = 0.0135 * x + 0.0016
R = 0.9999
DL = 0.02395
BEC = 0.1204

Weight: <None>
Min Conc: <None>

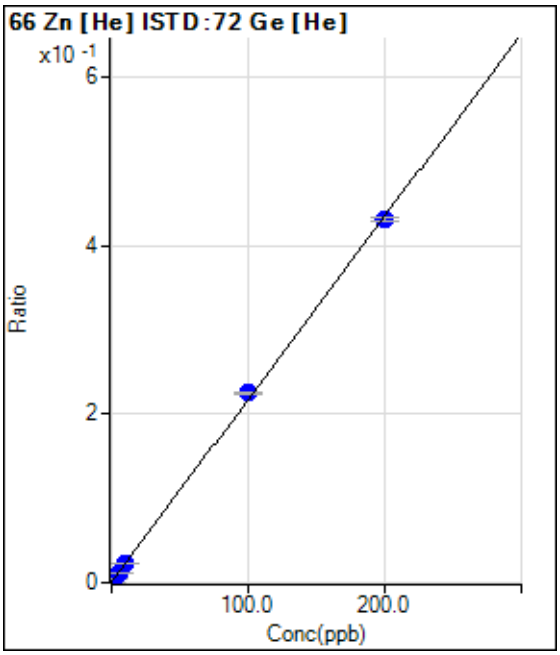
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2676.98	0.0006	P	5.5
2	☐	2.000	2.075	17922.13	0.0037	P	2.0
3	☐	5.000	4.858	38080.49	0.0080	P	2.9
4	☐	10.000	10.277	78409.30	0.0163	P	1.4
5	☐	100.000	101.908	732409.34	0.1568	P	0.3
6	☐	200.000	199.035	1394531.54	0.3056	A	0.6

y = 0.0015 * x + 5.6001E-004
R = 0.9999
DL = 0.06055
BEC = 0.3654

Weight: <None>
Min Conc: <None>

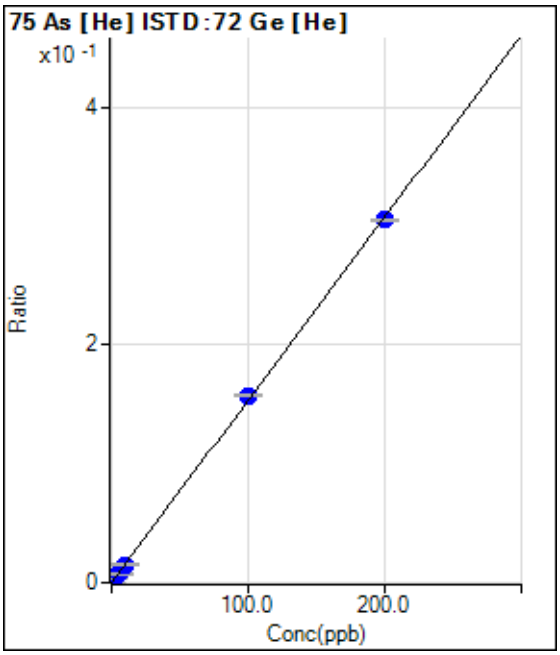


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	716.70	0.0007	P	4.6
2	☐	2.000	1.998	5227.75	0.0050	P	3.0
3	☐	5.000	4.974	11651.87	0.0115	P	5.0
4	☐	10.000	10.060	23320.41	0.0225	P	2.5
5	☐	100.000	103.590	220658.44	0.2255	P	0.6
6	☐	200.000	198.203	412770.49	0.4308	P	1.2

y = 0.0022 * x + 7.0192E-004
R = 0.9998
DL = 0.04427
BEC = 0.3234

Weight: <None>
Min Conc: <None>

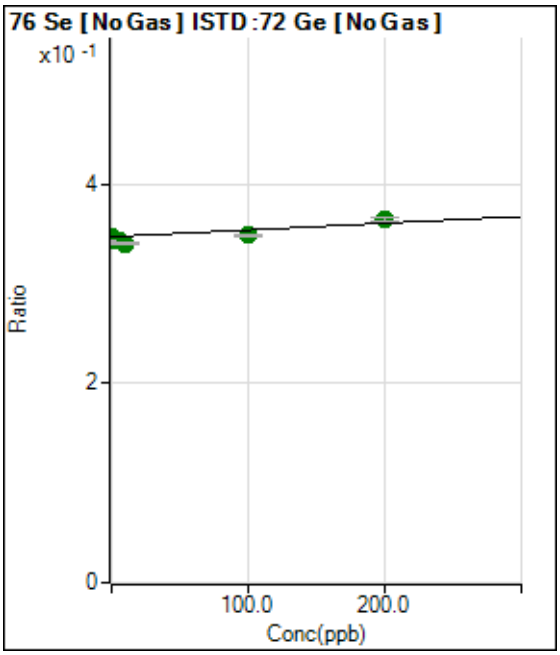
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	74.45	0.0001	P	38.5
2	☐	2.000	1.816	2967.01	0.0029	P	5.0
3	☐	5.000	4.743	7452.09	0.0074	P	2.8
4	☐	10.000	9.948	15873.82	0.0153	P	2.5
5	☐	100.000	102.549	154046.71	0.1574	P	0.8
6	☐	200.000	198.737	292258.97	0.3050	P	0.8

y = 0.0015 * x + 7.3459E-005
R = 0.9999
DL = 0.05527
BEC = 0.04787

Weight: <None>
Min Conc: <None>

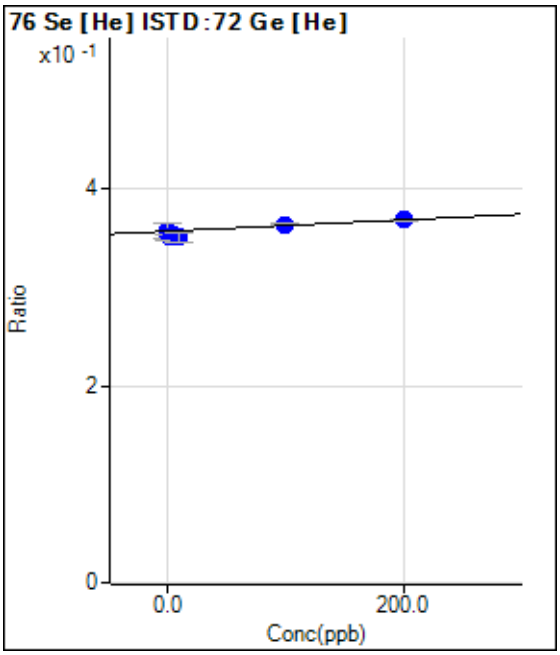


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1657476.95	0.3469	A	0.8
2	☐	2.000	-58.848	1643014.56	0.3429	A	1.1
3	☐	5.000	-58.065	1630983.05	0.3429	A	0.3
4	☐	10.000	-98.274	1635326.49	0.3402	A	1.0
5	☐	100.000	21.073	1627510.19	0.3483	A	0.6
6	☐	200.000	247.062	1659968.10	0.3638	A	1.1

y = 6.8330E-005 * x + 0.3469
R = 0.9305
DL = 122.3
BEC = 5077

Weight: <None>
Min Conc: <None>

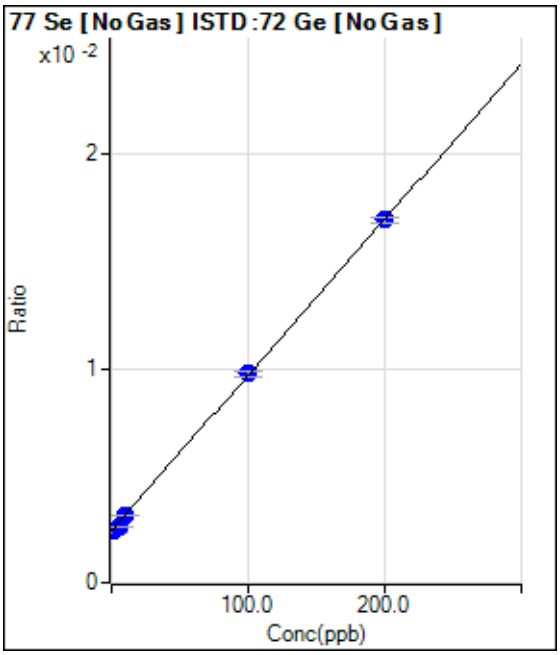
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	364956.52	0.3574	P	4.2
2	☐	2.000	-107.776	364410.49	0.3512	P	1.5
3	☐	5.000	-69.577	358241.18	0.3534	P	2.8
4	☐	10.000	-106.494	363463.09	0.3513	P	2.9
5	☐	100.000	121.375	356594.12	0.3644	P	0.8
6	☐	200.000	198.100	353416.23	0.3689	P	0.8

y = 5.7873E-005 * x + 0.3574
R = 0.9246
DL = 782.3
BEC = 6176

Weight: <None>
Min Conc: <None>

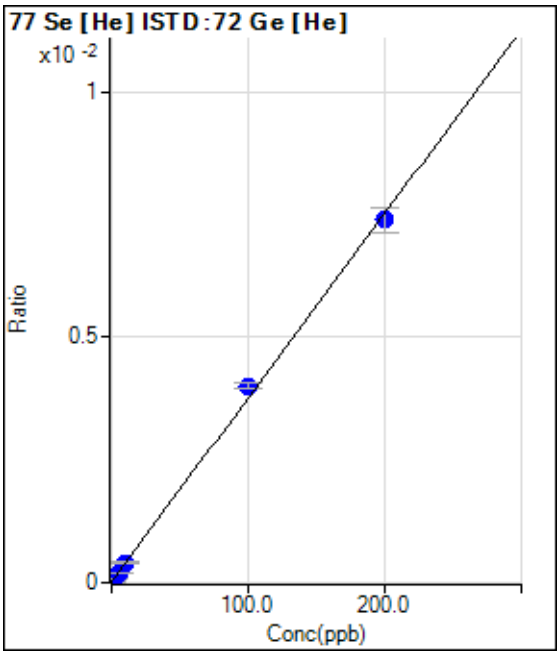


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11651.94	0.0024	P	3.7
2	☐	2.000	-0.531	11501.80	0.0024	P	3.7
3	☐	5.000	2.311	12395.89	0.0026	P	2.4
4	☐	10.000	9.841	15158.79	0.0032	P	2.0
5	☐	100.000	100.744	45557.36	0.0098	P	2.6
6	☐	200.000	199.728	77270.73	0.0169	P	1.4

y = 7.2583E-005 * x + 0.0024
R = 0.9999
DL = 3.698
BEC = 33.6

Weight: <None>
Min Conc: <None>

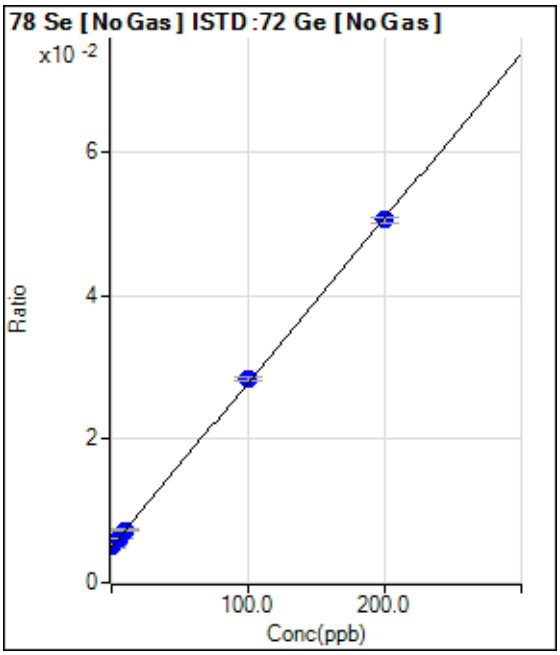
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	93.0
2	☐	2.000	1.872	90.00	0.0001	P	27.5
3	☐	5.000	4.827	200.01	0.0002	P	13.3
4	☐	10.000	10.469	423.35	0.0004	P	11.4
5	☐	100.000	106.502	3923.99	0.0040	P	2.3
6	☐	200.000	196.731	7082.00	0.0074	P	6.8

y = 3.7505E-005 * x + 1.6209E-005
R = 0.9992
DL = 1.206
BEC = 0.4322

Weight: <None>
Min Conc: <None>

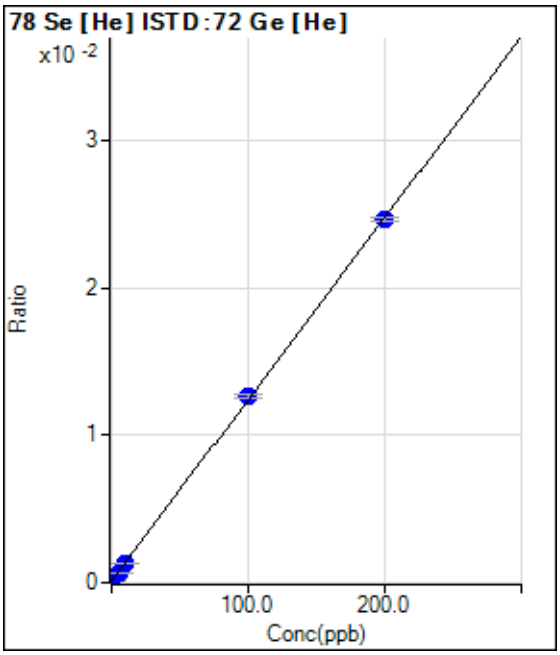


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23888.15	0.0050	P	3.6
2	☐	2.000	2.456	26660.04	0.0056	P	2.3
3	☐	5.000	4.806	29024.88	0.0061	P	1.5
4	☐	10.000	10.283	35383.38	0.0074	P	1.5
5	☐	100.000	102.046	132732.97	0.0284	P	1.7
6	☐	200.000	198.963	231047.26	0.0506	P	1.8

y = 2.2939E-004 * x + 0.0050
R = 0.9999
DL = 2.383
BEC = 21.8

Weight: <None>
Min Conc: <None>

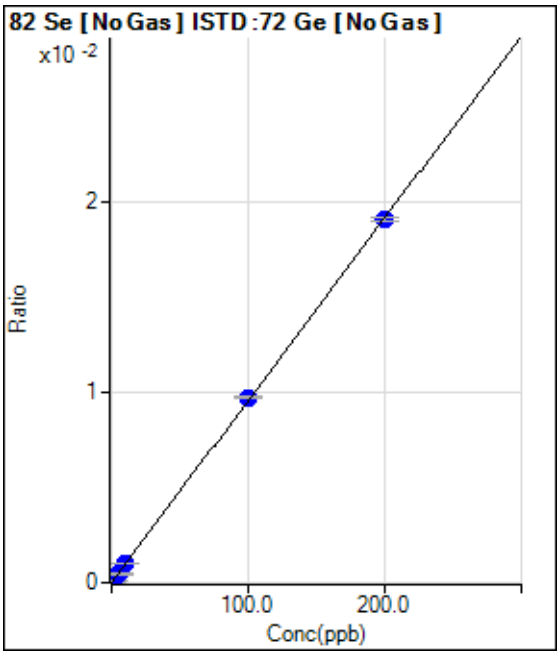
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0001	P	9.7
2	☐	2.000	2.008	374.68	0.0004	P	11.9
3	☐	5.000	4.486	675.35	0.0007	P	10.2
4	☐	10.000	9.820	1368.08	0.0013	P	6.6
5	☐	100.000	101.963	12389.71	0.0127	P	1.4
6	☐	200.000	199.040	23577.23	0.0246	P	1.0

y = 1.2307E-004 * x + 1.1440E-004
R = 0.9999
DL = 0.2718
BEC = 0.9296

Weight: <None>
Min Conc: <None>

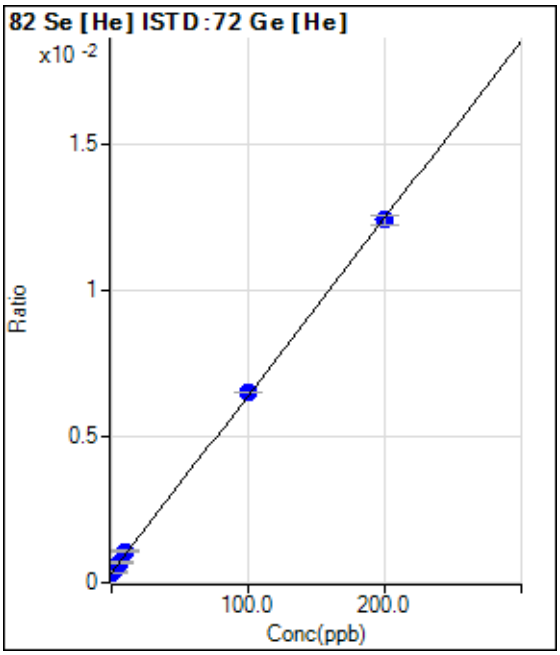


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.09	0.0000	P	936.1
2	☐	2.000	1.273	592.64	0.0001	P	29.9
3	☐	5.000	4.821	2204.41	0.0005	P	19.9
4	☐	10.000	10.342	4771.82	0.0010	P	2.1
5	☐	100.000	101.640	45501.24	0.0097	P	1.0
6	☐	200.000	199.175	87069.44	0.0191	P	0.9

y = 9.5799E-005 * x + 1.9538E-006
R = 0.9999
DL = 0.5727
BEC = 0.02039

Weight: <None>
Min Conc: <None>

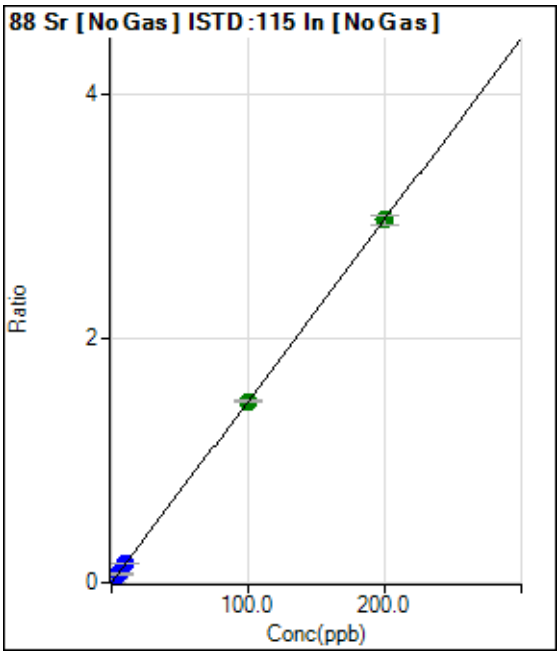
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.68	0.0003	P	18.1
2	☐	2.000	0.746	400.01	0.0004	P	15.8
3	☐	5.000	5.665	693.37	0.0007	P	12.2
4	☐	10.000	12.030	1106.74	0.0011	P	3.7
5	☐	100.000	101.695	6371.63	0.0065	P	0.2
6	☐	200.000	199.047	11898.85	0.0124	P	2.3

y = 6.0696E-005 * x + 3.3939E-004
R = 0.9999
DL = 3.039
BEC = 5.592

Weight: <None>
Min Conc: <None>

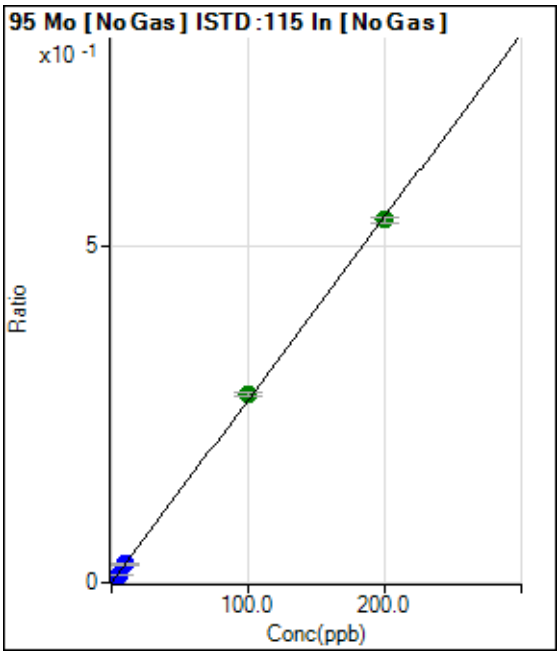


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2656.97	0.0005	P	10.4
2	☐	2.000	1.876	153014.09	0.0284	P	2.1
3	☐	5.000	4.761	380615.43	0.0712	P	1.7
4	☐	10.000	10.351	814635.67	0.1543	P	2.1
5	☐	100.000	100.108	7773150.51	1.4883	A	1.2
6	☐	200.000	199.936	15230622.69	2.9719	A	2.6

y = 0.0149 * x + 4.9016E-004
R = 1.0000
DL = 0.01031
BEC = 0.03298

Weight: <None>
Min Conc: <None>

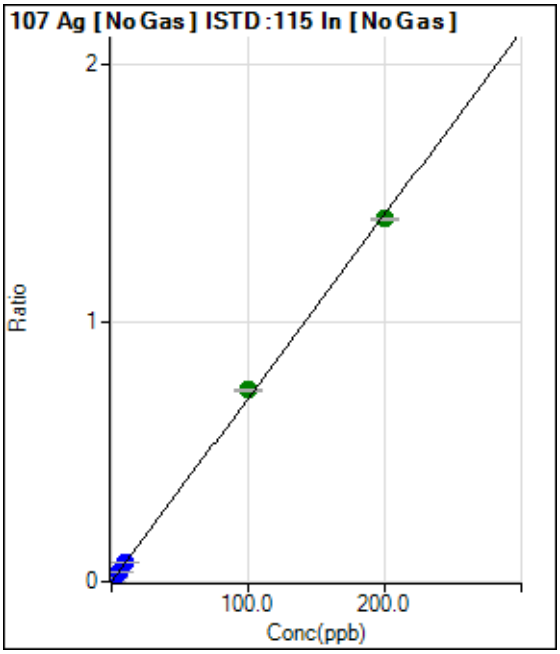
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.33	0.0000	P	28.5
2	☐	2.000	1.865	27422.19	0.0051	P	2.7
3	☐	5.000	4.670	67873.34	0.0127	P	1.7
4	☐	10.000	10.025	143829.63	0.0272	P	2.4
5	☐	100.000	103.235	1464485.29	0.2804	A	1.5
6	☐	200.000	198.391	2761975.38	0.5388	A	1.4

y = 0.0027 * x + 2.0901E-005
R = 0.9998
DL = 0.006578
BEC = 0.007696

Weight: <None>
Min Conc: <None>

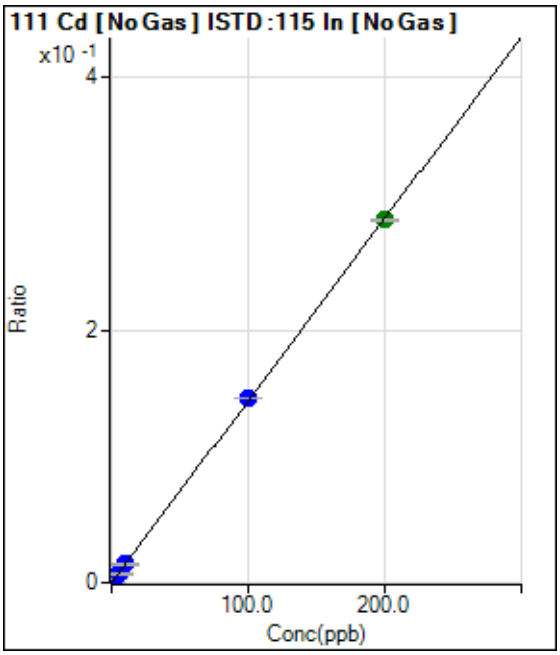


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	383.35	0.0001	P	29.7
2	☐	2.000	1.973	75801.18	0.0141	P	2.0
3	☐	5.000	4.882	185298.27	0.0347	P	1.4
4	☐	10.000	10.565	395690.07	0.0750	P	2.8
5	☐	100.000	104.496	3869775.67	0.7409	A	1.2
6	☐	200.000	197.727	7186666.77	1.4019	A	0.8

y = 0.0071 * x + 7.0521E-005
R = 0.9996
DL = 0.008874
BEC = 0.009947

Weight: <None>
Min Conc: <None>

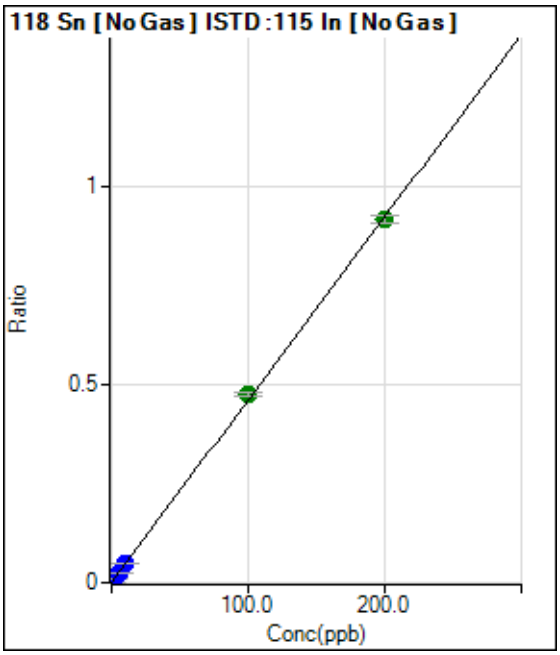
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	1.2
2	☐	2.000	1.979	15365.88	0.0028	P	0.6
3	☐	5.000	4.777	36734.93	0.0069	P	1.7
4	☐	10.000	10.063	76459.40	0.0145	P	1.8
5	☐	100.000	101.137	760190.04	0.1455	P	0.4
6	☐	200.000	199.434	1471286.96	0.2870	A	0.8

y = 0.0014 * x + 1.8435E-006
R = 1.0000
DL = 4.736E-05
BEC = 0.001281

Weight: <None>
Min Conc: <None>

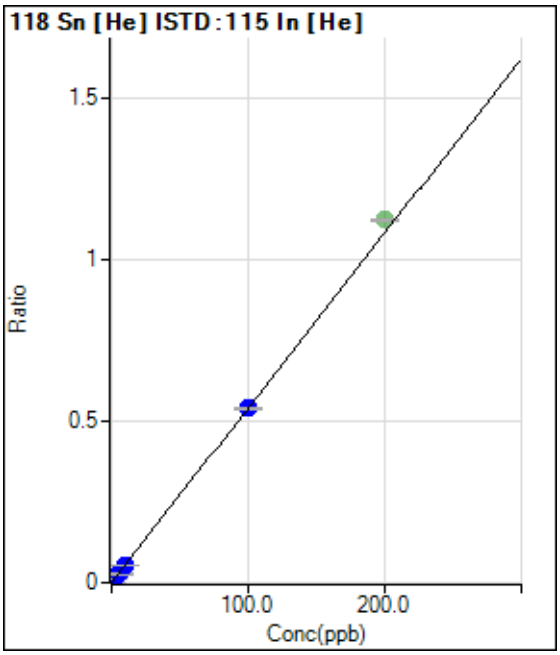


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3540.56	0.0007	P	6.9
2	☐	2.000	1.859	49811.81	0.0092	P	1.7
3	☐	5.000	4.868	123580.81	0.0231	P	2.2
4	☐	10.000	10.402	257067.11	0.0487	P	1.8
5	☐	100.000	102.833	2483419.75	0.4755	A	1.9
6	☐	200.000	198.568	4702685.24	0.9175	A	2.2

y = 0.0046 * x + 6.5267E-004
R = 0.9999
DL = 0.02907
BEC = 0.1414

Weight: <None>
Min Conc: <None>

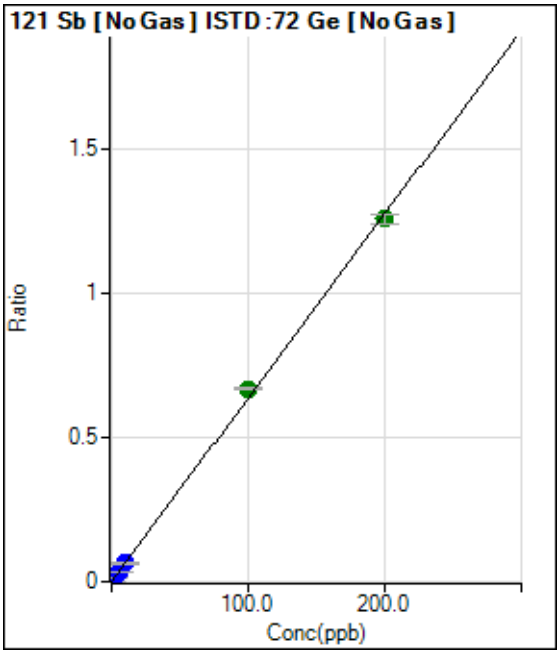
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1386.77	0.0007	P	9.9
2	☐	2.000	1.867	20452.95	0.0108	P	3.6
3	☐	5.000	4.844	49172.48	0.0269	P	1.4
4	☐	10.000	10.138	103863.63	0.0556	P	3.2
5	☐	100.000	99.997	970238.66	0.5418	P	1.0
6	☑	200.000		1982955.86	1.1247	A	0.7

y = 0.0054 * x + 7.3370E-004
R = 1.0000
DL = 0.04017
BEC = 0.1356

Weight: <None>
Min Conc: <None>

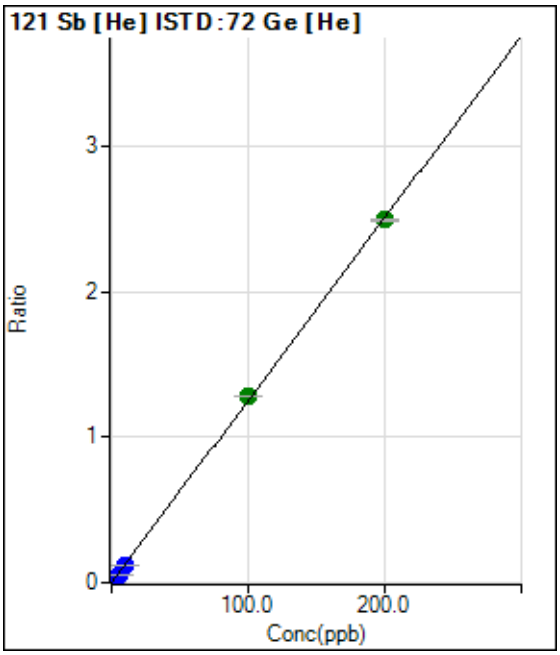


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	740.04	0.0002	P	27.7
2	☐	2.000	1.895	58688.67	0.0122	P	0.8
3	☐	5.000	4.810	146637.60	0.0308	P	3.3
4	☐	10.000	9.947	305849.84	0.0636	P	1.1
5	☐	100.000	105.058	3132742.35	0.6705	A	1.5
6	☐	200.000	197.479	5749340.33	1.2602	A	2.8

y = 0.0064 * x + 1.5531E-004
R = 0.9995
DL = 0.02026
BEC = 0.02434

Weight: <None>
Min Conc: <None>

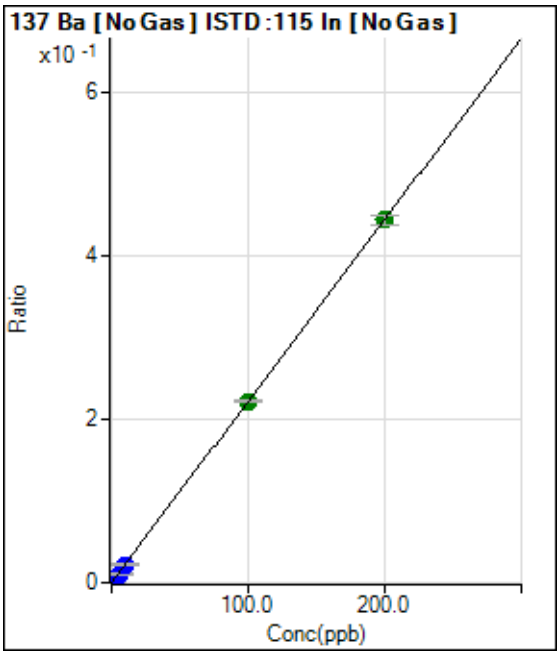
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	286.68	0.0003	P	25.4
2	☐	2.000	1.739	22903.70	0.0221	P	4.7
3	☐	5.000	4.474	57178.37	0.0564	P	2.0
4	☐	10.000	9.207	119790.36	0.1157	P	2.0
5	☐	100.000	101.919	1250912.35	1.2785	A	0.2
6	☐	200.000	199.096	2392575.69	2.4972	A	0.4

y = 0.0125 * x + 2.8008E-004
R = 0.9999
DL = 0.01703
BEC = 0.02233

Weight: <None>
Min Conc: <None>

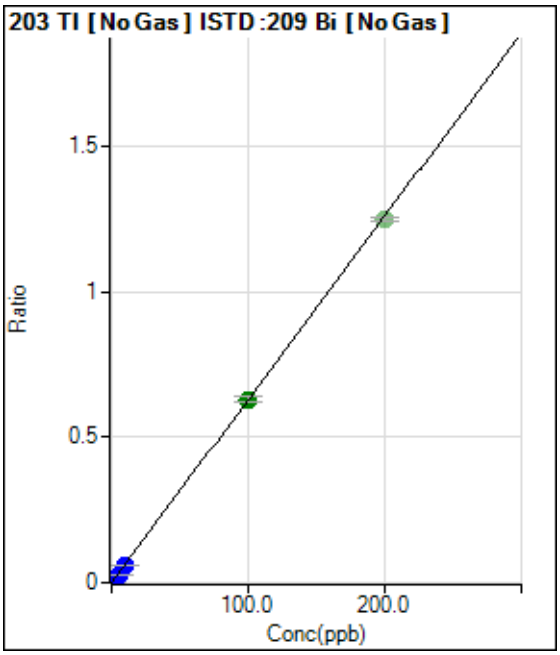


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	870.05	0.0002	P	4.9
2	☐	2.000	1.902	23651.96	0.0044	P	1.5
3	☐	5.000	4.683	56447.47	0.0106	P	2.7
4	☐	10.000	9.938	117398.10	0.0222	P	3.3
5	☐	100.000	99.963	1160962.90	0.2223	A	0.7
6	☐	200.000	200.031	2278887.99	0.4446	A	2.5

y = 0.0022 * x + 1.6033E-004
R = 1.0000
DL = 0.01064
BEC = 0.07216

Weight: <None>
Min Conc: <None>

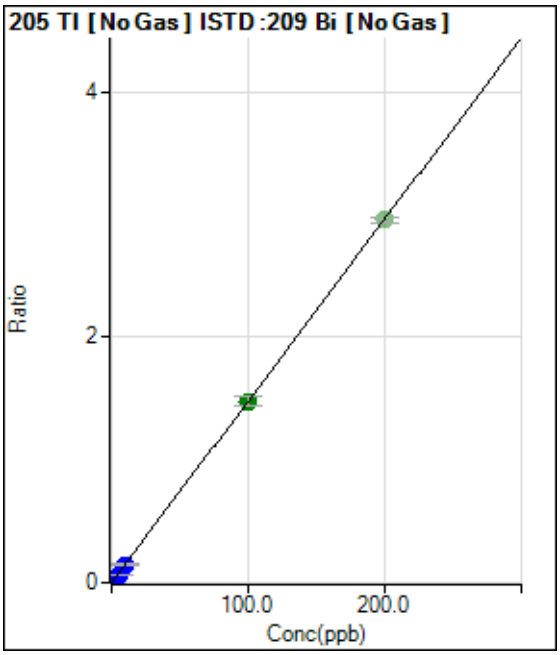
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	160.01	0.0000	P	18.7
2	☐	2.000	1.768	47009.65	0.0112	P	1.6
3	☐	5.000	4.508	116723.95	0.0284	P	2.3
4	☐	10.000	9.662	251669.02	0.0608	P	2.1
5	☐	100.000	100.063	2561347.31	0.6291	A	3.0
6	☑	200.000		4809090.45	1.2455	A	0.9

y = 0.0063 * x + 3.9147E-005
R = 1.0000
DL = 0.003502
BEC = 0.006227

Weight: <None>
Min Conc: <None>

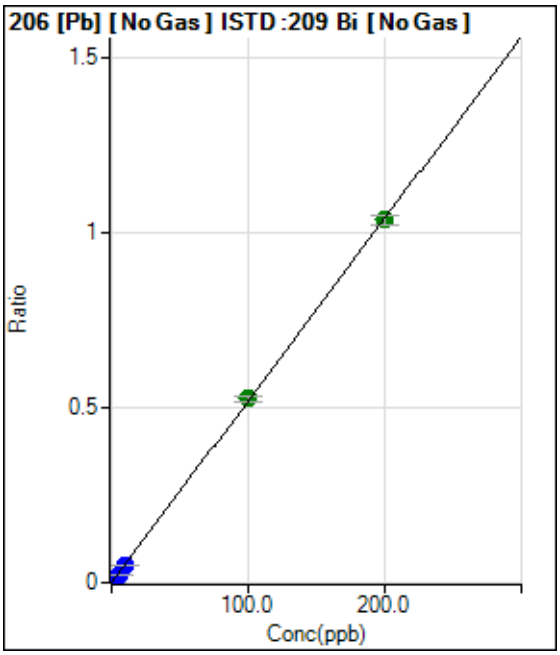


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230.01	0.0001	P	12.4
2	☐	2.000	1.778	111205.56	0.0264	P	1.9
3	☐	5.000	4.596	280151.20	0.0681	P	3.3
4	☐	10.000	9.857	604439.47	0.1460	P	4.5
5	☐	100.000	100.039	6030404.91	1.4814	A	4.4
6	☑	200.000		11422845.25	2.9586	A	1.8

y = 0.0148 * x + 5.6235E-005
R = 1.0000
DL = 0.001409
BEC = 0.003798

Weight: <None>
Min Conc: <None>

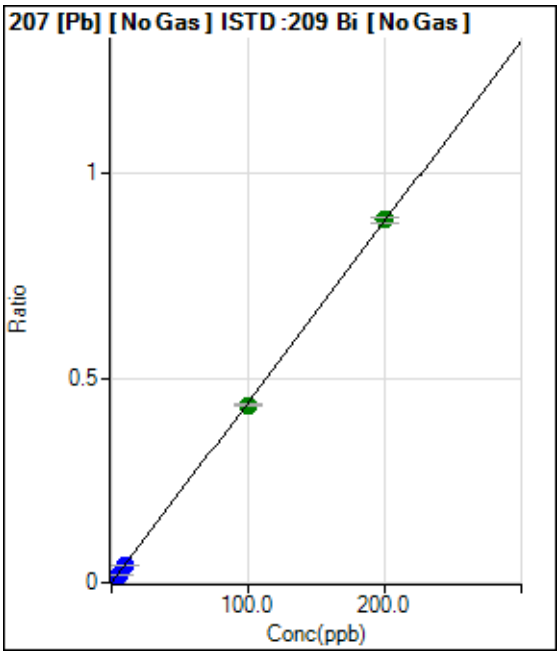
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	430.02	0.0001	P	13.4
2	☐	2.000	1.726	38203.07	0.0091	P	3.4
3	☐	5.000	4.489	96306.40	0.0234	P	0.6
4	☐	10.000	9.752	210056.24	0.0507	P	2.8
5	☐	100.000	101.301	2141551.90	0.5260	A	3.3
6	☐	200.000	199.378	3996514.00	1.0351	A	2.3

y = 0.0052 * x + 1.0512E-004
R = 1.0000
DL = 0.008158
BEC = 0.02025

Weight: <None>
Min Conc: <None>

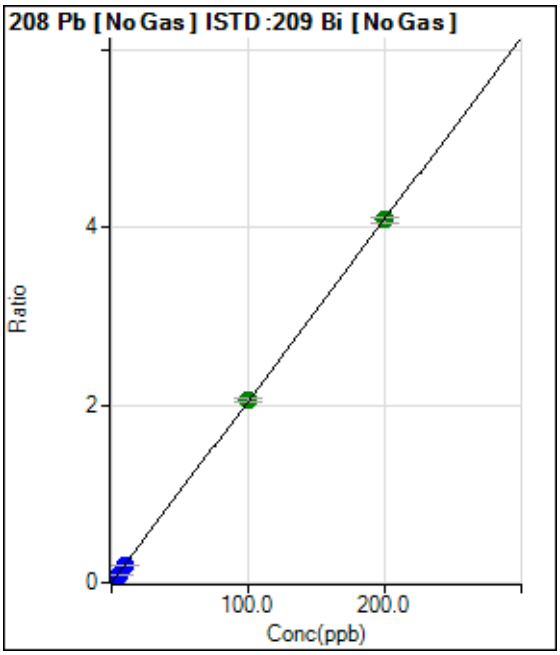


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	316.68	0.0001	P	29.2
2	☐	2.000	1.845	34682.50	0.0082	P	0.8
3	☐	5.000	4.612	84111.16	0.0204	P	2.1
4	☐	10.000	9.963	182534.94	0.0441	P	2.2
5	☐	100.000	98.312	1768578.31	0.4343	A	1.5
6	☐	200.000	200.857	3425457.45	0.8872	A	1.6

y = 0.0044 * x + 7.7588E-005
R = 1.0000
DL = 0.01538
BEC = 0.01757

Weight: <None>
Min Conc: <None>

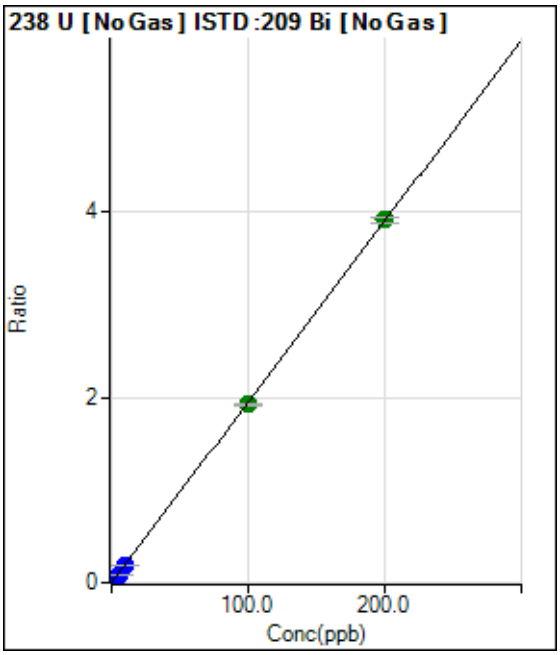
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1616.74	0.0004	P	5.8
2	☐	2.000	1.832	159496.17	0.0378	P	0.6
3	☐	5.000	4.631	391088.47	0.0951	P	1.1
4	☐	10.000	9.805	831719.00	0.2008	P	0.9
5	☐	100.000	100.458	8364492.74	2.0539	A	1.4
6	☐	200.000	199.792	15769861.12	4.0844	A	1.3

y = 0.0204 * x + 3.9547E-004
R = 1.0000
DL = 0.003344
BEC = 0.01935

Weight: <None>
Min Conc: <None>

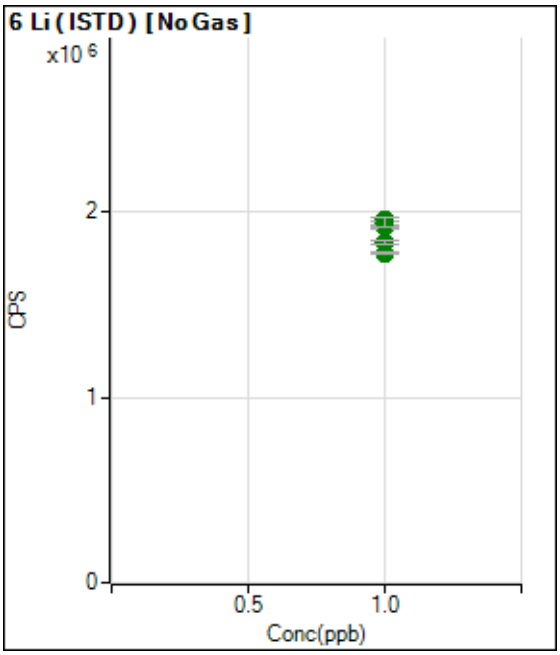


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	124.9
2	☐	2.000	1.778	146180.97	0.0347	P	0.3
3	☐	5.000	4.535	363732.10	0.0884	P	0.8
4	☐	10.000	9.568	772741.99	0.1866	P	1.1
5	☐	100.000	98.549	7828936.55	1.9215	A	1.6
6	☐	200.000	200.761	15116025.19	3.9144	A	1.3

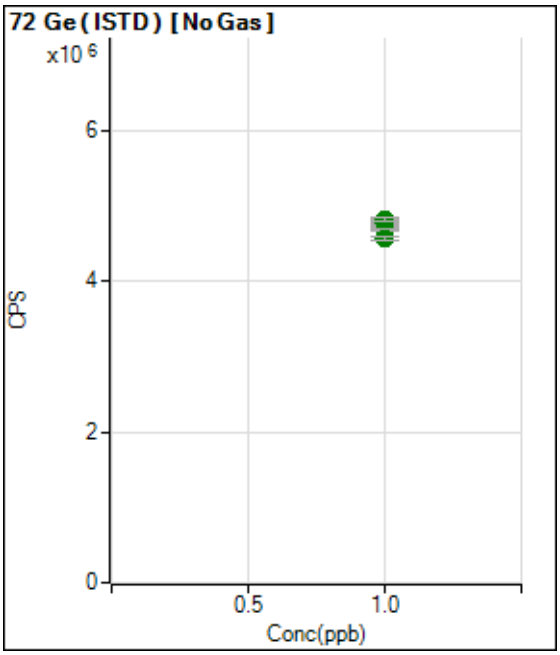
y = 0.0195 * x + 4.0573E-006
R = 1.0000
DL = 0.0007795
BEC = 0.0002081

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

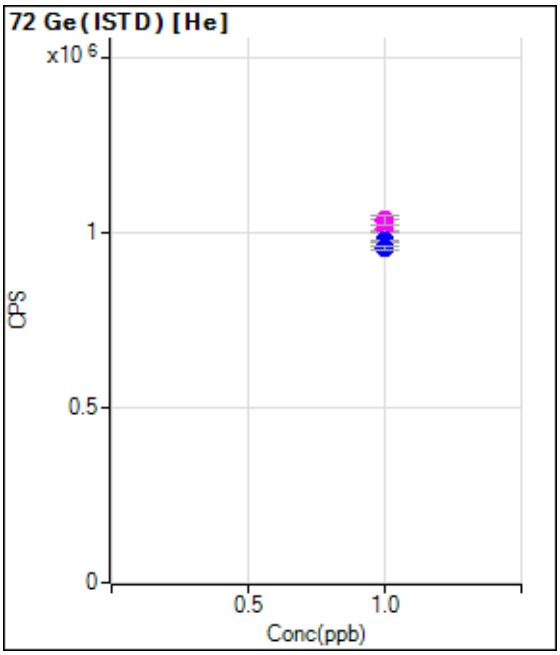


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1931903.02		A	0.2
2	☐	1.000		1959158.60		A	1.0
3	☐	1.000		1920390.32		A	1.3
4	☐	1.000		1946320.84		A	2.9
5	☐	1.000		1837610.32		A	1.3
6	☐	1.000		1778791.67		A	0.7

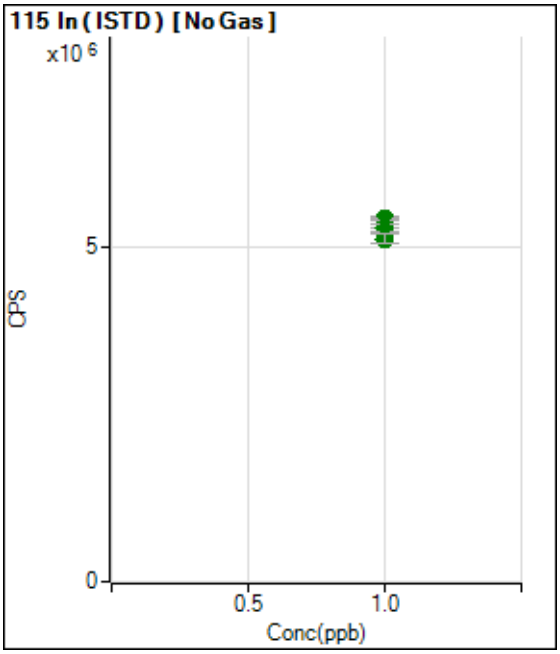


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4777859.93		A	1.5
2	☐	1.000		4791501.60		A	1.1
3	☐	1.000		4756165.76		A	2.1
4	☐	1.000		4807388.78		A	1.0
5	☐	1.000		4672169.10		A	0.3
6	☐	1.000		4562996.18		A	1.1

Calibration for 017_ICV.d

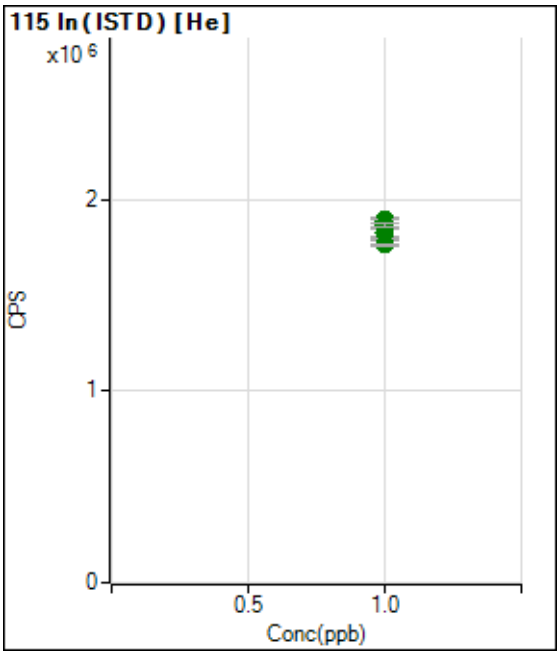


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1022076.81		M	3.5
2	☐	1.000		1037940.24		M	2.5
3	☐	1.000		1014123.40		M	2.2
4	☐	1.000		1035316.96		M	2.8
5	☐	1.000		978457.46		P	0.4
6	☐	1.000		958114.46		P	1.0

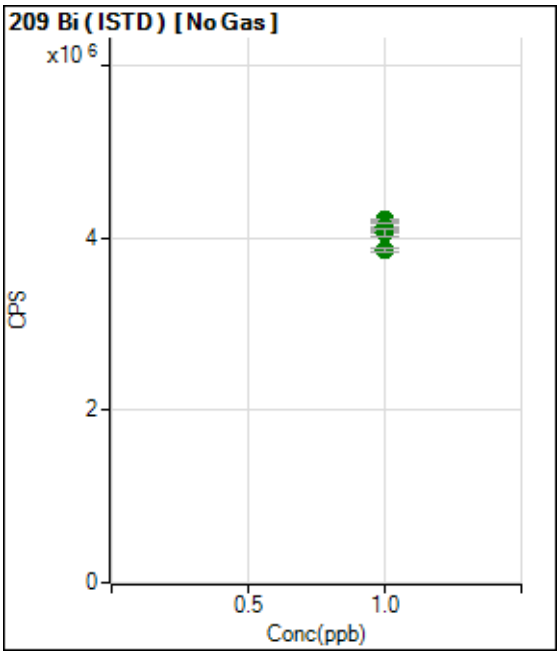


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5424891.18		A	1.2
2	☐	1.000		5393097.55		A	1.4
3	☐	1.000		5343674.78		A	2.1
4	☐	1.000		5280395.15		A	2.5
5	☐	1.000		5223121.00		A	0.6
6	☐	1.000		5127191.81		A	2.8

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1891723.37		A	1.5
2	☐	1.000		1887682.67		A	1.0
3	☐	1.000		1825149.96		A	2.4
4	☐	1.000		1868665.01		A	1.0
5	☐	1.000		1790609.77		A	0.8
6	☐	1.000		1763055.13		A	0.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4087764.11		A	0.8
2	☐	1.000		4215442.85		A	0.7
3	☐	1.000		4113981.92		A	1.2
4	☐	1.000		4142021.19		A	1.9
5	☐	1.000		4073413.69		A	2.3
6	☐	1.000		3861350.46		A	1.1

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	018LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:50:02-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.910	1.910	7.38	164597	0.00	2	
Be	9	1	No Gas	1.862	1.862	2.48	12874	0.01	2	
V	51	2	He	1.759	1.759	2.10	19769	0.01	2	
Cr	52	2	He	1.826	1.826	1.88	24469	0.01	2	
Fe	56	2	He	193.820	193.820	2.75	2066572	0.01	200	
Se	78	2	He	1.723	1.723	5.65	345	0.50	2	
Sn	118	2	He	1.963	1.963	1.85	22006	0.01	2	
As	75	2	He	1.945	1.945	3.83	3233	0.06	2	
Ca	44	2	He	190.362	190.362	7.13	9243	2.06	200	
Na	23	2	He	180.562	180.562	3.54	342746	0.05	200	
Mg	24	2	He	191.592	191.592	2.16	144378	0.13	200	
K	39	2	He	179.141	179.141	2.44	206927	0.09	200	
Mn	55	2	He	1.872	1.872	2.37	15195	0.01	2	
Co	59	2	He	1.837	1.837	1.88	37305	0.00	2	
Ni	60	2	He	1.849	1.849	2.76	9744	0.02	2	
Cu	63	2	He	1.847	1.847	3.35	28103	0.01	2	
Zn	66	2	He	2.061	2.061	3.90	5475	0.04	2	
Al	27	2	He	2.961	2.961	10.17	1347	0.22	2	NewName Main CR1 Failed
B	11	1	No Gas	16.512	16.512	4.12	91927	0.02	10	NewName Main CR1 Failed
Al	27	1	No Gas	2.935	2.935	3.33	119654	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	11.159	11.159	5.80	687825	0.00	10	
P	31	1	No Gas	8.718	8.718	3.95	50863	0.02	10	
Ag	107	1	No Gas	1.956	1.956	2.24	75852	0.00	2	
Cd	111	1	No Gas	1.947	1.947	2.99	15249	0.01	2	
Sr	88	1	No Gas	1.886	1.886	3.72	155148	0.00	2	
Mo	95	1	No Gas	1.914	1.914	3.44	28394	0.01	2	
Sn	118	1	No Gas	2.054	2.054	1.85	55170	0.00	2	
Sb	121	1	No Gas	2.059	2.059	1.66	63706	0.00	2	
Ba	137	1	No Gas	1.932	1.932	3.96	24230	0.01	2	
Tl	205	1	No Gas	2.001	2.001	2.40	121648	0.00	2	
Tl	203	1	No Gas	1.956	1.956	2.30	50216	0.00	2	
Pb	208	1	No Gas	1.900	1.900	2.41	160987	0.00	2	
U	238	1	No Gas	1.798	1.798	1.42	143825	0.00	2	
Ca	43	2	He	164.004	164.004	21.18	463	35.40	200	
Sb	121	2	He	1.812	1.812	3.70	24313	0.01	2	
Ti	47	2	He	1.898	1.898	14.89	617	0.31	200	
Cu	63	1	No Gas	1.982	1.982	1.68	59989	0.00	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1934638	1.85	1931903	100.14	70	120	
Ge	72	2	He	1057538	1.76	1022077	103.47	70	120	
Ge	72	1	No Gas	4792966	1.37	4777860	100.32	70	120	
In	115	1	No Gas	5442325	2.11	5424891	100.32	70	120	
Bi	209	1	No Gas	4102822	1.40	4087764	100.37	70	120	

Sample Report

Sample Table

Sample Name	LLICV5
Data File Name	019LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:51:55-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	010CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.788	4.788	1.17	245416	0.00	5	
Be	9	1	No Gas	4.738	4.738	1.10	32347	0.01	5	
V	51	2	He	4.437	4.437	2.46	47121	0.01	5	
Cr	52	2	He	4.585	4.585	2.30	59158	0.01	5	
Fe	56	2	He	471.763	471.763	1.57	5007289	0.01	500	
Se	78	2	He	4.648	4.648	12.15	725	0.64	5	
Sn	118	2	He	4.688	4.688	0.36	51054	0.01	5	
As	75	2	He	4.665	4.665	3.43	7632	0.06	5	
Ca	44	2	He	471.210	471.210	1.89	22472	2.10	500	
Na	23	2	He	472.654	472.654	2.79	753809	0.06	500	
Mg	24	2	He	475.147	475.147	2.53	356519	0.13	500	
K	39	2	He	461.094	461.094	2.49	448872	0.10	500	
Mn	55	2	He	4.602	4.602	2.14	36716	0.01	5	
Co	59	2	He	4.706	4.706	1.10	95202	0.00	5	
Ni	60	2	He	4.702	4.702	2.29	24429	0.02	5	
Cu	63	2	He	4.652	4.652	2.48	68067	0.01	5	
Zn	66	2	He	4.799	4.799	0.93	11735	0.04	5	
Al	27	2	He	5.192	5.192	4.30	2087	0.25	5	
B	11	1	No Gas	27.403	27.403	0.65	137940	0.02	25	
Al	27	1	No Gas	6.005	6.005	0.77	214200	0.00	5	
Si	28	1	No Gas	26.215	26.215	4.49	933694	0.00	25	
P	31	1	No Gas	21.985	21.985	1.87	72181	0.03	25	
Ag	107	1	No Gas	4.889	4.889	3.84	188059	0.00	5	
Cd	111	1	No Gas	4.881	4.881	0.94	38049	0.01	5	
Sr	88	1	No Gas	4.671	4.671	2.41	378541	0.00	5	
Mo	95	1	No Gas	4.702	4.702	3.25	69264	0.01	5	
Sn	118	1	No Gas	4.946	4.946	0.85	127226	0.00	5	
Sb	121	1	No Gas	4.844	4.844	1.12	150130	0.00	5	
Ba	137	1	No Gas	4.754	4.754	4.95	58091	0.01	5	
Tl	205	1	No Gas	4.722	4.722	2.17	286107	0.00	5	
Tl	203	1	No Gas	4.710	4.710	2.30	120372	0.00	5	
Pb	208	1	No Gas	4.697	4.697	0.74	394422	0.00	5	
U	238	1	No Gas	4.560	4.560	1.25	363764	0.00	5	
Ca	43	2	He	501.658	501.658	4.48	1390	36.09	500	
Sb	121	2	He	4.367	4.367	2.48	58102	0.01	5	
Ti	47	2	He	4.513	4.513	8.49	1463	0.31	5	
Cu	63	1	No Gas	4.923	4.923	0.80	142882	0.00	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1915133	1.04	1931903	99.13	70	120	
Ge	72	2	He	1055730	2.28	1022077	103.29	70	120	

Sample Report

Ge	72	1	No Gas	4833159	0.65	4777860	101.16	70	120	
In	115	1	No Gas	5416336	1.45	5424891	99.84	70	120	
Bi	209	1	No Gas	4090977	0.84	4087764	100.08	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	020_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:53:47-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.052	33.8	110041	0.4	0.5	
Be	9	1	No Gas	0.003	58.7	78	16.1	0.5	
V	51	2	He	-0.027	-17.0	1456	2.1	2.5	
Cr	52	2	He	0.002	251.3	1443	3.2	2.5	
Fe	56	2	He	0.091	23.5	10728	3.2	100	
Se	78	2	He	-0.045	-421.6	114	20.7	1	
Sn	118	2	He	0.021	7.5	1613	2.0	2.5	
As	75	2	He	0.003	651.5	81	33.0	2.5	
Ca	44	2	He	5.739	39.2	527	20.5	100	
Na	23	2	He	-4.824	-5.0	80442	1.0	100	
Mg	24	2	He	0.134	7.7	687	2.2	100	
K	39	2	He	-4.761	-24.8	48212	3.1	100	
Mn	55	2	He	0.077	21.8	993	14.2	2.5	
Co	59	2	He	0.003	68.0	207	21.8	2.5	
Ni	60	2	He	0.014	90.5	267	25.5	2.5	
Cu	63	2	He	-0.007	-124.1	1613	7.5	1	
Zn	66	2	He	0.636	6.9	2184	4.1	2.5	
Al	27	2	He	-0.030	-689.7	347	20.9	5	
B	11	1	No Gas	3.450	8.2	34827	2.8	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	0.095	36.3	34657	3.1	5	
Si	28	1	No Gas	-0.871	-22.4	508923	0.7	10	
P	31	1	No Gas	-1.837	-22.6	35168	1.9	10	
Ag	107	1	No Gas	-0.001	-71.5	333	9.6	2.5	
Cd	111	1	No Gas	0.002	124.3	27	78.1	1	
Sr	88	1	No Gas	0.003	89.1	2857	7.0	2.5	
Mo	95	1	No Gas	0.005	16.0	183	6.3	2.5	
Sn	118	1	No Gas	0.032	10.7	4291	1.8	5	
Sb	121	1	No Gas	0.030	14.3	1690	7.8	2.5	
Ba	137	1	No Gas	-0.003	-37.5	830	1.2	2.5	
Tl	205	1	No Gas	0.024	15.2	1653	10.6	1	
Tl	203	1	No Gas	0.021	13.4	700	8.0	1	
Pb	208	1	No Gas	0.004	28.6	1940	2.7	2.5	
U	238	1	No Gas	0.001	38.3	67	31.2	2.5	
Ca	43	2	He	3.663	102.2	20	50.0	100	
Sb	121	2	He	0.026	21.3	637	10.5	2.5	
Ti	47	2	He	0.021	86.6	7	86.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1920086	0.69	1931903	99.39	70	120	
Ge	72	2	He	1049087	1.12	1022077	102.64	70	120	
Ge	72	1	No Gas	4901318	0.11	4777860	102.58	70	120	
In	115	1	No Gas	5376172	0.27	5424891	99.10	70	120	
Bi	209	1	No Gas	4052532	2.50	4087764	99.14	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	021ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:55:56-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.481	7.3	118463	0.4	0	ICSA Main CR1 Failed
Be	9	1	No Gas	0.002	119.3	68	23.5	0	ICSA Main CR1 Failed
V	51	2	He	0.063	19.7	2208	5.1	0	ICSA Main CR1 Failed
Cr	52	2	He	0.983	4.7	12823	5.1	0	ICSA Main CR1 Failed
Fe	56	2	He	103420.007	0.8	1017328358	1.1	0	
Se	78	2	He	0.038	256.2	117	9.7	0	ICSA Main CR1 Failed
Sn	118	2	He	0.039	2.5	1677	1.9	0	ICSA Main CR1 Failed
As	75	2	He	0.112	28.9	240	19.4	0	ICSA Main CR1 Failed
Ca	44	2	He	103879.490	2.0	4546981	1.2	0	
Na	23	2	He	105130.341	2.1	137645998	1.4	0	
Mg	24	2	He	102930.351	1.5	71606776	0.9	0	
K	39	2	He	107630.997	1.5	85949739	0.7	0	
Mn	55	2	He	0.174	7.0	1640	4.6	0	ICSA Main CR1 Failed
Co	59	2	He	0.209	1.9	4051	1.1	0	ICSA Main CR1 Failed
Ni	60	2	He	0.217	9.8	1220	7.8	0	ICSA Main CR1 Failed
Cu	63	2	He	0.546	4.4	8820	2.8	0	ICSA Main CR1 Failed
Zn	66	2	He	0.488	10.8	1727	7.0	0	ICSA Main CR1 Failed
Al	27	2	He	102289.272	1.6	31627468	1.1	0	
B	11	1	No Gas	3.694	5.3	34738	1.5	0	
Al	27	1	No Gas	105680.393	1.6	3019858622	0.8	0	
Si	28	1	No Gas	25.992	6.4	872520	1.9	0	
P	31	1	No Gas	101230.929	1.1	149520774	0.4	0	
Ag	107	1	No Gas	0.012	11.0	777	6.6	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	1.534	1.1	11132	1.8	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	0.946	1.3	73281	0.3	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	2100.462	0.6	28744932	1.3	0	
Sn	118	1	No Gas	0.040	39.3	4224	8.3	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.036	15.9	1757	9.7	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.077	5.9	1667	3.3	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.015	9.6	1010	7.7	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.013	30.5	437	20.8	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.034	5.9	4024	3.6	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.003	12.3	203	12.4	0	ICSA Main CR1 Failed
Ca	43	2	He	100621.409	2.2	257085	1.6	0	
Sb	121	2	He	0.031	25.9	653	15.1	0	ICSA Main CR1 Failed
Ti	47	2	He	2032.109	2.2	610935	1.4	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1858933	1.18	1931903	96.22	70	120	
Ge	72	2	He	980146	0.84	1022077	95.90	70	120	
Ge	72	1	No Gas	4534259	1.12	4777860	94.90	70	120	
In	115	1	No Gas	5038716	0.96	5424891	92.88	70	120	
Bi	209	1	No Gas	3707895	2.02	4087764	90.71	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	022ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:57:55-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	106.039	1.492	2997715	0.93	100	106.0	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	101.674	0.533	660491	0.41	100	101.7	80	120	
V	51	2	He	104.463	2.944	1002093	0.64	100	104.5	80	120	
Cr	52	2	He	104.657	1.853	1235347	1.74	100	104.7	80	120	
Fe	56	2	He	114364.006	2.720	1134219956	0.60	100	114364.0	80	120	
Se	78	2	He	112.099	0.740	13751	2.26	100	112.1	80	120	
Sn	118	2	He	102.459	1.675	992373	0.27	100	102.5	80	120	
As	75	2	He	106.269	1.530	161260	1.44	100	106.3	80	120	
Ca	44	2	He	113911.478	2.839	5027392	0.30	100	113911.5	80	120	
Na	23	2	He	114771.647	2.434	151517351	0.52	100	114771.6	80	120	
Mg	24	2	He	112996.086	3.420	79253604	1.47	100	112996.1	80	120	
K	39	2	He	118060.758	2.298	95062689	0.66	100	118060.8	80	120	
Mn	55	2	He	100.061	1.896	740028	1.07	100	100.1	80	120	
Co	59	2	He	101.216	1.232	1914573	1.94	100	101.2	80	120	
Ni	60	2	He	98.891	2.793	477273	0.63	100	98.9	80	120	
Cu	63	2	He	99.742	2.980	1333366	0.33	100	99.7	80	120	
Zn	66	2	He	101.378	1.948	218142	1.02	100	101.4	80	120	
Al	27	2	He	102808.981	2.370	32054646	1.27	100	102809.0	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	517.260	1.365	2142543	0.80	100	517.3	80	120	
Al	27	1	No Gas	103684.828	2.225	3016957822	0.97	100	103684.8	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	539.180	2.425	8705623	1.03	100	539.2	80	120	
P	31	1	No Gas	98359.463	1.858	147934541	0.60	100	98359.5	80	120	ICSB Main CR1 Failed
Ag	107	1	No Gas	100.629	2.047	3584379	1.01	100	100.6	80	120	
Cd	111	1	No Gas	102.434	1.744	740559	0.97	100	102.4	80	120	
Sr	88	1	No Gas	111.303	2.445	8311951	0.94	100	111.3	80	120	
Mo	95	1	No Gas	2238.808	2.383	30543906	0.40	100	2238.8	80	120	ICSB Main CR1 Failed
Sn	118	1	No Gas	110.446	1.523	2565785	2.47	100	110.4	80	120	
Sb	121	1	No Gas	106.411	3.368	3135042	2.11	100	106.4	80	120	
Ba	137	1	No Gas	108.671	2.451	1214028	2.64	100	108.7	80	120	
Tl	205	1	No Gas	103.786	1.318	5660973	1.21	100	103.8	80	120	
Tl	203	1	No Gas	106.081	0.525	2440027	0.52	100	106.1	80	120	
Pb	208	1	No Gas	104.812	1.137	7899876	1.60	100	104.8	80	120	
U	238	1	No Gas	110.452	1.505	7939349	1.94	100	110.5	80	120	
Ca	43	2	He	111023.294	3.249	285983	0.47	100	111023.3	80	120	
Sb	121	2	He	100.648	3.065	1247512	0.16	100	100.6	80	120	
Ti	47	2	He	2150.932	2.051	652137	1.27	100	2150.9	80	120	
Cu	63	1	No Gas	104.988	1.987	2814178	1.47	100	105.0	80	120	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1825056	0.64	1931903	94.47	70	120	
Ge	72	2	He	988716	2.99	1022077	96.74	70	120	
Ge	72	1	No Gas	4617464	1.25	4777860	96.64	70	120	
In	115	1	No Gas	5025394	2.65	5424891	92.64	70	120	
Bi	209	1	No Gas	3686456	0.55	4087764	90.18	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	029_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T09:25:10-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	98.434	2.046	2768546	1.81	100	98.4	90	110	
Be	9	1	No Gas	100.093	1.700	645127	0.54	100	100.1	90	110	
V	51	2	He	94.206	2.310	951016	1.56	100	94.2	90	110	
Cr	52	2	He	93.296	1.605	1158673	1.68	100	93.3	90	110	
Fe	56	2	He	9531.007	3.502	99432285	0.63	10000	95.3	90	110	
Se	78	2	He	95.648	2.910	12356	1.10	100	95.6	90	110	
Sn	118	2	He	92.553	1.108	930934	0.93	100	92.6	90	110	
As	75	2	He	98.330	2.244	156955	0.93	100	98.3	90	110	
Ca	44	2	He	9498.484	1.941	441311	0.95	10000	95.0	90	110	
Na	23	2	He	9497.939	2.968	13269240	1.17	10000	95.0	90	110	
Mg	24	2	He	9490.018	3.014	7002936	0.67	10000	94.9	90	110	
K	39	2	He	9667.716	1.973	8237335	1.15	10000	96.7	90	110	
Mn	55	2	He	91.676	3.238	713121	0.70	100	91.7	90	110	
Co	59	2	He	96.545	4.319	1919952	1.41	100	96.5	90	110	
Ni	60	2	He	93.453	4.136	474365	1.26	100	93.5	90	110	
Cu	63	2	He	97.145	2.529	1366334	0.58	100	97.1	90	110	
Zn	66	2	He	95.330	3.321	215780	0.72	100	95.3	90	110	
Al	27	2	He	94.644	4.025	31389	2.28	100	94.6	90	110	
B	11	1	No Gas	507.022	1.090	2084319	1.10	500	101.4	90	110	
Al	27	1	No Gas	101.417	1.703	3060885	1.38	100	101.4	90	110	
Si	28	1	No Gas	559.825	1.845	9261983	0.85	5000	11.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	500.827	1.934	810086	1.04	500	100.2	90	110	
Ag	107	1	No Gas	99.608	4.419	3732166	2.11	100	99.6	90	110	
Cd	111	1	No Gas	96.673	4.158	735125	0.81	100	96.7	90	110	
Sr	88	1	No Gas	96.110	4.066	7551119	1.70	100	96.1	90	110	
Mo	95	1	No Gas	100.240	4.495	1438680	1.78	100	100.2	90	110	
Sn	118	1	No Gas	97.090	0.618	2374799	3.83	100	97.1	90	110	
Sb	121	1	No Gas	101.910	1.278	3083411	0.90	100	101.9	90	110	
Ba	137	1	No Gas	96.648	3.187	1136315	3.39	100	96.6	90	110	
Tl	205	1	No Gas	102.520	1.424	5940785	1.11	100	102.5	90	110	
Tl	203	1	No Gas	102.474	3.623	2503209	1.30	100	102.5	90	110	
Pb	208	1	No Gas	98.019	0.709	7849398	1.84	100	98.0	90	110	
U	238	1	No Gas	91.557	1.719	6991258	1.33	100	91.6	90	110	
Ca	43	2	He	9470.952	2.241	25684	2.71	10000	94.7	90	110	
Sb	121	2	He	96.243	0.838	1255559	2.46	100	96.2	90	110	
Ti	47	2	He	94.467	2.518	30127	0.50	100	94.5	90	110	
Cu	63	1	No Gas	102.895	1.818	2832326	2.33	100	102.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1810994	1.31	1931903	93.74	70	120	
Ge	72	2	He	1040094	2.87	1022077	101.76	70	120	
Ge	72	1	No Gas	4741446	2.10	4777860	99.24	70	120	
In	115	1	No Gas	5289289	3.49	5424891	97.50	70	120	
Bi	209	1	No Gas	3917301	2.53	4087764	95.83	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	030_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T09:26:54-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.027	116.5	107342	1.6	0.5	
Be	9	1	No Gas	0.013	5.2	142	5.4	0.5	
V	51	2	He	-0.024	-18.4	1466	3.3	2.5	
Cr	52	2	He	-0.001	-1642.4	1397	7.6	2.5	
Fe	56	2	He	0.576	3.8	15646	1.8	100	
Se	78	2	He	-0.041	-103.0	113	4.4	2	
As	75	2	He	-0.002	-762.3	73	29.8	2.5	
Ca	44	2	He	3.354	81.4	410	31.1	100	
Na	23	2	He	-1.720	-32.7	83787	0.6	100	
Mg	24	2	He	0.471	17.9	927	7.0	100	
K	39	2	He	-3.772	-24.7	48469	1.4	100	
Mn	55	2	He	0.028	23.7	603	8.2	2.5	
Co	59	2	He	0.003	74.8	197	22.9	2.5	
Ni	60	2	He	0.009	82.5	237	16.0	2.5	
Cu	63	2	He	0.032	57.2	2130	12.2	2	
Zn	66	2	He	0.211	15.4	1203	6.3	2.5	
Al	27	2	He	-0.017	-1000.1	347	16.4	5	
B	11	1	No Gas	4.875	10.1	40238	5.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.198	10.7	37097	0.9	5	
Si	28	1	No Gas	1.837	25.8	542101	0.6	10	
P	31	1	No Gas	-1.894	-20.4	34403	1.2	10	
Ag	107	1	No Gas	0.003	78.1	507	19.2	2.5	
Cd	111	1	No Gas	0.006	49.6	53	39.0	1	
Sr	88	1	No Gas	0.007	43.7	3164	7.5	2.5	
Mo	95	1	No Gas	0.028	11.5	527	7.7	2.5	
Sn	118	1	No Gas	0.078	3.2	5448	2.6	5	
Sb	121	1	No Gas	0.104	15.4	3931	13.3	2.5	
Ba	137	1	No Gas	-0.013	-58.8	710	10.6	2.5	
Tl	205	1	No Gas	0.141	34.8	8720	32.6	1	
Tl	203	1	No Gas	0.136	36.0	3614	33.4	1	
Pb	208	1	No Gas	0.014	26.2	2794	10.2	2.5	
U	238	1	No Gas	0.006	10.5	483	9.3	2.5	
Ca	43	2	He	3.734	171.9	20	86.6	100	
Sb	121	2	He	0.080	9.0	1330	7.2	2.5	
Ti	47	2	He	0.021	86.6	7	86.6	2.5	
Cu	63	1	No Gas	0.007	109.6	5151	3.8	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1885013	2.18	1931903	97.57	70	120	
Ge	72	2	He	1036694	0.35	1022077	101.43	70	120	
Ge	72	1	No Gas	4807676	0.85	4777860	100.62	70	120	
In	115	1	No Gas	5380274	2.08	5424891	99.18	70	120	
Bi	209	1	No Gas	4067033	2.55	4087764	99.49	70	120	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	051CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T10:55:12-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	153482	0.00
Be	9	1	No Gas	38	70.83
V	51	2	He	2285	0.18
Cr	52	2	He	1573	0.10
Fe	56	2	He	13704	0.02
Se	78	2	He	130	4.10
Sn	118	2	He	1833	0.84
As	75	2	He	99	11.97
Ca	44	2	He	353	4.03
Na	23	2	He	135330	0.00
Mg	24	2	He	1360	0.42
K	39	2	He	66562	0.00
Mn	55	2	He	537	2.31
Co	59	2	He	240	1.74
Ni	60	2	He	227	9.20
Cu	63	2	He	2904	0.27
Zn	66	2	He	1160	0.68
Al	27	2	He	630	3.02
B	11	1	No Gas	26594	0.01
Al	27	1	No Gas	48913	0.00
Si	28	1	No Gas	726456	0.00
P	31	1	No Gas	47756	0.01
Ag	107	1	No Gas	1373	0.21
Cd	111	1	No Gas	23	382.35
Sr	88	1	No Gas	3444	0.12
Mo	95	1	No Gas	180	16.33
Sn	118	1	No Gas	4518	0.06
Sb	121	1	No Gas	670	1.18
Ba	137	1	No Gas	1323	0.26
Tl	205	1	No Gas	247	12.11
Tl	203	1	No Gas	60	100.15
Pb	208	1	No Gas	2207	0.33
U	238	1	No Gas	30	0.00
Ca	43	2	He	27	214.81
Sb	121	2	He	297	3.47
Ti	47	2	He	3	5196.15
Cu	63	1	No Gas	8306	0.07

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	No Gas	2755843	2.61
Ge	72	2	He	1558698	1.10

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	No Gas	6887146	1.48
In	115	1	No Gas	7720244	3.19
Bi	209	1	No Gas	5354842	1.58

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	052CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T10:57:04-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	16011	0.01
V	51	2	He	23605	0.00
Cr	52	2	He	29205	0.01
Fe	56	2	He	2366320	0.00
Se	78	2	He	406	3.99
Sn	118	2	He	23522	0.00
As	75	2	He	3859	0.00
Ca	44	2	He	10448	0.02
Na	23	2	He	443984	0.00
Mg	24	2	He	166789	0.00
K	39	2	He	255694	0.00
Mn	55	2	He	17972	0.02
Co	59	2	He	42814	0.00
Ni	60	2	He	11068	0.03
Cu	63	2	He	33124	0.00
Zn	66	2	He	6505	0.04
Al	27	2	He	1820	0.16
B	11	1	No Gas	76034	0.00
Al	27	1	No Gas	172306	0.00
Si	28	1	No Gas	967704	0.00
P	31	1	No Gas	63850	0.00
Ag	107	1	No Gas	84253	0.00
Cd	111	1	No Gas	16604	0.03
Sr	88	1	No Gas	170882	0.00
Mo	95	1	No Gas	30228	0.01
Sn	118	1	No Gas	56419	0.00
Sb	121	1	No Gas	64452	0.00
Ba	137	1	No Gas	25643	0.01
Tl	205	1	No Gas	115890	0.00
Tl	203	1	No Gas	49567	0.01
Pb	208	1	No Gas	159070	0.00
U	238	1	No Gas	143416	0.00
Ca	43	2	He	630	3.15
Sb	121	2	He	25412	0.00
Cu	63	1	No Gas	72118	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2795306	1.84	2755843	101.43	70	120	

Calibration Standard Report

Ge	72	2	He	1517486	2.18	1558698	97.36	70	120	
Ge	72	1	No Gas	6886295	2.68	6887146	99.99	70	120	
In	115	1	No Gas	7640289	3.99	7720244	98.96	70	120	
Bi	209	1	No Gas	5528727	3.79	5354842	103.25	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	053CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T10:58:56-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	39316	0.00
V	51	2	He	55319	0.00
Cr	52	2	He	68826	0.00
Fe	56	2	He	5716396	0.00
Se	78	2	He	857	0.61
Sn	118	2	He	54785	0.00
As	75	2	He	9123	0.03
Ca	44	2	He	25858	0.00
Na	23	2	He	939434	0.00
Mg	24	2	He	412331	0.00
K	39	2	He	535309	0.00
Mn	55	2	He	42343	0.00
Co	59	2	He	109180	0.00
Ni	60	2	He	28791	0.01
Cu	63	2	He	79151	0.00
Zn	66	2	He	14558	0.01
Al	27	2	He	2844	0.02
B	11	1	No Gas	150026	0.00
Al	27	1	No Gas	291864	0.00
Si	28	1	No Gas	1274757	0.00
P	31	1	No Gas	92564	0.00
Ag	107	1	No Gas	211439	0.00
Cd	111	1	No Gas	40617	0.01
Sr	88	1	No Gas	418818	0.00
Mo	95	1	No Gas	75958	0.00
Sn	118	1	No Gas	131667	0.00
Sb	121	1	No Gas	160686	0.00
Ba	137	1	No Gas	61659	0.00
Tl	205	1	No Gas	289712	0.00
Tl	203	1	No Gas	120499	0.00
Pb	208	1	No Gas	403166	0.00
U	238	1	No Gas	367571	0.00
Ca	43	2	He	1607	0.47
Sb	121	2	He	64533	0.00
Cu	63	1	No Gas	166556	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2717870	2.64	2755843	98.62	70	120	

Calibration Standard Report

Ge	72	2	He	1517999	1.95	1558698	97.39	70	120	
Ge	72	1	No Gas	6861702	0.51	6887146	99.63	70	120	
In	115	1	No Gas	7516456	1.97	7720244	97.36	70	120	
Bi	209	1	No Gas	5455526	3.16	5354842	101.88	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	054CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T11:00:48-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	82527	0.00
V	51	2	He	113256	0.00
Cr	52	2	He	138646	0.00
Fe	56	2	He	11975226	0.00
Se	78	2	He	1717	0.17
Sn	118	2	He	112820	0.00
As	75	2	He	18636	0.01
Ca	44	2	He	54321	0.00
Na	23	2	He	1773709	0.00
Mg	24	2	He	878300	0.00
K	39	2	He	1090243	0.00
Mn	55	2	He	86044	0.00
Co	59	2	He	224604	0.00
Ni	60	2	He	59490	0.00
Cu	63	2	He	159524	0.00
Zn	66	2	He	27585	0.01
Al	27	2	He	4287	0.01
B	11	1	No Gas	289141	0.00
Al	27	1	No Gas	447058	0.00
Si	28	1	No Gas	1768656	0.00
P	31	1	No Gas	147482	0.00
Ag	107	1	No Gas	440978	0.00
Cd	111	1	No Gas	85928	0.00
Sr	88	1	No Gas	901404	0.00
Mo	95	1	No Gas	159135	0.00
Sn	118	1	No Gas	274726	0.00
Sb	121	1	No Gas	337090	0.00
Ba	137	1	No Gas	128300	0.00
Tl	205	1	No Gas	607452	0.00
Tl	203	1	No Gas	257037	0.00
Pb	208	1	No Gas	827487	0.00
U	238	1	No Gas	782275	0.00
Ca	43	2	He	3184	0.33
Sb	121	2	He	134604	0.00
Cu	63	1	No Gas	342486	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2746624	0.55	2755843	99.67	70	120	

Calibration Standard Report

Ge	72	2	He	1496639	0.42	1558698	96.02	70	120	
Ge	72	1	No Gas	6783334	2.26	6887146	98.49	70	120	
In	115	1	No Gas	7508755	2.47	7720244	97.26	70	120	
Bi	209	1	No Gas	5471257	4.69	5354842	102.17	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	055CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T11:02:39-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	826867	0.00
V	51	2	He	1119197	0.00
Cr	52	2	He	1383794	0.00
Fe	56	2	He	116773725	0.00
Se	78	2	He	15186	0.00
Sn	118	2	He	1096747	0.00
As	75	2	He	186617	0.00
Ca	44	2	He	513863	0.00
Na	23	2	He	15889182	0.00
Mg	24	2	He	8164463	0.00
K	39	2	He	9668438	0.00
Mn	55	2	He	844934	0.00
Co	59	2	He	2288501	0.00
Ni	60	2	He	562446	0.00
Cu	63	2	He	1576343	0.00
Zn	66	2	He	259432	0.00
Al	27	2	He	36498	0.00
B	11	1	No Gas	2617259	0.00
Al	27	1	No Gas	3636200	0.00
Si	28	1	No Gas	10563431	0.00
P	31	1	No Gas	1029255	0.00
Ag	107	1	No Gas	4321987	0.00
Cd	111	1	No Gas	839179	0.00
Sr	88	1	No Gas	8569088	0.00
Mo	95	1	No Gas	1601034	0.00
Sn	118	1	No Gas	2681677	0.00
Sb	121	1	No Gas	3477598	0.00
Ba	137	1	No Gas	1287622	0.00
Tl	205	1	No Gas	6331910	0.00
Tl	203	1	No Gas	2698426	0.00
Pb	208	1	No Gas	8602913	0.00
U	238	1	No Gas	7975055	0.00
Ca	43	2	He	30046	0.00
Sb	121	2	He	1413784	0.00
Cu	63	1	No Gas	3326896	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2570285	0.52	2755843	93.27	70	120	

Calibration Standard Report

Ge	72	2	He	1475759	1.00	1558698	94.68	70	120	
Ge	72	1	No Gas	6742389	1.28	6887146	97.90	70	120	
In	115	1	No Gas	7473742	0.89	7720244	96.81	70	120	
Bi	209	1	No Gas	5322986	2.62	5354842	99.41	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	056CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T11:04:21-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	1569950	0.00
V	51	2	He	2172411	0.00
Cr	52	2	He	2658482	0.00
Fe	56	2	He	218811437	0.00
Se	78	2	He	28498	0.00
Sn	118	2	He	2195178	0.00
As	75	2	He	356880	0.00
Ca	44	2	He	1014869	0.00
Na	23	2	He	29694779	0.00
Mg	24	2	He	15604248	0.00
K	39	2	He	18569146	0.00
Mn	55	2	He	1689009	0.00
Co	59	2	He	4142572	0.00
Ni	60	2	He	1078322	0.00
Cu	63	2	He	2949158	0.00
Zn	66	2	He	490112	0.00
Al	27	2	He	68897	0.00
B	11	1	No Gas	4937598	0.00
Al	27	1	No Gas	6808534	0.00
Si	28	1	No Gas	18623433	0.00
P	31	1	No Gas	1920833	0.00
Ag	107	1	No Gas	8155549	0.00
Cd	111	1	No Gas	1618252	0.00
Sr	88	1	No Gas	17062116	0.00
Mo	95	1	No Gas	3110394	0.00
Sn	118	1	No Gas	5170264	0.00
Sb	121	1	No Gas	6492269	0.00
Ba	137	1	No Gas	2426422	0.00
Tl	205	1	No Gas	12093339	0.00
Tl	203	1	No Gas	5064301	0.00
Pb	208	1	No Gas	16318844	0.00
U	238	1	No Gas	14984756	0.00
Ca	43	2	He	57206	0.00
Sb	121	2	He	2696240	0.00
Cu	63	1	No Gas	6121414	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2544685	3.54	2755843	92.34	70	120	

Calibration Standard Report

Ge	72	2	He	1474249	1.84	1558698	94.58	70	120	
Ge	72	1	No Gas	6534975	1.58	6887146	94.89	70	120	
In	115	1	No Gas	7301870	2.67	7720244	94.58	70	120	
Bi	209	1	No Gas	5188881	2.34	5354842	96.90	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	058_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T11:07:56-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	101.677	2.275	3312607	1.91	100	101.7	90	110	
Be	9	1	No Gas	101.714	1.105	801765	1.24	100	101.7	90	110	
V	51	2	He	94.766	3.448	1075065	2.63	100	94.8	90	110	
Cr	52	2	He	96.547	0.241	1342857	0.62	100	96.5	90	110	
Fe	56	2	He	10017.776	1.409	115244592	0.61	10000	100.2	90	110	
Se	78	2	He	97.589	1.796	14669	0.97	100	97.6	90	110	
Sn	118	2	He	90.794	2.611	1035237	1.60	100	90.8	90	110	
As	75	2	He	100.400	2.313	187586	1.90	100	100.4	90	110	
Ca	44	2	He	9556.591	2.234	504434	1.41	10000	95.6	90	110	
Na	23	2	He	9907.236	1.010	15529078	0.49	10000	99.1	90	110	
Mg	24	2	He	9944.803	2.064	8124718	1.53	10000	99.4	90	110	
K	39	2	He	9982.030	1.948	9720574	1.51	10000	99.8	90	110	
Mn	55	2	He	93.815	1.967	822117	1.14	100	93.8	90	110	
Co	59	2	He	102.484	2.802	2248432	2.50	100	102.5	90	110	
Ni	60	2	He	98.242	2.643	554266	2.14	100	98.2	90	110	
Cu	63	2	He	102.342	2.121	1588052	2.08	100	102.3	90	110	
Zn	66	2	He	99.158	0.744	255528	1.26	100	99.2	90	110	
Al	27	2	He	98.559	2.522	35897	1.77	100	98.6	90	110	
B	11	1	No Gas	537.629	2.791	2677733	1.66	500	107.5	90	110	
Al	27	1	No Gas	100.799	1.289	3563729	1.07	100	100.8	90	110	
Si	28	1	No Gas	555.307	2.088	11055829	1.87	500	111.1	90	110	ICV Main CR1 Failed
P	31	1	No Gas	506.379	2.529	1023426	2.31	500	101.3	90	110	
Ag	107	1	No Gas	100.241	2.247	4198543	1.93	100	100.2	90	110	
Cd	111	1	No Gas	97.571	1.377	807268	0.83	100	97.6	90	110	
Sr	88	1	No Gas	97.126	2.343	8419973	1.39	100	97.1	90	110	
Mo	95	1	No Gas	99.635	1.400	1582263	0.46	100	99.6	90	110	
Sn	118	1	No Gas	96.716	1.580	2558524	1.76	100	96.7	90	110	
Sb	121	1	No Gas	99.183	2.320	3326926	1.96	100	99.2	90	110	
Ba	137	1	No Gas	96.842	3.149	1207505	2.16	100	96.8	90	110	
Tl	205	1	No Gas	102.333	2.899	6092896	1.47	100	102.3	90	110	
Tl	203	1	No Gas	102.970	5.196	2575435	1.38	100	103.0	90	110	
Pb	208	1	No Gas	99.693	1.356	8024877	2.71	100	99.7	90	110	
U	238	1	No Gas	98.001	2.232	7258476	2.46	100	98.0	90	110	
Ca	43	2	He	10082.759	5.333	30230	4.51	10000	100.8	90	110	
Sb	121	2	He	99.371	2.317	1402916	1.50	100	99.4	90	110	
Ti	47	2	He	95.687	1.350	34457	0.93	100	95.7	90	110	
Cu	63	1	No Gas	99.657	2.016	3164622	1.83	100	99.7	90	110	

QC ISTD Table

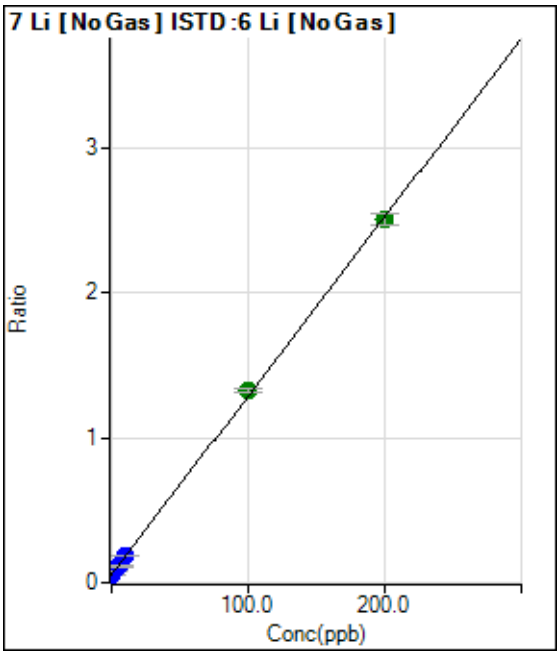
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2533005	2.19	2755843	91.91	70	120	
Ge	72	2	He	1529433	0.85	1558698	98.12	70	120	
Ge	72	1	No Gas	6700544	0.40	6887146	97.29	70	120	
In	115	1	No Gas	7445190	1.00	7720244	96.44	70	120	
Bi	209	1	No Gas	5091782	3.94	5354842	95.09	70	120	

Calibration for 058_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	051CALB.d	CAL BLK	4/14/2020 10:55:12 AM
2	052CALS.d	2/10/200	4/14/2020 10:57:04 AM
3	053CALS.d	5/25/500	4/14/2020 10:58:56 AM
4	054CALS.d	10/50/100	4/14/2020 11:00:48 AM
5	055CALS.d	100/500/10K	4/14/2020 11:02:39 AM
6	056CALS.d	200/1000/20K	4/14/2020 11:04:21 AM

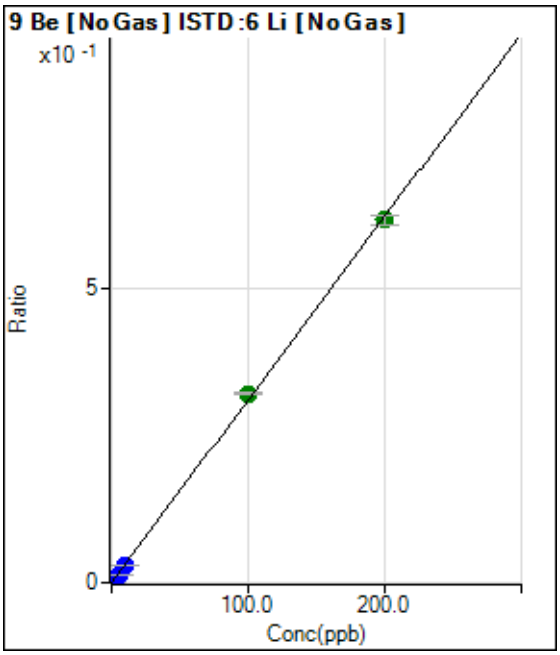
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	153482.29	0.0557	P	3.0
2	☐	2.000	1.842	219142.19	0.0784	P	1.2
3	☐	5.000	4.674	307802.44	0.1133	P	1.8
4	☐	10.000	10.091	494398.08	0.1800	P	0.7
5	☐	100.000	102.991	3403454.22	1.3242	A	1.5
6	☐	200.000	198.510	6358755.11	2.5007	A	3.1

y = 0.0123 * x + 0.0557
R = 0.9998
DL = 0.4113
BEC = 4.524

Weight: <None>
Min Conc: <None>

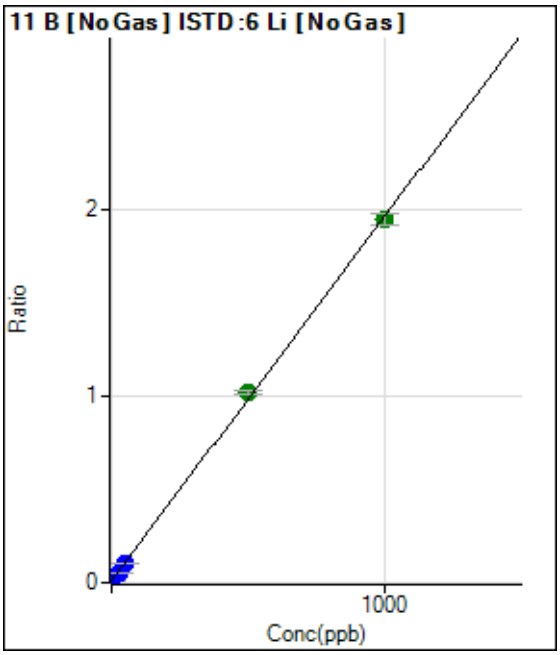


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38.33	0.0000	P	29.6
2	☐	2.000	1.837	16010.85	0.0057	P	3.0
3	☐	5.000	4.646	39316.36	0.0145	P	2.9
4	☐	10.000	9.650	82527.01	0.0300	P	0.9
5	☐	100.000	103.365	826867.07	0.3217	A	1.1
6	☐	200.000	198.346	1569949.56	0.6173	A	2.5

y = 0.0031 * x + 1.3968E-005
R = 0.9998
DL = 0.003981
BEC = 0.004488

Weight: <None>
Min Conc: <None>

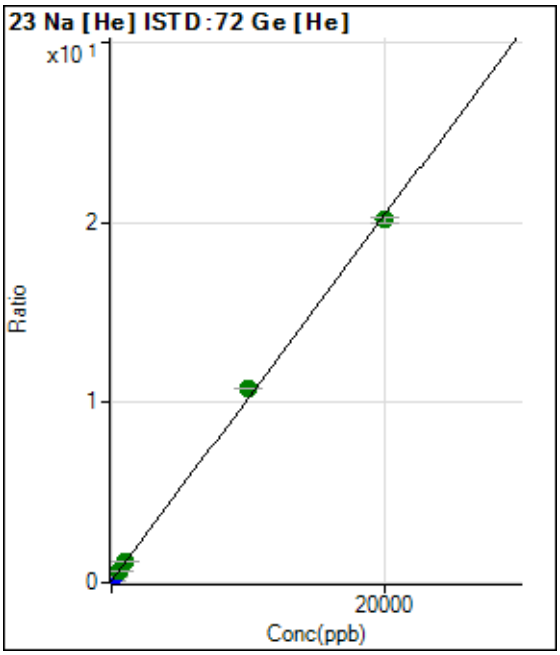
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26593.55	0.0097	P	2.3
2	☐	10.000	9.006	76034.32	0.0272	P	1.7
3	☐	25.000	23.383	150026.25	0.0552	P	2.7
4	☐	50.000	49.063	289140.56	0.1053	P	1.2
5	☐	500.000	517.538	2617259.34	1.0183	A	1.2
6	☐	1000.000	991.328	4937597.84	1.9417	A	3.3

y = 0.0019 * x + 0.0097
R = 0.9998
DL = 0.3466
BEC = 4.953

Weight: <None>
Min Conc: <None>

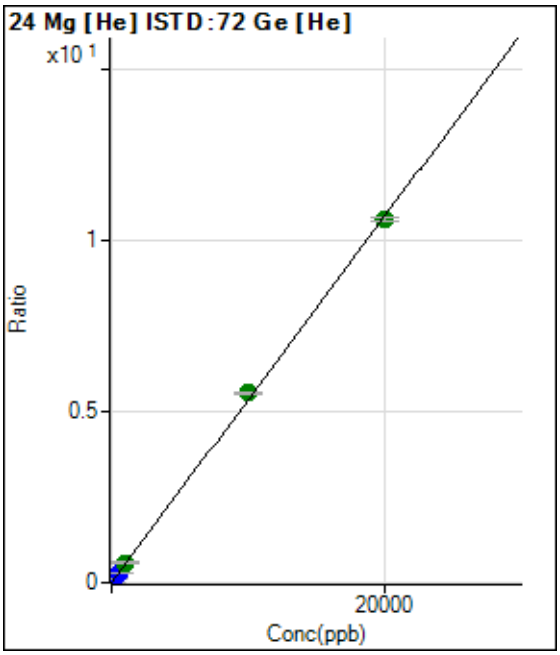


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	135330.39	0.0868	P	1.7
2	☐	200.000	202.541	443984.45	0.2926	P	1.7
3	☐	500.000	523.935	939433.55	0.6192	A	4.5
4	☐	1000.000	1080.872	1773708.77	1.1852	A	1.1
5	☐	10000.00	10510.37	15889182.26	10.7669	A	0.4
6	☐	20000.00	19740.14	29694778.72	20.1456	A	1.7

y = 0.0010 * x + 0.0868
R = 0.9995
DL = 4.461
BEC = 85.45

Weight: <None>
Min Conc: <None>

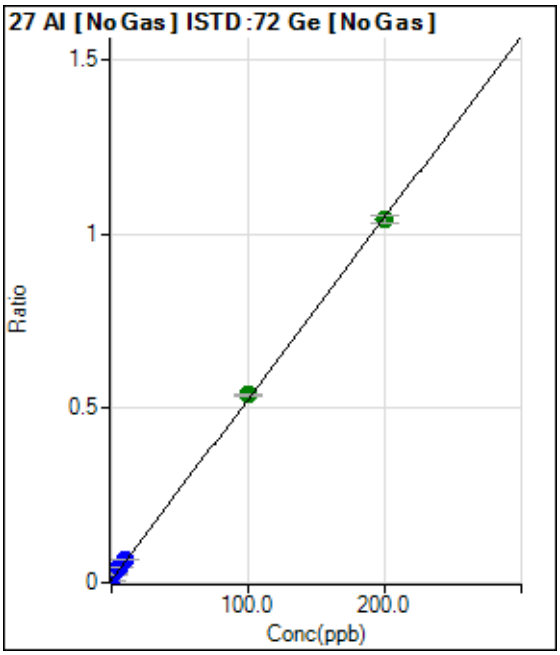
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1360.09	0.0009	P	6.6
2	☐	200.000	204.181	166789.50	0.1099	P	1.3
3	☐	500.000	506.990	412331.31	0.2717	P	1.4
4	☐	1000.000	1097.038	878300.35	0.5868	A	1.2
5	☐	10000.00	10356.09	8164462.79	5.5324	A	0.8
6	☐	20000.00	19816.88	15604247.68	10.5857	A	1.1

y = 5.3413E-004 * x + 8.7291E-004
R = 0.9998
DL = 0.3226
BEC = 1.634

Weight: <None>
Min Conc: <None>

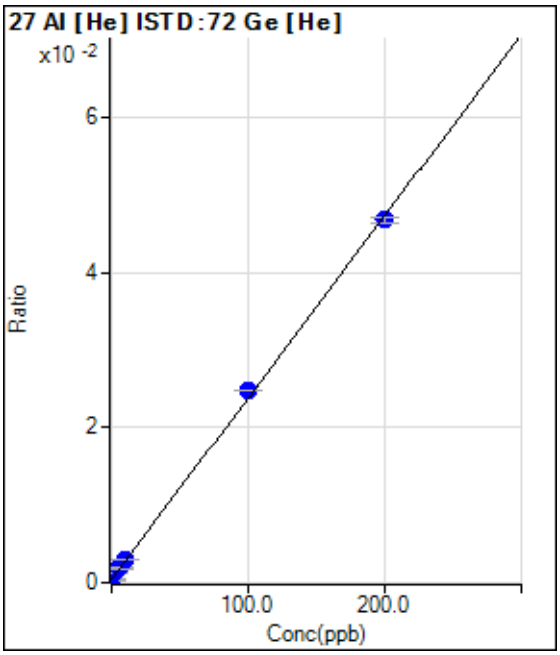


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48913.14	0.0071	P	2.3
2	☐	2.000	3.445	172305.76	0.0250	P	4.3
3	☐	5.000	6.806	291863.88	0.0425	P	0.4
4	☐	10.000	11.298	447057.57	0.0659	P	1.9
5	☐	100.000	102.236	3636200.15	0.5394	A	1.5
6	☐	200.000	198.758	6808533.86	1.0418	A	1.9

y = 0.0052 * x + 0.0071
R = 0.9999
DL = 0.09617
BEC = 1.365

Weight: <None>
Min Conc: <None>

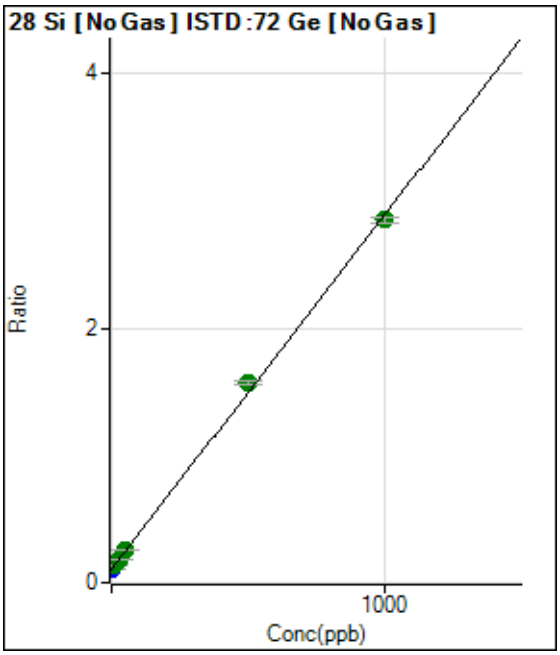
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	630.03	0.0004	P	19.8
2	☐	2.000	3.395	1820.15	0.0012	P	0.7
3	☐	5.000	6.276	2843.68	0.0019	P	1.8
4	☐	10.000	10.510	4287.40	0.0029	P	0.9
5	☐	100.000	103.932	36498.27	0.0247	P	0.7
6	☐	200.000	197.963	68896.97	0.0467	P	1.5

y = 2.3406E-004 * x + 4.0466E-004
R = 0.9997
DL = 1.026
BEC = 1.729

Weight: <None>
Min Conc: <None>

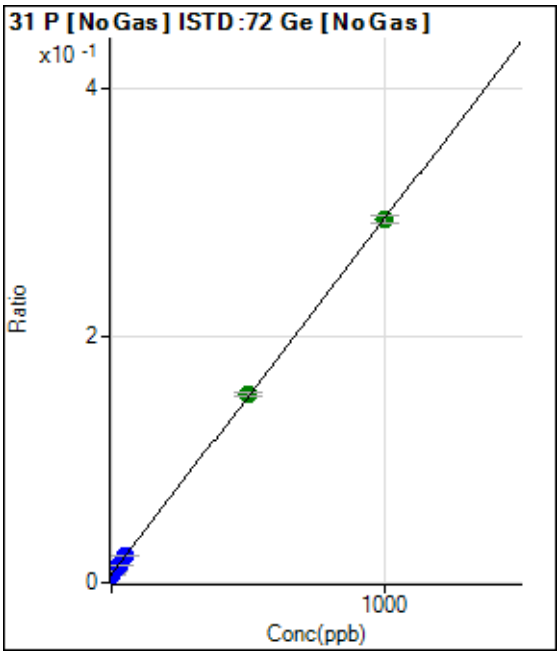


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	726456.11	0.1055	P	1.8
2	☐	10.000	12.619	967703.61	0.1406	A	3.2
3	☐	25.000	28.864	1274756.54	0.1858	A	0.1
4	☐	50.000	55.832	1768656.06	0.2608	A	1.6
5	☐	500.000	525.435	10563431.09	1.5669	A	1.6
6	☐	1000.000	986.868	18623432.64	2.8504	A	1.9

y = 0.0028 * x + 0.1055
R = 0.9996
DL = 2.034
BEC = 37.93

Weight: <None>
Min Conc: <None>

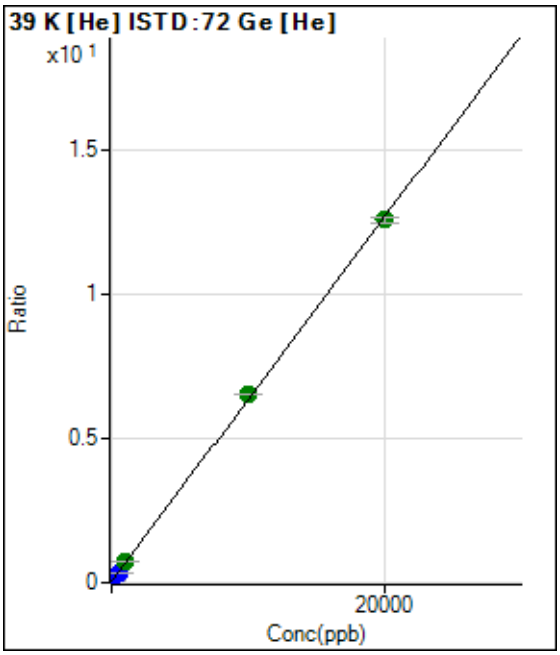
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47755.82	0.0069	P	3.7
2	☐	10.000	8.129	63850.47	0.0093	P	2.4
3	☐	25.000	22.765	92564.27	0.0135	P	0.7
4	☐	50.000	51.443	147481.58	0.0217	P	1.9
5	☐	500.000	506.145	1029254.98	0.1527	A	2.4
6	☐	1000.000	996.930	1920832.52	0.2940	A	2.1

y = 2.8794E-004 * x + 0.0069
R = 1.0000
DL = 2.644
BEC = 24.09

Weight: <None>
Min Conc: <None>

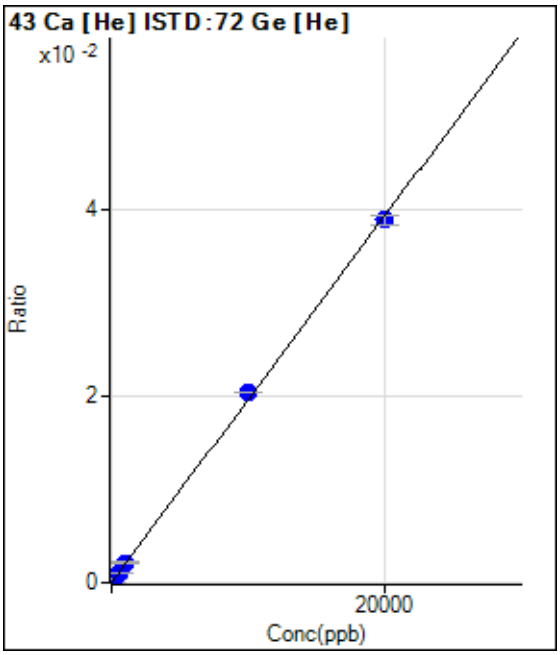


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66561.86	0.0427	P	1.5
2	☐	200.000	198.938	255694.10	0.1685	P	1.3
3	☐	500.000	490.156	535309.43	0.3527	P	1.8
4	☐	1000.000	1084.230	1090243.37	0.7285	A	0.9
5	☐	10000.00	10291.19	9668437.57	6.5517	A	0.7
6	☐	20000.00	19850.44	18569146.39	12.5977	A	1.8

y = 6.3248E-004 * x + 0.0427
R = 0.9998
DL = 3.052
BEC = 67.51

Weight: <None>
Min Conc: <None>

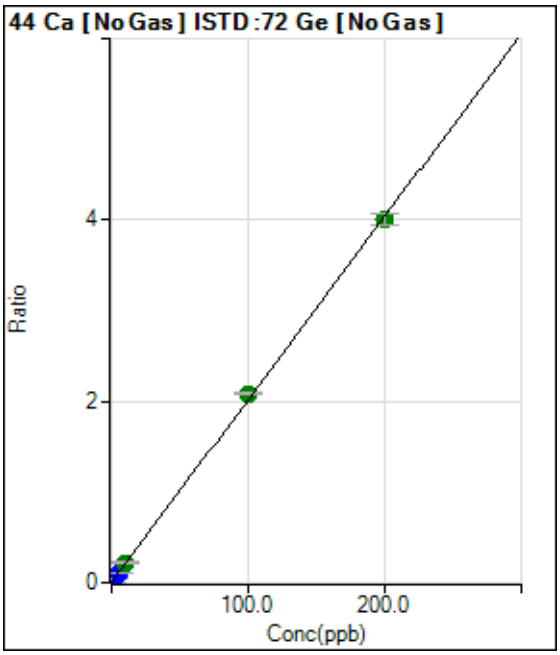
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	56.6
2	☐	200.000	203.605	630.03	0.0004	P	21.1
3	☐	500.000	532.058	1606.80	0.0011	P	9.0
4	☐	1000.000	1076.830	3183.76	0.0021	P	10.2
5	☐	10000.00	10383.68	30046.36	0.0204	P	0.9
6	☐	20000.00	19803.48	57205.55	0.0388	P	2.8

y = 1.9592E-006 * x + 1.7047E-005
R = 0.9997
DL = 14.76
BEC = 8.701

Weight: <None>
Min Conc: <None>

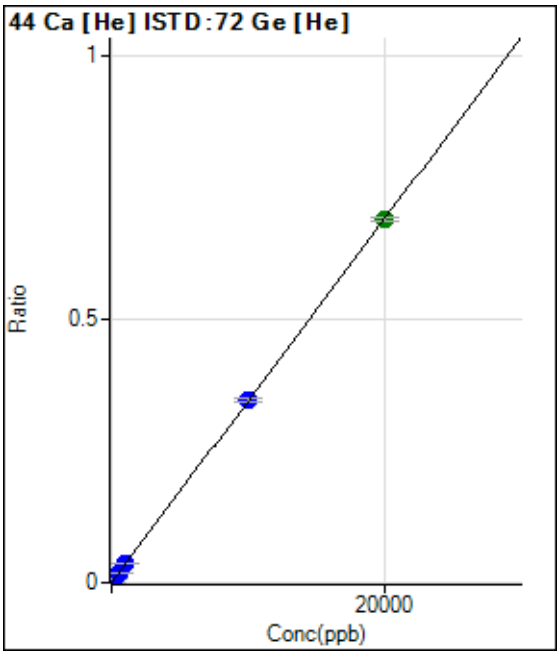


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19881.29	0.0029	P	5.1
2	☐	2.000	2.000	297438.04	0.0432	P	2.0
3	☐	5.000	4.878	694423.48	0.1012	P	1.3
4	☐	10.000	10.873	1505548.94	0.2220	A	3.0
5	☐	100.000	103.276	14054082.71	2.0846	A	0.8
6	☐	200.000	198.322	26133416.28	4.0004	A	3.3

y = 0.0202 * x + 0.0029
R = 0.9998
DL = 0.02181
BEC = 0.1433

Weight: <None>
Min Conc: <None>

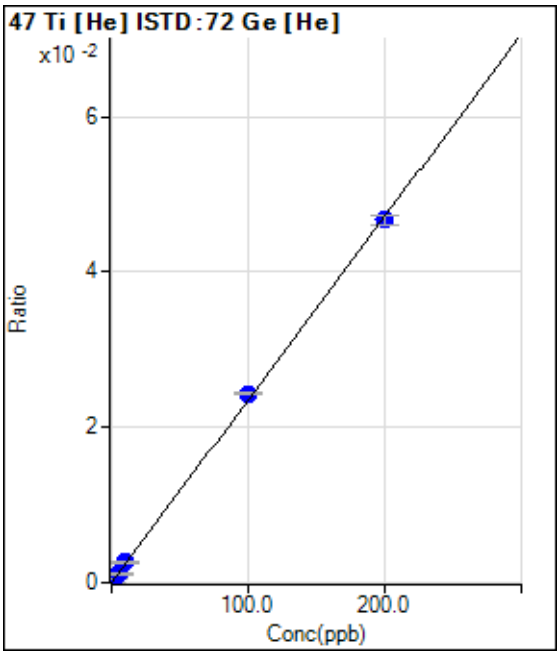
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	353.34	0.0002	P	13.3
2	☐	200.000	193.029	10447.50	0.0069	P	0.6
3	☐	500.000	487.422	25857.94	0.0170	P	2.3
4	☐	1000.000	1045.684	54320.70	0.0363	P	0.5
5	☐	10000.00	10089.72	513863.47	0.3482	P	2.1
6	☐	20000.00	19953.23	1014869.23	0.6885	A	1.2

y = 3.4493E-005 * x + 2.2650E-004
R = 1.0000
DL = 2.614
BEC = 6.567

Weight: <None>
Min Conc: <None>

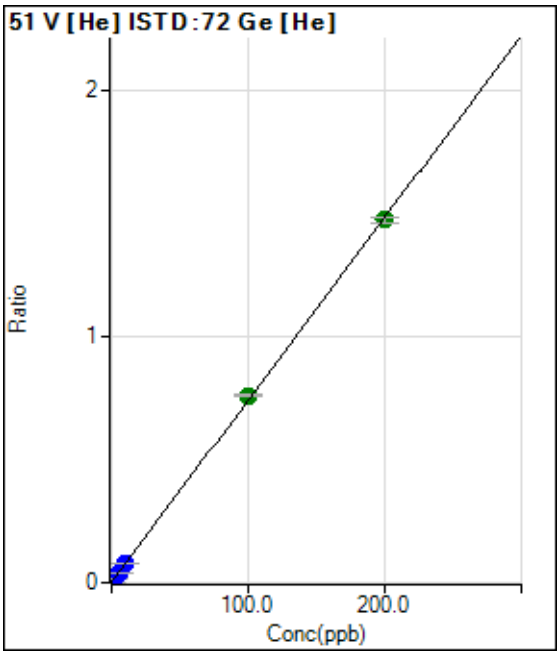


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	1.992	713.37	0.0005	P	15.5
3	☐	5.000	4.882	1750.14	0.0012	P	11.0
4	☐	10.000	11.060	3900.63	0.0026	P	11.1
5	☐	100.000	103.125	35833.86	0.0243	P	1.2
6	☐	200.000	198.387	68839.38	0.0467	P	2.8

y = 2.3544E-004 * x + 2.1473E-006
R = 0.9998
DL = 0.04739
BEC = 0.009121

Weight: <None>
Min Conc: <None>

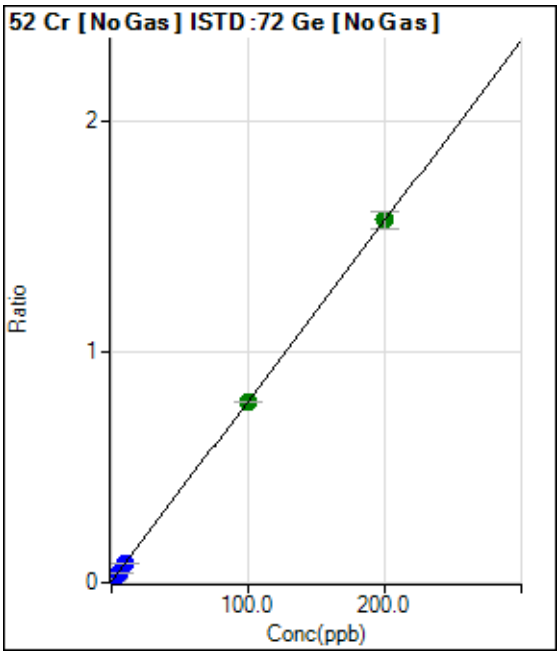
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2284.65	0.0015	P	4.2
2	☐	2.000	1.904	23604.80	0.0156	P	2.2
3	☐	5.000	4.725	55318.79	0.0364	P	1.8
4	☐	10.000	10.024	113255.63	0.0757	P	0.8
5	☐	100.000	102.249	1119196.76	0.7584	A	1.2
6	☐	200.000	198.882	2172410.68	1.4739	A	1.6

y = 0.0074 * x + 0.0015
R = 0.9999
DL = 0.02519
BEC = 0.198

Weight: <None>
Min Conc: <None>

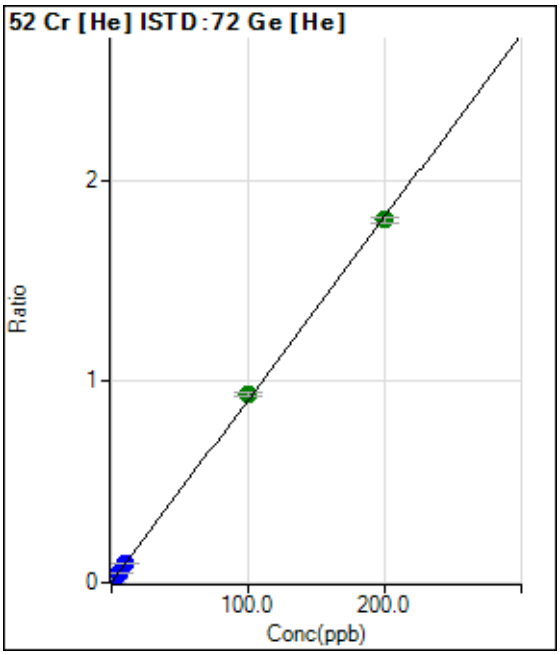


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33180.55	0.0048	P	3.4
2	☐	2.000	1.953	138518.03	0.0201	P	1.9
3	☐	5.000	4.828	292663.21	0.0427	P	1.2
4	☐	10.000	10.155	572117.49	0.0844	P	3.6
5	☐	100.000	99.100	5267846.38	0.7813	A	0.1
6	☐	200.000	200.447	10289977.34	1.5754	A	4.6

y = 0.0078 * x + 0.0048
R = 1.0000
DL = 0.06328
BEC = 0.6151

Weight: <None>
Min Conc: <None>

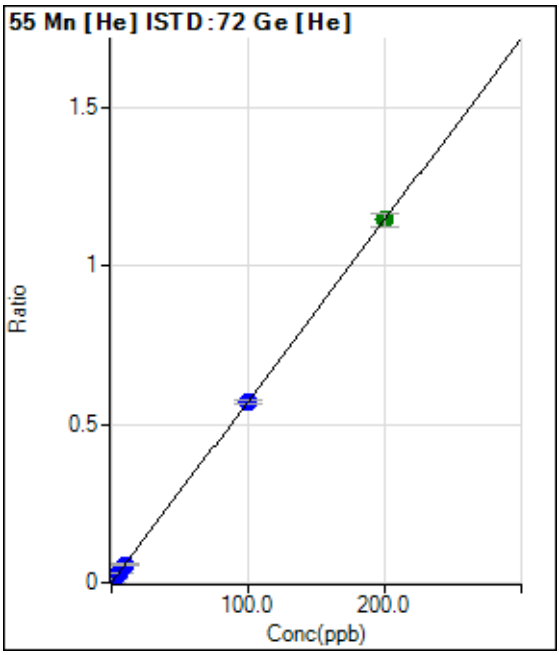
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1573.45	0.0010	P	0.9
2	☐	2.000	2.008	29204.82	0.0192	P	1.5
3	☐	5.000	4.881	68826.27	0.0453	P	2.6
4	☐	10.000	10.087	138645.52	0.0926	P	1.4
5	☐	100.000	103.117	1383793.52	0.9377	A	1.3
6	☐	200.000	198.440	2658482.36	1.8036	A	1.5

y = 0.0091 * x + 0.0010
R = 0.9998
DL = 0.003125
BEC = 0.1111

Weight: <None>
Min Conc: <None>

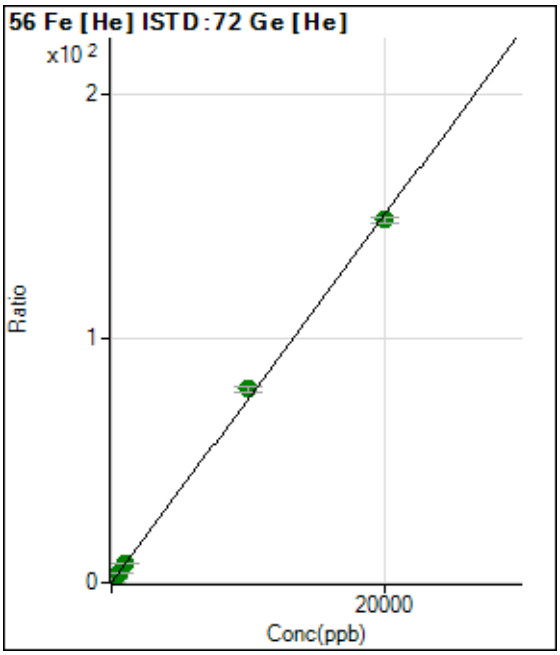


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	536.68	0.0003	P	12.0
2	☐	2.000	2.008	17972.13	0.0118	P	2.1
3	☐	5.000	4.812	42342.56	0.0279	P	2.3
4	☐	10.000	9.979	86044.21	0.0575	P	0.8
5	☐	100.000	99.934	844933.58	0.5726	P	2.3
6	☐	200.000	200.039	1689008.88	1.1459	A	3.6

y = 0.0057 * x + 3.4422E-004
R = 1.0000
DL = 0.02173
BEC = 0.06011

Weight: <None>
Min Conc: <None>

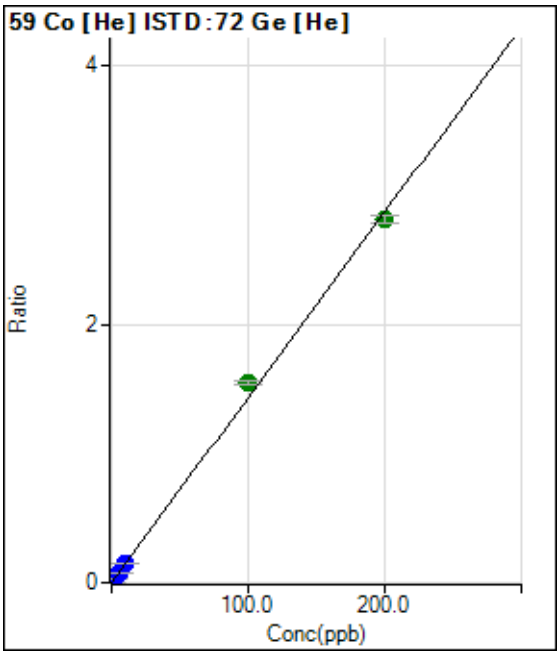
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13703.80	0.0088	P	1.7
2	☐	200.000	206.182	2366320.48	1.5596	A	0.9
3	☐	500.000	499.691	5716395.54	3.7672	A	3.0
4	☐	1000.000	1062.706	11975226.49	8.0019	A	2.3
5	☐	10000.00	10521.35	116773724.9	79.1447	A	3.2
6	☐	20000.00	19736.13	218811436.7	148.453	A	1.7

y = 0.0075 * x + 0.0088
R = 0.9995
DL = 0.05966
BEC = 1.169

Weight: <None>
Min Conc: <None>

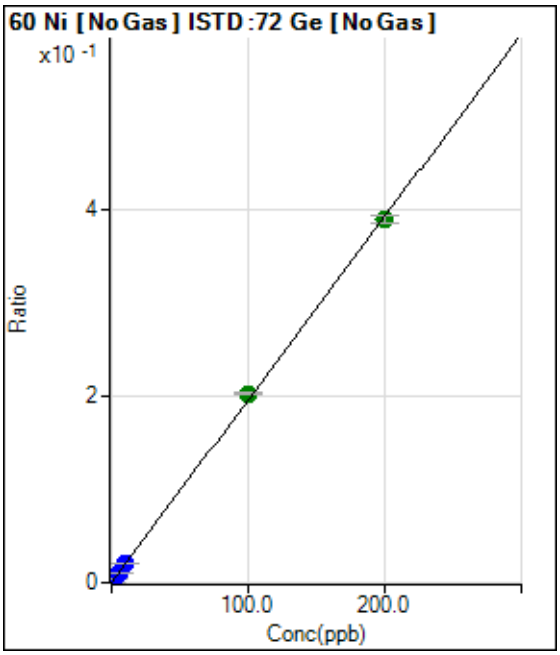


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.01	0.0002	P	4.1
2	☐	2.000	1.957	42814.27	0.0282	P	3.4
3	☐	5.000	5.005	109179.69	0.0719	P	2.7
4	☐	10.000	10.452	224603.54	0.1501	P	1.8
5	☐	100.000	108.107	2288500.80	1.5509	A	1.9
6	☐	200.000	195.924	4142571.61	2.8106	A	2.1

y = 0.0143 * x + 1.5398E-004
R = 0.9988
DL = 0.001326
BEC = 0.01073

Weight: <None>
Min Conc: <None>

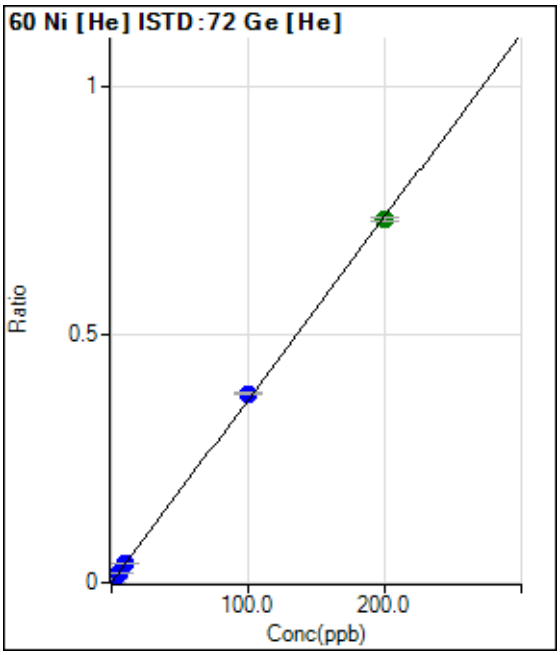
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	973.39	0.0001	P	5.6
2	☐	2.000	1.952	27267.69	0.0040	P	3.5
3	☐	5.000	5.012	68271.55	0.0099	P	1.1
4	☐	10.000	10.406	139043.48	0.0205	P	3.7
5	☐	100.000	103.191	1362501.49	0.2021	A	1.2
6	☐	200.000	198.384	2537653.71	0.3884	A	2.1

y = 0.0020 * x + 1.4141E-004
R = 0.9998
DL = 0.01208
BEC = 0.07226

Weight: <None>
Min Conc: <None>

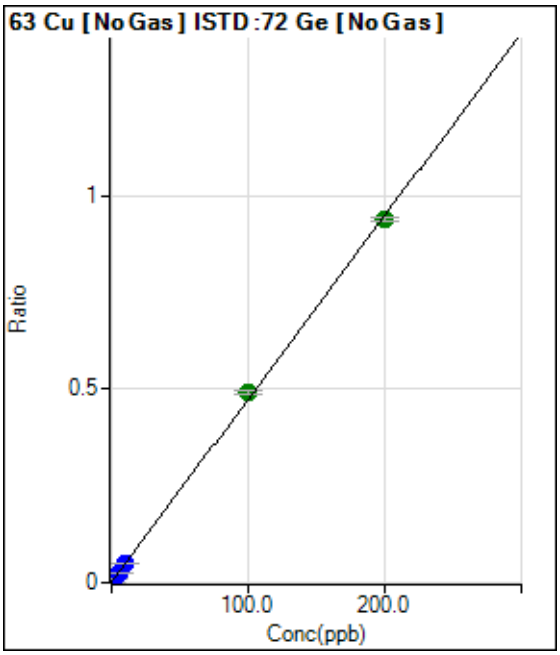


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	226.67	0.0001	P	19.7
2	☐	2.000	1.940	11067.99	0.0073	P	5.8
3	☐	5.000	5.106	28790.88	0.0190	P	3.4
4	☐	10.000	10.739	59489.98	0.0397	P	1.5
5	☐	100.000	103.317	562446.06	0.3812	P	1.4
6	☐	200.000	198.302	1078321.96	0.7314	A	1.1

y = 0.0037 * x + 1.4522E-004
R = 0.9998
DL = 0.02325
BEC = 0.03938

Weight: <None>
Min Conc: <None>

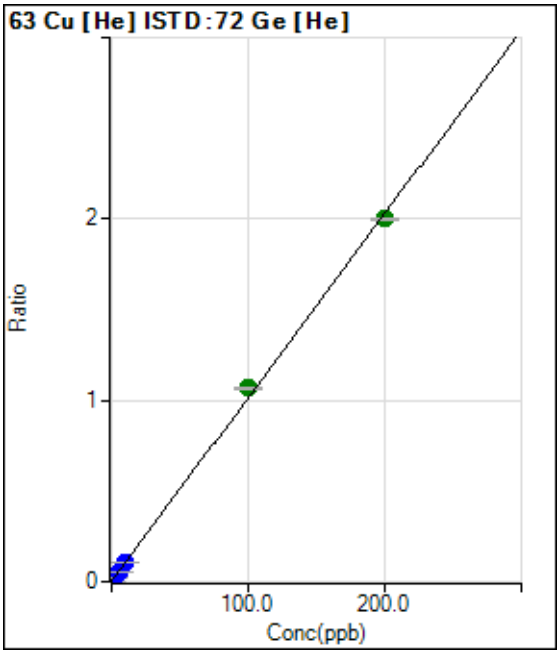
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8306.03	0.0012	P	7.2
2	☐	2.000	1.961	72117.83	0.0105	P	2.1
3	☐	5.000	4.880	166555.83	0.0243	P	1.2
4	☐	10.000	10.428	342486.45	0.0505	P	2.6
5	☐	100.000	104.143	3326896.00	0.4935	A	2.0
6	☐	200.000	197.911	6121414.07	0.9368	A	1.0

y = 0.0047 * x + 0.0012
R = 0.9997
DL = 0.05545
BEC = 0.2553

Weight: <None>
Min Conc: <None>

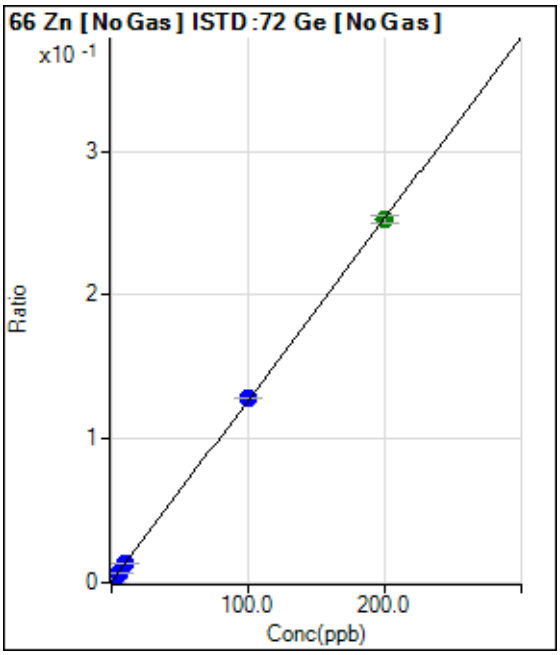


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2903.71	0.0019	P	7.3
2	☐	2.000	1.972	33124.14	0.0218	P	3.1
3	☐	5.000	4.965	79150.81	0.0521	P	1.1
4	☐	10.000	10.341	159523.62	0.1066	P	1.5
5	☐	100.000	105.287	1576342.95	1.0682	A	0.6
6	☐	200.000	197.341	2949157.87	2.0005	A	0.2

y = 0.0101 * x + 0.0019
R = 0.9995
DL = 0.04049
BEC = 0.1839

Weight: <None>
Min Conc: <None>

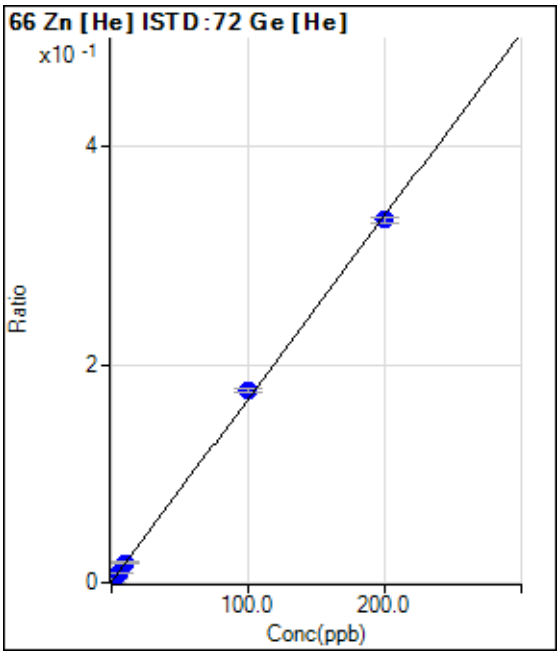
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4167.37	0.0006	P	1.7
2	☐	2.000	2.163	22957.03	0.0033	P	3.5
3	☐	5.000	5.097	48296.42	0.0070	P	2.1
4	☐	10.000	10.357	92755.93	0.0137	P	2.5
5	☐	100.000	101.190	865223.45	0.1283	P	0.8
6	☐	200.000	199.383	1648640.39	0.2523	A	2.0

y = 0.0013 * x + 6.0519E-004
R = 1.0000
DL = 0.0239
BEC = 0.4794

Weight: <None>
Min Conc: <None>

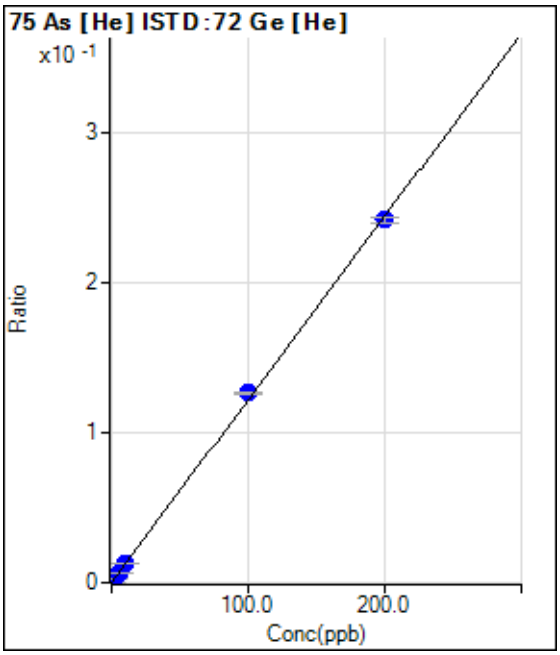


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1160.07	0.0007	P	6.9
2	☐	2.000	2.113	6504.98	0.0043	P	3.2
3	☐	5.000	5.274	14558.08	0.0096	P	1.2
4	☐	10.000	10.544	27585.14	0.0184	P	3.1
5	☐	100.000	104.369	259431.90	0.1758	P	1.8
6	☐	200.000	197.780	490111.50	0.3325	P	1.3

y = 0.0017 * x + 7.4395E-004
R = 0.9997
DL = 0.09236
BEC = 0.4435

Weight: <None>
Min Conc: <None>

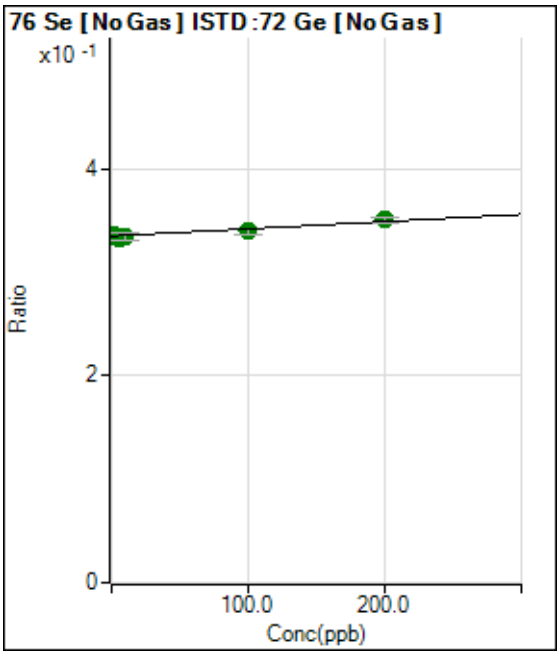
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	98.89	0.0001	P	12.9
2	☐	2.000	2.031	3859.46	0.0025	P	2.1
3	☐	5.000	4.871	9123.12	0.0060	P	3.4
4	☐	10.000	10.145	18636.23	0.0125	P	1.0
5	☐	100.000	103.513	186616.89	0.1265	P	0.9
6	☐	200.000	198.239	356880.21	0.2421	P	1.8

y = 0.0012 * x + 6.3502E-005
R = 0.9998
DL = 0.02005
BEC = 0.052

Weight: <None>
Min Conc: <None>

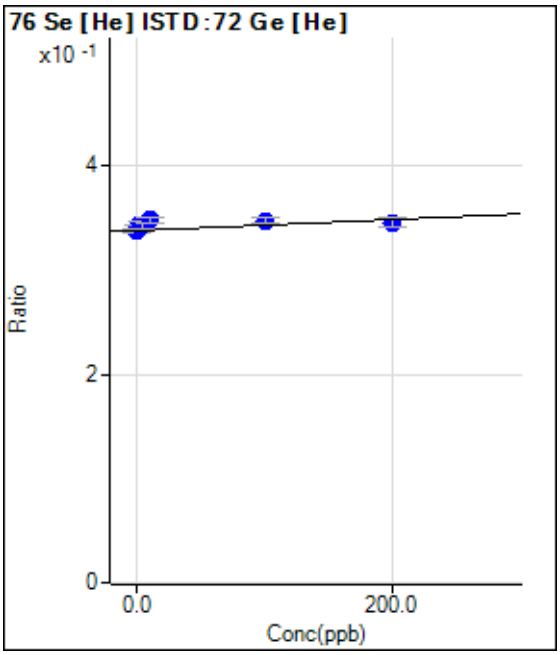


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2308282.88	0.3352	A	1.7
2	☐	2.000	15.737	2316258.56	0.3363	A	1.1
3	☐	5.000	-34.962	2283219.55	0.3327	A	0.7
4	☐	10.000	-11.254	2267738.61	0.3344	A	2.0
5	☐	100.000	59.398	2287785.43	0.3394	A	1.5
6	☐	200.000	222.226	2292096.53	0.3508	A	1.4

y = 7.0037E-005 * x + 0.3352
R = 0.9618
DL = 247.7
BEC = 4786

Weight: <None>
Min Conc: <None>

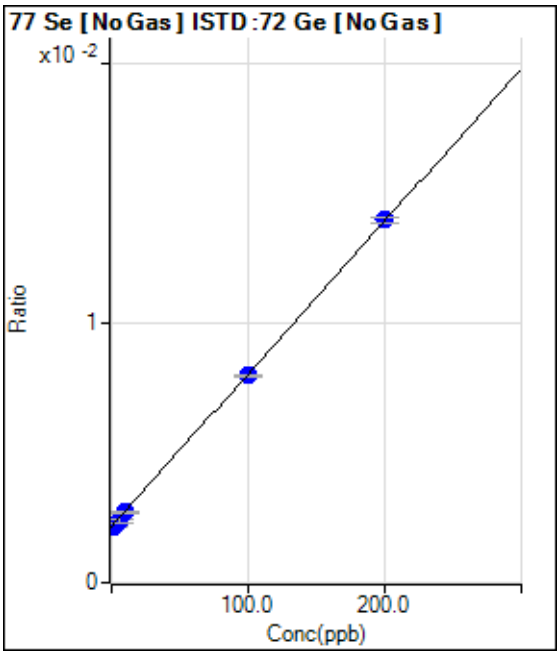
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	526607.17	0.3379	P	0.7
2	☐	2.000	103.922	521201.43	0.3435	P	0.1
3	☐	5.000	94.135	520448.48	0.3429	P	2.3
4	☐	10.000	191.667	521097.06	0.3482	P	1.6
5	☐	100.000	179.207	512812.04	0.3475	P	1.5
6	☐	200.000	148.065	509697.86	0.3458	P	2.5

y = 5.3829E-005 * x + 0.3379
R = 0.4261
DL = 140.6
BEC = 6277

Weight: <None>
Min Conc: <None>

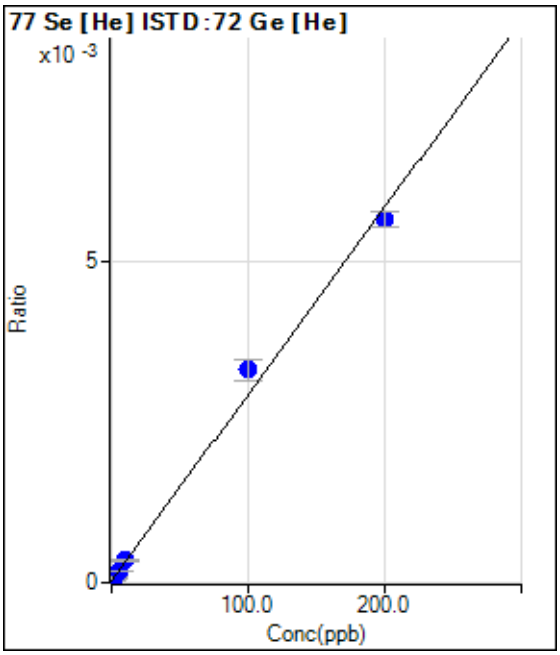


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14915.18	0.0022	P	1.0
2	☐	2.000	-0.686	14634.80	0.0021	P	1.1
3	☐	5.000	2.958	16049.85	0.0023	P	5.9
4	☐	10.000	9.168	18349.48	0.0027	P	2.1
5	☐	100.000	98.697	53720.71	0.0080	P	0.7
6	☐	200.000	200.771	91272.59	0.0140	P	1.8

y = 5.8791E-005 * x + 0.0022
R = 0.9999
DL = 1.134
BEC = 36.84

Weight: <None>
Min Conc: <None>

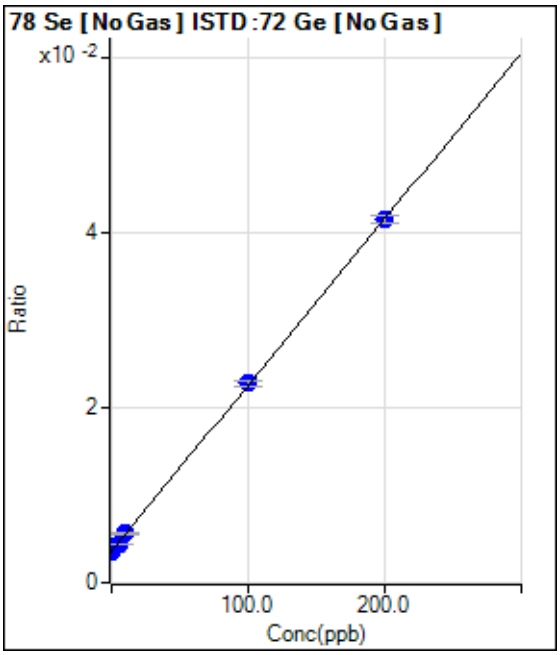
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0000	P	25.9
2	☐	2.000	1.454	103.33	0.0001	P	30.2
3	☐	5.000	5.165	266.68	0.0002	P	6.3
4	☐	10.000	11.068	520.02	0.0003	P	7.3
5	☐	100.000	113.059	4884.31	0.0033	P	10.5
6	☐	200.000	193.419	8322.72	0.0056	P	4.1

y = 2.9063E-005 * x + 2.5709E-005
R = 0.9969
DL = 0.6885
BEC = 0.8846

Weight: <None>
Min Conc: <None>

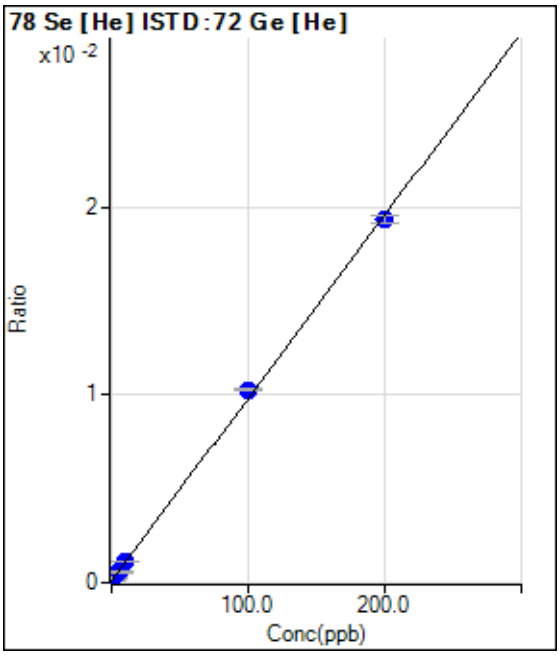


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24829.78	0.0036	P	2.9
2	☐	2.000	2.457	28029.45	0.0041	P	1.9
3	☐	5.000	4.382	30441.52	0.0044	P	2.0
4	☐	10.000	10.602	38070.81	0.0056	P	2.8
5	☐	100.000	101.041	153351.20	0.0227	P	3.2
6	☐	200.000	199.460	270454.97	0.0414	P	2.2

y = 1.8946E-004 * x + 0.0036
R = 1.0000
DL = 1.671
BEC = 19.03

Weight: <None>
Min Conc: <None>

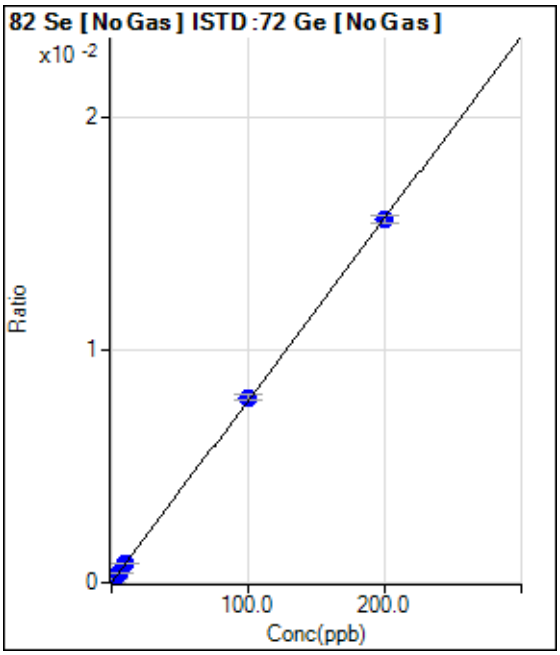
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0001	P	6.1
2	☐	2.000	1.888	406.01	0.0003	P	15.6
3	☐	5.000	4.940	856.70	0.0006	P	6.9
4	☐	10.000	10.916	1716.78	0.0011	P	2.5
5	☐	100.000	104.757	15185.91	0.0103	P	1.1
6	☐	200.000	197.578	28498.05	0.0193	P	2.0

y = 9.7438E-005 * x + 8.3431E-005
R = 0.9996
DL = 0.1574
BEC = 0.8562

Weight: <None>
Min Conc: <None>

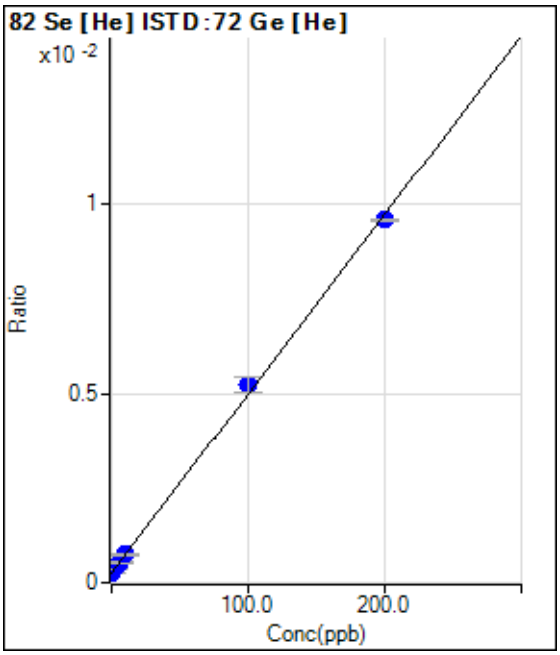


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31.54	0.0000	P	1039.5
2	☐	2.000	2.247	1242.64	0.0002	P	12.4
3	☐	5.000	4.865	2642.27	0.0004	P	6.5
4	☐	10.000	10.370	5534.32	0.0008	P	2.2
5	☐	100.000	101.587	53638.88	0.0080	P	2.8
6	☐	200.000	199.189	101912.89	0.0156	P	2.0

y = 7.8287E-005 * x + 4.1836E-006
R = 1.0000
DL = 1.666
BEC = 0.05344

Weight: <None>
Min Conc: <None>

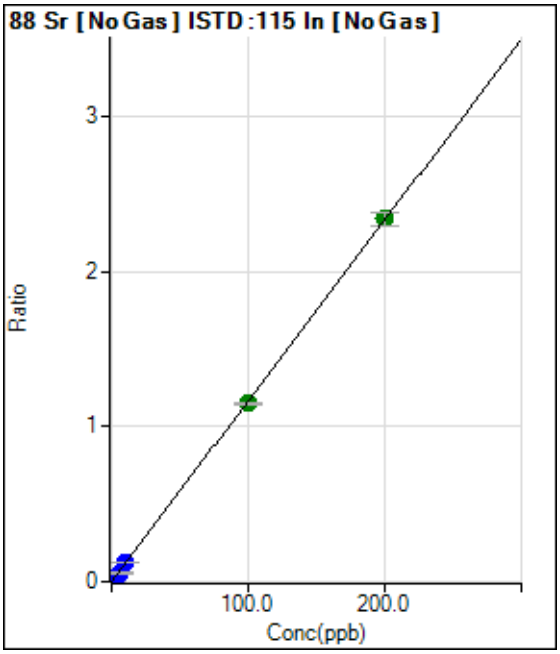
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	403.35	0.0003	P	13.4
2	☐	2.000	2.468	570.02	0.0004	P	5.0
3	☐	5.000	5.768	806.71	0.0005	P	6.8
4	☐	10.000	10.535	1133.40	0.0008	P	5.3
5	☐	100.000	105.527	7752.38	0.0053	P	7.7
6	☐	200.000	197.186	14147.70	0.0096	P	0.3

y = 4.7356E-005 * x + 2.5852E-004
R = 0.9995
DL = 2.19
BEC = 5.459

Weight: <None>
Min Conc: <None>

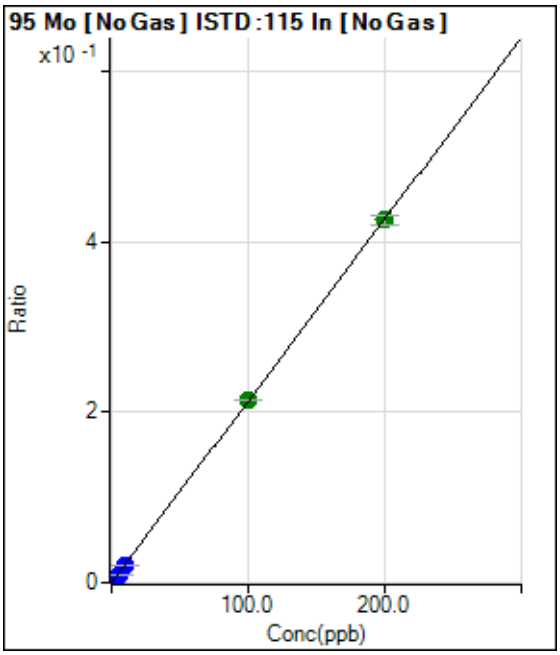


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3443.83	0.0004	P	1.1
2	☐	2.000	1.885	170881.60	0.0224	P	4.0
3	☐	5.000	4.749	418818.47	0.0557	P	2.0
4	☐	10.000	10.278	901404.42	0.1201	P	2.4
5	☐	100.000	98.454	8569087.58	1.1466	A	0.9
6	☐	200.000	200.766	17062115.58	2.3376	A	3.4

y = 0.0116 * x + 4.4598E-004
R = 1.0000
DL = 0.001213
BEC = 0.03831

Weight: <None>
Min Conc: <None>

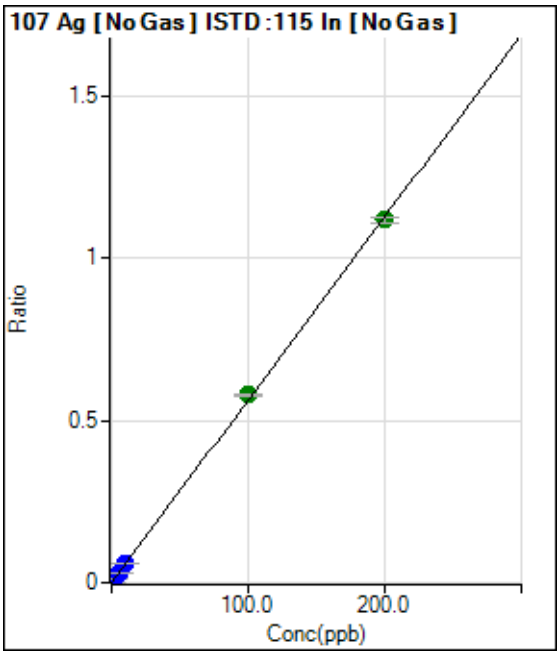
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	180.01	0.0000	P	29.7
2	☐	2.000	1.846	30228.14	0.0040	P	4.7
3	☐	5.000	4.727	75957.53	0.0101	P	0.3
4	☐	10.000	9.927	159134.60	0.0212	P	1.4
5	☐	100.000	100.425	1601034.45	0.2142	A	0.4
6	☐	200.000	199.800	3110394.33	0.4262	A	2.9

y = 0.0021 * x + 2.3351E-005
R = 1.0000
DL = 0.009739
BEC = 0.01095

Weight: <None>
Min Conc: <None>

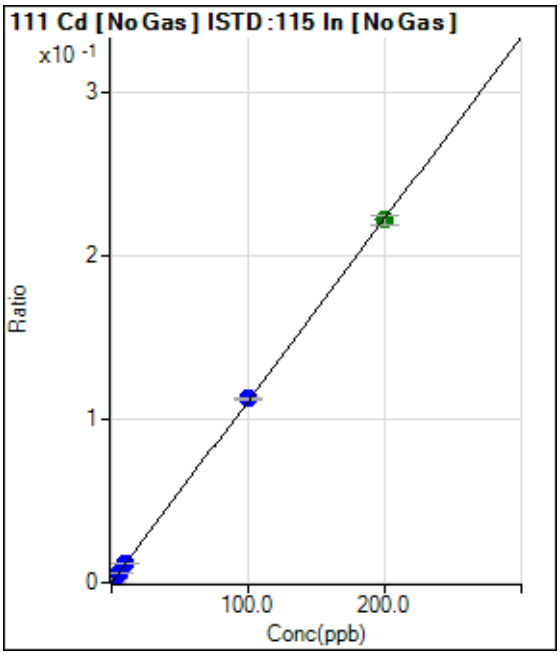


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1373.43	0.0002	P	4.2
2	☐	2.000	1.930	84252.65	0.0110	P	2.1
3	☐	5.000	4.971	211439.18	0.0281	P	2.4
4	☐	10.000	10.410	440977.94	0.0587	P	0.9
5	☐	100.000	102.786	4321986.71	0.5783	A	0.4
6	☐	200.000	198.588	8155549.25	1.1171	A	1.9

y = 0.0056 * x + 1.7802E-004
R = 0.9999
DL = 0.004012
BEC = 0.03165

Weight: <None>
Min Conc: <None>

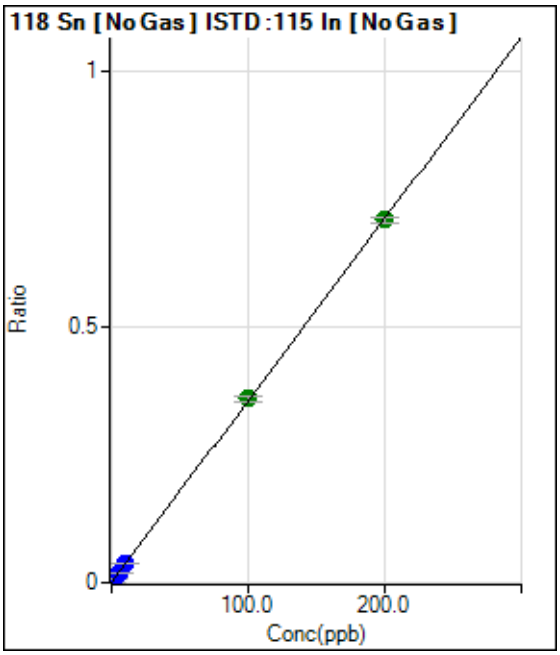
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	89.5
2	☐	2.000	1.953	16604.16	0.0022	P	2.7
3	☐	5.000	4.861	40616.70	0.0054	P	3.4
4	☐	10.000	10.294	85928.00	0.0114	P	2.0
5	☐	100.000	101.032	839178.89	0.1123	P	1.2
6	☐	200.000	199.473	1618252.32	0.2217	A	2.6

y = 0.0011 * x + 2.9719E-006
R = 1.0000
DL = 0.007177
BEC = 0.002674

Weight: <None>
Min Conc: <None>

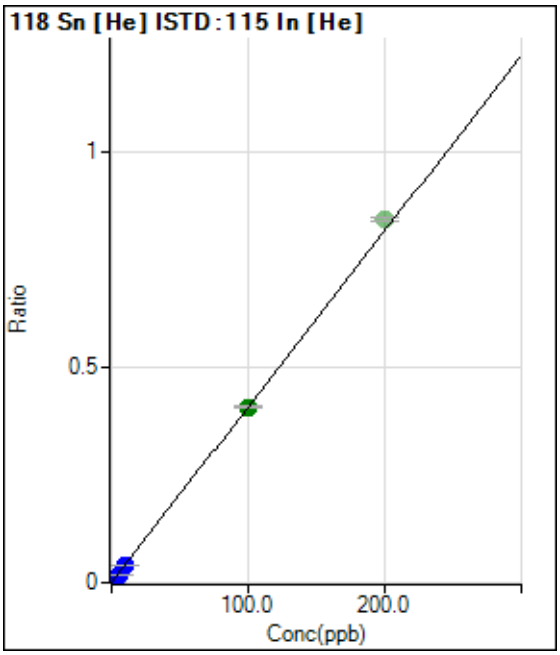


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4517.53	0.0006	P	0.6
2	☐	2.000	1.918	56418.83	0.0074	P	2.0
3	☐	5.000	4.774	131667.12	0.0175	P	1.2
4	☐	10.000	10.153	274725.52	0.0366	P	2.0
5	☐	100.000	100.992	2681677.46	0.3588	A	3.2
6	☐	200.000	199.503	5170264.09	0.7083	A	1.5

y = 0.0035 * x + 5.8520E-004
R = 1.0000
DL = 0.002761
BEC = 0.165

Weight: <None>
Min Conc: <None>

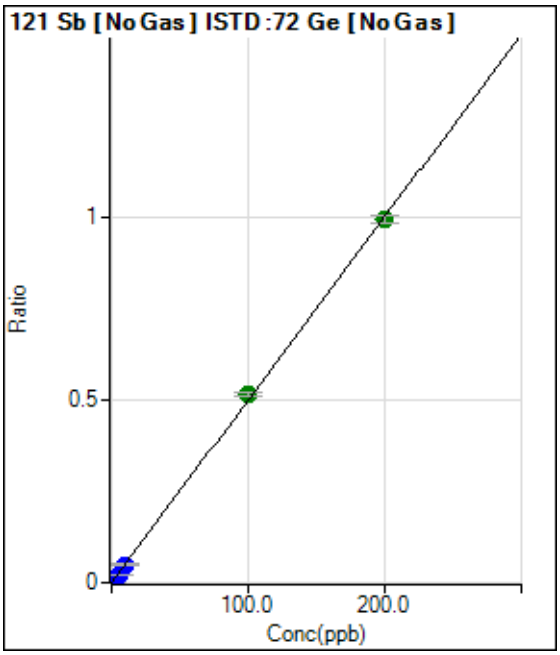
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1833.50	0.0007	P	15.1
2	☐	2.000	1.952	23521.67	0.0086	P	3.1
3	☐	5.000	4.645	54785.17	0.0196	P	1.6
4	☐	10.000	10.078	112820.15	0.0418	P	2.0
5	☐	100.000	100.011	1096747.07	0.4086	A	1.5
6	☑	200.000		2195177.88	0.8426	A	1.1

y = 0.0041 * x + 6.6408E-004
R = 1.0000
DL = 0.07389
BEC = 0.1628

Weight: <None>
Min Conc: <None>

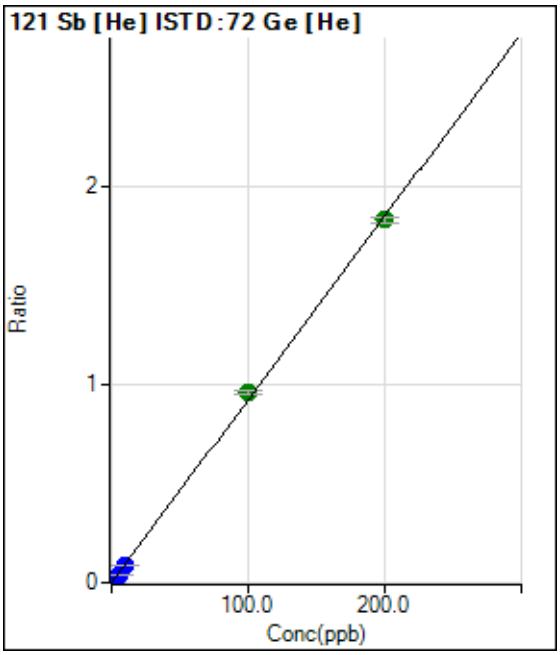


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	670.03	0.0001	P	9.2
2	☐	2.000	1.851	64452.40	0.0094	P	1.7
3	☐	5.000	4.659	160686.23	0.0234	P	2.0
4	☐	10.000	9.912	337089.89	0.0497	P	2.3
5	☐	100.000	103.036	3477598.07	0.5158	A	1.5
6	☐	200.000	198.496	6492269.07	0.9936	A	2.1

y = 0.0050 * x + 9.7372E-005
R = 0.9998
DL = 0.005383
BEC = 0.01945

Weight: <None>
Min Conc: <None>

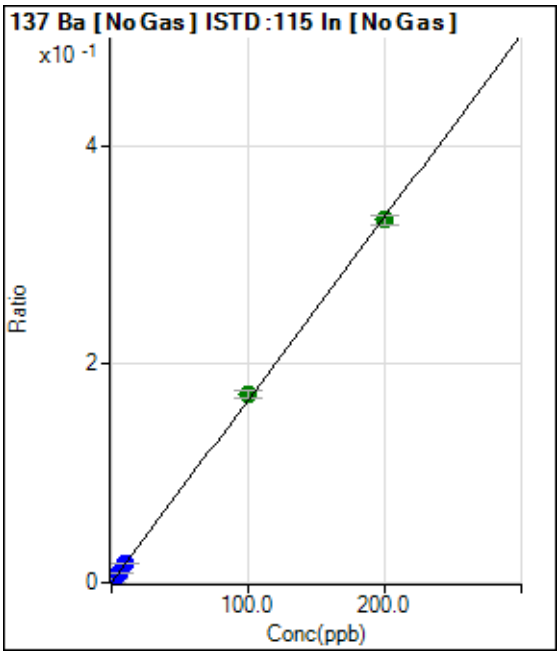
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	296.68	0.0002	P	10.4
2	☐	2.000	1.794	25411.85	0.0168	P	1.9
3	☐	5.000	4.585	64532.57	0.0425	P	0.5
4	☐	10.000	9.723	134603.99	0.0899	P	0.4
5	☐	100.000	103.783	1413784.35	0.9581	A	1.8
6	☐	200.000	198.135	2696239.96	1.8290	A	1.6

y = 0.0092 * x + 1.9035E-004
R = 0.9997
DL = 0.006432
BEC = 0.02062

Weight: <None>
Min Conc: <None>

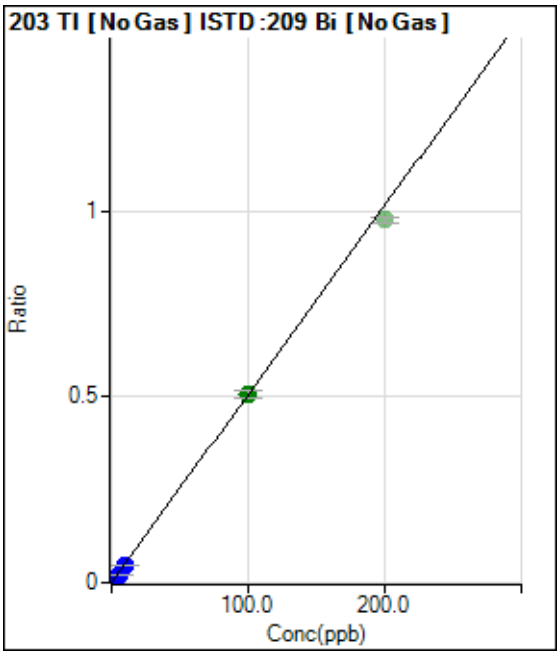


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.43	0.0002	P	0.8
2	☐	2.000	1.906	25642.53	0.0034	P	5.4
3	☐	5.000	4.801	61658.50	0.0082	P	2.3
4	☐	10.000	10.112	128299.52	0.0171	P	3.0
5	☐	100.000	102.871	1287621.54	0.1723	A	3.8
6	☐	200.000	198.565	2426422.26	0.3324	A	2.5

y = 0.0017 * x + 1.7141E-004
R = 0.9999
DL = 0.002405
BEC = 0.1024

Weight: <None>
Min Conc: <None>

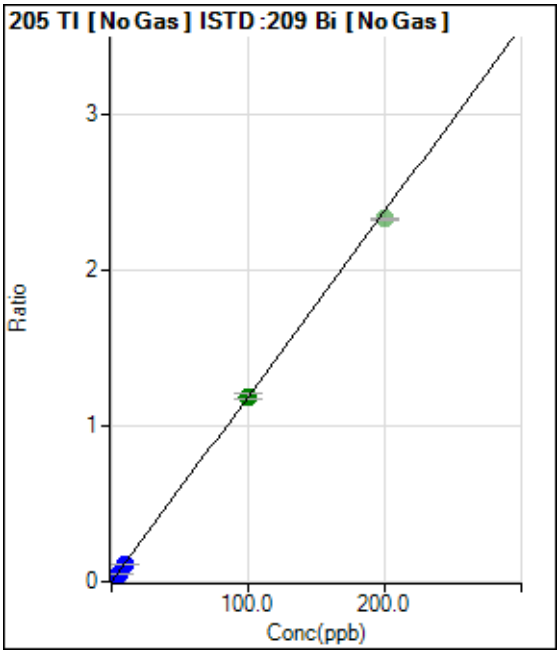
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0000	P	61.2
2	☐	2.000	1.768	49566.67	0.0090	P	4.5
3	☐	5.000	4.360	120498.68	0.0221	P	4.7
4	☐	10.000	9.289	257036.68	0.0471	P	7.1
5	☐	100.000	100.108	2698425.79	0.5073	A	4.3
6	☑	200.000		5064301.07	0.9762	A	1.6

y = 0.0051 * x + 1.1241E-005
R = 1.0000
DL = 0.004074
BEC = 0.002218

Weight: <None>
Min Conc: <None>

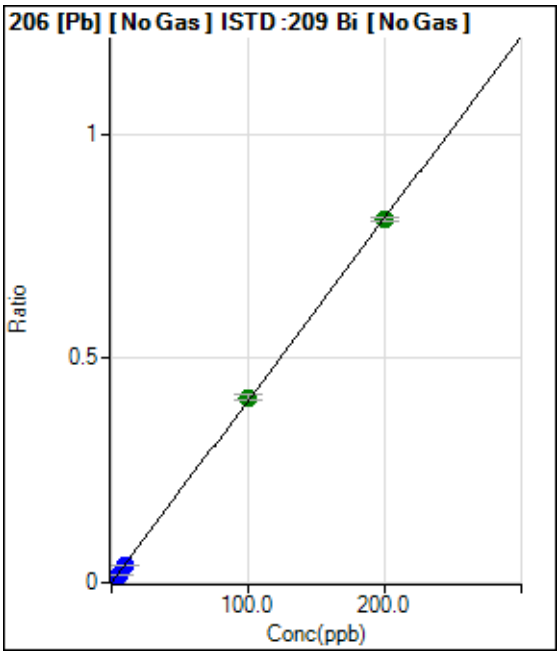


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	246.67	0.0000	P	30.1
2	☐	2.000	1.761	115889.83	0.0210	P	4.3
3	☐	5.000	4.466	289712.00	0.0531	P	4.4
4	☐	10.000	9.355	607451.76	0.1113	P	7.0
5	☐	100.000	100.096	6331910.12	1.1901	A	2.9
6	☑	200.000		12093338.57	2.3308	A	0.4

y = 0.0119 * x + 4.6080E-005
R = 1.0000
DL = 0.003505
BEC = 0.003876

Weight: <None>
Min Conc: <None>

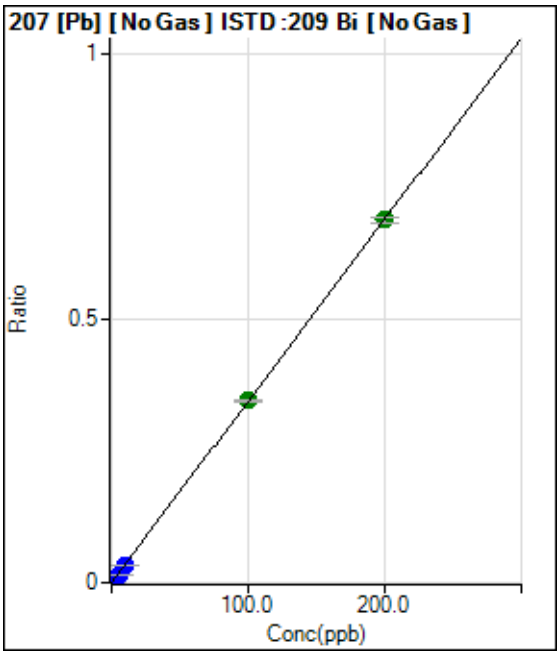
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	576.70	0.0001	P	6.2
2	☐	2.000	1.728	39370.38	0.0071	P	4.4
3	☐	5.000	4.456	99326.23	0.0182	P	1.7
4	☐	10.000	9.347	208010.19	0.0381	P	5.4
5	☐	100.000	101.789	2200845.33	0.4136	A	2.8
6	☐	200.000	199.155	4198284.52	0.8092	A	1.0

y = 0.0041 * x + 1.0775E-004
R = 0.9999
DL = 0.00497
BEC = 0.02652

Weight: <None>
Min Conc: <None>

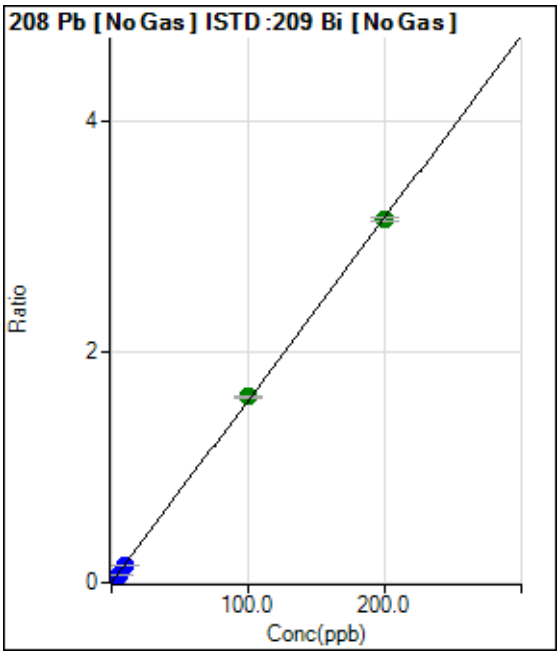


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	453.35	0.0001	P	19.8
2	☐	2.000	1.781	34271.39	0.0062	P	2.9
3	☐	5.000	4.652	87625.85	0.0161	P	2.2
4	☐	10.000	9.476	178461.99	0.0326	P	2.5
5	☐	100.000	100.292	1834212.68	0.3447	A	1.6
6	☐	200.000	199.891	3563290.36	0.6869	A	1.3

y = 0.0034 * x + 8.4772E-005
R = 1.0000
DL = 0.01469
BEC = 0.02467

Weight: <None>
Min Conc: <None>

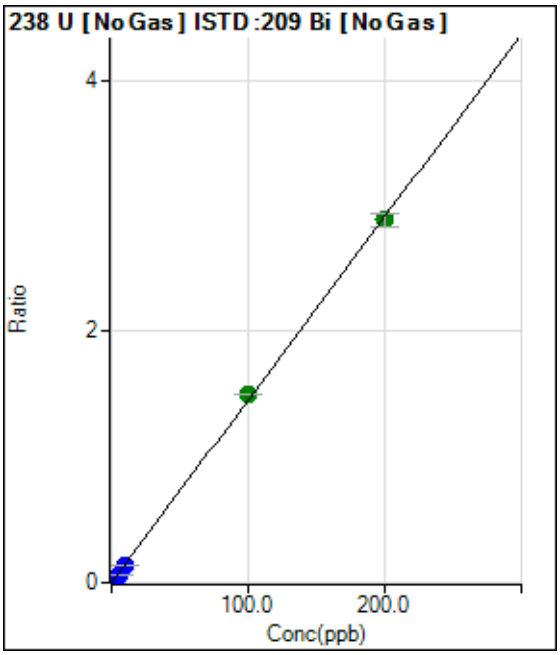
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2206.79	0.0004	P	7.7
2	☐	2.000	1.795	159070.35	0.0288	P	2.9
3	☐	5.000	4.649	403165.76	0.0739	P	1.4
4	☐	10.000	9.548	827486.56	0.1514	P	2.7
5	☐	100.000	102.215	8602913.05	1.6164	A	1.0
6	☐	200.000	198.926	16318843.51	3.1455	A	1.1

y = 0.0158 * x + 4.1221E-004
R = 0.9999
DL = 0.006051
BEC = 0.02607

Weight: <None>
Min Conc: <None>

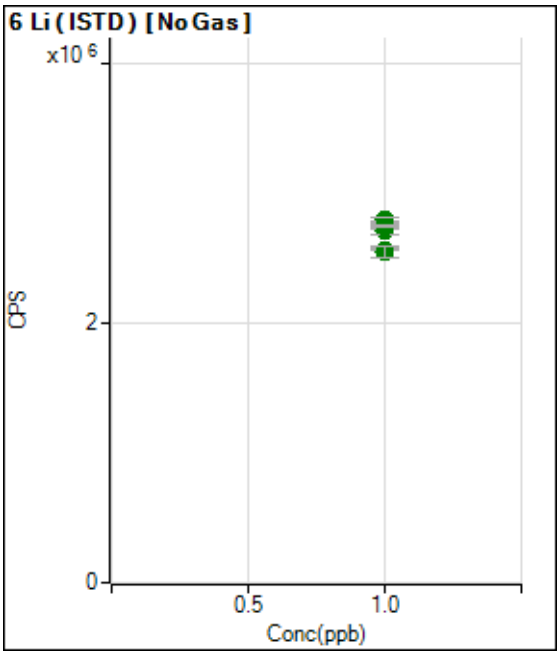


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0000	P	1.6
2	☐	2.000	1.784	143416.47	0.0260	P	4.8
3	☐	5.000	4.630	367571.18	0.0674	P	0.8
4	☐	10.000	9.828	782275.27	0.1430	P	1.5
5	☐	100.000	102.954	7975055.30	1.4983	A	0.4
6	☐	200.000	198.543	14984756.03	2.8894	A	3.7

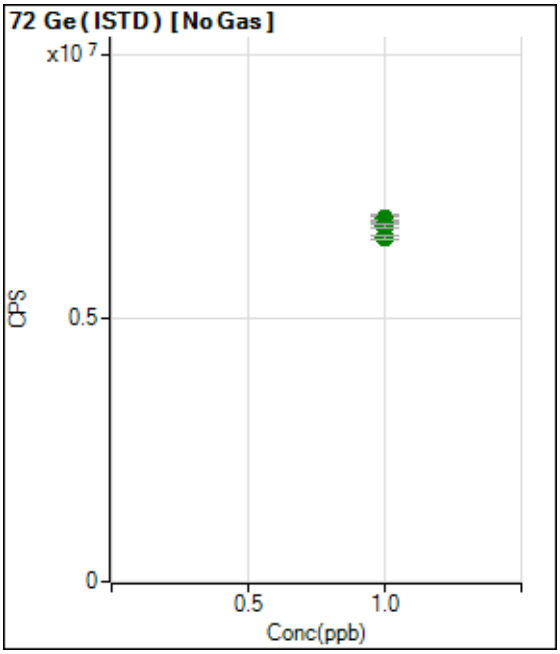
y = 0.0146 * x + 5.6033E-006
R = 0.9998
DL = 1.809E-05
BEC = 0.000385

Weight: <None>
Min Conc: <None>

Calibration for 058_ICV.d

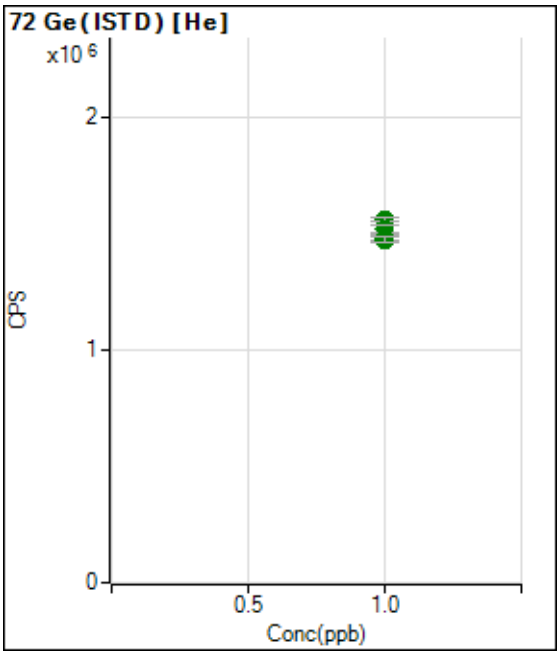


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2755843.10		A	2.6
2	☐	1.000		2795305.57		A	1.8
3	☐	1.000		2717869.68		A	2.6
4	☐	1.000		2746624.04		A	0.6
5	☐	1.000		2570284.96		A	0.5
6	☐	1.000		2544684.62		A	3.5

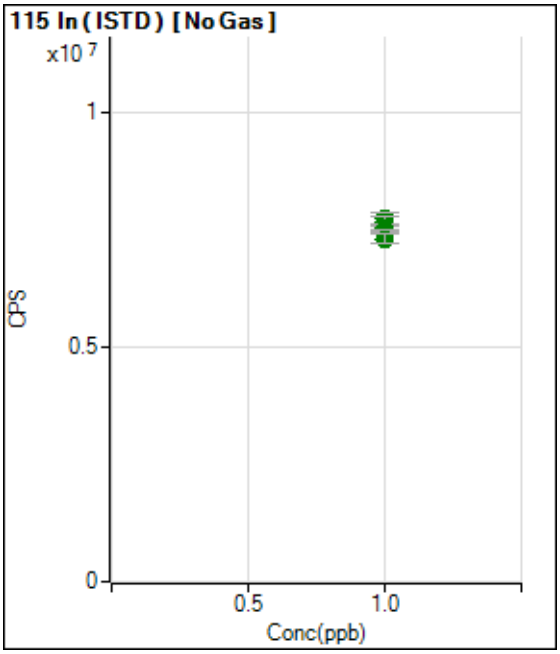


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		6887145.52		A	1.5
2	☐	1.000		6886294.69		A	2.7
3	☐	1.000		6861701.98		A	0.5
4	☐	1.000		6783334.27		A	2.3
5	☐	1.000		6742389.48		A	1.3
6	☐	1.000		6534974.69		A	1.6

Calibration for 058_ICV.d

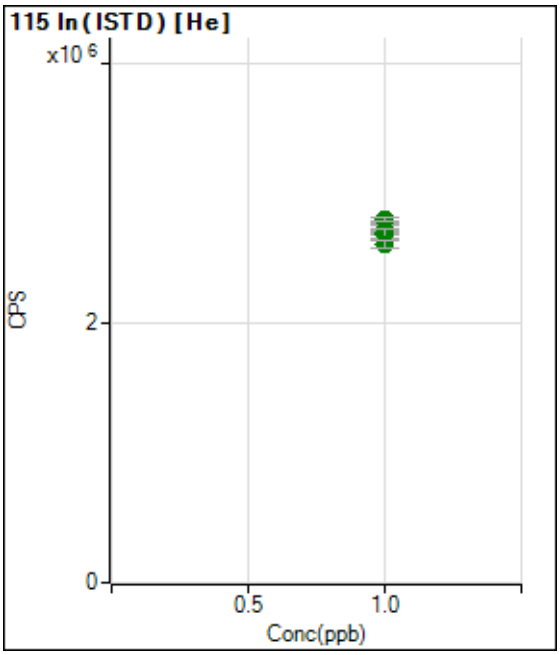


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1558698.15		A	1.1
2	☐	1.000		1517485.76		A	2.2
3	☐	1.000		1517999.14		A	2.0
4	☐	1.000		1496638.94		A	0.4
5	☐	1.000		1475759.46		A	1.0
6	☐	1.000		1474249.40		A	1.8

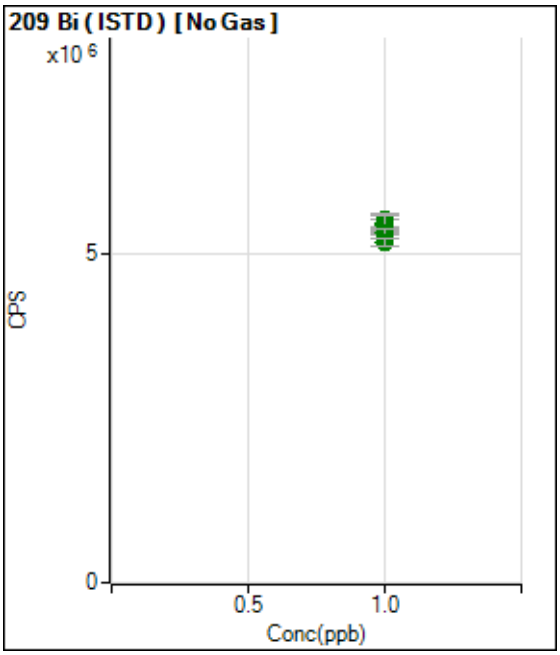


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		7720243.72		A	3.2
2	☐	1.000		7640288.98		A	4.0
3	☐	1.000		7516456.13		A	2.0
4	☐	1.000		7508754.98		A	2.5
5	☐	1.000		7473741.61		A	0.9
6	☐	1.000		7301870.36		A	2.7

Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2760329.10		A	0.3
2	☐	1.000		2727321.36		A	2.2
3	☐	1.000		2793710.43		A	1.1
4	☐	1.000		2701074.35		A	1.2
5	☐	1.000		2684641.56		A	2.5
6	☐	1.000		2605474.05		A	2.1



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5354842.42		A	1.6
2	☐	1.000		5528727.21		A	3.8
3	☐	1.000		5455525.96		A	3.2
4	☐	1.000		5471256.79		A	4.7
5	☐	1.000		5322986.38		A	2.6
6	☐	1.000		5188880.86		A	2.3

Sample Report

Sample Table

Sample Name	LLICCV2
Data File Name	059LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T11:09:38-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.983	1.983	5.05	214967	0.00	2	
Be	9	1	No Gas	1.868	1.868	2.27	15634	0.01	2	
V	51	2	He	1.811	1.811	3.72	22783	0.01	2	
Cr	52	2	He	1.913	1.913	4.95	28169	0.01	2	
Fe	56	2	He	201.846	201.846	2.27	2339285	0.01	200	
Se	78	2	He	2.013	2.013	10.42	428	0.47	2	
Sn	118	2	He	1.928	1.928	3.68	24083	0.01	2	
As	75	2	He	1.937	1.937	5.09	3721	0.05	2	
Ca	44	2	He	202.562	202.562	1.99	11051	1.83	200	
Na	23	2	He	187.183	187.183	3.07	424431	0.04	200	
Mg	24	2	He	197.443	197.443	2.42	162899	0.12	200	
K	39	2	He	189.834	189.834	2.59	249365	0.08	200	
Mn	55	2	He	1.893	1.893	5.91	17128	0.01	2	
Co	59	2	He	1.954	1.954	2.42	43176	0.00	2	
Ni	60	2	He	2.006	2.006	2.86	11558	0.02	2	
Cu	63	2	He	1.920	1.920	2.45	32650	0.01	2	
Zn	66	2	He	2.269	2.269	8.11	6972	0.03	2	
Al	27	2	He	3.166	3.166	10.15	1757	0.18	2	NewName Main CR1 Failed
B	11	1	No Gas	17.748	17.748	5.32	118642	0.01	10	NewName Main CR1 Failed
Al	27	1	No Gas	3.383	3.383	2.87	168071	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	12.776	12.776	11.88	959012	0.00	10	
P	31	1	No Gas	8.024	8.024	5.20	62866	0.01	10	
Ag	107	1	No Gas	1.976	1.976	1.61	83676	0.00	2	
Cd	111	1	No Gas	2.011	2.011	3.43	16591	0.01	2	
Sr	88	1	No Gas	1.931	1.931	4.14	169848	0.00	2	
Mo	95	1	No Gas	1.944	1.944	3.75	30900	0.01	2	
Sn	118	1	No Gas	2.049	2.049	3.98	58173	0.00	2	
Sb	121	1	No Gas	1.910	1.910	2.50	65669	0.00	2	
Ba	137	1	No Gas	2.072	2.072	3.52	26962	0.01	2	
Tl	205	1	No Gas	1.933	1.933	1.40	121508	0.00	2	
Tl	203	1	No Gas	1.904	1.904	0.91	50269	0.00	2	
Pb	208	1	No Gas	1.910	1.910	4.01	164017	0.00	2	
U	238	1	No Gas	1.851	1.851	1.27	144443	0.00	2	
Ca	43	2	He	216.837	216.837	15.60	677	32.04	200	
Sb	121	2	He	1.817	1.817	3.31	25989	0.01	2	
Ti	47	2	He	1.821	1.821	3.15	660	0.28	200	
Cu	63	1	No Gas	1.948	1.948	1.26	70831	0.00	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2682749	1.63	2755843	97.35	70	120	
Ge	72	2	He	1532367	1.67	1558698	98.31	70	120	
Ge	72	1	No Gas	6800033	1.43	6887146	98.74	70	120	
In	115	1	No Gas	7410857	1.58	7720244	95.99	70	120	
Bi	209	1	No Gas	5360225	1.87	5354842	100.10	70	120	

Sample Report

Sample Table

Sample Name	LLICCV5
Data File Name	060LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T11:11:30-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.698	4.698	3.40	305454	0.00	5	
Be	9	1	No Gas	4.603	4.603	2.28	38559	0.01	5	
V	51	2	He	4.591	4.591	2.22	54651	0.01	5	
Cr	52	2	He	4.801	4.801	2.54	68773	0.01	5	
Fe	56	2	He	488.252	488.252	1.53	5674448	0.01	500	
Se	78	2	He	4.822	4.822	5.11	853	0.57	5	
Sn	118	2	He	4.569	4.569	1.84	54691	0.01	5	
As	75	2	He	4.785	4.785	1.01	9104	0.05	5	
Ca	44	2	He	476.496	476.496	0.65	25684	1.86	500	
Na	23	2	He	477.275	477.275	1.85	881461	0.05	500	
Mg	24	2	He	487.540	487.540	0.63	402766	0.12	500	
K	39	2	He	470.627	470.627	1.22	524647	0.09	500	
Mn	55	2	He	4.771	4.771	1.79	42643	0.01	5	
Co	59	2	He	4.869	4.869	1.54	107902	0.00	5	
Ni	60	2	He	5.081	5.081	3.48	29108	0.02	5	
Cu	63	2	He	4.833	4.833	3.46	78322	0.01	5	
Zn	66	2	He	5.218	5.218	3.29	14641	0.04	5	
Al	27	2	He	6.420	6.420	5.05	2940	0.22	5	
B	11	1	No Gas	27.183	27.183	4.25	168372	0.02	25	
Al	27	1	No Gas	6.766	6.766	2.13	285654	0.00	5	NewName2 Main CR1 Failed
Si	28	1	No Gas	27.321	27.321	5.64	1224719	0.00	25	
P	31	1	No Gas	22.122	22.122	7.29	89783	0.02	25	
Ag	107	1	No Gas	4.860	4.860	4.27	213474	0.00	5	
Cd	111	1	No Gas	4.892	4.892	2.12	42238	0.01	5	
Sr	88	1	No Gas	4.585	4.585	6.21	417368	0.00	5	
Mo	95	1	No Gas	4.629	4.629	5.08	76769	0.01	5	
Sn	118	1	No Gas	4.740	4.740	2.55	135077	0.00	5	
Sb	121	1	No Gas	4.707	4.707	0.93	159695	0.00	5	
Ba	137	1	No Gas	4.639	4.639	2.31	61591	0.01	5	
Tl	205	1	No Gas	4.438	4.438	5.38	287698	0.00	5	
Tl	203	1	No Gas	4.422	4.422	3.74	120494	0.00	5	
Pb	208	1	No Gas	4.700	4.700	3.20	413731	0.00	5	
U	238	1	No Gas	4.605	4.605	0.30	371226	0.00	5	
Ca	43	2	He	446.214	446.214	10.77	1373	32.49	500	
Sb	121	2	He	4.499	4.499	2.33	64301	0.01	5	
Ti	47	2	He	4.730	4.730	6.93	1720	0.27	5	
Cu	63	1	No Gas	5.058	5.058	2.08	169522	0.00	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2689987	2.61	2755843	97.61	70	120	
Ge	72	2	He	1541501	0.56	1558698	98.90	70	120	
Ge	72	1	No Gas	6749928	1.62	6887146	98.01	70	120	
In	115	1	No Gas	7767241	3.93	7720244	100.61	70	120	
Bi	209	1	No Gas	5538855	2.02	5354842	103.44	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	061_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T11:13:22-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.063	18.0	149496	0.6	0.5	
Be	9	1	No Gas	0.008	3.6	107	2.7	0.5	
V	51	2	He	-0.040	-10.9	1778	3.1	2.5	
Cr	52	2	He	0.020	84.3	1813	13.3	2.5	
Fe	56	2	He	0.112	20.9	14665	1.3	100	
Se	78	2	He	0.012	1058.0	129	14.0	1	
Sn	118	2	He	0.006	92.5	1890	3.5	2.5	
As	75	2	He	0.004	182.3	103	11.6	2.5	
Ca	44	2	He	5.363	37.8	627	17.6	100	
Na	23	2	He	-12.913	-4.4	112171	0.9	100	
Mg	24	2	He	-0.576	-16.5	860	8.4	100	
K	39	2	He	-3.670	-84.3	61451	5.2	100	
Mn	55	2	He	0.071	20.6	1140	10.3	2.5	
Co	59	2	He	0.002	125.6	270	16.1	2.5	
Ni	60	2	He	0.034	13.8	413	5.6	2.5	
Cu	63	2	He	-0.032	-23.9	2347	5.1	1	
Zn	66	2	He	0.669	5.1	2840	2.3	2.5	
Al	27	2	He	-0.307	-70.4	507	16.0	5	
B	11	1	No Gas	2.227	10.0	37032	3.6	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	0.072	39.6	50342	1.4	5	
Si	28	1	No Gas	-1.345	-35.8	684867	1.0	10	
P	31	1	No Gas	-1.855	-27.7	43081	1.7	10	
Ag	107	1	No Gas	-0.012	-18.5	847	10.0	2.5	
Cd	111	1	No Gas	0.004	46.3	57	27.0	1	
Sr	88	1	No Gas	0.002	204.8	3644	10.1	2.5	
Mo	95	1	No Gas	0.003	100.4	227	21.8	2.5	
Sn	118	1	No Gas	-0.004	-58.5	4417	0.6	5	
Sb	121	1	No Gas	0.016	28.1	1210	13.1	2.5	
Ba	137	1	No Gas	-0.019	-111.0	1073	25.2	2.5	
Tl	205	1	No Gas	0.014	21.0	1120	16.5	1	
Tl	203	1	No Gas	0.016	39.8	473	33.9	1	
Pb	208	1	No Gas	0.003	63.6	2477	6.4	2.5	
U	238	1	No Gas	0.001	57.4	87	37.1	2.5	
Ca	43	2	He	0.282	2516.4	27	78.1	100	
Sb	121	2	He	0.009	67.0	420	21.4	2.5	
Ti	47	2	He	0.038	114.3	17	91.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2646138	0.47	2755843	96.02	70	120	
Ge	72	2	He	1521771	0.83	1558698	97.63	70	120	
Ge	72	1	No Gas	6731062	1.64	6887146	97.73	70	120	
In	115	1	No Gas	7716584	1.62	7720244	99.95	70	120	
Bi	209	1	No Gas	5372928	0.83	5354842	100.34	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	081_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T11:58:37-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	97.914	5.316	2912214	2.44	100	97.9	90	110	
Be	9	1	No Gas	99.457	5.144	714462	2.25	100	99.5	90	110	
V	51	2	He	94.358	0.725	1083618	1.93	100	94.4	90	110	
Cr	52	2	He	93.378	0.707	1314475	1.04	100	93.4	90	110	
Fe	56	2	He	9751.714	0.724	113543155	1.16	10000	97.5	90	110	
Se	78	2	He	99.080	1.305	15071	0.43	100	99.1	90	110	
Sn	118	2	He	89.295	2.585	1065035	2.26	100	89.3	90	110	CCV Main CR1-2 Failed
As	75	2	He	98.299	1.223	185878	0.87	100	98.3	90	110	
Ca	44	2	He	9384.596	1.503	501336	0.32	10000	93.8	90	110	
Na	23	2	He	9403.934	1.111	14924687	1.04	10000	94.0	90	110	
Mg	24	2	He	9417.355	0.766	7787085	1.06	10000	94.2	90	110	
K	39	2	He	9640.278	1.333	9503517	1.39	10000	96.4	90	110	
Mn	55	2	He	92.158	0.479	817404	0.81	100	92.2	90	110	
Co	59	2	He	99.993	0.956	2220315	1.13	100	100.0	90	110	
Ni	60	2	He	95.924	0.995	547743	0.86	100	95.9	90	110	
Cu	63	2	He	98.986	1.075	1554513	0.17	100	99.0	90	110	
Zn	66	2	He	96.318	2.256	251187	1.08	100	96.3	90	110	
Al	27	2	He	95.041	2.751	35055	2.06	100	95.0	90	110	
B	11	1	No Gas	519.429	4.012	2359466	1.48	500	103.9	90	110	
Al	27	1	No Gas	94.789	1.873	3418740	1.57	100	94.8	90	110	
Si	28	1	No Gas	551.136	0.439	11189887	0.05	5000	11.0	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	461.047	1.067	954023	0.81	500	92.2	90	110	
Ag	107	1	No Gas	95.570	6.250	4255187	4.68	100	95.6	90	110	
Cd	111	1	No Gas	94.734	2.900	833493	1.67	100	94.7	90	110	
Sr	88	1	No Gas	93.527	4.546	8621185	3.04	100	93.5	90	110	
Mo	95	1	No Gas	96.319	3.753	1626429	2.22	100	96.3	90	110	
Sn	118	1	No Gas	94.068	0.733	2646940	1.76	100	94.1	90	110	
Sb	121	1	No Gas	101.659	1.165	3475897	1.08	100	101.7	90	110	
Ba	137	1	No Gas	97.361	0.694	1291552	2.23	100	97.4	90	110	
Tl	205	1	No Gas	98.025	1.856	6347434	1.29	100	98.0	90	110	
Tl	203	1	No Gas	100.418	0.272	2733617	1.38	100	100.4	90	110	
Pb	208	1	No Gas	98.033	1.432	8579099	0.86	100	98.0	90	110	
U	238	1	No Gas	94.113	1.080	7580470	2.29	100	94.1	90	110	
Ca	43	2	He	9634.626	3.209	29238	2.22	10000	96.3	90	110	
Sb	121	2	He	99.610	1.200	1423553	2.39	100	99.6	90	110	
Ti	47	2	He	93.486	1.151	34072	1.77	100	93.5	90	110	
Cu	63	1	No Gas	98.960	1.629	3203089	1.17	100	99.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2310508	3.23	2755843	83.84	70	120	
Ge	72	2	He	1547878	1.24	1558698	99.31	70	120	
Ge	72	1	No Gas	6829779	0.46	6887146	99.17	70	120	
In	115	1	No Gas	7918780	1.55	7720244	102.57	70	120	
Bi	209	1	No Gas	5534435	1.59	5354842	103.35	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	082_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T12:00:20-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.039	230.3	137965	0.5	0.5	
Be	9	1	No Gas	0.018	24.3	172	18.7	0.5	
V	51	2	He	-0.026	-14.3	1952	3.9	2.5	
Cr	52	2	He	0.008	69.2	1660	6.5	2.5	
Fe	56	2	He	1.137	4.8	26603	2.0	100	
Se	78	2	He	0.004	671.6	129	5.0	2	
As	75	2	He	0.011	67.7	119	13.8	2.5	
Ca	44	2	He	2.814	30.1	497	10.1	100	
Na	23	2	He	-41.296	-2.1	68833	1.1	100	
Mg	24	2	He	-0.272	-22.2	1117	4.9	100	
K	39	2	He	-13.617	-12.8	52283	2.3	100	
Mn	55	2	He	0.046	18.6	933	6.2	2.5	
Co	59	2	He	0.004	70.5	330	18.9	2.5	
Ni	60	2	He	0.021	68.8	340	25.5	2.5	
Cu	63	2	He	-0.031	-31.9	2377	7.2	2	
Zn	66	2	He	0.130	18.0	1477	5.3	2.5	
Al	27	2	He	-0.138	-209.2	570	16.1	5	
B	11	1	No Gas	1.218	1.8	29533	2.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.453	11.2	64864	2.1	5	
Si	28	1	No Gas	6.478	13.7	846876	1.1	10	
P	31	1	No Gas	-5.814	-1.5	36081	1.3	10	
Ag	107	1	No Gas	-0.013	-8.5	863	8.2	2.5	
Cd	111	1	No Gas	0.007	35.9	90	29.4	1	
Sr	88	1	No Gas	0.006	33.6	4187	2.1	2.5	
Mo	95	1	No Gas	0.032	29.1	740	22.2	2.5	
Sn	118	1	No Gas	0.017	69.7	5221	3.9	5	
Sb	121	1	No Gas	0.117	10.7	4668	8.5	2.5	
Ba	137	1	No Gas	-0.019	-24.2	1127	7.5	2.5	
Tl	205	1	No Gas	0.081	39.9	5802	34.3	1	
Tl	203	1	No Gas	0.083	32.9	2444	28.4	1	
Pb	208	1	No Gas	0.044	13.0	6524	3.9	2.5	
U	238	1	No Gas	0.006	12.8	537	10.8	2.5	
Ca	43	2	He	-5.376	-107.1	10	173.2	100	
Sb	121	2	He	0.093	9.7	1613	6.1	2.5	
Ti	47	2	He	0.130	79.1	50	72.1	2.5	
Cu	63	1	No Gas	-0.049	-10.3	6702	1.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2455423	2.31	2755843	89.10	70	120	
Ge	72	2	He	1534356	2.03	1558698	98.44	70	120	
Ge	72	1	No Gas	6857300	0.92	6887146	99.57	70	120	
In	115	1	No Gas	8087691	3.03	7720244	104.76	70	120	
Bi	209	1	No Gas	5868562	4.21	5354842	109.59	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	089_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T12:15:38-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	95.287	2.390	2954948	2.01	100	95.3	90	110	
Be	9	1	No Gas	96.430	1.993	721468	2.14	100	96.4	90	110	
V	51	2	He	95.032	3.948	1070557	1.65	100	95.0	90	110	
Cr	52	2	He	95.289	2.249	1316276	0.49	100	95.3	90	110	
Fe	56	2	He	9725.471	2.076	111127085	1.09	10000	97.3	90	110	
Se	78	2	He	99.572	3.512	14860	1.07	100	99.6	90	110	
Sn	118	2	He	87.899	0.909	1025727	0.82	100	87.9	90	110	CCV Main CR1-2 Failed
As	75	2	He	99.318	2.071	184307	0.40	100	99.3	90	110	
Ca	44	2	He	9615.976	1.329	504206	1.10	10000	96.2	90	110	
Na	23	2	He	9579.264	2.704	14915862	0.83	10000	95.8	90	110	
Mg	24	2	He	9571.874	2.957	7766238	1.10	10000	95.7	90	110	
K	39	2	He	9872.365	2.906	9547940	0.48	10000	98.7	90	110	
Mn	55	2	He	93.924	1.592	817575	0.85	100	93.9	90	110	
Co	59	2	He	100.441	2.040	2188882	1.74	100	100.4	90	110	
Ni	60	2	He	96.720	2.721	541968	1.25	100	96.7	90	110	
Cu	63	2	He	98.864	3.176	1523464	1.11	100	98.9	90	110	
Zn	66	2	He	97.026	0.871	248390	1.72	100	97.0	90	110	
Al	27	2	He	100.003	4.100	36157	1.72	100	100.0	90	110	
B	11	1	No Gas	500.137	1.215	2366327	1.31	500	100.0	90	110	
Al	27	1	No Gas	96.943	1.884	3438828	0.54	100	96.9	90	110	
Si	28	1	No Gas	532.616	2.649	10662528	1.67	5000	10.7	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	465.551	3.201	947200	1.74	500	93.1	90	110	
Ag	107	1	No Gas	97.223	2.166	4237553	1.06	100	97.2	90	110	
Cd	111	1	No Gas	96.544	1.029	831315	1.09	100	96.5	90	110	
Sr	88	1	No Gas	94.359	1.754	8513213	0.39	100	94.4	90	110	
Mo	95	1	No Gas	97.485	1.637	1611223	1.67	100	97.5	90	110	
Sn	118	1	No Gas	93.559	3.543	2575298	2.59	100	93.6	90	110	
Sb	121	1	No Gas	101.545	0.789	3416157	0.77	100	101.5	90	110	
Ba	137	1	No Gas	95.433	2.919	1238427	2.12	100	95.4	90	110	
Tl	205	1	No Gas	101.162	5.002	6400046	3.37	100	101.2	90	110	
Tl	203	1	No Gas	102.368	3.808	2723274	3.41	100	102.4	90	110	
Pb	208	1	No Gas	99.264	1.973	8490390	1.58	100	99.3	90	110	
U	238	1	No Gas	91.062	2.992	7168793	3.54	100	91.1	90	110	
Ca	43	2	He	9665.443	3.388	28784	1.01	10000	96.7	90	110	
Sb	121	2	He	98.136	1.539	1376272	0.93	100	98.1	90	110	
Ti	47	2	He	94.938	3.745	33946	1.41	100	94.9	90	110	
Cu	63	1	No Gas	100.783	2.124	3209223	1.03	100	100.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2403804	0.27	2755843	87.23	70	120	
Ge	72	2	He	1519448	2.44	1558698	97.48	70	120	
Ge	72	1	No Gas	6720221	1.32	6887146	97.58	70	120	
In	115	1	No Gas	7748380	1.43	7720244	100.36	70	120	
Bi	209	1	No Gas	5409482	1.82	5354842	101.02	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	090_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T12:17:21-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.176	38.2	141867	0.3	0.5	
Be	9	1	No Gas	0.026	7.7	235	5.6	0.5	
V	51	2	He	-0.014	-98.8	2059	6.9	2.5	
Cr	52	2	He	0.003	633.9	1557	13.7	2.5	
Fe	56	2	He	1.158	7.5	26396	3.6	100	
Se	78	2	He	0.051	153.1	133	8.3	2	
As	75	2	He	0.006	109.0	107	11.3	2.5	
Ca	44	2	He	3.812	66.2	540	24.3	100	
Na	23	2	He	-23.116	-0.6	95552	0.3	100	
Mg	24	2	He	0.087	72.7	1387	3.4	100	
K	39	2	He	-10.260	-17.0	54616	2.6	100	
Mn	55	2	He	0.047	27.5	927	12.3	2.5	
Co	59	2	He	0.007	24.4	380	9.5	2.5	
Ni	60	2	He	0.012	116.8	283	26.5	2.5	
Cu	63	2	He	-0.010	-52.5	2664	2.7	2	
Zn	66	2	He	0.285	19.3	1843	7.7	2.5	
Al	27	2	He	-0.227	-67.7	530	9.8	5	
B	11	1	No Gas	3.062	12.1	38284	4.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.076	22.4	51549	1.3	5	
Si	28	1	No Gas	1.697	32.7	757739	0.4	10	
P	31	1	No Gas	-5.410	-11.3	36966	2.0	10	
Ag	107	1	No Gas	-0.007	-32.4	1127	6.8	2.5	
Cd	111	1	No Gas	0.006	60.1	80	43.3	1	
Sr	88	1	No Gas	0.004	65.2	3904	3.7	2.5	
Mo	95	1	No Gas	0.033	29.0	750	19.7	2.5	
Sn	118	1	No Gas	0.021	57.5	5275	5.1	5	
Sb	121	1	No Gas	0.122	3.3	4868	1.4	2.5	
Ba	137	1	No Gas	-0.010	-154.1	1243	14.1	2.5	
Tl	205	1	No Gas	0.093	34.9	6235	31.8	1	
Tl	203	1	No Gas	0.097	36.1	2697	33.6	1	
Pb	208	1	No Gas	0.039	13.9	5711	7.6	2.5	
U	238	1	No Gas	0.007	10.1	627	8.0	2.5	
Ca	43	2	He	2.572	73.7	33	17.3	100	
Sb	121	2	He	0.113	1.1	1857	0.8	2.5	
Ti	47	2	He	0.010	168.7	7	86.6	2.5	
Cu	63	1	No Gas	-0.055	-4.4	6515	0.9	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2451172	1.58	2755843	88.94	70	120	
Ge	72	2	He	1508464	0.48	1558698	96.78	70	120	
Ge	72	1	No Gas	6875809	1.47	6887146	99.84	70	120	
In	115	1	No Gas	8019625	1.94	7720244	103.88	70	120	
Bi	209	1	No Gas	5541279	1.79	5354842	103.48	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	100_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T12:39:18-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	96.499	2.141	2982230	0.66	100	96.5	90	110	
Be	9	1	No Gas	100.329	4.972	748462	4.67	100	100.3	90	110	
V	51	2	He	97.456	1.808	1065472	1.57	100	97.5	90	110	
Cr	52	2	He	98.397	2.572	1318550	1.02	100	98.4	90	110	
Fe	56	2	He	10072.359	0.712	111675002	1.71	10000	100.7	90	110	
Se	78	2	He	101.208	1.041	14657	0.84	100	101.2	90	110	
Sn	118	2	He	89.039	3.140	1025147	1.26	100	89.0	90	110	CCV Main CR1-2 Failed
As	75	2	He	101.907	1.463	183477	0.46	100	101.9	90	110	
Ca	44	2	He	9670.618	0.575	491977	1.59	10000	96.7	90	110	
Na	23	2	He	9698.257	2.065	14650933	1.48	10000	97.0	90	110	
Mg	24	2	He	9764.608	1.865	7687105	0.12	10000	97.6	90	110	
K	39	2	He	9854.388	0.985	9249334	1.78	10000	98.5	90	110	
Mn	55	2	He	95.686	0.443	808136	1.36	100	95.7	90	110	
Co	59	2	He	101.730	2.327	2150592	1.30	100	101.7	90	110	
Ni	60	2	He	98.836	2.368	537292	0.59	100	98.8	90	110	
Cu	63	2	He	101.541	2.887	1518058	1.43	100	101.5	90	110	
Zn	66	2	He	98.595	1.501	244824	0.78	100	98.6	90	110	
Al	27	2	He	99.027	1.804	34757	1.83	100	99.0	90	110	
B	11	1	No Gas	503.896	0.424	2377405	1.36	500	100.8	90	110	
Al	27	1	No Gas	95.456	0.602	3381997	0.41	100	95.5	90	110	
Si	28	1	No Gas	528.321	0.485	10567471	0.65	5000	10.6	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	473.455	0.596	961244	0.88	500	94.7	90	110	
Ag	107	1	No Gas	99.066	1.476	4227482	1.08	100	99.1	90	110	
Cd	111	1	No Gas	97.601	0.709	822773	1.17	100	97.6	90	110	
Sr	88	1	No Gas	95.334	0.874	8421083	0.72	100	95.3	90	110	
Mo	95	1	No Gas	98.269	1.057	1590002	0.65	100	98.3	90	110	
Sn	118	1	No Gas	93.822	1.739	2528743	1.70	100	93.8	90	110	
Sb	121	1	No Gas	100.222	1.524	3366669	1.87	100	100.2	90	110	
Ba	137	1	No Gas	94.434	1.046	1199918	1.41	100	94.4	90	110	
Tl	205	1	No Gas	95.794	1.303	6068054	2.60	100	95.8	90	110	
Tl	203	1	No Gas	96.029	0.910	2556953	2.45	100	96.0	90	110	
Pb	208	1	No Gas	96.916	0.510	8296451	2.15	100	96.9	90	110	
U	238	1	No Gas	91.760	2.551	7226042	0.83	100	91.8	90	110	
Ca	43	2	He	9979.588	1.769	28841	1.54	10000	99.8	90	110	
Sb	121	2	He	102.362	1.693	1392644	0.92	100	102.4	90	110	
Ti	47	2	He	95.942	3.560	33284	2.02	100	95.9	90	110	
Cu	63	1	No Gas	99.016	2.137	3148632	2.01	100	99.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2397254	1.40	2755843	86.99	70	120	
Ge	72	2	He	1473948	1.76	1558698	94.56	70	120	
Ge	72	1	No Gas	6709665	0.35	6887146	97.42	70	120	
In	115	1	No Gas	7585089	0.47	7720244	98.25	70	120	
Bi	209	1	No Gas	5412835	1.70	5354842	101.08	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	101_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T12:41:00-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.025	361.6	139507	1.0	0.5	
Be	9	1	No Gas	0.017	26.3	165	21.0	0.5	
V	51	2	He	-0.026	-16.8	1890	2.8	2.5	
Cr	52	2	He	0.002	110.2	1523	1.0	2.5	
Fe	56	2	He	0.735	10.8	21247	3.4	100	
Se	78	2	He	0.029	355.3	128	11.3	2	
As	75	2	He	-0.004	-150.7	88	12.2	2.5	
Ca	44	2	He	2.086	75.5	443	18.8	100	
Na	23	2	He	-25.598	-5.0	90274	1.3	100	
Mg	24	2	He	-0.117	-262.4	1203	20.3	100	
K	39	2	He	-7.611	-16.2	56242	2.8	100	
Mn	55	2	He	0.037	23.4	823	8.6	2.5	
Co	59	2	He	0.003	59.4	293	13.8	2.5	
Ni	60	2	He	0.018	43.8	317	14.9	2.5	
Cu	63	2	He	-0.034	-16.5	2250	4.0	2	
Zn	66	2	He	0.147	25.2	1470	5.4	2.5	
Al	27	2	He	-0.299	-62.7	497	13.1	5	
B	11	1	No Gas	6.535	6.7	55752	3.9	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.101	35.2	51549	1.9	5	
Si	28	1	No Gas	1.271	33.1	736975	0.6	10	
P	31	1	No Gas	-2.116	-18.7	42759	1.2	10	
Ag	107	1	No Gas	-0.014	-19.3	763	13.2	2.5	
Cd	111	1	No Gas	0.004	150.0	60	92.8	1	
Sr	88	1	No Gas	0.007	29.0	4101	1.8	2.5	
Mo	95	1	No Gas	0.029	59.8	660	41.7	2.5	
Sn	118	1	No Gas	0.034	36.4	5475	3.6	5	
Sb	121	1	No Gas	0.046	14.1	2220	9.9	2.5	
Ba	137	1	No Gas	-0.006	-55.9	1253	1.2	2.5	
Tl	205	1	No Gas	0.077	41.2	5125	36.3	1	
Tl	203	1	No Gas	0.081	40.9	2224	36.9	1	
Pb	208	1	No Gas	0.023	27.4	4174	9.5	2.5	
U	238	1	No Gas	0.007	4.6	593	2.6	2.5	
Ca	43	2	He	-0.691	-570.7	23	49.5	100	
Sb	121	2	He	0.035	11.7	763	6.7	2.5	
Ti	47	2	He	0.077	36.4	30	33.3	2.5	
Cu	63	1	No Gas	-0.072	-13.1	5845	4.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2490081	1.06	2755843	90.36	70	120	
Ge	72	2	He	1484419	0.93	1558698	95.23	70	120	
Ge	72	1	No Gas	6759414	0.64	6887146	98.15	70	120	
In	115	1	No Gas	7761999	3.02	7720244	100.54	70	120	
Bi	209	1	No Gas	5443496	3.63	5354842	101.66	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	113_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T13:05:09-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.061	75.1	138108	0.8	0.5	
Be	9	1	No Gas	0.020	16.3	187	13.5	0.5	
V	51	2	He	0.016	35.6	2220	4.3	2.5	
Cr	52	2	He	0.005	125.0	1483	6.8	2.5	
Fe	56	2	He	0.954	8.0	22369	2.5	100	
Se	78	2	He	-0.081	-144.5	106	16.8	2	
As	75	2	He	0.015	46.2	114	8.9	2.5	
Ca	44	2	He	1.158	108.8	373	16.1	100	
Na	23	2	He	-2.627	-96.1	117902	1.5	100	
Mg	24	2	He	-0.221	-121.3	1060	20.4	100	
K	39	2	He	-4.826	-37.6	55540	1.4	100	
Mn	55	2	He	0.021	27.5	650	8.6	2.5	
Co	59	2	He	0.004	7.0	297	1.9	2.5	
Ni	60	2	He	0.006	279.7	233	36.5	2.5	
Cu	63	2	He	-0.020	-57.0	2330	5.3	2	
Zn	66	2	He	-0.108	-40.2	790	14.6	2.5	
Al	27	2	He	-0.459	-60.2	417	21.8	5	
B	11	1	No Gas	7.557	6.4	59629	4.0	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.031	-64.1	45006	1.0	5	
Si	28	1	No Gas	0.851	50.7	699348	0.9	10	
P	31	1	No Gas	-0.338	-137.2	44335	1.5	10	
Ag	107	1	No Gas	-0.011	-22.8	873	12.8	2.5	
Cd	111	1	No Gas	0.006	55.3	70	37.8	1	
Sr	88	1	No Gas	0.010	16.0	4287	3.9	2.5	
Mo	95	1	No Gas	0.029	11.8	650	8.1	2.5	
Sn	118	1	No Gas	0.037	38.6	5435	7.1	5	
Sb	121	1	No Gas	0.045	7.4	2084	5.6	2.5	
Ba	137	1	No Gas	-0.028	-21.4	950	7.3	2.5	
Tl	205	1	No Gas	0.064	36.6	4221	34.0	1	
Tl	203	1	No Gas	0.065	33.1	1754	31.7	1	
Pb	208	1	No Gas	0.013	9.7	3334	2.3	2.5	
U	238	1	No Gas	0.006	26.3	537	27.2	2.5	
Ca	43	2	He	2.191	285.2	30	57.7	100	
Sb	121	2	He	0.029	13.5	643	8.6	2.5	
Ti	47	2	He	0.011	158.4	7	86.6	2.5	
Cu	63	1	No Gas	-0.060	-24.4	5998	7.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2445553	0.23	2755843	88.74	70	120	
Ge	72	2	He	1401309	1.61	1558698	89.90	70	120	
Ge	72	1	No Gas	6483643	0.54	6887146	94.14	70	120	
In	115	1	No Gas	7599510	0.61	7720244	98.44	70	120	
Bi	209	1	No Gas	5337696	3.02	5354842	99.68	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	124_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T13:27:00-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	97.836	1.922	2940730	1.35	100	97.8	90	110	
Be	9	1	No Gas	98.809	1.973	717338	1.48	100	98.8	90	110	
V	51	2	He	97.194	1.264	1009193	2.37	100	97.2	90	110	
Cr	52	2	He	95.429	0.255	1214657	1.50	100	95.4	90	110	
Fe	56	2	He	9960.576	1.078	104862562	1.51	10000	99.6	90	110	
Se	78	2	He	99.775	2.935	13720	1.63	100	99.8	90	110	
Sn	118	2	He	89.969	1.866	975583	3.11	100	90.0	90	110	CCV Main CR1-2 Failed
As	75	2	He	101.147	1.242	172929	0.15	100	101.1	90	110	
Ca	44	2	He	9526.148	2.075	460109	0.94	10000	95.3	90	110	
Na	23	2	He	9708.126	0.669	13928527	1.83	10000	97.1	90	110	
Mg	24	2	He	9804.667	1.962	7329483	0.76	10000	98.0	90	110	
K	39	2	He	9925.141	1.963	8844050	0.89	10000	99.3	90	110	
Mn	55	2	He	93.100	0.465	746649	1.24	100	93.1	90	110	
Co	59	2	He	100.864	1.901	2025125	2.29	100	100.9	90	110	
Ni	60	2	He	97.184	0.567	501781	1.12	100	97.2	90	110	
Cu	63	2	He	99.863	0.576	1418055	0.85	100	99.9	90	110	
Zn	66	2	He	98.908	0.801	233225	0.77	100	98.9	90	110	
Al	27	2	He	98.045	1.384	32685	2.16	100	98.0	90	110	
B	11	1	No Gas	512.159	1.650	2350855	1.15	500	102.4	90	110	
Al	27	1	No Gas	98.076	0.832	3254907	0.69	100	98.1	90	110	
Si	28	1	No Gas	548.443	1.426	10254148	1.23	5000	11.0	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	489.337	2.558	929499	2.51	500	97.9	90	110	
Ag	107	1	No Gas	99.936	0.826	4076897	1.23	100	99.9	90	110	
Cd	111	1	No Gas	97.028	1.451	781818	0.22	100	97.0	90	110	
Sr	88	1	No Gas	95.399	2.627	8055062	2.30	100	95.4	90	110	
Mo	95	1	No Gas	98.717	1.546	1527145	2.76	100	98.7	90	110	
Sn	118	1	No Gas	97.649	2.508	2515368	1.42	100	97.6	90	110	
Sb	121	1	No Gas	103.334	2.489	3252557	2.38	100	103.3	90	110	
Ba	137	1	No Gas	97.182	1.867	1180245	0.94	100	97.2	90	110	
Tl	205	1	No Gas	99.036	1.324	5967366	1.43	100	99.0	90	110	
Tl	203	1	No Gas	100.172	2.412	2536661	0.31	100	100.2	90	110	
Pb	208	1	No Gas	98.068	1.266	7986008	1.63	100	98.1	90	110	
U	238	1	No Gas	95.500	2.224	7155293	0.95	100	95.5	90	110	
Ca	43	2	He	9702.197	1.153	26626	1.01	10000	97.0	90	110	
Sb	121	2	He	102.338	0.402	1322221	0.88	100	102.3	90	110	
Ti	47	2	He	96.639	1.672	31844	1.50	100	96.6	90	110	
Cu	63	1	No Gas	99.978	1.214	2979078	1.09	100	100.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2332710	0.55	2755843	84.65	70	120	
Ge	72	2	He	1399556	1.27	1558698	89.79	70	120	
Ge	72	1	No Gas	6287377	0.13	6887146	91.29	70	120	
In	115	1	No Gas	7251162	1.32	7720244	93.92	70	120	
Bi	209	1	No Gas	5150378	2.66	5354842	96.18	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	125_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T13:28:44-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.012	731.8	135907	1.1	0.5	
Be	9	1	No Gas	0.014	43.2	143	33.2	0.5	
V	51	2	He	0.001	655.9	2077	4.4	2.5	
Cr	52	2	He	0.007	83.7	1503	4.4	2.5	
Fe	56	2	He	0.997	6.5	22916	3.2	100	
Se	78	2	He	-0.097	-95.2	104	11.7	2	
As	75	2	He	0.011	69.4	109	12.7	2.5	
Ca	44	2	He	0.855	97.5	360	11.1	100	
Na	23	2	He	-11.584	-9.6	105570	1.4	100	
Mg	24	2	He	0.065	137.7	1277	5.0	100	
K	39	2	He	-7.414	-17.0	53458	2.2	100	
Mn	55	2	He	0.027	35.2	700	10.8	2.5	
Co	59	2	He	0.002	184.4	260	30.8	2.5	
Ni	60	2	He	0.017	12.5	293	3.9	2.5	
Cu	63	2	He	-0.054	-26.9	1850	11.7	2	
Zn	66	2	He	-0.152	-72.5	687	37.4	2.5	
Al	27	2	He	-0.361	-56.4	450	14.6	5	
B	11	1	No Gas	5.525	5.9	49688	3.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.039	-136.8	44572	2.9	5	
Si	28	1	No Gas	-0.436	-199.5	673458	0.7	10	
P	31	1	No Gas	-1.892	-23.2	41272	0.9	10	
Ag	107	1	No Gas	-0.012	-26.7	797	18.9	2.5	
Cd	111	1	No Gas	0.006	108.1	70	75.6	1	
Sr	88	1	No Gas	0.014	9.0	4457	3.9	2.5	
Mo	95	1	No Gas	0.033	43.0	690	33.9	2.5	
Sn	118	1	No Gas	0.032	33.7	5141	5.9	5	
Sb	121	1	No Gas	0.034	19.6	1730	12.4	2.5	
Ba	137	1	No Gas	-0.035	-22.8	837	11.1	2.5	
Tl	205	1	No Gas	0.066	28.3	4381	27.9	1	
Tl	203	1	No Gas	0.070	28.0	1890	27.9	1	
Pb	208	1	No Gas	0.007	32.1	2807	8.6	2.5	
U	238	1	No Gas	0.006	35.6	503	33.9	2.5	
Ca	43	2	He	-1.456	-430.8	20	86.6	100	
Sb	121	2	He	0.024	14.1	583	7.9	2.5	
Ti	47	2	He	0.061	75.6	23	65.5	2.5	
Cu	63	1	No Gas	-0.099	-5.1	4781	2.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2433006	0.81	2755843	88.29	70	120	
Ge	72	2	He	1406445	0.51	1558698	90.23	70	120	
Ge	72	1	No Gas	6459792	2.15	6887146	93.79	70	120	
In	115	1	No Gas	7370012	1.72	7720244	95.46	70	120	
Bi	209	1	No Gas	5330956	2.44	5354842	99.55	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	136_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T13:50:30-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	98.291	1.234	2884887	0.71	100	98.3	90	110	
Be	9	1	No Gas	98.087	1.357	695478	0.62	100	98.1	90	110	
V	51	2	He	95.327	2.096	1022995	2.19	100	95.3	90	110	
Cr	52	2	He	95.257	1.433	1253109	1.27	100	95.3	90	110	
Fe	56	2	He	9673.786	0.839	105263048	0.92	10000	96.7	90	110	
Se	78	2	He	97.669	0.940	13886	0.76	100	97.7	90	110	
Sn	118	2	He	88.164	2.177	998639	1.93	100	88.2	90	110	CCV Main CR1-2 Failed
As	75	2	He	97.837	0.423	172902	0.25	100	97.8	90	110	
Ca	44	2	He	9493.068	0.380	473976	0.39	10000	94.9	90	110	
Na	23	2	He	9469.036	0.789	14043755	0.70	10000	94.7	90	110	
Mg	24	2	He	9377.480	2.052	7246474	1.94	10000	93.8	90	110	
K	39	2	He	9518.092	0.361	8769772	0.20	10000	95.2	90	110	
Mn	55	2	He	92.046	0.553	762979	0.52	100	92.0	90	110	
Co	59	2	He	99.854	1.475	2072127	1.46	100	99.9	90	110	
Ni	60	2	He	94.828	0.203	506059	0.18	100	94.8	90	110	
Cu	63	2	He	97.381	0.730	1429340	0.84	100	97.4	90	110	
Zn	66	2	He	96.404	0.673	234987	0.51	100	96.4	90	110	
Al	27	2	He	97.436	1.235	33574	1.05	100	97.4	90	110	
B	11	1	No Gas	511.420	2.253	2292506	1.15	500	102.3	90	110	
Al	27	1	No Gas	95.820	0.531	3253275	0.44	100	95.8	90	110	
Si	28	1	No Gas	524.014	0.398	10050002	0.25	5000	10.5	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	475.729	1.979	925409	2.08	500	95.1	90	110	
Ag	107	1	No Gas	95.652	2.747	4088383	2.78	100	95.7	90	110	
Cd	111	1	No Gas	96.060	2.399	811036	2.42	100	96.1	90	110	
Sr	88	1	No Gas	90.872	0.428	8039814	0.53	100	90.9	90	110	
Mo	95	1	No Gas	95.283	0.611	1544136	0.58	100	95.3	90	110	
Sn	118	1	No Gas	95.478	1.074	2577340	1.10	100	95.5	90	110	
Sb	121	1	No Gas	102.833	0.415	3310269	0.23	100	102.8	90	110	
Ba	137	1	No Gas	94.289	1.786	1199926	1.76	100	94.3	90	110	
Tl	205	1	No Gas	99.746	2.164	6322801	3.30	100	99.7	90	110	
Tl	203	1	No Gas	100.169	2.706	2669148	3.80	100	100.2	90	110	
Pb	208	1	No Gas	98.571	0.620	8442677	0.98	100	98.6	90	110	
U	238	1	No Gas	93.272	1.639	7351327	1.46	100	93.3	90	110	
Ca	43	2	He	9783.549	1.039	27752	0.95	10000	97.8	90	110	
Sb	121	2	He	97.976	0.524	1308395	0.56	100	98.0	90	110	
Ti	47	2	He	94.327	1.964	32128	2.07	100	94.3	90	110	
Cu	63	1	No Gas	99.985	1.481	3046827	1.18	100	100.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2278376	1.42	2755843	82.67	70	120	
Ge	72	2	He	1446517	0.18	1558698	92.80	70	120	
Ge	72	1	No Gas	6430095	0.51	6887146	93.36	70	120	
In	115	1	No Gas	7596942	0.11	7720244	98.40	70	120	
Bi	209	1	No Gas	5416292	1.40	5354842	101.15	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	137_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T13:52:13-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.017	376.2	134266	0.8	0.5	
Be	9	1	No Gas	0.014	1.5	137	2.1	0.5	
V	51	2	He	-0.018	-46.5	1961	6.5	2.5	
Cr	52	2	He	0.008	42.7	1593	3.0	2.5	
Fe	56	2	He	1.041	21.9	24424	9.5	100	
Se	78	2	He	0.020	793.7	125	16.9	2	
As	75	2	He	0.016	41.0	122	8.3	2.5	
Ca	44	2	He	1.982	82.4	433	18.7	100	
Na	23	2	He	-28.549	-3.5	85001	0.5	100	
Mg	24	2	He	-0.168	-75.3	1150	6.9	100	
K	39	2	He	-11.306	-7.0	52257	0.4	100	
Mn	55	2	He	0.011	15.9	600	2.9	2.5	
Co	59	2	He	0.002	67.9	263	7.9	2.5	
Ni	60	2	He	0.001	881.2	220	27.7	2.5	
Cu	63	2	He	-0.058	-8.6	1874	5.9	2	
Zn	66	2	He	-0.212	-29.7	570	26.0	2.5	
Al	27	2	He	-0.385	-54.6	463	17.4	5	
B	11	1	No Gas	2.306	16.3	33958	5.1	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.036	-72.7	45200	0.7	5	
Si	28	1	No Gas	-2.188	-34.2	649774	0.4	10	
P	31	1	No Gas	-2.188	-19.5	41215	1.0	10	
Ag	107	1	No Gas	-0.014	-18.9	753	13.3	2.5	
Cd	111	1	No Gas	0.005	118.4	67	77.0	1	
Sr	88	1	No Gas	0.006	30.8	4071	2.1	2.5	
Mo	95	1	No Gas	0.029	43.1	657	29.0	2.5	
Sn	118	1	No Gas	0.012	93.0	4924	5.5	5	
Sb	121	1	No Gas	0.065	13.0	2757	8.2	2.5	
Ba	137	1	No Gas	-0.033	-21.0	913	10.7	2.5	
Tl	205	1	No Gas	0.082	27.6	5635	27.9	1	
Tl	203	1	No Gas	0.076	33.3	2177	33.9	1	
Pb	208	1	No Gas	0.010	25.6	3154	8.5	2.5	
U	238	1	No Gas	0.008	24.4	660	24.8	2.5	
Ca	43	2	He	-4.022	-100.7	13	86.6	100	
Sb	121	2	He	0.044	3.9	873	2.4	2.5	
Ti	47	2	He	0.030	226.1	13	173.2	2.5	
Cu	63	1	No Gas	-0.109	-5.6	4521	2.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2400495	1.02	2755843	87.11	70	120	
Ge	72	2	He	1470293	1.85	1558698	94.33	70	120	
Ge	72	1	No Gas	6537982	2.03	6887146	94.93	70	120	
In	115	1	No Gas	7833700	3.04	7720244	101.47	70	120	
Bi	209	1	No Gas	5600502	1.74	5354842	104.59	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	147_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T14:24:48-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	108.102	0.898	3023541	0.17	100	108.1	90	110	
Be	9	1	No Gas	104.871	0.828	711498	1.52	100	104.9	90	110	
V	51	2	He	104.575	1.086	1056398	0.35	100	104.6	90	110	
Cr	52	2	He	104.576	0.465	1295232	1.17	100	104.6	90	110	
Fe	56	2	He	10957.504	0.345	112262815	0.74	10000	109.6	90	110	
Se	78	2	He	108.449	1.127	14505	0.34	100	108.4	90	110	
Sn	118	2	He	105.638	1.743	1111424	2.02	100	105.6	90	110	
As	75	2	He	106.727	0.716	177583	0.78	100	106.7	90	110	
Ca	44	2	He	10527.405	1.208	494847	0.48	10000	105.3	90	110	
Na	23	2	He	10390.000	0.700	14497891	1.01	10000	103.9	90	110	
Mg	24	2	He	10475.152	0.837	7621451	0.34	10000	104.8	90	110	
K	39	2	He	10705.713	1.339	9279920	0.71	10000	107.1	90	110	
Mn	55	2	He	103.316	0.215	806301	0.61	100	103.3	90	110	
Co	59	2	He	112.758	1.602	2203296	2.24	100	112.8	90	110	CCV Main CR1-2 Failed
Ni	60	2	He	106.912	0.172	537187	0.81	100	106.9	90	110	
Cu	63	2	He	109.626	2.941	1514506	2.18	100	109.6	90	110	
Zn	66	2	He	107.598	1.128	246820	0.56	100	107.6	90	110	
Al	27	2	He	114.405	1.698	37020	0.96	100	114.4	90	110	CCV Main CR1-2 Failed
B	11	1	No Gas	545.864	0.309	2339994	0.61	500	109.2	90	110	
Al	27	1	No Gas	110.676	3.544	3576608	2.19	100	110.7	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	560.991	1.846	10216014	0.28	5000	11.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	498.604	3.385	922968	2.63	500	99.7	90	110	
Ag	107	1	No Gas	106.599	1.877	4364645	2.17	100	106.6	90	110	
Cd	111	1	No Gas	107.256	1.545	867501	1.94	100	107.3	90	110	
Sr	88	1	No Gas	102.598	1.879	8695480	2.33	100	102.6	90	110	
Mo	95	1	No Gas	104.994	0.857	1629967	1.29	100	105.0	90	110	
Sn	118	1	No Gas	107.983	1.936	2791572	1.48	100	108.0	90	110	
Sb	121	1	No Gas	114.003	1.580	3500179	0.49	100	114.0	90	110	CCV Main CR1-2 Failed
Ba	137	1	No Gas	107.219	3.696	1306778	3.26	100	107.2	90	110	
Tl	205	1	No Gas	105.426	1.953	6558316	2.95	100	105.4	90	110	
Tl	203	1	No Gas	106.570	0.375	2786387	1.20	100	106.6	90	110	
Pb	208	1	No Gas	107.637	1.764	9049252	3.02	100	107.6	90	110	
U	238	1	No Gas	111.666	0.659	8637887	1.15	100	111.7	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	10913.299	0.870	29144	0.78	10000	109.1	90	110	
Sb	121	2	He	112.076	1.658	1409306	2.30	100	112.1	90	110	CCV Main CR1-2 Failed
Ti	47	2	He	104.455	0.970	33498	1.18	100	104.5	90	110	
Cu	63	1	No Gas	109.142	4.524	3170644	3.06	100	109.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2179750	0.73	2755843	79.10	70	120	
Ge	72	2	He	1362005	0.79	1558698	87.38	70	120	
Ge	72	1	No Gas	6133727	1.45	6887146	89.06	70	120	
In	115	1	No Gas	7277401	0.45	7720244	94.26	70	120	
Bi	209	1	No Gas	5315539	1.27	5354842	99.27	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	148_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T14:26:32-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.093	61.3	128197	0.3	0.5	
Be	9	1	No Gas	0.019	32.6	163	24.9	0.5	
V	51	2	He	-0.034	-26.5	1675	4.3	2.5	
Cr	52	2	He	0.005	449.4	1450	17.9	2.5	
Fe	56	2	He	0.809	4.2	20532	2.9	100	
Se	78	2	He	0.100	225.4	129	24.1	2	
As	75	2	He	0.009	96.3	102	13.2	2.5	
Ca	44	2	He	0.719	160.4	347	15.9	100	
Na	23	2	He	-19.076	-3.4	93055	0.8	100	
Mg	24	2	He	-0.306	-111.0	977	24.3	100	
K	39	2	He	-10.249	-13.3	49958	1.2	100	
Mn	55	2	He	0.017	49.3	607	10.7	2.5	
Co	59	2	He	0.004	109.2	293	29.0	2.5	
Ni	60	2	He	-0.003	-420.9	183	36.3	2.5	
Cu	63	2	He	-0.051	-13.8	1860	6.3	2	
Zn	66	2	He	-0.131	-14.3	723	5.2	2.5	
Al	27	2	He	-0.552	-11.1	380	4.6	5	
B	11	1	No Gas	2.855	12.6	34297	3.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.070	-67.0	41934	1.4	5	
Si	28	1	No Gas	-3.347	-14.9	598581	0.8	10	
P	31	1	No Gas	-3.522	-14.2	36846	1.3	10	
Ag	107	1	No Gas	-0.011	-11.4	860	5.3	2.5	
Cd	111	1	No Gas	0.003	96.1	50	52.9	1	
Sr	88	1	No Gas	0.005	55.3	3791	6.5	2.5	
Mo	95	1	No Gas	0.026	47.2	590	31.8	2.5	
Sn	118	1	No Gas	0.025	28.5	5028	3.7	5	
Sb	121	1	No Gas	0.091	17.2	3441	12.5	2.5	
Ba	137	1	No Gas	-0.026	-8.2	950	4.2	2.5	
Tl	205	1	No Gas	0.088	31.0	5882	29.9	1	
Tl	203	1	No Gas	0.091	29.2	2527	28.9	1	
Pb	208	1	No Gas	0.011	36.3	3197	11.1	2.5	
U	238	1	No Gas	0.006	21.9	523	21.0	2.5	
Ca	43	2	He	3.645	211.0	33	62.4	100	
Sb	121	2	He	0.078	5.5	1253	4.0	2.5	
Ti	47	2	He	0.032	111.3	13	86.6	2.5	
Cu	63	1	No Gas	-0.101	-8.2	4551	3.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2254749	1.40	2755843	81.82	70	120	
Ge	72	2	He	1379709	1.21	1558698	88.52	70	120	
Ge	72	1	No Gas	6224322	2.20	6887146	90.38	70	120	
In	115	1	No Gas	7473596	1.41	7720244	96.81	70	120	
Bi	209	1	No Gas	5477080	0.45	5354842	102.28	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	149_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T14:28:25-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	99.738	2.855	2770975	0.46	100	99.7	90	110	
Be	9	1	No Gas	97.320	2.329	653669	0.88	100	97.3	90	110	
V	51	2	He	93.948	1.684	948877	2.22	100	93.9	90	110	
Cr	52	2	He	96.231	2.149	1191263	1.56	100	96.2	90	110	
Fe	56	2	He	9853.174	1.003	100896879	0.75	10000	98.5	90	110	
Se	78	2	He	100.107	1.385	13391	0.51	100	100.1	90	110	
Sn	118	2	He	89.094	1.965	969921	0.84	100	89.1	90	110	CCV Main CR1-2 Failed
As	75	2	He	99.220	1.336	165010	0.80	100	99.2	90	110	
Ca	44	2	He	9594.604	1.743	450781	0.52	10000	95.9	90	110	
Na	23	2	He	9483.969	2.052	13235870	1.09	10000	94.8	90	110	
Mg	24	2	He	9693.985	1.235	7049903	1.36	10000	96.9	90	110	
K	39	2	He	9716.267	1.677	8423346	1.06	10000	97.2	90	110	
Mn	55	2	He	94.073	1.190	733816	0.81	100	94.1	90	110	
Co	59	2	He	98.891	2.452	1930901	0.73	100	98.9	90	110	
Ni	60	2	He	96.259	1.357	483414	0.72	100	96.3	90	110	
Cu	63	2	He	97.788	3.590	1350366	2.09	100	97.8	90	110	
Zn	66	2	He	97.821	1.608	224365	0.51	100	97.8	90	110	
Al	27	2	He	98.820	4.020	32027	2.39	100	98.8	90	110	
B	11	1	No Gas	505.072	3.054	2144957	1.50	500	101.0	90	110	
Al	27	1	No Gas	92.165	1.628	3046474	2.23	100	92.2	90	110	
Si	28	1	No Gas	503.094	0.957	9413947	0.53	5000	10.1	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	449.564	2.285	853203	2.06	500	89.9	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	97.222	1.861	3995442	1.80	100	97.2	90	110	
Cd	111	1	No Gas	96.517	1.030	783517	1.03	100	96.5	90	110	
Sr	88	1	No Gas	92.531	1.929	7871109	1.70	100	92.5	90	110	
Mo	95	1	No Gas	95.258	1.783	1484263	1.52	100	95.3	90	110	
Sn	118	1	No Gas	93.455	2.061	2425689	1.96	100	93.5	90	110	
Sb	121	1	No Gas	101.987	1.754	3194351	2.04	100	102.0	90	110	
Ba	137	1	No Gas	96.729	0.533	1183554	0.32	100	96.7	90	110	
Tl	205	1	No Gas	98.517	1.645	6055749	1.06	100	98.5	90	110	
Tl	203	1	No Gas	101.184	2.353	2615079	3.36	100	101.2	90	110	
Pb	208	1	No Gas	97.365	1.362	8088977	1.60	100	97.4	90	110	
U	238	1	No Gas	95.300	1.784	7286848	2.84	100	95.3	90	110	
Ca	43	2	He	9736.383	3.304	25988	2.76	10000	97.4	90	110	
Sb	121	2	He	102.952	1.128	1293801	0.61	100	103.0	90	110	
Ti	47	2	He	95.944	4.126	30742	2.41	100	95.9	90	110	
Cu	63	1	No Gas	96.712	2.449	2867478	1.93	100	96.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2158804	2.48	2755843	78.34	70	120	
Ge	72	2	He	1361439	1.73	1558698	87.34	70	120	
Ge	72	1	No Gas	6256166	0.64	6887146	90.84	70	120	
In	115	1	No Gas	7304501	0.31	7720244	94.61	70	120	
Bi	209	1	No Gas	5253451	1.07	5354842	98.11	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	158_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T14:49:43-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	106.802	3.807	2993955	0.12	100	106.8	90	110	
Be	9	1	No Gas	102.037	4.915	693258	1.69	100	102.0	90	110	
V	51	2	He	101.100	0.996	1066683	0.60	100	101.1	90	110	
Cr	52	2	He	102.436	2.161	1324796	0.66	100	102.4	90	110	
Fe	56	2	He	10562.577	0.603	113017515	0.94	10000	105.6	90	110	
Se	78	2	He	106.644	1.741	14898	1.29	100	106.6	90	110	
Sn	118	2	He	102.847	3.025	1130591	2.65	100	102.8	90	110	
As	75	2	He	103.610	1.713	180035	1.13	100	103.6	90	110	
Ca	44	2	He	10196.645	2.602	500515	1.53	10000	102.0	90	110	
Na	23	2	He	9969.151	2.262	14530344	0.88	10000	99.7	90	110	
Mg	24	2	He	10161.974	0.983	7721671	0.86	10000	101.6	90	110	
K	39	2	He	10287.950	1.159	9316095	1.12	10000	102.9	90	110	
Mn	55	2	He	100.695	1.549	820661	0.97	100	100.7	90	110	
Co	59	2	He	108.535	2.177	2214373	0.81	100	108.5	90	110	
Ni	60	2	He	104.717	1.784	549434	0.30	100	104.7	90	110	
Cu	63	2	He	106.323	1.624	1534162	0.09	100	106.3	90	110	
Zn	66	2	He	106.349	1.721	254771	0.18	100	106.3	90	110	
Al	27	2	He	110.336	3.126	37304	2.18	100	110.3	90	110	CCV Main CR1-2 Failed
B	11	1	No Gas	546.834	1.892	2349210	1.70	500	109.4	90	110	
Al	27	1	No Gas	104.760	2.764	3573537	1.01	100	104.8	90	110	
Si	28	1	No Gas	537.294	2.270	10349048	0.35	5000	10.7	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	482.055	2.564	942731	1.63	500	96.4	90	110	
Ag	107	1	No Gas	104.782	2.212	4428945	0.91	100	104.8	90	110	
Cd	111	1	No Gas	103.090	1.077	860870	1.13	100	103.1	90	110	
Sr	88	1	No Gas	102.796	0.910	8996069	2.16	100	102.8	90	110	
Mo	95	1	No Gas	102.891	1.532	1649111	0.82	100	102.9	90	110	
Sn	118	1	No Gas	104.569	2.817	2790814	0.86	100	104.6	90	110	
Sb	121	1	No Gas	109.140	1.725	3534491	0.51	100	109.1	90	110	
Ba	137	1	No Gas	107.359	3.001	1350897	1.85	100	107.4	90	110	
Tl	205	1	No Gas	103.189	3.492	6811116	1.29	100	103.2	90	110	
Tl	203	1	No Gas	106.106	3.708	2943862	1.41	100	106.1	90	110	
Pb	208	1	No Gas	103.768	1.449	9260211	2.06	100	103.8	90	110	
U	238	1	No Gas	104.511	0.694	8584013	2.64	100	104.5	90	110	
Ca	43	2	He	10687.850	2.421	29816	3.57	10000	106.9	90	110	
Sb	121	2	He	109.497	2.720	1437547	1.20	100	109.5	90	110	
Ti	47	2	He	101.079	0.522	33855	1.62	100	101.1	90	110	
Cu	63	1	No Gas	106.710	2.211	3270969	1.50	100	106.7	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2185446	3.59	2755843	79.30	70	120	
Ge	72	2	He	1422502	1.55	1558698	91.26	70	120	
Ge	72	1	No Gas	6470298	2.00	6887146	93.95	70	120	
In	115	1	No Gas	7514884	1.96	7720244	97.34	70	120	
Bi	209	1	No Gas	5643634	2.28	5354842	105.39	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	159_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T14:51:26-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.037	-298.5	128759	0.4	0.5	
Be	9	1	No Gas	0.014	45.9	132	34.5	0.5	
V	51	2	He	-0.049	-19.2	1600	5.2	2.5	
Cr	52	2	He	0.013	75.9	1630	7.0	2.5	
Fe	56	2	He	1.218	2.5	25998	2.4	100	
Se	78	2	He	0.155	64.9	143	10.5	2	
As	75	2	He	0.004	103.8	99	8.5	2.5	
Ca	44	2	He	0.240	232.5	340	8.8	100	
Na	23	2	He	-27.423	-6.3	85350	1.8	100	
Mg	24	2	He	-0.225	-24.6	1090	4.0	100	
K	39	2	He	-11.609	-14.2	51176	1.9	100	
Mn	55	2	He	0.080	13.4	1160	8.5	2.5	
Co	59	2	He	0.000	794.1	227	12.7	2.5	
Ni	60	2	He	0.009	162.7	257	29.2	2.5	
Cu	63	2	He	-0.061	-9.3	1797	5.9	2	
Zn	66	2	He	-0.187	-21.2	623	14.4	2.5	
Al	27	2	He	-0.490	-52.7	420	21.2	5	
B	11	1	No Gas	4.003	11.4	40647	3.0	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.058	-13.0	44117	1.2	5	
Si	28	1	No Gas	-2.620	-3.9	637082	0.5	10	
P	31	1	No Gas	-4.179	-2.6	37184	0.8	10	
Ag	107	1	No Gas	-0.001	-263.1	1333	9.6	2.5	
Cd	111	1	No Gas	0.003	98.8	50	52.9	1	
Sr	88	1	No Gas	0.008	19.2	4161	3.1	2.5	
Mo	95	1	No Gas	0.019	66.7	500	42.1	2.5	
Sn	118	1	No Gas	0.014	152.2	4948	12.0	5	
Sb	121	1	No Gas	0.070	12.8	2900	9.7	2.5	
Ba	137	1	No Gas	-0.029	-11.7	950	4.2	2.5	
Tl	205	1	No Gas	0.086	40.1	5978	36.2	1	
Tl	203	1	No Gas	0.092	43.4	2617	40.2	1	
Pb	208	1	No Gas	0.008	42.2	3090	8.6	2.5	
U	238	1	No Gas	0.005	33.8	450	30.9	2.5	
Ca	43	2	He	-3.989	-134.7	13	114.6	100	
Sb	121	2	He	0.051	19.4	960	14.0	2.5	
Ti	47	2	He	0.020	1.8	10	0.0	2.5	
Cu	63	1	No Gas	-0.102	-5.8	4688	4.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2330378	2.09	2755843	84.56	70	120	
Ge	72	2	He	1447756	1.26	1558698	92.88	70	120	
Ge	72	1	No Gas	6486888	0.68	6887146	94.19	70	120	
In	115	1	No Gas	7776777	0.62	7720244	100.73	70	120	
Bi	209	1	No Gas	5678146	1.96	5354842	106.04	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	171_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T16:03:57-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.029	629.4	124775	0.1	0.5	
Be	9	1	No Gas	0.013	10.9	120	4.2	0.5	
V	51	2	He	-0.034	-46.1	1665	9.8	2.5	
Cr	52	2	He	0.008	172.5	1490	13.1	2.5	
Fe	56	2	He	0.992	10.5	22269	3.7	100	
Se	78	2	He	-0.047	-227.7	108	12.1	2	
As	75	2	He	0.008	56.3	101	8.3	2.5	
Ca	44	2	He	2.457	7.2	427	2.7	100	
Na	23	2	He	-26.738	-5.3	81772	1.1	100	
Mg	24	2	He	-0.051	-511.7	1160	17.2	100	
K	39	2	He	-12.600	-5.2	47603	0.7	100	
Mn	55	2	He	0.020	44.9	633	12.8	2.5	
Co	59	2	He	0.001	191.0	237	21.3	2.5	
Ni	60	2	He	0.016	28.3	280	9.4	2.5	
Cu	63	2	He	-0.066	-3.8	1640	0.6	2	
Zn	66	2	He	-0.164	-22.9	643	14.4	2.5	
Al	27	2	He	-0.329	-118.2	450	29.1	5	
B	11	1	No Gas	2.628	20.3	32848	3.6	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.005	484.6	44401	0.4	5	
Si	28	1	No Gas	-2.497	-37.3	613482	0.7	10	
P	31	1	No Gas	-4.553	-15.0	35009	1.9	10	
Ag	107	1	No Gas	-0.012	-12.7	837	10.8	2.5	
Cd	111	1	No Gas	0.005	19.1	67	8.7	1	
Sr	88	1	No Gas	0.009	20.8	4097	4.2	2.5	
Mo	95	1	No Gas	0.023	45.7	537	25.3	2.5	
Sn	118	1	No Gas	0.017	58.8	4828	1.9	5	
Sb	121	1	No Gas	0.080	16.5	3110	14.6	2.5	
Ba	137	1	No Gas	-0.028	-25.2	930	3.9	2.5	
Tl	205	1	No Gas	0.087	37.8	5835	34.3	1	
Tl	203	1	No Gas	0.088	34.0	2427	31.3	1	
Pb	208	1	No Gas	0.009	25.8	3090	5.0	2.5	
U	238	1	No Gas	0.006	23.6	473	20.5	2.5	
Ca	43	2	He	-4.986	-73.8	10	100.0	100	
Sb	121	2	He	0.055	9.4	960	5.5	2.5	
Ti	47	2	He	0.012	154.8	7	86.6	2.5	
Cu	63	1	No Gas	-0.103	-9.8	4474	4.8	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2227358	4.03	2755843	80.82	70	120	
Ge	72	2	He	1370842	1.53	1558698	87.95	70	120	
Ge	72	1	No Gas	6226984	1.98	6887146	90.41	70	120	
In	115	1	No Gas	7481663	5.47	7720244	96.91	70	120	
Bi	209	1	No Gas	5511071	1.86	5354842	102.92	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	173_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T16:12:57-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	95.977	1.571	2621856	0.64	100	96.0	90	110	
Be	9	1	No Gas	95.625	1.189	630417	0.64	100	95.6	90	110	
V	51	2	He	94.696	1.406	947351	2.48	100	94.7	90	110	
Cr	52	2	He	95.388	2.340	1169504	1.35	100	95.4	90	110	
Fe	56	2	He	9797.358	0.878	99366185	0.24	10000	98.0	90	110	
Se	78	2	He	100.627	1.790	13331	0.85	100	100.6	90	110	
Sn	118	2	He	87.477	0.891	955546	1.05	100	87.5	90	110	CCV Main CR1-2 Failed
As	75	2	He	99.391	1.438	163710	0.40	100	99.4	90	110	
Ca	44	2	He	9598.819	1.244	446690	0.30	10000	96.0	90	110	
Na	23	2	He	9364.416	2.785	12944964	1.74	10000	93.6	90	110	
Mg	24	2	He	9543.566	1.524	6873671	0.44	10000	95.4	90	110	
K	39	2	He	9728.086	1.740	8352703	0.64	10000	97.3	90	110	
Mn	55	2	He	93.509	1.316	722427	0.24	100	93.5	90	110	
Co	59	2	He	98.766	2.172	1910198	1.35	100	98.8	90	110	
Ni	60	2	He	96.268	1.781	478841	1.39	100	96.3	90	110	
Cu	63	2	He	98.891	0.815	1352874	0.47	100	98.9	90	110	
Zn	66	2	He	97.480	0.174	221472	0.92	100	97.5	90	110	
Al	27	2	He	96.647	0.701	31048	1.63	100	96.6	90	110	
B	11	1	No Gas	495.108	3.186	2064078	2.19	500	99.0	90	110	
Al	27	1	No Gas	92.875	0.514	2969841	1.17	100	92.9	90	110	
Si	28	1	No Gas	506.244	0.875	9162193	1.63	5000	10.1	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	459.752	2.938	843237	2.48	500	92.0	90	110	
Ag	107	1	No Gas	92.790	2.934	3864798	2.30	100	92.8	90	110	
Cd	111	1	No Gas	94.354	2.625	776203	0.79	100	94.4	90	110	
Sr	88	1	No Gas	87.179	3.419	7514675	1.49	100	87.2	90	110	CCV Main CR1-2 Failed
Mo	95	1	No Gas	91.118	4.425	1438747	3.46	100	91.1	90	110	
Sn	118	1	No Gas	92.743	0.192	2440327	2.12	100	92.7	90	110	
Sb	121	1	No Gas	105.399	0.932	3193941	0.90	100	105.4	90	110	
Ba	137	1	No Gas	94.903	3.474	1176590	1.19	100	94.9	90	110	
Tl	205	1	No Gas	101.216	2.560	6244191	1.64	100	101.2	90	110	
Tl	203	1	No Gas	100.618	0.966	2610140	2.73	100	100.6	90	110	
Pb	208	1	No Gas	97.706	1.904	8146292	0.81	100	97.7	90	110	
U	238	1	No Gas	93.336	3.280	7161414	2.98	100	93.3	90	110	
Ca	43	2	He	9821.769	2.684	25965	1.78	10000	98.2	90	110	
Sb	121	2	He	102.086	2.417	1270582	1.67	100	102.1	90	110	
Ti	47	2	He	94.243	1.599	29919	1.63	100	94.2	90	110	
Cu	63	1	No Gas	99.559	0.925	2856487	2.29	100	99.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2118419	1.60	2755843	76.87	70	120	
Ge	72	2	He	1348353	1.09	1558698	86.51	70	120	
Ge	72	1	No Gas	6053421	1.40	6887146	87.89	70	120	
In	115	1	No Gas	7405013	2.31	7720244	95.92	70	120	
Bi	209	1	No Gas	5273567	2.22	5354842	98.48	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	182_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T16:32:55-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.375	3.175	2855340	0.76	100	103.4	90	110	
Be	9	1	No Gas	102.312	3.503	684105	0.18	100	102.3	90	110	
V	51	2	He	101.780	2.497	1030598	1.87	100	101.8	90	110	
Cr	52	2	He	101.070	0.680	1254815	1.10	100	101.1	90	110	
Fe	56	2	He	10538.938	1.229	108235212	1.76	10000	105.4	90	110	
Se	78	2	He	106.926	1.363	14337	0.83	100	106.9	90	110	
Sn	118	2	He	99.041	1.999	1058928	1.88	100	99.0	90	110	
As	75	2	He	104.547	1.771	174357	0.99	100	104.5	90	110	
Ca	44	2	He	10242.755	0.643	482635	0.55	10000	102.4	90	110	
Na	23	2	He	9790.352	1.723	13699159	0.87	10000	97.9	90	110	
Mg	24	2	He	10063.303	1.177	7339259	1.00	10000	100.6	90	110	
K	39	2	He	10195.482	1.007	8861793	1.07	10000	102.0	90	110	
Mn	55	2	He	100.567	0.592	786708	0.44	100	100.6	90	110	
Co	59	2	He	106.205	1.758	2079868	0.99	100	106.2	90	110	
Ni	60	2	He	104.194	1.060	524765	0.99	100	104.2	90	110	
Cu	63	2	He	106.551	1.509	1475688	0.67	100	106.6	90	110	
Zn	66	2	He	105.188	1.174	241887	0.47	100	105.2	90	110	
Al	27	2	He	110.148	2.554	35753	3.03	100	110.1	90	110	CCV Main CR1-2 Failed
B	11	1	No Gas	528.991	3.621	2235670	1.08	500	105.8	90	110	
Al	27	1	No Gas	104.368	0.565	3386313	0.10	100	104.4	90	110	
Si	28	1	No Gas	540.783	1.732	9901888	1.19	5000	10.8	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	482.988	0.937	898204	0.52	500	96.6	90	110	
Ag	107	1	No Gas	101.865	0.467	4227120	1.94	100	101.9	90	110	
Cd	111	1	No Gas	102.127	3.304	837058	3.33	100	102.1	90	110	
Sr	88	1	No Gas	98.571	1.827	8465051	0.66	100	98.6	90	110	
Mo	95	1	No Gas	100.333	1.955	1578372	1.50	100	100.3	90	110	
Sn	118	1	No Gas	101.643	1.917	2663009	0.41	100	101.6	90	110	
Sb	121	1	No Gas	110.825	0.637	3413311	1.19	100	110.8	90	110	CCV Main CR1-2 Failed
Ba	137	1	No Gas	102.341	3.671	1263881	2.25	100	102.3	90	110	
Tl	205	1	No Gas	102.390	2.566	6545031	0.83	100	102.4	90	110	
Tl	203	1	No Gas	103.990	4.368	2793796	2.93	100	104.0	90	110	
Pb	208	1	No Gas	104.470	1.801	9025865	0.91	100	104.5	90	110	
U	238	1	No Gas	104.077	2.411	8274558	1.65	100	104.1	90	110	
Ca	43	2	He	10598.248	1.530	28369	0.81	10000	106.0	90	110	
Sb	121	2	He	109.165	0.918	1375838	0.83	100	109.2	90	110	
Ti	47	2	He	101.042	1.349	32482	1.98	100	101.0	90	110	
Cu	63	1	No Gas	108.104	0.519	3151228	0.31	100	108.1	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2150022	3.40	2755843	78.02	70	120	
Ge	72	2	He	1365240	0.85	1558698	87.59	70	120	
Ge	72	1	No Gas	6152028	0.66	6887146	89.33	70	120	
In	115	1	No Gas	7376193	2.25	7720244	95.54	70	120	
Bi	209	1	No Gas	5464285	1.76	5354842	102.04	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	183_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T16:34:40-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.044	-126.2	125542	0.7	0.5	
Be	9	1	No Gas	0.017	36.5	155	28.7	0.5	
V	51	2	He	-0.036	-18.2	1650	3.3	2.5	
Cr	52	2	He	0.001	923.2	1397	6.2	2.5	
Fe	56	2	He	0.615	11.8	18449	3.3	100	
Se	78	2	He	0.064	101.2	123	6.6	2	
As	75	2	He	0.005	97.7	96	8.8	2.5	
Ca	44	2	He	3.697	18.4	487	5.9	100	
Na	23	2	He	-37.978	-0.9	66348	1.5	100	
Mg	24	2	He	-0.317	-83.2	967	19.4	100	
K	39	2	He	-11.113	-20.6	49045	3.3	100	
Mn	55	2	He	0.044	22.2	823	8.8	2.5	
Co	59	2	He	0.008	23.4	370	9.7	2.5	
Ni	60	2	He	0.019	52.8	297	17.0	2.5	
Cu	63	2	He	-0.077	-20.1	1490	13.7	2	
Zn	66	2	He	0.051	52.6	1140	6.1	2.5	
Al	27	2	He	-0.228	-163.7	483	25.3	5	
B	11	1	No Gas	2.999	12.4	35259	4.2	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.129	-16.5	40008	0.3	5	
Si	28	1	No Gas	-1.908	-41.4	622955	0.9	10	
P	31	1	No Gas	-3.851	-16.6	36224	1.8	10	
Ag	107	1	No Gas	-0.018	-7.4	573	9.6	2.5	
Cd	111	1	No Gas	0.004	73.7	53	43.3	1	
Sr	88	1	No Gas	0.003	73.4	3524	4.6	2.5	
Mo	95	1	No Gas	0.026	16.7	590	11.9	2.5	
Sn	118	1	No Gas	0.032	37.6	5154	5.9	5	
Sb	121	1	No Gas	0.075	21.5	2944	17.1	2.5	
Ba	137	1	No Gas	-0.032	-18.9	873	8.7	2.5	
Tl	205	1	No Gas	0.090	29.0	5915	26.8	1	
Tl	203	1	No Gas	0.095	32.9	2574	30.9	1	
Pb	208	1	No Gas	0.012	26.2	3214	6.8	2.5	
U	238	1	No Gas	0.005	7.9	400	6.6	2.5	
Ca	43	2	He	-2.525	-83.6	17	34.6	100	
Sb	121	2	He	0.051	5.2	907	3.5	2.5	
Ti	47	2	He	0.011	155.5	7	86.6	2.5	
Cu	63	1	No Gas	-0.121	-11.9	3934	9.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2275362	0.53	2755843	82.57	70	120	
Ge	72	2	He	1375241	0.79	1558698	88.23	70	120	
Ge	72	1	No Gas	6218793	1.45	6887146	90.30	70	120	
In	115	1	No Gas	7391723	0.13	7720244	95.74	70	120	
Bi	209	1	No Gas	5391118	1.38	5354842	100.68	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	194_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T17:03:49-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	100.769	1.583	2741859	1.65	100	100.8	90	110	
Be	9	1	No Gas	99.286	1.259	653304	0.54	100	99.3	90	110	
V	51	2	He	98.383	5.630	988083	3.70	100	98.4	90	110	
Cr	52	2	He	100.268	3.740	1234921	2.49	100	100.3	90	110	
Fe	56	2	He	10271.461	3.254	104638865	1.28	10000	102.7	90	110	
Se	78	2	He	104.546	1.785	13912	0.98	100	104.5	90	110	
Sn	118	2	He	96.097	1.089	1023837	1.58	100	96.1	90	110	
As	75	2	He	101.799	2.324	168462	1.42	100	101.8	90	110	
Ca	44	2	He	9934.131	3.185	464364	1.25	10000	99.3	90	110	
Na	23	2	He	9745.957	3.389	13529494	1.57	10000	97.5	90	110	
Mg	24	2	He	9814.057	2.343	7101235	0.54	10000	98.1	90	110	
K	39	2	He	9966.980	2.000	8597162	1.41	10000	99.7	90	110	
Mn	55	2	He	98.331	1.928	763210	0.07	100	98.3	90	110	
Co	59	2	He	105.819	1.914	2056271	0.63	100	105.8	90	110	
Ni	60	2	He	101.713	2.542	508230	0.76	100	101.7	90	110	
Cu	63	2	He	104.227	2.932	1432193	1.36	100	104.2	90	110	
Zn	66	2	He	102.683	3.840	234251	1.85	100	102.7	90	110	
Al	27	2	He	106.227	2.214	34226	0.27	100	106.2	90	110	
B	11	1	No Gas	526.175	0.813	2188577	1.08	500	105.2	90	110	
Al	27	1	No Gas	101.133	0.122	3267369	0.68	100	101.1	90	110	
Si	28	1	No Gas	521.608	1.455	9529131	1.26	5000	10.4	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	462.859	2.435	858428	1.56	500	92.6	90	110	
Ag	107	1	No Gas	100.685	1.364	4131754	0.81	100	100.7	90	110	
Cd	111	1	No Gas	100.797	1.043	817151	1.63	100	100.8	90	110	
Sr	88	1	No Gas	99.198	1.686	8428905	3.43	100	99.2	90	110	
Mo	95	1	No Gas	99.915	1.422	1554590	0.64	100	99.9	90	110	
Sn	118	1	No Gas	100.807	1.667	2612308	0.57	100	100.8	90	110	
Sb	121	1	No Gas	109.285	1.211	3349938	1.03	100	109.3	90	110	
Ba	137	1	No Gas	102.732	3.651	1254800	2.08	100	102.7	90	110	
Tl	205	1	No Gas	102.429	3.250	6455190	2.92	100	102.4	90	110	
Tl	203	1	No Gas	102.195	2.517	2707899	3.43	100	102.2	90	110	
Pb	208	1	No Gas	103.602	1.201	8826521	3.04	100	103.6	90	110	
U	238	1	No Gas	100.949	1.603	7912487	1.55	100	100.9	90	110	
Ca	43	2	He	10353.755	1.535	27505	1.83	10000	103.5	90	110	
Sb	121	2	He	107.243	1.540	1341298	2.01	100	107.2	90	110	
Ti	47	2	He	100.372	4.360	32004	2.87	100	100.4	90	110	
Cu	63	1	No Gas	102.020	1.315	2960595	2.03	100	102.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2114337	1.27	2755843	76.72	70	120	
Ge	72	2	He	1354875	2.02	1558698	86.92	70	120	
Ge	72	1	No Gas	6123162	0.78	6887146	88.91	70	120	
In	115	1	No Gas	7295203	2.02	7720244	94.49	70	120	
Bi	209	1	No Gas	5386849	2.18	5354842	100.60	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	195_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T17:05:33-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.059	-239.9	122726	0.8	0.5	
Be	9	1	No Gas	0.019	4.0	165	6.1	0.5	
V	51	2	He	-0.019	-43.3	1815	5.4	2.5	
Cr	52	2	He	0.006	173.0	1457	10.0	2.5	
Fe	56	2	He	0.615	4.1	18356	2.1	100	
Se	78	2	He	-0.010	-920.8	113	10.4	2	
As	75	2	He	0.003	593.1	91	27.7	2.5	
Ca	44	2	He	2.059	69.1	407	15.8	100	
Na	23	2	He	-23.278	-4.0	86409	0.5	100	
Mg	24	2	He	-0.407	-4.2	897	1.7	100	
K	39	2	He	-11.124	-15.0	48774	2.4	100	
Mn	55	2	He	0.043	19.0	810	7.5	2.5	
Co	59	2	He	0.003	35.2	270	7.4	2.5	
Ni	60	2	He	0.002	304.0	210	17.2	2.5	
Cu	63	2	He	-0.080	-8.9	1433	7.8	2	
Zn	66	2	He	0.068	47.6	1173	6.4	2.5	
Al	27	2	He	-0.362	-105.9	437	27.3	5	
B	11	1	No Gas	4.511	6.8	41168	2.1	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.135	-18.9	40242	2.3	5	
Si	28	1	No Gas	-2.516	-28.5	619194	0.6	10	
P	31	1	No Gas	-4.824	-10.7	34864	1.0	10	
Ag	107	1	No Gas	-0.017	-5.6	593	5.1	2.5	
Cd	111	1	No Gas	0.005	12.7	67	8.7	1	
Sr	88	1	No Gas	0.003	18.0	3591	1.9	2.5	
Mo	95	1	No Gas	0.021	13.4	510	7.1	2.5	
Sn	118	1	No Gas	0.023	42.9	4958	5.6	5	
Sb	121	1	No Gas	0.058	15.4	2437	10.3	2.5	
Ba	137	1	No Gas	-0.030	-25.7	900	9.9	2.5	
Tl	205	1	No Gas	0.087	31.7	5882	32.5	1	
Tl	203	1	No Gas	0.088	35.3	2464	36.5	1	
Pb	208	1	No Gas	0.010	9.3	3170	4.9	2.5	
U	238	1	No Gas	0.005	29.5	437	29.5	2.5	
Ca	43	2	He	-6.218	-34.6	7	86.6	100	
Sb	121	2	He	0.041	3.5	783	2.7	2.5	
Ti	47	2	He	0.012	307.6	7	173.2	2.5	
Cu	63	1	No Gas	-0.113	-1.8	4241	2.9	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2233412	3.60	2755843	81.04	70	120	
Ge	72	2	He	1367821	1.04	1558698	87.75	70	120	
Ge	72	1	No Gas	6287624	1.69	6887146	91.30	70	120	
In	115	1	No Gas	7444096	1.82	7720244	96.42	70	120	
Bi	209	1	No Gas	5512938	2.27	5354842	102.95	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	196_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T17:07:26-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	104.401	3.120	2799862	1.73	100	104.4	90	110	
Be	9	1	No Gas	101.387	1.650	658645	0.68	100	101.4	90	110	
V	51	2	He	98.388	3.859	986320	1.66	100	98.4	90	110	
Cr	52	2	He	99.695	3.644	1225253	1.61	100	99.7	90	110	
Fe	56	2	He	10354.680	4.020	105258908	1.88	10000	103.5	90	110	
Se	78	2	He	103.809	2.777	13784	1.03	100	103.8	90	110	
Sn	118	2	He	96.366	1.621	1018939	0.59	100	96.4	90	110	
As	75	2	He	102.029	1.807	168502	0.66	100	102.0	90	110	
Ca	44	2	He	9871.323	2.283	460559	1.02	10000	98.7	90	110	
Na	23	2	He	9754.143	2.572	13514294	0.35	10000	97.5	90	110	
Mg	24	2	He	9791.943	1.683	7071449	0.60	10000	97.9	90	110	
K	39	2	He	9815.991	2.370	8449582	0.46	10000	98.2	90	110	
Mn	55	2	He	98.661	2.978	764101	0.98	100	98.7	90	110	
Co	59	2	He	106.431	2.987	2063694	1.32	100	106.4	90	110	
Ni	60	2	He	102.257	2.322	509926	0.79	100	102.3	90	110	
Cu	63	2	He	104.187	1.398	1429137	1.88	100	104.2	90	110	
Zn	66	2	He	102.865	1.264	234271	1.05	100	102.9	90	110	
Al	27	2	He	105.473	4.254	33912	2.86	100	105.5	90	110	
B	11	1	No Gas	526.603	1.803	2162323	0.73	500	105.3	90	110	
Al	27	1	No Gas	99.841	2.384	3224106	0.75	100	99.8	90	110	
Si	28	1	No Gas	524.880	3.637	9577825	1.77	5000	10.5	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	469.144	2.373	869064	0.83	500	93.8	90	110	
Ag	107	1	No Gas	101.459	1.523	4145473	1.71	100	101.5	90	110	
Cd	111	1	No Gas	100.953	1.326	814788	1.54	100	101.0	90	110	
Sr	88	1	No Gas	99.093	2.312	8380129	2.02	100	99.1	90	110	
Mo	95	1	No Gas	99.586	3.594	1542188	1.53	100	99.6	90	110	
Sn	118	1	No Gas	101.979	1.895	2631050	1.25	100	102.0	90	110	
Sb	121	1	No Gas	111.221	0.598	3407839	1.09	100	111.2	90	110	CCV Main CR1-2 Failed
Ba	137	1	No Gas	103.579	3.354	1259500	0.94	100	103.6	90	110	
Tl	205	1	No Gas	102.939	2.160	6450268	2.54	100	102.9	90	110	
Tl	203	1	No Gas	102.669	3.656	2703887	3.34	100	102.7	90	110	
Pb	208	1	No Gas	103.460	2.018	8762725	3.34	100	103.5	90	110	
U	238	1	No Gas	102.128	0.774	7959908	2.64	100	102.1	90	110	
Ca	43	2	He	10170.295	0.666	26967	2.51	10000	101.7	90	110	
Sb	121	2	He	105.659	3.819	1318190	1.63	100	105.7	90	110	
Ti	47	2	He	98.516	2.737	31353	0.65	100	98.5	90	110	
Cu	63	1	No Gas	103.534	1.880	3002834	2.01	100	103.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2087631	1.82	2755843	75.75	70	120	
Ge	72	2	He	1352153	2.22	1558698	86.75	70	120	
Ge	72	1	No Gas	6120788	1.66	6887146	88.87	70	120	
In	115	1	No Gas	7263604	2.49	7720244	94.09	70	120	
Bi	209	1	No Gas	5355179	1.92	5354842	100.01	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	197_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T17:09:11-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.097	92.7	124096	1.2	0.5	
Be	9	1	No Gas	0.023	5.3	187	6.2	0.5	
V	51	2	He	-0.022	-49.9	1770	4.6	2.5	
Cr	52	2	He	0.003	187.4	1410	7.5	2.5	
Fe	56	2	He	0.633	9.6	18359	1.1	100	
Se	78	2	He	0.092	116.7	125	12.0	2	
As	75	2	He	-0.002	-783.9	82	31.5	2.5	
Ca	44	2	He	2.978	65.3	447	21.2	100	
Na	23	2	He	-26.637	-6.0	80991	0.4	100	
Mg	24	2	He	-0.403	-28.4	890	6.7	100	
K	39	2	He	-12.758	-14.5	46935	3.0	100	
Mn	55	2	He	0.024	52.2	657	17.5	2.5	
Co	59	2	He	0.002	33.0	243	2.4	2.5	
Ni	60	2	He	0.019	3.0	290	3.4	2.5	
Cu	63	2	He	-0.080	-13.2	1420	10.4	2	
Zn	66	2	He	0.050	143.4	1120	12.1	2.5	
Al	27	2	He	-0.363	-37.7	433	10.4	5	
B	11	1	No Gas	4.626	7.8	40712	4.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.104	-45.7	40362	2.4	5	
Si	28	1	No Gas	-2.441	-26.5	607116	0.3	10	
P	31	1	No Gas	-4.526	-17.6	34637	3.0	10	
Ag	107	1	No Gas	-0.015	-27.2	680	24.3	2.5	
Cd	111	1	No Gas	0.003	45.4	47	24.7	1	
Sr	88	1	No Gas	0.005	36.7	3677	3.6	2.5	
Mo	95	1	No Gas	0.030	50.2	633	36.2	2.5	
Sn	118	1	No Gas	0.037	10.1	5245	2.1	5	
Sb	121	1	No Gas	0.066	14.4	2627	9.7	2.5	
Ba	137	1	No Gas	-0.031	-42.4	870	19.2	2.5	
Tl	205	1	No Gas	0.089	32.7	6135	30.5	1	
Tl	203	1	No Gas	0.090	37.1	2544	35.2	1	
Pb	208	1	No Gas	0.013	27.5	3457	9.2	2.5	
U	238	1	No Gas	0.005	19.6	477	17.8	2.5	
Ca	43	2	He	7.730	104.4	43	48.0	100	
Sb	121	2	He	0.044	17.6	810	9.6	2.5	
Ti	47	2	He	0.012	155.2	7	86.6	2.5	
Cu	63	1	No Gas	-0.128	-1.5	3711	2.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2180621	1.89	2755843	79.13	70	120	
Ge	72	2	He	1355736	2.61	1558698	86.98	70	120	
Ge	72	1	No Gas	6151781	1.75	6887146	89.32	70	120	
In	115	1	No Gas	7322894	0.56	7720244	94.85	70	120	
Bi	209	1	No Gas	5643146	1.35	5354842	105.38	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	208_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T17:31:27-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	104.014	1.626	2792394	1.26	100	104.0	90	110	
Be	9	1	No Gas	101.568	1.573	660310	0.83	100	101.6	90	110	
V	51	2	He	99.718	2.809	994152	2.91	100	99.7	90	110	
Cr	52	2	He	100.554	1.198	1228929	1.13	100	100.6	90	110	
Fe	56	2	He	10303.674	0.883	104166648	0.99	10000	103.0	90	110	
Se	78	2	He	106.537	1.167	14063	1.13	100	106.5	90	110	
Sn	118	2	He	98.028	0.550	1029304	0.77	100	98.0	90	110	
As	75	2	He	103.567	1.332	170045	1.24	100	103.6	90	110	
Ca	44	2	He	10100.896	0.528	468546	0.58	10000	101.0	90	110	
Na	23	2	He	9864.927	0.408	13588648	0.37	10000	98.6	90	110	
Mg	24	2	He	9915.411	0.668	7118940	0.77	10000	99.2	90	110	
K	39	2	He	10026.618	0.411	8580248	0.52	10000	100.3	90	110	
Mn	55	2	He	98.592	0.557	759257	0.46	100	98.6	90	110	
Co	59	2	He	105.542	1.268	2034857	1.33	100	105.5	90	110	
Ni	60	2	He	103.478	0.203	513048	0.24	100	103.5	90	110	
Cu	63	2	He	104.197	0.402	1420756	0.36	100	104.2	90	110	
Zn	66	2	He	103.537	2.138	234408	2.18	100	103.5	90	110	
Al	27	2	He	106.862	1.785	34159	1.70	100	106.9	90	110	
B	11	1	No Gas	530.456	0.583	2179736	0.17	500	106.1	90	110	
Al	27	1	No Gas	100.336	0.693	3279815	0.72	100	100.3	90	110	
Si	28	1	No Gas	520.138	1.362	9615440	1.41	5000	10.4	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	464.150	2.503	870870	2.49	500	92.8	90	110	
Ag	107	1	No Gas	98.338	4.144	4165308	2.12	100	98.3	90	110	
Cd	111	1	No Gas	99.888	1.465	836089	1.18	100	99.9	90	110	
Sr	88	1	No Gas	92.975	1.271	8155173	1.35	100	93.0	90	110	
Mo	95	1	No Gas	98.385	0.805	1580856	1.81	100	98.4	90	110	
Sn	118	1	No Gas	99.700	2.062	2667660	0.58	100	99.7	90	110	
Sb	121	1	No Gas	108.151	1.372	3353992	1.34	100	108.2	90	110	
Ba	137	1	No Gas	99.357	4.197	1252868	1.55	100	99.4	90	110	
Tl	205	1	No Gas	100.308	2.747	6189141	2.56	100	100.3	90	110	
Tl	203	1	No Gas	103.564	3.824	2686019	3.65	100	103.6	90	110	
Pb	208	1	No Gas	102.492	1.498	8546390	1.32	100	102.5	90	110	
U	238	1	No Gas	102.427	0.549	7859963	0.45	100	102.4	90	110	
Ca	43	2	He	10088.239	3.949	26586	3.90	10000	100.9	90	110	
Sb	121	2	He	108.080	1.152	1340964	1.15	100	108.1	90	110	
Ti	47	2	He	99.891	0.522	31610	0.59	100	99.9	90	110	
Cu	63	1	No Gas	102.181	2.065	2999690	2.05	100	102.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2088943	0.75	2755843	75.80	70	120	
Ge	72	2	He	1343949	0.11	1558698	86.22	70	120	
Ge	72	1	No Gas	6194645	0.14	6887146	89.95	70	120	
In	115	1	No Gas	7533407	2.59	7720244	97.58	70	120	
Bi	209	1	No Gas	5272998	0.19	5354842	98.47	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	209_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T17:33:10-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	051CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.016	1227.5	124192	1.1	0.5	
Be	9	1	No Gas	0.022	24.4	185	23.4	0.5	
V	51	2	He	-0.032	-4.7	1693	1.4	2.5	
Cr	52	2	He	-0.006	-90.0	1320	5.0	2.5	
Fe	56	2	He	0.747	9.8	19831	2.7	100	
Se	78	2	He	0.058	61.9	123	4.1	2	
As	75	2	He	-0.004	-195.4	80	16.7	2.5	
Ca	44	2	He	3.564	64.1	480	21.1	100	
Na	23	2	He	-23.533	-3.3	86604	0.2	100	
Mg	24	2	He	-0.274	-23.7	1000	5.3	100	
K	39	2	He	-12.720	-12.6	47690	1.6	100	
Mn	55	2	He	0.039	16.4	780	5.1	2.5	
Co	59	2	He	0.003	57.2	270	13.4	2.5	
Ni	60	2	He	0.016	57.0	283	16.3	2.5	
Cu	63	2	He	-0.076	-17.4	1510	11.9	2	
Zn	66	2	He	0.000	20116.8	1023	18.2	2.5	
Al	27	2	He	-0.438	-79.6	417	27.8	5	
B	11	1	No Gas	5.237	12.1	44096	3.2	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.157	-21.8	39764	1.2	5	
Si	28	1	No Gas	-2.636	-25.3	621083	0.1	10	
P	31	1	No Gas	-4.529	-2.1	35636	1.5	10	
Ag	107	1	No Gas	-0.016	-10.3	663	11.5	2.5	
Cd	111	1	No Gas	0.006	83.5	70	57.1	1	
Sr	88	1	No Gas	0.003	90.1	3671	6.2	2.5	
Mo	95	1	No Gas	0.029	13.2	653	10.4	2.5	
Sn	118	1	No Gas	0.082	12.5	6665	4.8	5	
Sb	121	1	No Gas	0.127	9.9	4641	9.7	2.5	
Ba	137	1	No Gas	-0.016	-7.3	1097	0.5	2.5	
Tl	205	1	No Gas	0.095	33.3	6255	32.8	1	
Tl	203	1	No Gas	0.097	25.7	2640	26.0	1	
Pb	208	1	No Gas	0.012	18.7	3257	6.8	2.5	
U	238	1	No Gas	0.007	7.2	613	7.4	2.5	
Ca	43	2	He	-2.540	-81.6	17	34.6	100	
Sb	121	2	He	0.100	8.4	1527	5.9	2.5	
Ti	47	2	He	0.032	147.7	13	114.6	2.5	
Cu	63	1	No Gas	-0.121	-8.4	4027	6.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2223043	3.15	2755843	80.67	70	120	
Ge	72	2	He	1376554	1.37	1558698	88.31	70	120	
Ge	72	1	No Gas	6328341	1.99	6887146	91.89	70	120	
In	115	1	No Gas	7610837	0.87	7720244	98.58	70	120	
Bi	209	1	No Gas	5408856	0.87	5354842	101.01	70	120	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	218CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T19:51:57-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	117561	0.00
Be	9	1	No Gas	20	0.00
V	51	2	He	1960	0.26
Cr	52	2	He	1323	0.69
Fe	56	2	He	10841	0.05
Se	78	2	He	103	13.33
Sn	118	2	He	1523	0.30
As	75	2	He	80	29.00
Ca	44	2	He	303	4.11
Na	23	2	He	54202	0.00
Mg	24	2	He	610	0.27
K	39	2	He	43707	0.00
Mn	55	2	He	483	3.16
Co	59	2	He	197	1.49
Ni	60	2	He	190	21.64
Cu	63	2	He	1300	0.30
Zn	66	2	He	697	2.11
Al	27	2	He	580	1.03
B	11	1	No Gas	14845	0.02
Al	27	1	No Gas	43709	0.00
Si	28	1	No Gas	542049	0.00
P	31	1	No Gas	34848	0.00
Ag	107	1	No Gas	357	1.82
Cd	111	1	No Gas	37	42.94
Sr	88	1	No Gas	3160	0.18
Mo	95	1	No Gas	140	22.24
Sn	118	1	No Gas	3564	0.25
Sb	121	1	No Gas	890	1.03
Ba	137	1	No Gas	2090	0.20
Tl	205	1	No Gas	333	6.75
Tl	203	1	No Gas	170	13.84
Pb	208	1	No Gas	1650	0.32
U	238	1	No Gas	33	51.96
Ca	43	2	He	10	0.00
Sb	121	2	He	327	4.62
Ti	47	2	He	3	5196.15
Cu	63	1	No Gas	3004	0.07

Calibration Blank Report

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	No Gas	2076007	0.77
Ge	72	2	He	1283119	0.75

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Ge	72	1	No Gas	5854434	0.09
In	115	1	No Gas	7184199	0.92
Bi	209	1	No Gas	5632659	1.59

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	219CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T19:53:50-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	11748	0.03
V	51	2	He	19170	0.01
Cr	52	2	He	23617	0.01
Fe	56	2	He	1923040	0.00
Se	78	2	He	331	0.92
Sn	118	2	He	20750	0.01
As	75	2	He	2921	0.06
Ca	44	2	He	8633	0.03
Na	23	2	He	297679	0.00
Mg	24	2	He	131893	0.00
K	39	2	He	196145	0.00
Mn	55	2	He	14301	0.01
Co	59	2	He	35547	0.00
Ni	60	2	He	9160	0.04
Cu	63	2	He	25999	0.00
Zn	66	2	He	5545	0.07
Al	27	2	He	1530	0.69
B	11	1	No Gas	51586	0.00
Al	27	1	No Gas	139006	0.00
Si	28	1	No Gas	702864	0.00
P	31	1	No Gas	47635	0.00
Ag	107	1	No Gas	77531	0.00
Cd	111	1	No Gas	14925	0.01
Sr	88	1	No Gas	153630	0.00
Mo	95	1	No Gas	26744	0.01
Sn	118	1	No Gas	51525	0.00
Sb	121	1	No Gas	59553	0.00
Ba	137	1	No Gas	25642	0.01
Tl	205	1	No Gas	117892	0.00
Tl	203	1	No Gas	49007	0.01
Pb	208	1	No Gas	161151	0.00
U	238	1	No Gas	148038	0.00
Ca	43	2	He	610	1.63
Sb	121	2	He	22607	0.01
Cu	63	1	No Gas	57264	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2110097	2.72	2076007	101.64	70	120	

Calibration Standard Report

Ge	72	2	He	1290211	2.38	1283119	100.55	70	120	
Ge	72	1	No Gas	5959027	0.78	5854434	101.79	70	120	
In	115	1	No Gas	7040830	0.58	7184199	98.00	70	120	
Bi	209	1	No Gas	5489551	3.15	5632659	97.46	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	220CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T19:55:42-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	29698	0.01
V	51	2	He	44807	0.00
Cr	52	2	He	55539	0.00
Fe	56	2	He	4681862	0.00
Se	78	2	He	727	1.00
Sn	118	2	He	49575	0.00
As	75	2	He	7613	0.04
Ca	44	2	He	21040	0.01
Na	23	2	He	661262	0.00
Mg	24	2	He	327682	0.00
K	39	2	He	423995	0.00
Mn	55	2	He	35313	0.01
Co	59	2	He	88916	0.00
Ni	60	2	He	23968	0.01
Cu	63	2	He	64995	0.00
Zn	66	2	He	11822	0.02
Al	27	2	He	2340	0.35
B	11	1	No Gas	108125	0.00
Al	27	1	No Gas	231166	0.00
Si	28	1	No Gas	957191	0.00
P	31	1	No Gas	70428	0.00
Ag	107	1	No Gas	187922	0.00
Cd	111	1	No Gas	38146	0.01
Sr	88	1	No Gas	375570	0.00
Mo	95	1	No Gas	67264	0.00
Sn	118	1	No Gas	123467	0.00
Sb	121	1	No Gas	146885	0.00
Ba	137	1	No Gas	59644	0.00
Tl	205	1	No Gas	289598	0.00
Tl	203	1	No Gas	121443	0.00
Pb	208	1	No Gas	406864	0.00
U	238	1	No Gas	369812	0.00
Ca	43	2	He	1290	0.81
Sb	121	2	He	57161	0.00
Cu	63	1	No Gas	138460	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2120843	2.27	2076007	102.16	70	120	

Calibration Standard Report

Ge	72	2	He	1300934	2.14	1283119	101.39	70	120	
Ge	72	1	No Gas	5954111	1.20	5854434	101.70	70	120	
In	115	1	No Gas	7154600	1.19	7184199	99.59	70	120	
Bi	209	1	No Gas	5485665	2.15	5632659	97.39	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	221CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T19:57:35-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	61304	0.00
V	51	2	He	91377	0.00
Cr	52	2	He	114046	0.00
Fe	56	2	He	9806556	0.00
Se	78	2	He	1415	0.04
Sn	118	2	He	103241	0.00
As	75	2	He	15305	0.02
Ca	44	2	He	43489	0.01
Na	23	2	He	1348069	0.00
Mg	24	2	He	692858	0.00
K	39	2	He	841845	0.00
Mn	55	2	He	71577	0.00
Co	59	2	He	185659	0.00
Ni	60	2	He	48349	0.01
Cu	63	2	He	131898	0.00
Zn	66	2	He	22476	0.02
Al	27	2	He	3601	0.33
B	11	1	No Gas	211845	0.00
Al	27	1	No Gas	362356	0.00
Si	28	1	No Gas	1372765	0.00
P	31	1	No Gas	112860	0.00
Ag	107	1	No Gas	404437	0.00
Cd	111	1	No Gas	80570	0.00
Sr	88	1	No Gas	805956	0.00
Mo	95	1	No Gas	142117	0.00
Sn	118	1	No Gas	260719	0.00
Sb	121	1	No Gas	314927	0.00
Ba	137	1	No Gas	122666	0.00
Tl	205	1	No Gas	599715	0.00
Tl	203	1	No Gas	253210	0.00
Pb	208	1	No Gas	857645	0.00
U	238	1	No Gas	801178	0.00
Ca	43	2	He	2454	0.22
Sb	121	2	He	120858	0.00
Cu	63	1	No Gas	281853	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2054929	0.64	2076007	98.98	70	120	

Calibration Standard Report

Ge	72	2	He	1274945	1.78	1283119	99.36	70	120	
Ge	72	1	No Gas	5856828	0.23	5854434	100.04	70	120	
In	115	1	No Gas	7260771	2.23	7184199	101.07	70	120	
Bi	209	1	No Gas	5570838	1.70	5632659	98.90	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	222CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T19:59:26-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	614364	0.00
V	51	2	He	907539	0.00
Cr	52	2	He	1129008	0.00
Fe	56	2	He	97365099	0.00
Se	78	2	He	12914	0.02
Sn	118	2	He	976548	0.00
As	75	2	He	156544	0.00
Ca	44	2	He	437225	0.00
Na	23	2	He	12624036	0.00
Mg	24	2	He	6637793	0.00
K	39	2	He	7973459	0.00
Mn	55	2	He	713400	0.00
Co	59	2	He	1880216	0.00
Ni	60	2	He	471384	0.00
Cu	63	2	He	1320889	0.00
Zn	66	2	He	216397	0.00
Al	27	2	He	31035	0.01
B	11	1	No Gas	2017445	0.00
Al	27	1	No Gas	2932348	0.00
Si	28	1	No Gas	8308417	0.00
P	31	1	No Gas	799289	0.00
Ag	107	1	No Gas	3876816	0.00
Cd	111	1	No Gas	776424	0.00
Sr	88	1	No Gas	7872587	0.00
Mo	95	1	No Gas	1456187	0.00
Sn	118	1	No Gas	2524397	0.00
Sb	121	1	No Gas	3234429	0.00
Ba	137	1	No Gas	1195569	0.00
Tl	205	1	No Gas	6225833	0.00
Tl	203	1	No Gas	2637551	0.00
Pb	208	1	No Gas	8482722	0.00
U	238	1	No Gas	7903941	0.00
Ca	43	2	He	24973	0.01
Sb	121	2	He	1264523	0.00
Cu	63	1	No Gas	2744117	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1973480	1.49	2076007	95.06	70	120	

Calibration Standard Report

Ge	72	2	He	1282806	0.65	1283119	99.98	70	120	
Ge	72	1	No Gas	5809305	2.21	5854434	99.23	70	120	
In	115	1	No Gas	7061805	2.46	7184199	98.30	70	120	
Bi	209	1	No Gas	5278138	2.13	5632659	93.71	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	223CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:01:10-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	1155516	0.00
V	51	2	He	1787766	0.00
Cr	52	2	He	2160007	0.00
Fe	56	2	He	184868571	0.00
Se	78	2	He	24441	0.00
Sn	118	2	He	1990122	0.00
As	75	2	He	295544	0.00
Ca	44	2	He	833558	0.00
Na	23	2	He	23811826	0.00
Mg	24	2	He	12539487	0.00
K	39	2	He	15096581	0.00
Mn	55	2	He	1376282	0.00
Co	59	2	He	3421602	0.00
Ni	60	2	He	902180	0.00
Cu	63	2	He	2478476	0.00
Zn	66	2	He	412887	0.00
Al	27	2	He	58875	0.00
B	11	1	No Gas	3793364	0.00
Al	27	1	No Gas	5495456	0.00
Si	28	1	No Gas	14861832	0.00
P	31	1	No Gas	1482542	0.00
Ag	107	1	No Gas	7381696	0.00
Cd	111	1	No Gas	1505987	0.00
Sr	88	1	No Gas	15317250	0.00
Mo	95	1	No Gas	2815525	0.00
Sn	118	1	No Gas	4748482	0.00
Sb	121	1	No Gas	5970506	0.00
Ba	137	1	No Gas	2272263	0.00
Tl	205	1	No Gas	11737576	0.00
Tl	203	1	No Gas	4891973	0.00
Pb	208	1	No Gas	16522800	0.00
U	238	1	No Gas	15503803	0.00
Ca	43	2	He	47780	0.00
Sb	121	2	He	2367390	0.00
Cu	63	1	No Gas	5104372	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1939909	1.52	2076007	93.44	70	120	

Calibration Standard Report

Ge	72	2	He	1270062	1.99	1283119	98.98	70	120	
Ge	72	1	No Gas	5724952	2.22	5854434	97.79	70	120	
In	115	1	No Gas	7014135	1.01	7184199	97.63	70	120	
Bi	209	1	No Gas	5393299	0.39	5632659	95.75	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	225_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:04:47-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	96.416	2.082	2527914	1.92	100	96.4	90	110	
Be	9	1	No Gas	99.455	0.286	605193	0.18	100	99.5	90	110	
V	51	2	He	97.022	3.920	892133	0.92	100	97.0	90	110	
Cr	52	2	He	98.259	3.675	1097770	0.99	100	98.3	90	110	
Fe	56	2	He	9881.418	3.251	94606472	0.34	10000	98.8	90	110	
Se	78	2	He	100.800	2.971	12810	1.07	100	100.8	90	110	
Sn	118	2	He	89.443	0.353	924177	0.41	100	89.4	90	110	ICV Main CR1 Failed
As	75	2	He	102.740	3.265	157458	0.22	100	102.7	90	110	
Ca	44	2	He	9832.022	3.266	424168	0.53	10000	98.3	90	110	
Na	23	2	He	9879.271	3.812	12219396	0.73	10000	98.8	90	110	
Mg	24	2	He	10060.235	4.748	6538140	2.38	10000	100.6	90	110	
K	39	2	He	9863.571	3.715	7733375	0.87	10000	98.6	90	110	
Mn	55	2	He	98.828	2.692	702087	0.45	100	98.8	90	110	
Co	59	2	He	104.559	1.221	1869946	2.08	100	104.6	90	110	
Ni	60	2	He	99.529	2.824	464353	0.36	100	99.5	90	110	
Cu	63	2	He	100.883	3.570	1298372	1.31	100	100.9	90	110	
Zn	66	2	He	100.729	2.963	215462	0.81	100	100.7	90	110	
Al	27	2	He	98.625	2.361	30324	1.02	100	98.6	90	110	
B	11	1	No Gas	488.465	0.806	1957425	0.93	500	97.7	90	110	
Al	27	1	No Gas	100.970	0.478	2877080	0.69	100	101.0	90	110	
Si	28	1	No Gas	544.809	1.269	8613724	1.35	500	109.0	90	110	
P	31	1	No Gas	511.787	1.312	796899	1.20	500	102.4	90	110	
Ag	107	1	No Gas	99.588	1.329	3748449	2.52	100	99.6	90	110	
Cd	111	1	No Gas	99.094	1.543	757797	1.59	100	99.1	90	110	
Sr	88	1	No Gas	97.049	3.389	7543257	2.56	100	97.0	90	110	
Mo	95	1	No Gas	99.961	2.714	1429770	1.79	100	100.0	90	110	
Sn	118	1	No Gas	98.220	2.638	2386196	4.79	100	98.2	90	110	
Sb	121	1	No Gas	102.208	0.676	3154115	0.47	100	102.2	90	110	
Ba	137	1	No Gas	97.309	1.976	1128125	0.95	100	97.3	90	110	
Tl	205	1	No Gas	102.601	3.519	6057312	2.78	100	102.6	90	110	
Tl	203	1	No Gas	105.705	2.608	2610383	1.98	100	105.7	90	110	
Pb	208	1	No Gas	100.446	1.658	8292261	1.42	100	100.4	90	110	
U	238	1	No Gas	94.514	1.909	7310336	1.67	100	94.5	90	110	
Ca	43	2	He	9738.008	2.377	24065	0.83	10000	97.4	90	110	
Sb	121	2	He	100.938	2.737	1241071	1.03	100	100.9	90	110	
Ti	47	2	He	99.385	5.564	29111	2.89	100	99.4	90	110	
Cu	63	1	No Gas	102.865	0.681	2710294	0.81	100	102.9	90	110	

QC ISTD Table

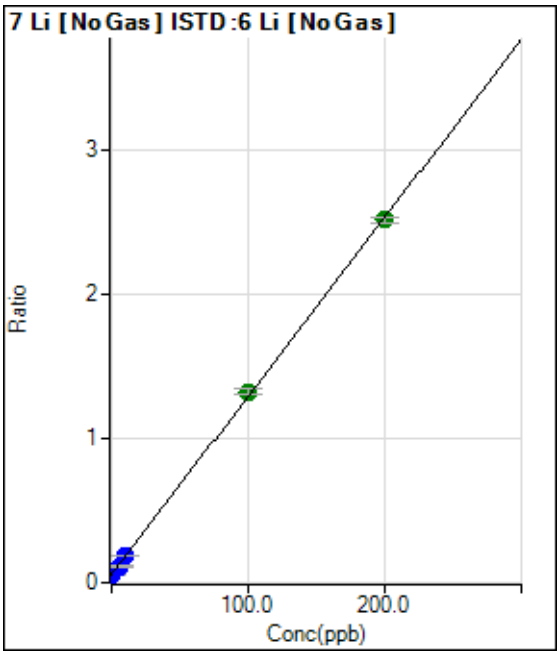
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2024532	0.19	2076007	97.52	70	120	
Ge	72	2	He	1304810	3.13	1283119	101.69	70	120	
Ge	72	1	No Gas	5836183	0.22	5854434	99.69	70	120	
In	115	1	No Gas	7090524	2.92	7184199	98.70	70	120	
Bi	209	1	No Gas	5337360	0.82	5632659	94.76	70	120	

Calibration for 225_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	218CALB.d	CAL BLK	4/14/2020 7:51:57 PM
2	219CALS.d	2/10/200	4/14/2020 7:53:50 PM
3	220CALS.d	5/25/500	4/14/2020 7:55:42 PM
4	221CALS.d	10/50/100	4/14/2020 7:57:35 PM
5	222CALS.d	100/500/10K	4/14/2020 7:59:26 PM
6	223CALS.d	200/1000/20K	4/14/2020 8:01:10 PM

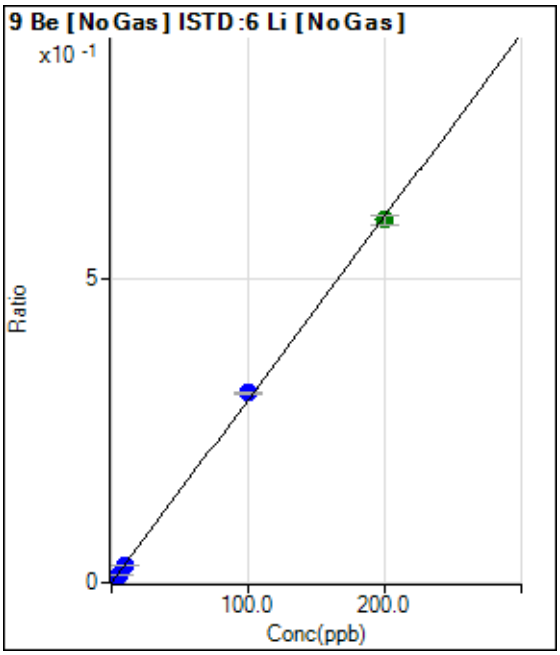
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	117560.68	0.0566	P	0.7
2	☐	2.000	1.774	165723.09	0.0786	P	1.6
3	☐	5.000	4.506	238155.57	0.1123	P	2.5
4	☐	10.000	10.442	381647.38	0.1857	P	1.1
5	☐	100.000	102.390	2609249.65	1.3225	A	2.7
6	☐	200.000	198.798	4877017.85	2.5144	A	1.6

y = 0.0124 * x + 0.0566
R = 0.9999
DL = 0.09319
BEC = 4.58

Weight: <None>
Min Conc: <None>

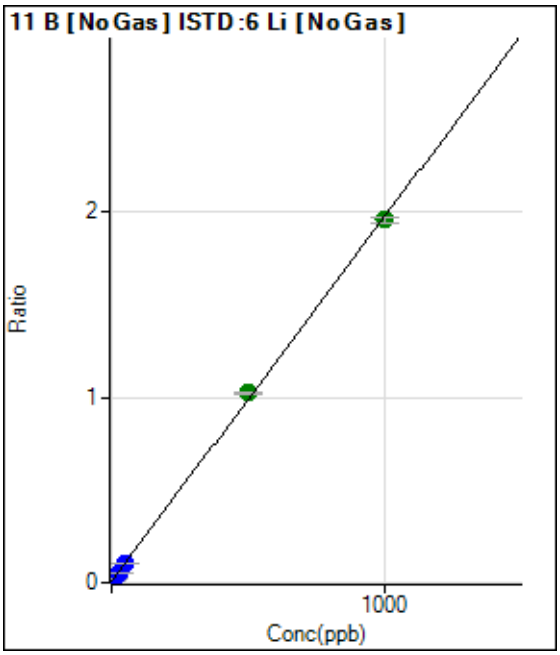


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	0.8
2	☐	2.000	1.849	11748.31	0.0056	P	2.2
3	☐	5.000	4.657	29698.05	0.0140	P	1.9
4	☐	10.000	9.923	61304.37	0.0298	P	0.3
5	☐	100.000	103.587	614364.04	0.3114	P	1.4
6	☐	200.000	198.221	1155516.03	0.5958	A	2.6

y = 0.0030 * x + 9.6343E-006
R = 0.9998
DL = 7.427E-05
BEC = 0.003205

Weight: <None>
Min Conc: <None>

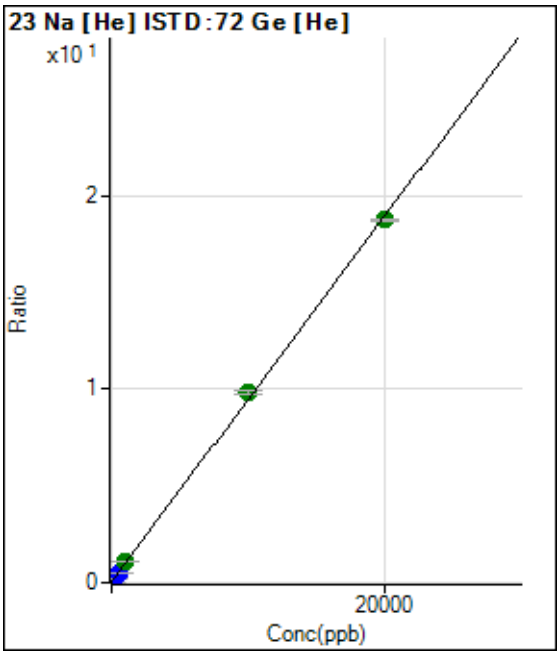
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14844.61	0.0072	P	2.2
2	☐	10.000	8.810	51585.96	0.0245	P	2.9
3	☐	25.000	22.321	108125.34	0.0510	P	3.0
4	☐	50.000	48.835	211844.78	0.1031	P	1.4
5	☐	500.000	516.717	2017444.97	1.0224	A	0.9
6	☐	1000.000	991.778	3793364.21	1.9557	A	1.5

y = 0.0020 * x + 0.0072
R = 0.9998
DL = 0.24
BEC = 3.639

Weight: <None>
Min Conc: <None>

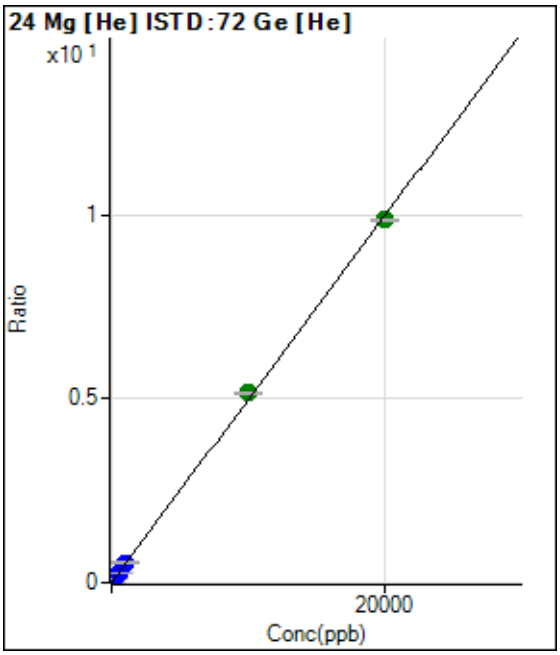


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	54201.96	0.0422	P	3.1
2	☐	200.000	199.661	297679.10	0.2308	P	2.4
3	☐	500.000	493.656	661261.68	0.5085	P	2.2
4	☐	1000.000	1075.172	1348069.04	1.0576	A	2.4
5	☐	10000.00	10374.87	12624036.48	9.8403	A	1.5
6	☐	20000.00	19808.96	23811826.31	18.7500	A	0.7

y = 9.4441E-004 * x + 0.0422
R = 0.9997
DL = 4.154
BEC = 44.74

Weight: <None>
Min Conc: <None>

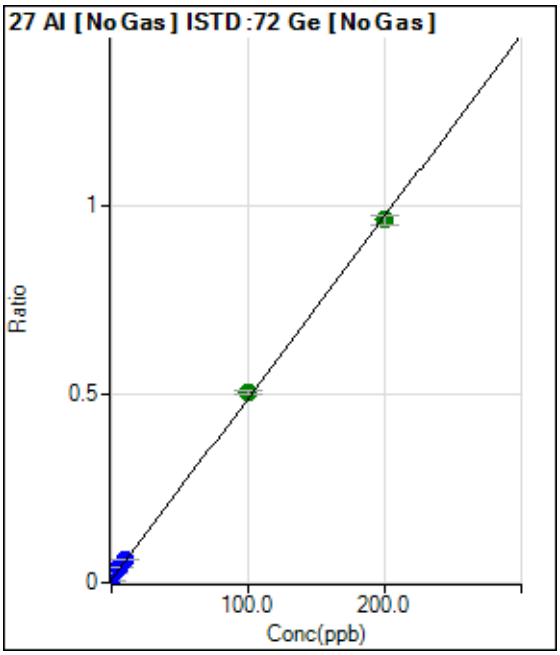
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.02	0.0005	P	2.1
2	☐	200.000	204.244	131892.96	0.1023	P	3.9
3	☐	500.000	504.543	327681.95	0.2520	P	2.8
4	☐	1000.000	1089.533	692857.99	0.5436	P	2.3
5	☐	10000.00	10379.82	6637792.61	5.1746	A	1.2
6	☐	20000.00	19805.45	12539487.31	9.8731	A	0.5

y = 4.9848E-004 * x + 4.7546E-004
R = 0.9997
DL = 0.06097
BEC = 0.9538

Weight: <None>
Min Conc: <None>

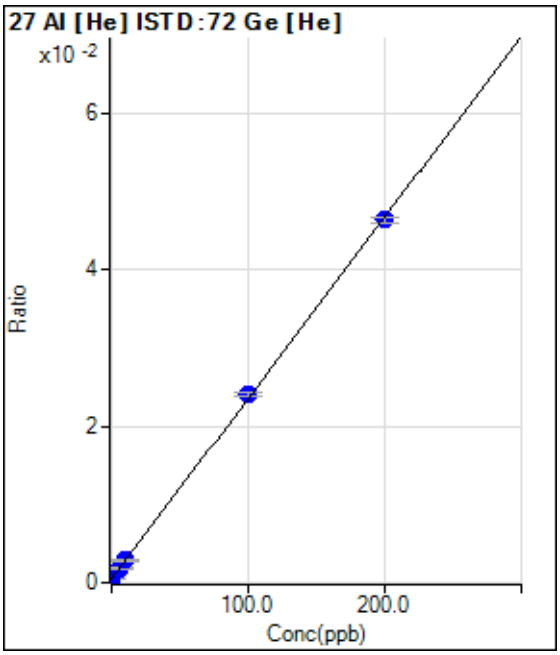


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43708.86	0.0075	P	0.5
2	☐	2.000	3.299	139005.58	0.0233	P	0.9
3	☐	5.000	6.522	231166.06	0.0388	P	0.9
4	☐	10.000	11.314	362355.55	0.0619	P	0.2
5	☐	100.000	103.452	2932348.29	0.5049	A	2.0
6	☐	200.000	198.157	5495455.54	0.9603	A	2.8

y = 0.0048 * x + 0.0075
R = 0.9998
DL = 0.02327
BEC = 1.553

Weight: <None>
Min Conc: <None>

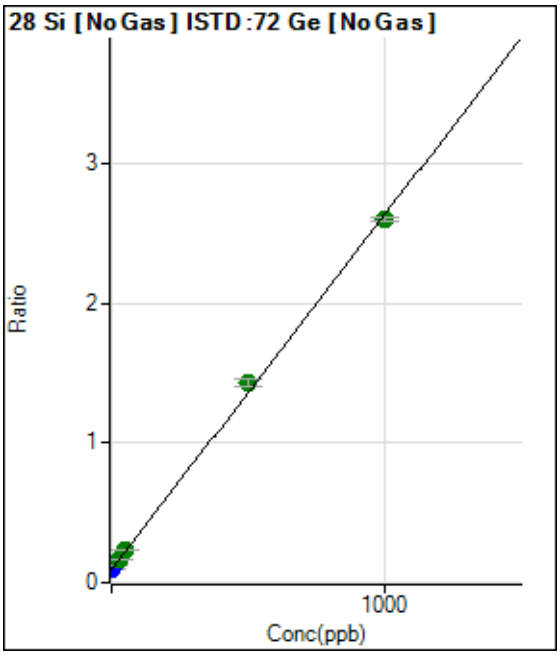
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.03	0.0005	P	6.6
2	☐	2.000	3.169	1530.12	0.0012	P	8.7
3	☐	5.000	5.819	2340.25	0.0018	P	6.0
4	☐	10.000	10.276	3600.55	0.0028	P	13.0
5	☐	100.000	102.694	31034.84	0.0242	P	1.9
6	☐	200.000	198.607	58874.68	0.0464	P	1.5

y = 2.3116E-004 * x + 4.5218E-004
R = 0.9999
DL = 0.3887
BEC = 1.956

Weight: <None>
Min Conc: <None>

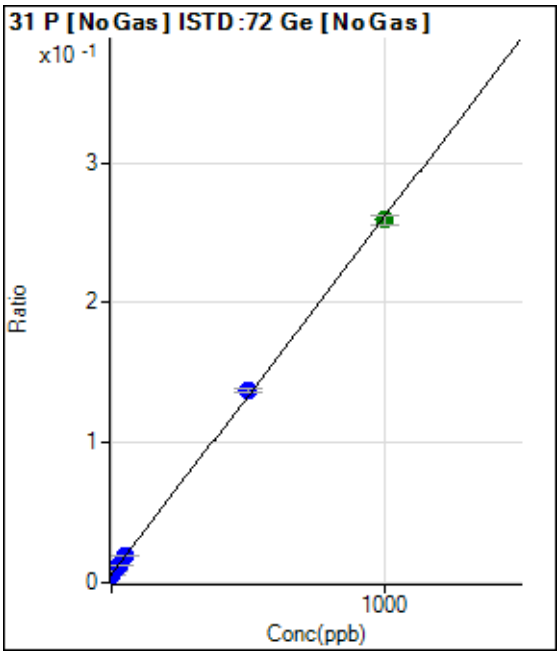


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	542048.82	0.0926	P	0.6
2	☐	10.000	9.991	702863.77	0.1180	P	1.4
3	☐	25.000	26.854	957190.77	0.1608	A	1.8
4	☐	50.000	55.848	1372764.77	0.2344	A	2.6
5	☐	500.000	527.070	8308417.17	1.4309	A	3.3
6	☐	1000.000	986.126	14861831.86	2.5964	A	1.2

y = 0.0025 * x + 0.0926
R = 0.9995
DL = 0.6942
BEC = 36.47

Weight: <None>
Min Conc: <None>

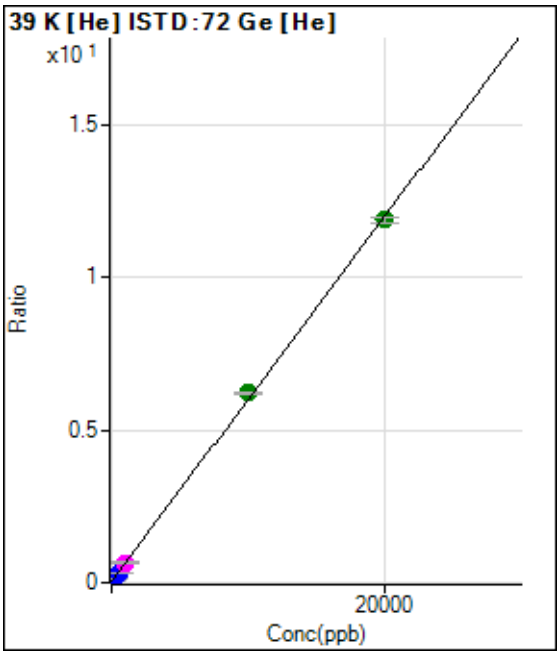
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34847.55	0.0060	P	0.5
2	☐	10.000	8.003	47635.35	0.0080	P	1.8
3	☐	25.000	23.029	70428.23	0.0118	P	0.3
4	☐	50.000	52.191	112859.55	0.0193	P	0.8
5	☐	500.000	516.033	799289.31	0.1376	P	2.1
6	☐	1000.000	991.943	1482542.06	0.2591	A	2.9

y = 2.5517E-004 * x + 0.0060
R = 0.9998
DL = 0.3371
BEC = 23.33

Weight: <None>
Min Conc: <None>

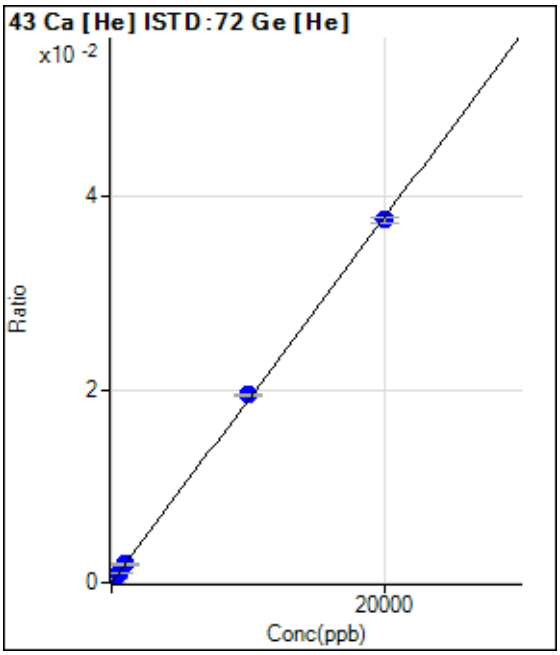


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43707.13	0.0341	P	0.9
2	☐	200.000	197.438	196145.24	0.1521	P	3.4
3	☐	500.000	488.282	423994.90	0.3260	P	2.0
4	☐	1000.000	1047.639	841844.57	0.6604	M	1.6
5	☐	10000.00	10339.02	7973459.26	6.2156	A	0.5
6	☐	20000.00	19828.42	15096581.44	11.8891	A	1.8

y = 5.9788E-004 * x + 0.0341
R = 0.9998
DL = 1.461
BEC = 56.97

Weight: <None>
Min Conc: <None>

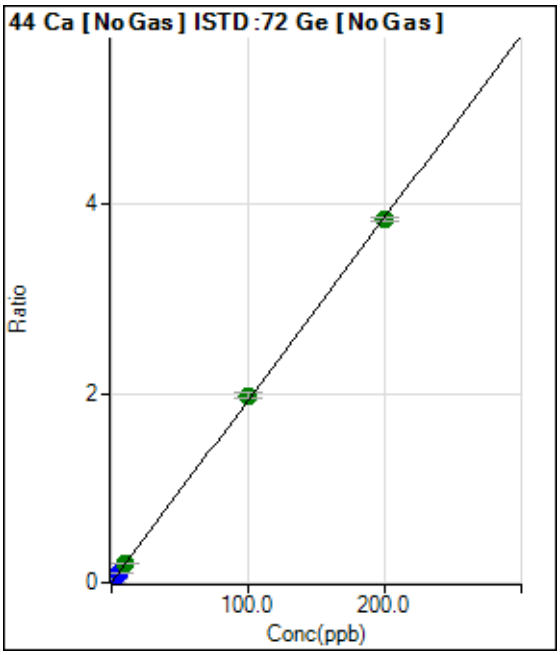
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	0.8
2	☐	200.000	245.917	610.02	0.0005	P	11.8
3	☐	500.000	520.171	1290.09	0.0010	P	12.0
4	☐	1000.000	1011.613	2453.60	0.0019	P	4.1
5	☐	10000.00	10273.87	24973.01	0.0195	P	1.5
6	☐	20000.00	19861.51	47779.81	0.0376	P	1.6

y = 1.8941E-006 * x + 7.7938E-006
R = 0.9999
DL = 0.09259
BEC = 4.115

Weight: <None>
Min Conc: <None>

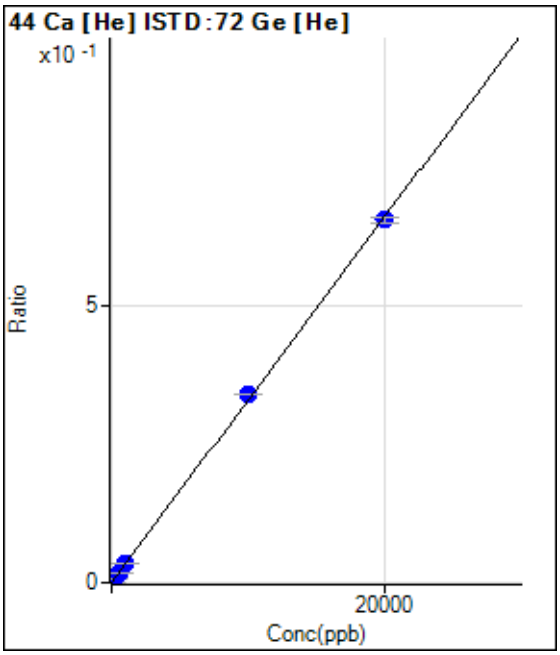


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12455.81	0.0021	P	6.0
2	☐	2.000	1.998	242067.76	0.0406	P	0.8
3	☐	5.000	4.866	570878.83	0.0959	P	2.0
4	☐	10.000	10.707	1220883.58	0.2085	A	2.7
5	☐	100.000	102.339	11463469.00	1.9742	A	3.3
6	☐	200.000	198.799	21941067.18	3.8329	A	1.0

y = 0.0193 * x + 0.0021
R = 0.9999
DL = 0.01972
BEC = 0.1104

Weight: <None>
Min Conc: <None>

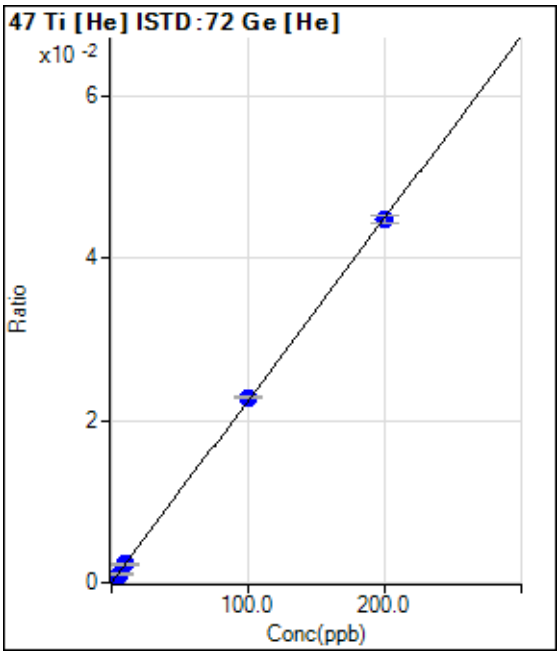
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	303.34	0.0002	P	13.0
2	☐	200.000	195.384	8632.86	0.0067	P	4.9
3	☐	500.000	482.327	21039.72	0.0162	P	4.5
4	☐	1000.000	1024.560	43488.99	0.0341	P	1.2
5	☐	10000.00	10302.09	437225.33	0.3408	P	0.4
6	☐	20000.00	19848.21	833558.27	0.6564	P	1.6

y = 3.3062E-005 * x + 2.3654E-004
R = 0.9998
DL = 2.799
BEC = 7.155

Weight: <None>
Min Conc: <None>

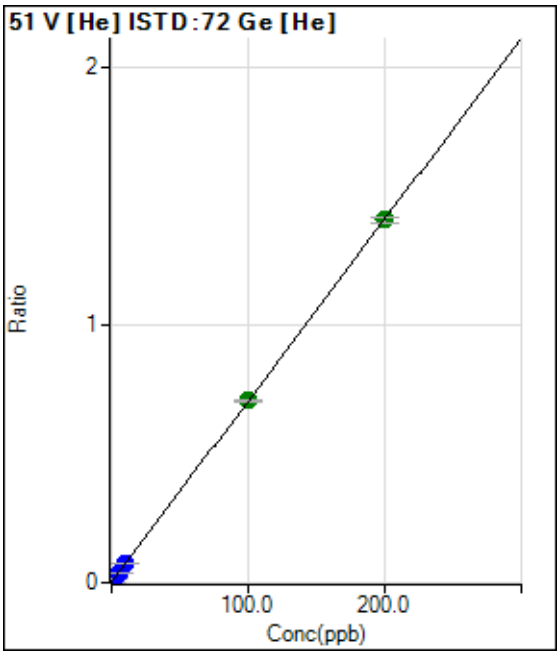


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.031	593.36	0.0005	P	18.2
3	☐	5.000	4.565	1336.76	0.0010	P	10.9
4	☐	10.000	10.279	2950.37	0.0023	P	6.9
5	☐	100.000	101.723	29324.99	0.0229	P	1.5
6	☐	200.000	199.135	56824.37	0.0447	P	2.3

y = 2.2470E-004 * x + 2.6169E-006
R = 0.9999
DL = 0.06052
BEC = 0.01165

Weight: <None>
Min Conc: <None>

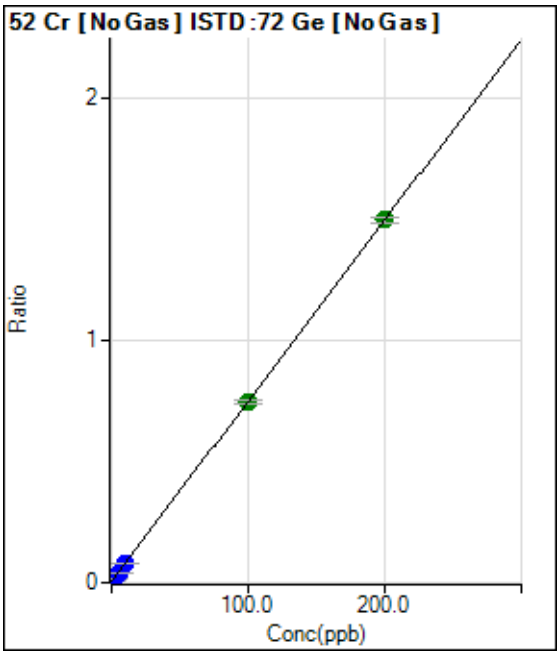
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1960.15	0.0015	P	4.8
2	☐	2.000	1.895	19170.12	0.0149	P	1.8
3	☐	5.000	4.679	44807.33	0.0345	P	1.9
4	☐	10.000	9.969	91376.72	0.0717	P	1.8
5	☐	100.000	100.315	907539.37	0.7075	A	1.2
6	☐	200.000	199.853	1787766.11	1.4079	A	1.5

y = 0.0070 * x + 0.0015
R = 1.0000
DL = 0.03121
BEC = 0.2171

Weight: <None>
Min Conc: <None>

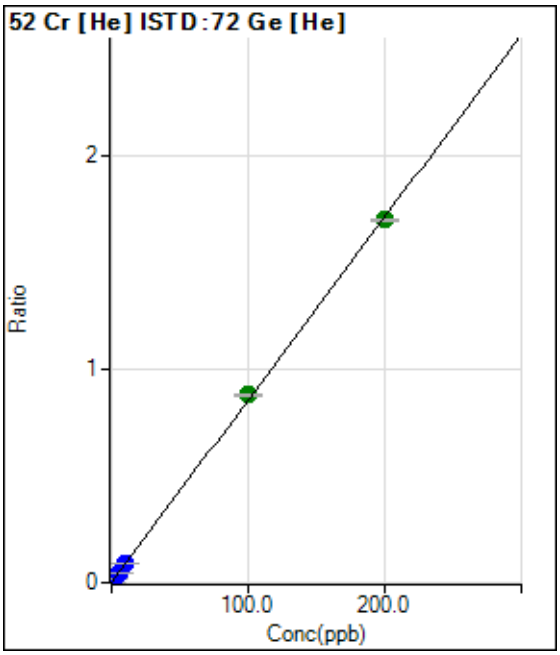


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28914.21	0.0049	P	2.3
2	☐	2.000	1.915	114401.15	0.0192	P	0.7
3	☐	5.000	4.820	243077.09	0.0408	P	1.3
4	☐	10.000	10.348	480224.28	0.0820	P	0.0
5	☐	100.000	99.373	4326184.63	0.7449	A	1.9
6	☐	200.000	200.301	8565096.75	1.4964	A	1.5

y = 0.0074 * x + 0.0049
R = 1.0000
DL = 0.04568
BEC = 0.6633

Weight: <None>
Min Conc: <None>

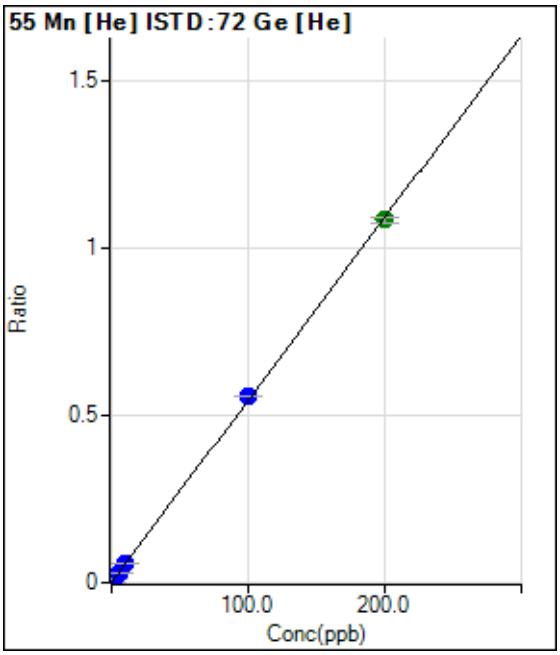
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.41	0.0010	P	9.6
2	☐	2.000	2.018	23617.44	0.0183	P	1.8
3	☐	5.000	4.870	55539.44	0.0427	P	3.7
4	☐	10.000	10.333	114045.58	0.0895	P	1.0
5	☐	100.000	102.724	1129007.95	0.8802	A	1.6
6	☐	200.000	198.625	2160006.94	1.7009	A	0.8

y = 0.0086 * x + 0.0010
R = 0.9999
DL = 0.03463
BEC = 0.1206

Weight: <None>
Min Conc: <None>

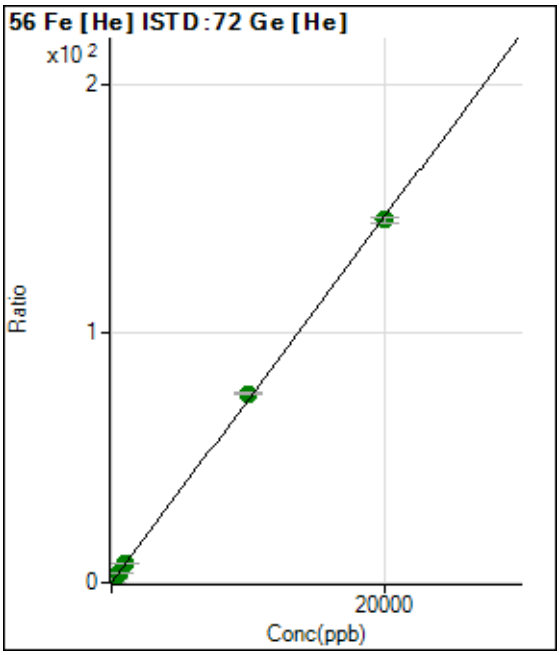


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	483.35	0.0004	P	15.1
2	☐	2.000	1.968	14301.03	0.0111	P	2.2
3	☐	5.000	4.919	35312.74	0.0272	P	4.3
4	☐	10.000	10.245	71577.32	0.0561	P	0.8
5	☐	100.000	102.091	713400.28	0.5561	P	0.6
6	☐	200.000	198.945	1376281.80	1.0834	A	1.7

y = 0.0054 * x + 3.7664E-004
R = 0.9999
DL = 0.03128
BEC = 0.06919

Weight: <None>
Min Conc: <None>

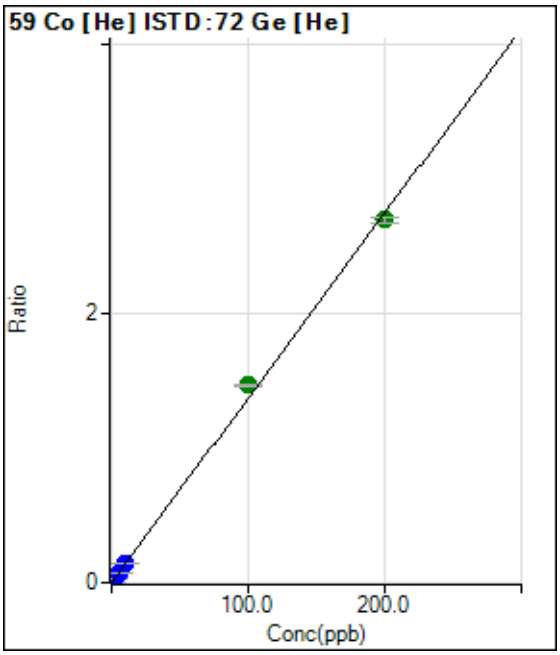
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10841.11	0.0085	P	5.9
2	☐	200.000	201.936	1923039.50	1.4910	A	2.5
3	☐	500.000	489.254	4681862.22	3.6004	A	3.0
4	☐	1000.000	1046.663	9806555.69	7.6927	A	1.1
5	☐	10000.00	10337.19	97365098.55	75.9010	A	0.4
6	☐	20000.00	19829.32	184868570.5	145.589	A	1.6

y = 0.0073 * x + 0.0085
R = 0.9998
DL = 0.2022
BEC = 1.151

Weight: <None>
Min Conc: <None>

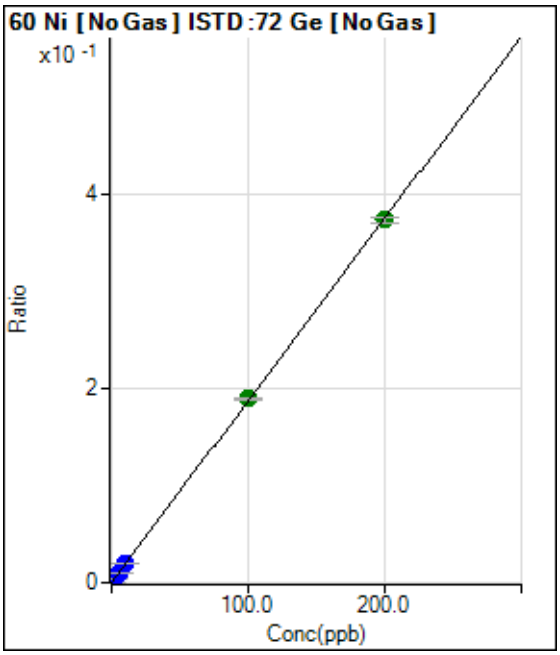


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0002	P	2.4
2	☐	2.000	1.999	35546.69	0.0276	P	2.7
3	☐	5.000	4.976	88915.96	0.0684	P	3.0
4	☐	10.000	10.615	185659.09	0.1457	P	2.7
5	☐	100.000	106.907	1880216.01	1.4656	A	1.0
6	☐	200.000	196.516	3421601.62	2.6940	A	1.3

y = 0.0137 * x + 1.5326E-004
R = 0.9991
DL = 0.0007889
BEC = 0.01118

Weight: <None>
Min Conc: <None>

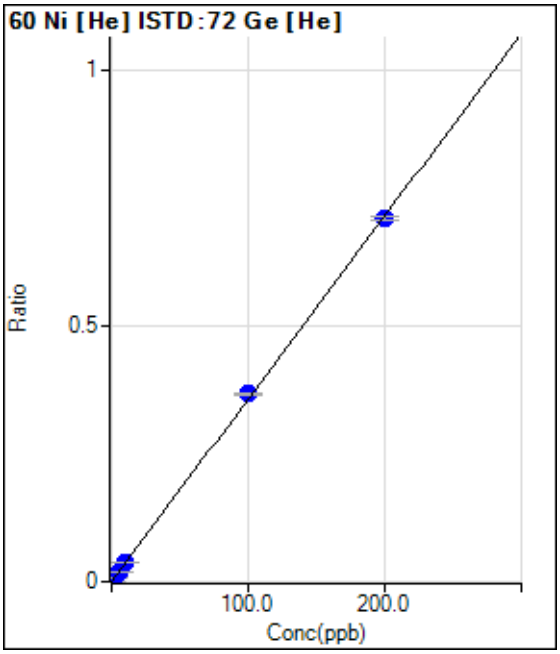
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.02	0.0001	P	6.0
2	☐	2.000	1.977	22669.21	0.0038	P	3.2
3	☐	5.000	5.113	57652.24	0.0097	P	1.2
4	☐	10.000	10.607	117023.01	0.0200	P	1.9
5	☐	100.000	101.234	1102684.33	0.1898	A	0.9
6	☐	200.000	199.350	2139117.42	0.3737	A	1.6

y = 0.0019 * x + 9.9073E-005
R = 1.0000
DL = 0.009438
BEC = 0.05286

Weight: <None>
Min Conc: <None>

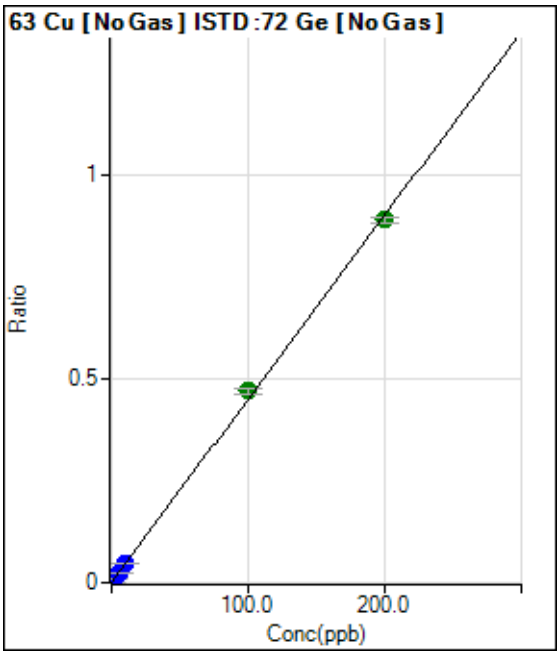


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0001	P	40.7
2	☐	2.000	1.945	9159.88	0.0071	P	4.9
3	☐	5.000	5.110	23967.98	0.0184	P	0.2
4	☐	10.000	10.568	48349.49	0.0379	P	4.4
5	☐	100.000	102.710	471384.42	0.3675	P	1.3
6	☐	200.000	198.614	902179.57	0.7104	P	1.0

y = 0.0036 * x + 1.4784E-004
R = 0.9999
DL = 0.05052
BEC = 0.04134

Weight: <None>
Min Conc: <None>

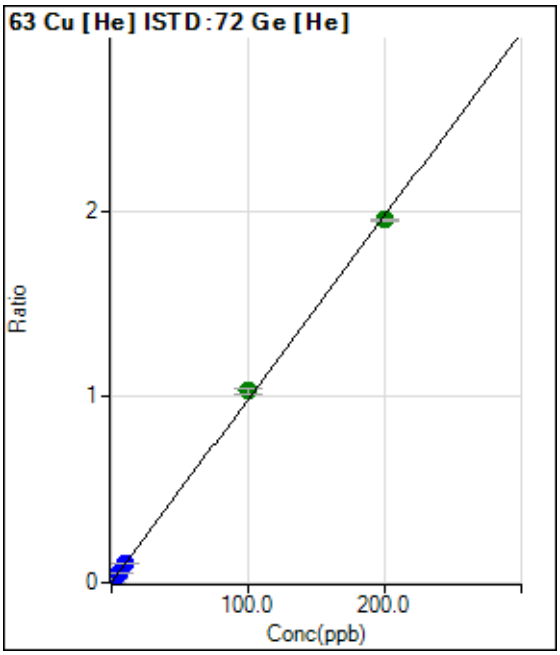
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3003.73	0.0005	P	2.3
2	☐	2.000	2.017	57264.18	0.0096	P	2.5
3	☐	5.000	5.044	138459.59	0.0233	P	2.9
4	☐	10.000	10.558	281852.52	0.0481	P	0.3
5	☐	100.000	104.661	2744117.04	0.4725	A	3.1
6	☐	200.000	197.640	5104372.01	0.8918	A	1.5

y = 0.0045 * x + 5.1308E-004
R = 0.9996
DL = 0.007849
BEC = 0.1138

Weight: <None>
Min Conc: <None>

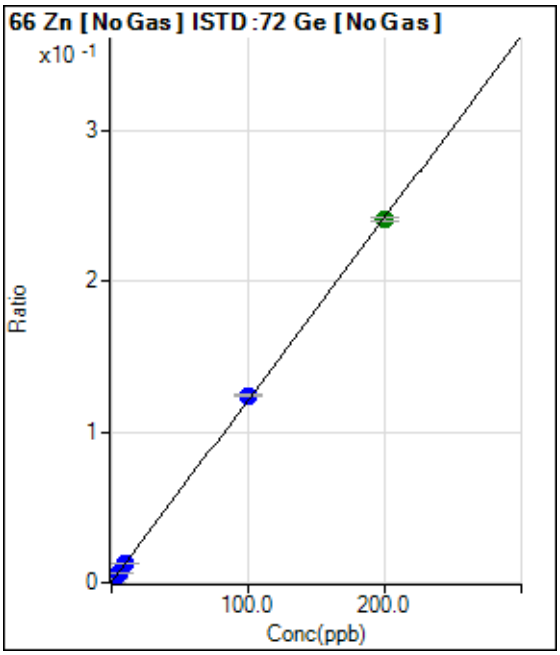


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1300.09	0.0010	P	4.3
2	☐	2.000	1.942	25998.54	0.0202	P	2.8
3	☐	5.000	4.965	64995.33	0.0500	P	2.3
4	☐	10.000	10.394	131898.34	0.1035	P	3.6
5	☐	100.000	104.337	1320889.12	1.0298	A	3.0
6	☐	200.000	197.813	2478475.59	1.9515	A	0.3

y = 0.0099 * x + 0.0010
R = 0.9997
DL = 0.01319
BEC = 0.1028

Weight: <None>
Min Conc: <None>

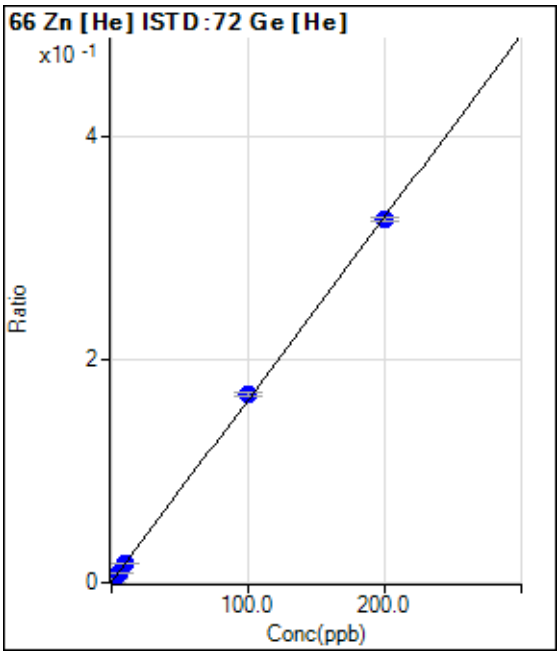
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2343.59	0.0004	P	3.2
2	☐	2.000	2.195	18209.20	0.0031	P	2.4
3	☐	5.000	5.105	39140.01	0.0066	P	1.2
4	☐	10.000	10.392	75958.88	0.0130	P	1.4
5	☐	100.000	102.265	720749.31	0.1241	P	1.2
6	☐	200.000	198.843	1378962.17	0.2409	A	1.0

y = 0.0012 * x + 4.0031E-004
R = 0.9999
DL = 0.0315
BEC = 0.331

Weight: <None>
Min Conc: <None>

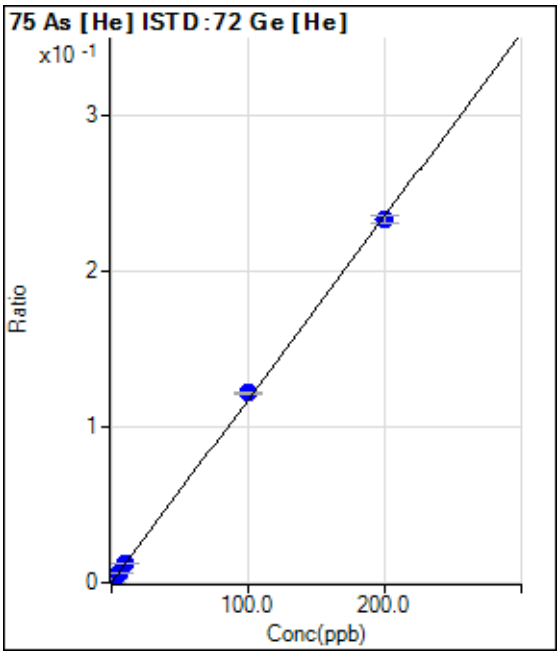


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	696.70	0.0005	P	15.5
2	☐	2.000	2.296	5544.56	0.0043	P	2.4
3	☐	5.000	5.228	11822.01	0.0091	P	3.5
4	☐	10.000	10.452	22475.60	0.0176	P	3.9
5	☐	100.000	102.854	216397.50	0.1687	P	2.1
6	☐	200.000	198.542	412886.66	0.3251	P	1.2

y = 0.0016 * x + 5.4338E-004
R = 0.9999
DL = 0.1543
BEC = 0.3324

Weight: <None>
Min Conc: <None>

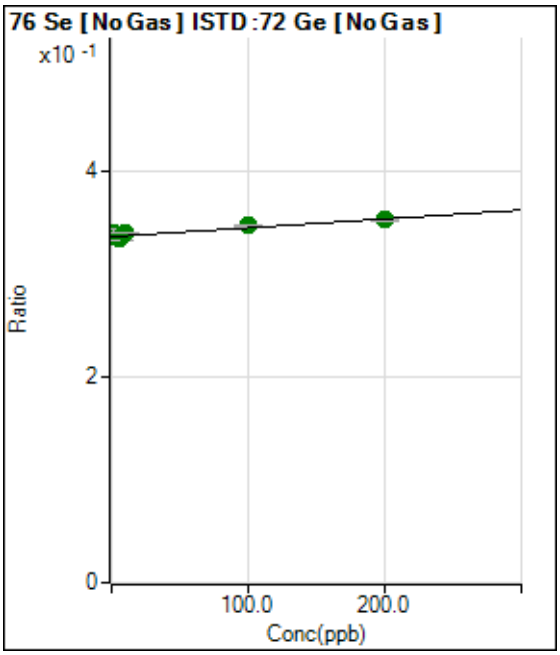
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0001	P	22.9
2	☐	2.000	1.875	2921.45	0.0023	P	0.9
3	☐	5.000	4.929	7613.30	0.0059	P	2.4
4	☐	10.000	10.168	15305.37	0.0120	P	2.8
5	☐	100.000	103.826	156544.39	0.1220	P	1.1
6	☐	200.000	198.082	295544.41	0.2328	P	1.9

y = 0.0012 * x + 6.2322E-005
R = 0.9997
DL = 0.03638
BEC = 0.05305

Weight: <None>
Min Conc: <None>

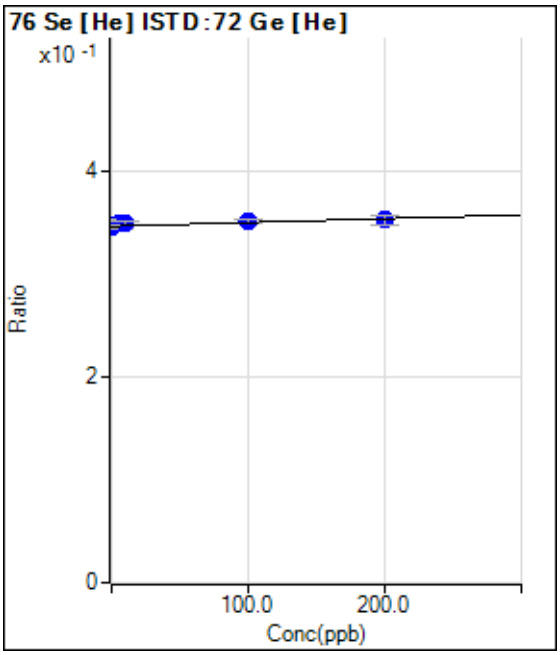


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1967477.42	0.3361	A	0.9
2	☐	2.000	34.690	2020141.95	0.3391	A	3.2
3	☐	5.000	-18.390	1991306.27	0.3345	A	1.4
4	☐	10.000	45.406	1991237.73	0.3400	A	0.2
5	☐	100.000	120.167	2012479.87	0.3464	A	0.3
6	☐	200.000	188.404	2016839.97	0.3523	A	0.8

y = 8.6316E-005 * x + 0.3361
R = 0.9550
DL = 105
BEC = 3893

Weight: <None>
Min Conc: <None>

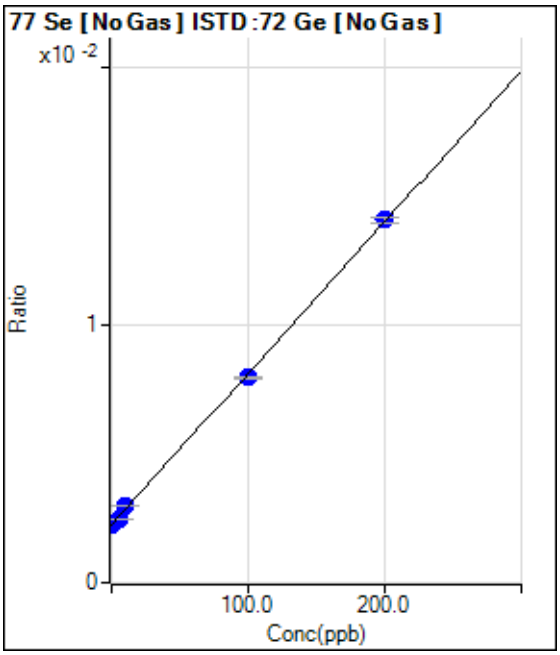
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	444365.30	0.3463	P	0.9
2	☐	2.000	49.205	449078.44	0.3482	P	1.7
3	☐	5.000	58.422	453237.47	0.3485	P	2.2
4	☐	10.000	87.603	445633.55	0.3496	P	1.3
5	☐	100.000	156.372	451742.30	0.3521	P	1.0
6	☐	200.000	166.126	447545.64	0.3525	P	2.7

y = 3.7163E-005 * x + 0.3463
R = 0.8626
DL = 242.2
BEC = 9319

Weight: <None>
Min Conc: <None>

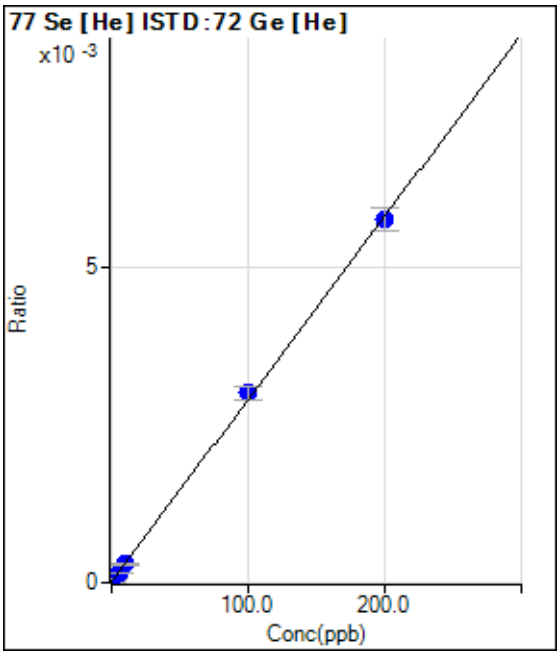


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13220.10	0.0023	P	2.8
2	☐	2.000	1.598	14017.56	0.0024	P	2.0
3	☐	5.000	3.938	14825.08	0.0025	P	0.8
4	☐	10.000	12.288	17458.33	0.0030	P	0.7
5	☐	100.000	97.167	46313.26	0.0080	P	1.3
6	☐	200.000	201.332	80701.47	0.0141	P	1.8

y = 5.8818E-005 * x + 0.0023
R = 0.9998
DL = 3.174
BEC = 38.39

Weight: <None>
Min Conc: <None>

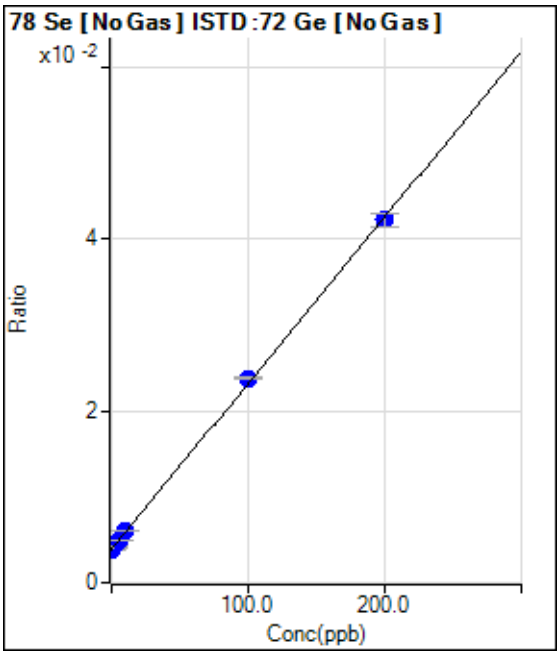
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	91.8
2	☐	2.000	2.506	110.00	0.0001	P	27.6
3	☐	5.000	4.873	200.01	0.0002	P	15.0
4	☐	10.000	9.959	383.34	0.0003	P	9.3
5	☐	100.000	103.394	3847.31	0.0030	P	7.8
6	☐	200.000	198.303	7282.09	0.0057	P	6.2

y = 2.8872E-005 * x + 1.3049E-005
R = 0.9998
DL = 1.245
BEC = 0.452

Weight: <None>
Min Conc: <None>

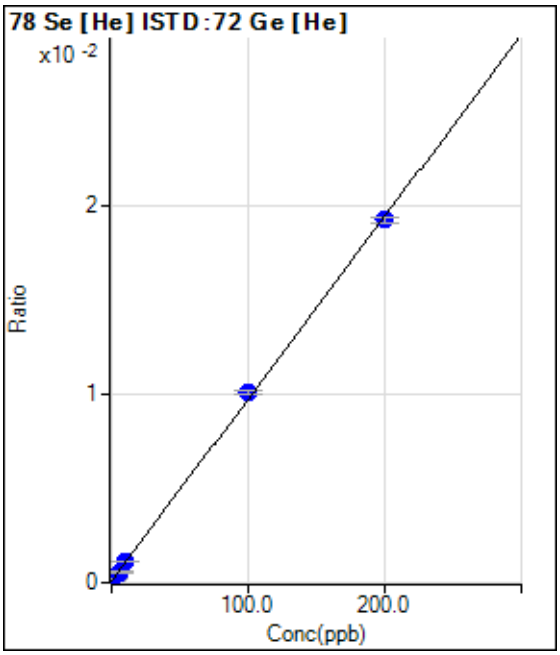


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22802.87	0.0039	P	2.0
2	☐	2.000	1.535	24973.46	0.0042	P	2.5
3	☐	5.000	4.999	28934.73	0.0049	P	1.7
4	☐	10.000	10.675	34885.47	0.0060	P	0.3
5	☐	100.000	102.999	138157.59	0.0238	P	1.4
6	☐	200.000	198.472	241582.89	0.0422	P	3.5

y = 1.9310E-004 * x + 0.0039
R = 0.9998
DL = 1.193
BEC = 20.17

Weight: <None>
Min Conc: <None>

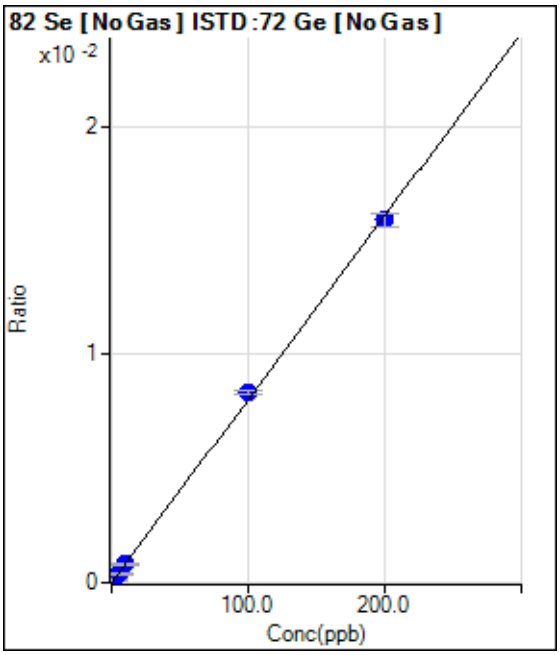
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	102.67	0.0001	P	14.4
2	☐	2.000	1.823	330.67	0.0003	P	1.9
3	☐	5.000	4.963	727.36	0.0006	P	9.2
4	☐	10.000	10.654	1414.75	0.0011	P	1.4
5	☐	100.000	103.328	12914.19	0.0101	P	2.3
6	☐	200.000	198.306	24441.43	0.0192	P	1.7

y = 9.6658E-005 * x + 8.0071E-005
R = 0.9998
DL = 0.3581
BEC = 0.8284

Weight: <None>
Min Conc: <None>

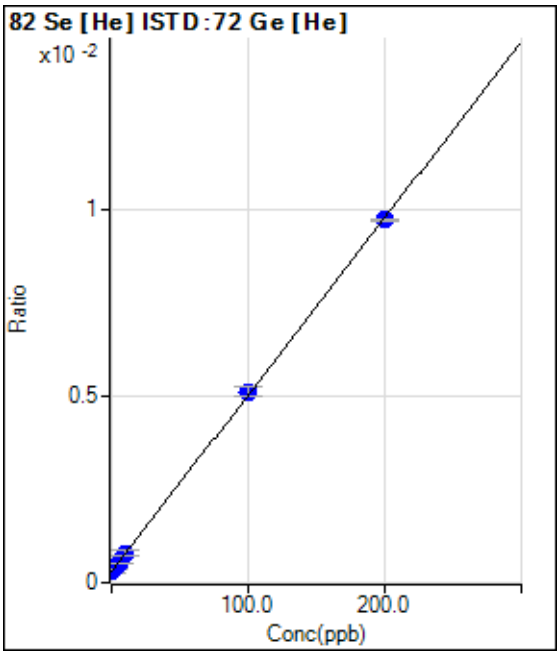


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-121.12	0.0000	P	-418.2
2	☐	2.000	1.646	665.61	0.0001	P	52.9
3	☐	5.000	5.023	2286.75	0.0004	P	19.3
4	☐	10.000	9.975	4585.96	0.0008	P	8.0
5	☐	100.000	103.878	48511.39	0.0083	P	1.2
6	☐	200.000	198.065	91198.06	0.0159	P	3.8

y = 8.0577E-005 * x - 2.0683E-005
R = 0.9997
DL = 3.22
BEC = -0.2567

Weight: <None>
Min Conc: <None>

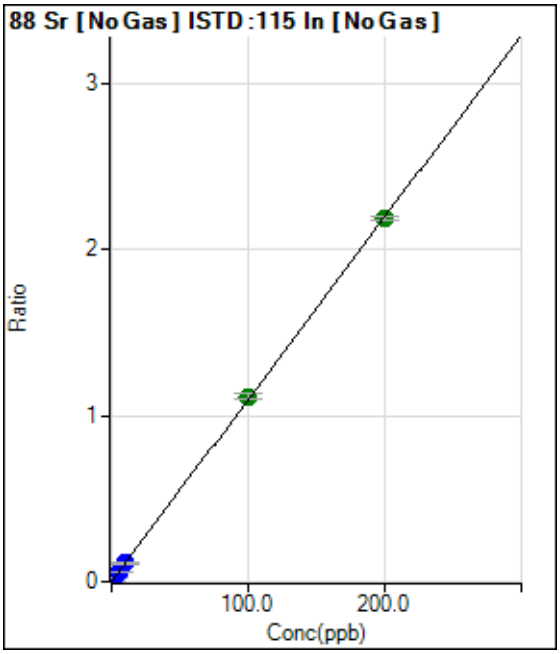
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0003	P	28.6
2	☐	2.000	1.313	463.35	0.0004	P	10.7
3	☐	5.000	4.554	666.70	0.0005	P	5.4
4	☐	10.000	10.206	993.39	0.0008	P	18.4
5	☐	100.000	101.880	6571.74	0.0051	P	4.7
6	☐	200.000	199.068	12352.59	0.0097	P	0.7

y = 4.7363E-005 * x + 2.9656E-004
R = 0.9999
DL = 5.369
BEC = 6.261

Weight: <None>
Min Conc: <None>

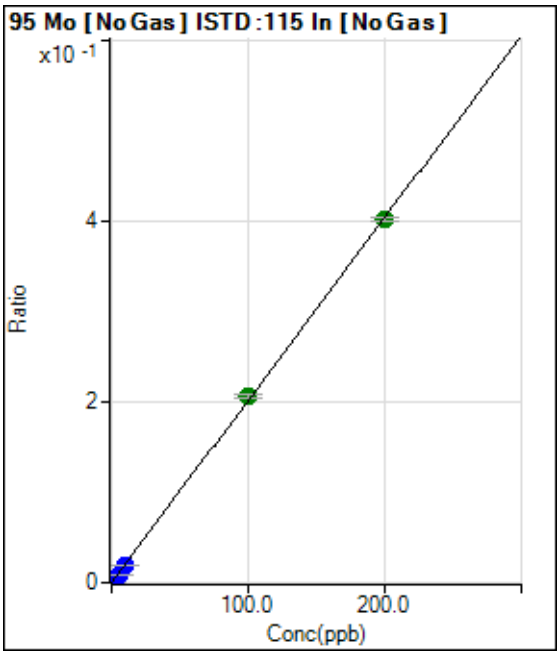


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3160.44	0.0004	P	4.9
2	☐	2.000	1.950	153629.64	0.0218	P	1.8
3	☐	5.000	4.749	375570.31	0.0525	P	1.5
4	☐	10.000	10.090	805955.98	0.1110	P	2.9
5	☐	100.000	101.691	7872586.96	1.1152	A	2.5
6	☐	200.000	199.157	15317249.77	2.1837	A	1.1

y = 0.0110 * x + 4.3983E-004
R = 0.9999
DL = 0.005954
BEC = 0.04012

Weight: <None>
Min Conc: <None>

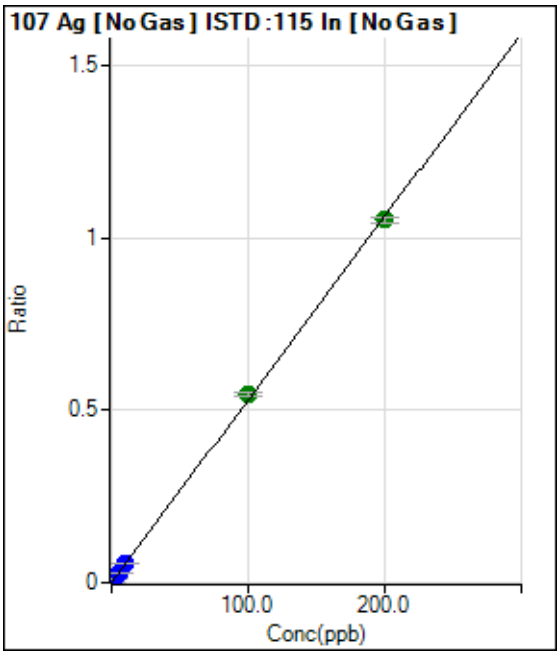
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0000	P	30.4
2	☐	2.000	1.873	26743.89	0.0038	P	1.2
3	☐	5.000	4.650	67263.86	0.0094	P	0.5
4	☐	10.000	9.694	142117.06	0.0196	P	2.9
5	☐	100.000	102.212	1456186.70	0.2063	A	2.4
6	☐	200.000	198.919	2815524.96	0.4014	A	1.0

y = 0.0020 * x + 1.9451E-005
R = 0.9999
DL = 0.008797
BEC = 0.009639

Weight: <None>
Min Conc: <None>

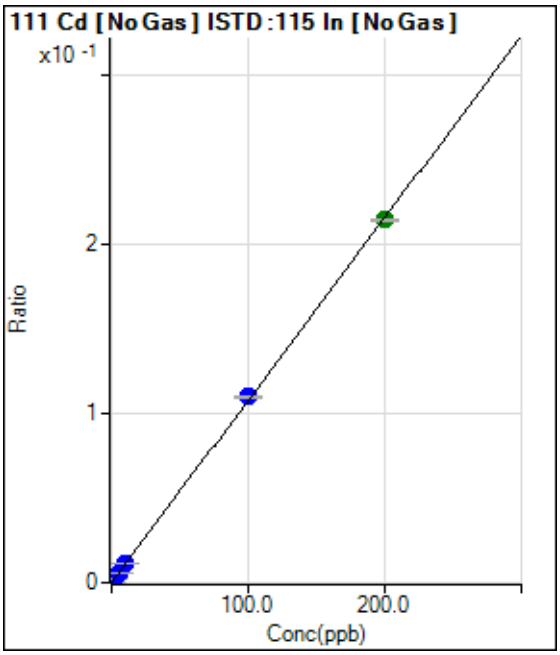


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	356.68	0.0000	P	5.6
2	☐	2.000	2.065	77531.23	0.0110	P	1.2
3	☐	5.000	4.938	187922.35	0.0263	P	0.5
4	☐	10.000	10.488	404437.09	0.0557	P	3.1
5	☐	100.000	103.436	3876816.19	0.5492	A	1.9
6	☐	200.000	198.259	7381696.14	1.0525	A	1.9

y = 0.0053 * x + 4.9631E-005
R = 0.9998
DL = 0.001573
BEC = 0.009349

Weight: <None>
Min Conc: <None>

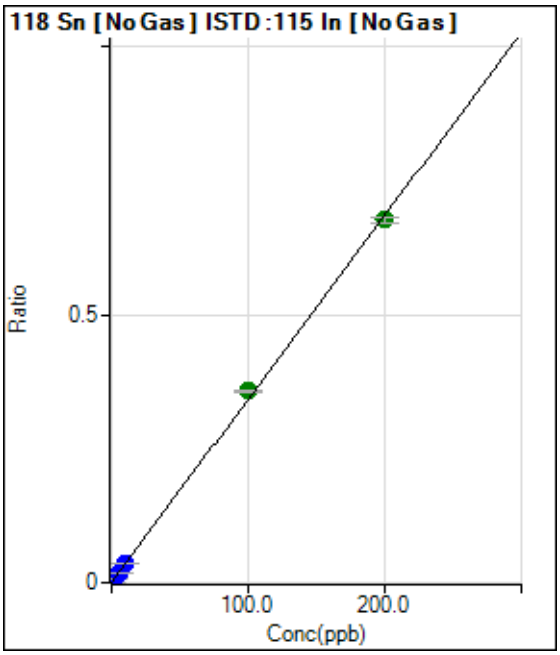
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	16.3
2	☐	2.000	1.960	14925.38	0.0021	P	1.5
3	☐	5.000	4.937	38145.78	0.0053	P	2.7
4	☐	10.000	10.282	80569.91	0.0111	P	1.2
5	☐	100.000	101.931	776423.51	0.1100	P	1.0
6	☐	200.000	199.022	1505987.22	0.2147	A	0.4

y = 0.0011 * x + 5.1074E-006
R = 0.9999
DL = 0.002317
BEC = 0.004734

Weight: <None>
Min Conc: <None>

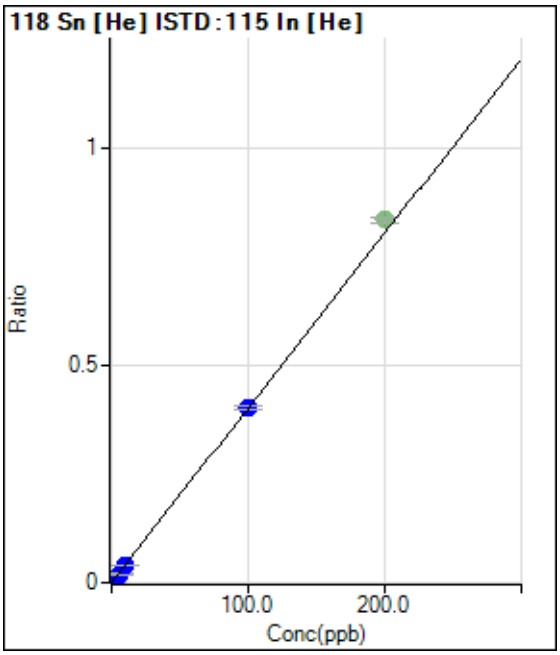


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3563.89	0.0005	P	8.3
2	☐	2.000	1.995	51525.31	0.0073	P	1.4
3	☐	5.000	4.901	123467.30	0.0173	P	1.7
4	☐	10.000	10.356	260719.36	0.0359	P	2.1
5	☐	100.000	104.370	2524397.20	0.3575	A	0.3
6	☐	200.000	197.800	4748482.43	0.6771	A	1.5

y = 0.0034 * x + 4.9588E-004
R = 0.9997
DL = 0.03625
BEC = 0.145

Weight: <None>
Min Conc: <None>

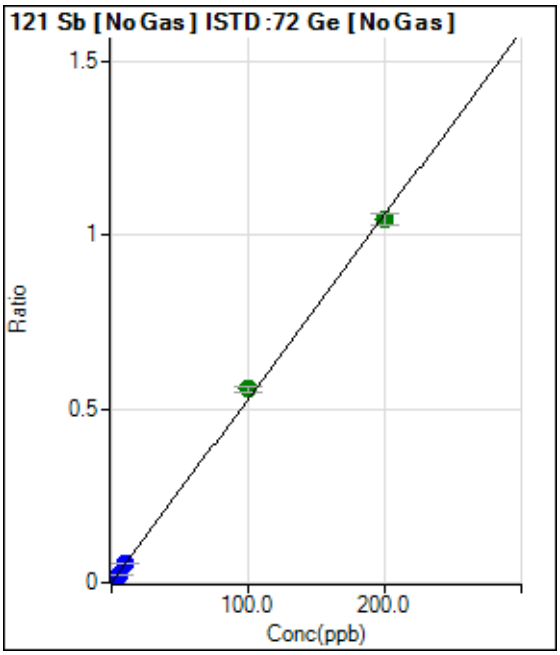
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1523.45	0.0006	P	5.5
2	☐	2.000	1.922	20750.06	0.0083	P	1.6
3	☐	5.000	4.782	49574.95	0.0198	P	2.3
4	☐	10.000	10.214	103241.28	0.0416	P	1.0
5	☐	100.000	99.991	976547.62	0.4016	P	1.7
6	☑	200.000		1990122.21	0.8338	A	1.9

y = 0.0040 * x + 6.1397E-004
R = 1.0000
DL = 0.0254
BEC = 0.1531

Weight: <None>
Min Conc: <None>

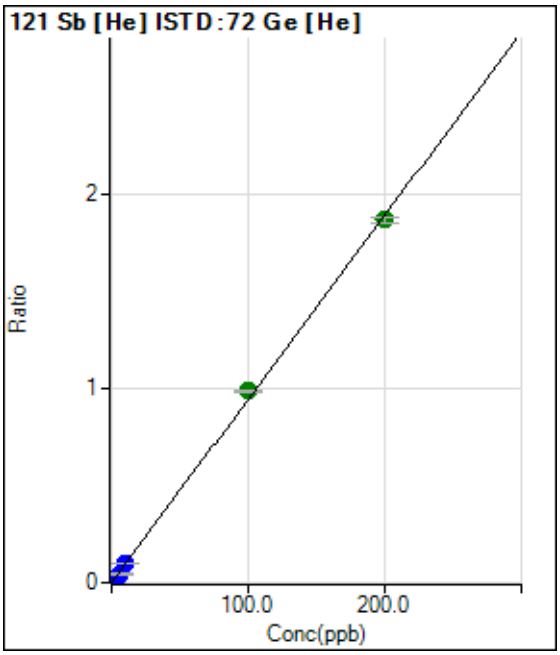


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	890.05	0.0002	P	9.1
2	☐	2.000	1.862	59552.51	0.0100	P	1.1
3	☐	5.000	4.638	146885.12	0.0247	P	0.9
4	☐	10.000	10.143	314927.15	0.0538	P	0.6
5	☐	100.000	105.334	3234429.32	0.5570	A	2.5
6	☐	200.000	197.336	5970505.75	1.0433	A	3.3

y = 0.0053 * x + 1.5202E-004
R = 0.9995
DL = 0.007875
BEC = 0.02876

Weight: <None>
Min Conc: <None>

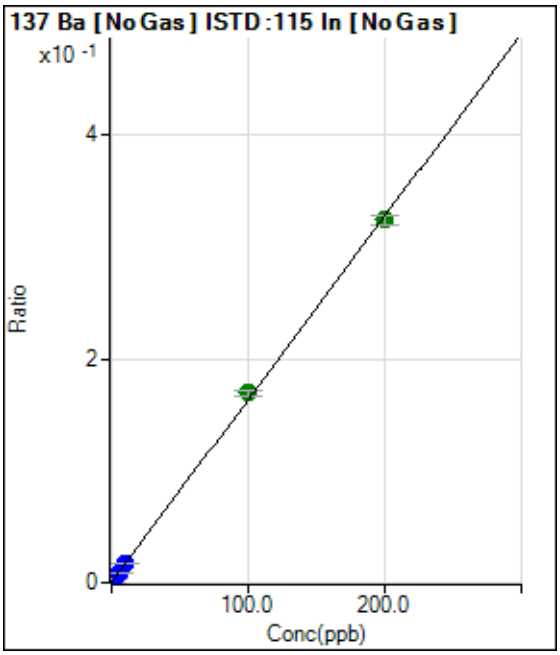
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	326.68	0.0003	P	14.6
2	☐	2.000	1.832	22606.54	0.0175	P	1.3
3	☐	5.000	4.637	57161.30	0.0440	P	3.0
4	☐	10.000	10.031	120857.61	0.0948	P	0.7
5	☐	100.000	104.549	1264523.29	0.9857	A	1.4
6	☐	200.000	197.735	2367390.22	1.8640	A	1.5

y = 0.0094 * x + 2.5446E-004
R = 0.9996
DL = 0.01182
BEC = 0.027

Weight: <None>
Min Conc: <None>

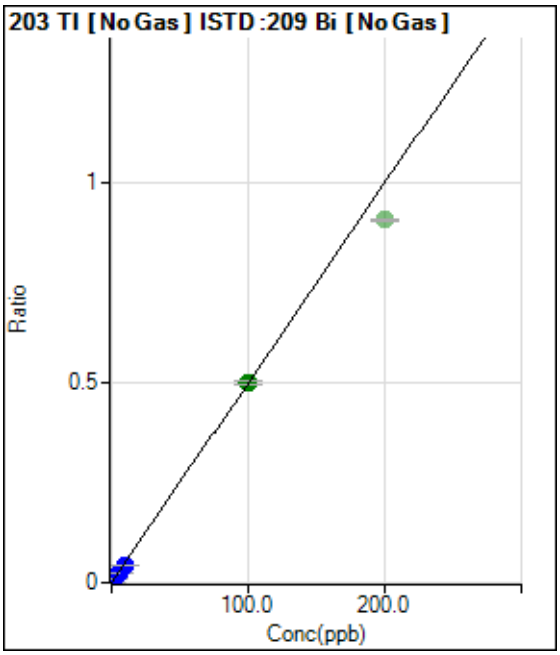


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2090.20	0.0003	P	3.5
2	☐	2.000	2.053	25642.29	0.0036	P	2.1
3	☐	5.000	4.928	59644.05	0.0083	P	1.4
4	☐	10.000	10.173	122665.95	0.0169	P	2.3
5	☐	100.000	103.561	1195568.76	0.1694	A	2.6
6	☐	200.000	198.212	2272263.46	0.3239	A	2.4

y = 0.0016 * x + 2.9089E-004
R = 0.9998
DL = 0.01848
BEC = 0.1782

Weight: <None>
Min Conc: <None>

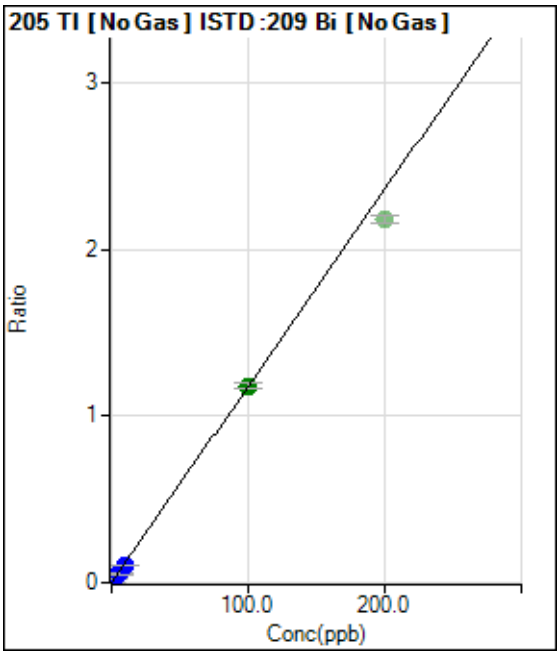
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170.00	0.0000	P	24.6
2	☐	2.000	1.785	49007.41	0.0089	P	6.1
3	☐	5.000	4.432	121442.81	0.0221	P	2.9
4	☐	10.000	9.103	253210.47	0.0455	P	0.9
5	☐	100.000	100.122	2637551.00	0.4997	A	2.6
6	☑	200.000		4891973.05	0.9071	A	0.3

y = 0.0050 * x + 3.0226E-005
R = 1.0000
DL = 0.004461
BEC = 0.006057

Weight: <None>
Min Conc: <None>

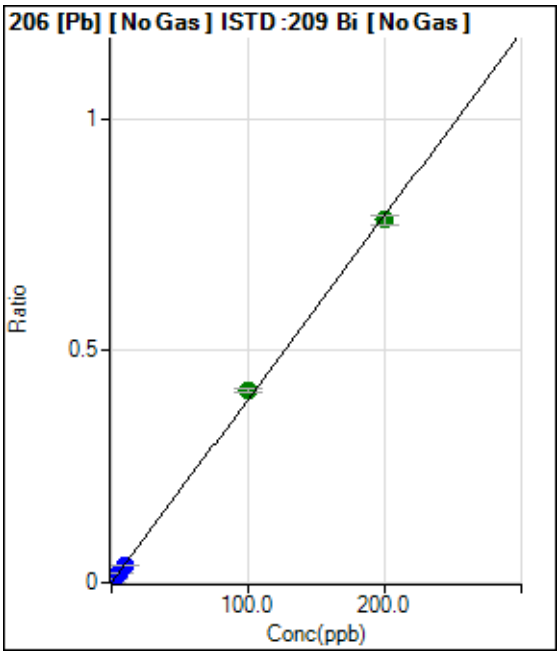


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	333.35	0.0001	P	21.0
2	☐	2.000	1.820	117891.97	0.0215	P	5.4
3	☐	5.000	4.479	289597.91	0.0528	P	4.0
4	☐	10.000	9.135	599715.38	0.1077	P	2.9
5	☐	100.000	100.116	6225833.24	1.1795	A	2.5
6	☑	200.000		11737576.07	2.1762	A	2.2

y = 0.0118 * x + 5.9050E-005
R = 1.0000
DL = 0.003153
BEC = 0.005013

Weight: <None>
Min Conc: <None>

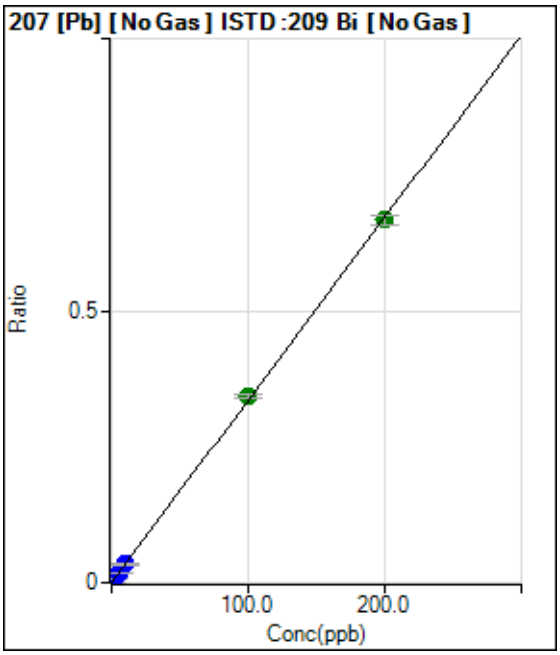
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0001	P	3.7
2	☐	2.000	1.878	41052.38	0.0075	P	4.5
3	☐	5.000	4.770	103694.92	0.0189	P	2.9
4	☐	10.000	9.494	209246.67	0.0376	P	3.5
5	☐	100.000	104.601	2181426.94	0.4133	A	2.3
6	☐	200.000	197.732	4213805.35	0.7812	A	2.9

y = 0.0040 * x + 6.7440E-005
R = 0.9996
DL = 0.001883
BEC = 0.01707

Weight: <None>
Min Conc: <None>

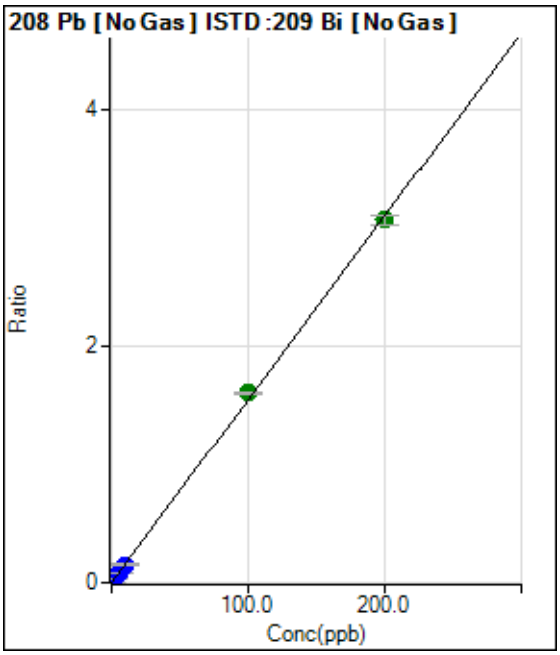


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	363.34	0.0001	P	10.3
2	☐	2.000	1.866	34709.61	0.0063	P	3.8
3	☐	5.000	4.863	89870.56	0.0164	P	1.5
4	☐	10.000	10.011	187496.27	0.0337	P	2.3
5	☐	100.000	102.353	1813194.29	0.3436	A	1.8
6	☐	200.000	198.828	3599494.11	0.6674	A	2.5

y = 0.0034 * x + 6.4469E-005
R = 0.9999
DL = 0.005931
BEC = 0.01921

Weight: <None>
Min Conc: <None>

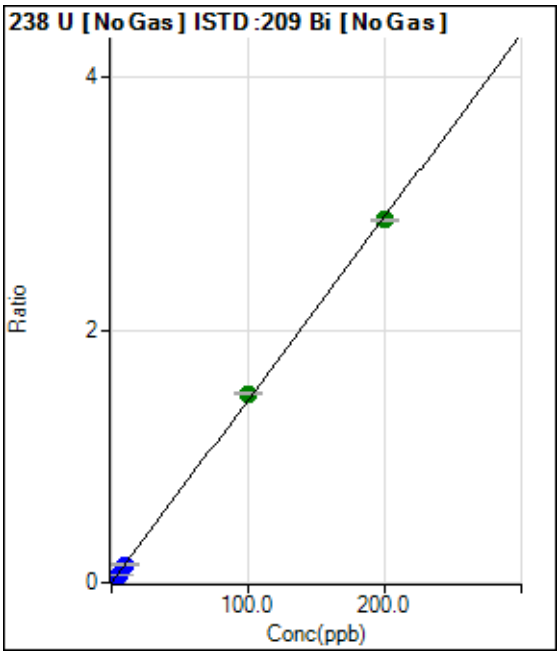
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1650.08	0.0003	P	4.0
2	☐	2.000	1.880	161151.09	0.0294	P	2.6
3	☐	5.000	4.779	406863.95	0.0742	P	2.5
4	☐	10.000	9.938	857644.88	0.1540	P	2.0
5	☐	100.000	103.895	8482721.59	1.6070	A	1.0
6	☐	200.000	198.063	16522800.38	3.0634	A	2.9

y = 0.0155 * x + 2.9285E-004
R = 0.9997
DL = 0.002261
BEC = 0.01894

Weight: <None>
Min Conc: <None>

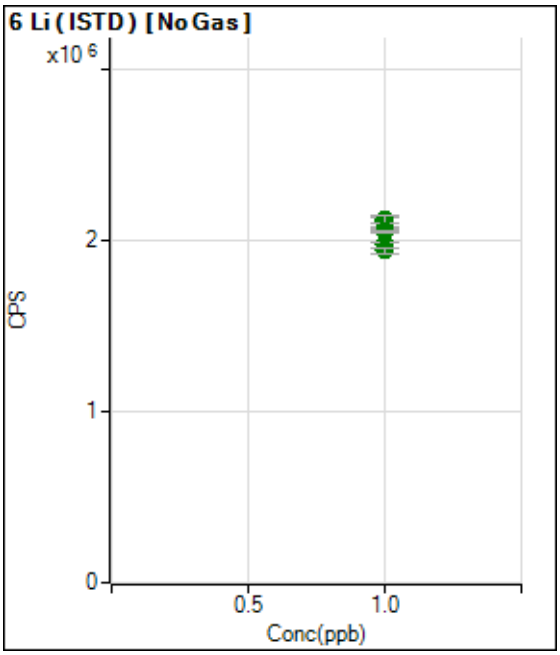


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0000	P	18.8
2	☐	2.000	1.861	148037.80	0.0270	P	3.2
3	☐	5.000	4.651	369811.87	0.0674	P	0.5
4	☐	10.000	9.926	801177.85	0.1439	P	3.5
5	☐	100.000	103.309	7903940.72	1.4972	A	1.4
6	☐	200.000	198.359	15503802.69	2.8747	A	0.5

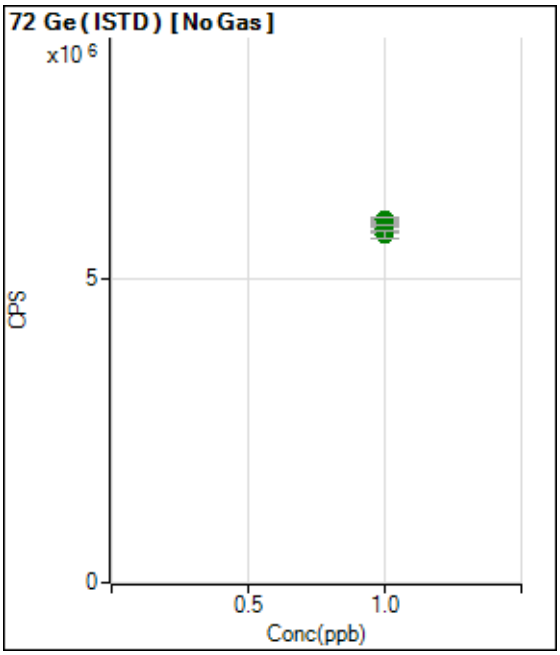
y = 0.0145 * x + 5.9284E-006
R = 0.9998
DL = 0.0002311
BEC = 0.0004091

Weight: <None>
Min Conc: <None>

Calibration for 225_ICV.d

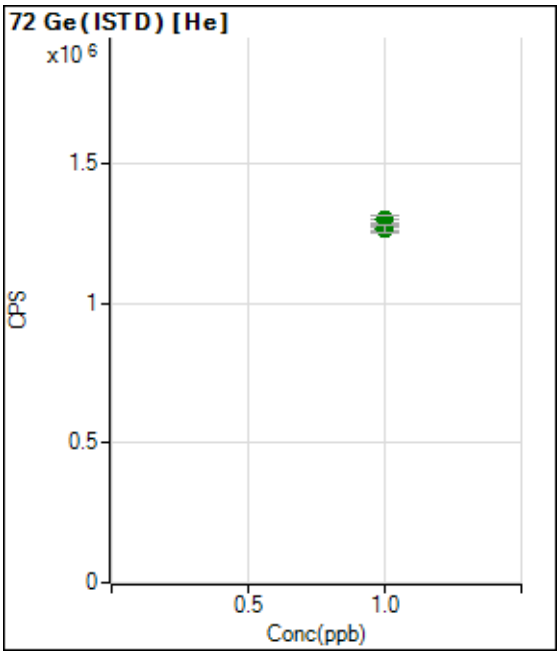


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2076006.97		A	0.8
2	☐	1.000		2110097.15		A	2.7
3	☐	1.000		2120843.18		A	2.3
4	☐	1.000		2054928.81		A	0.6
5	☐	1.000		1973480.47		A	1.5
6	☐	1.000		1939908.73		A	1.5

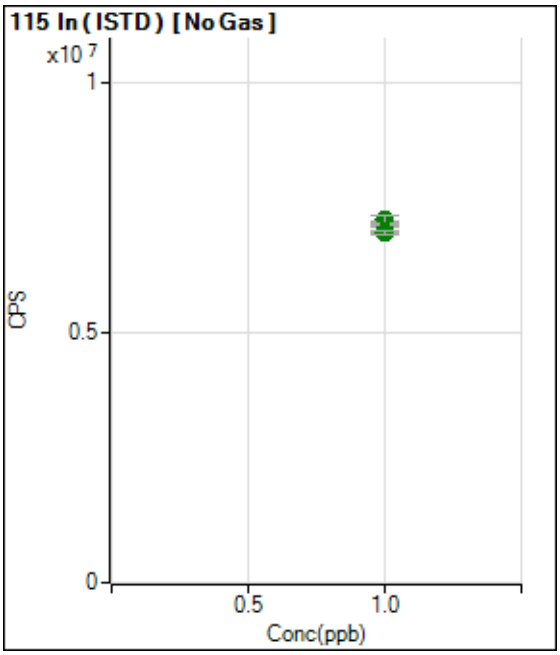


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5854434.29		A	0.1
2	☐	1.000		5959027.00		A	0.8
3	☐	1.000		5954110.54		A	1.2
4	☐	1.000		5856828.25		A	0.2
5	☐	1.000		5809304.71		A	2.2
6	☐	1.000		5724952.21		A	2.2

Calibration for 225_ICV.d

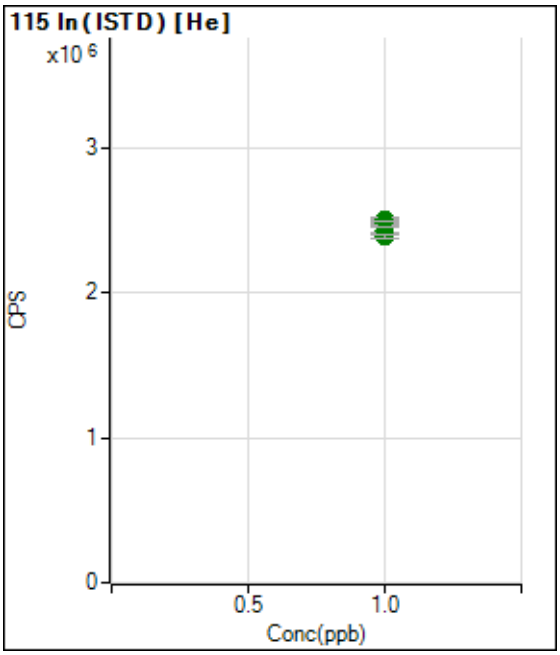


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1283118.52		A	0.8
2	☐	1.000		1290210.92		A	2.4
3	☐	1.000		1300933.81		A	2.1
4	☐	1.000		1274944.93		A	1.8
5	☐	1.000		1282806.44		A	0.6
6	☐	1.000		1270062.01		A	2.0

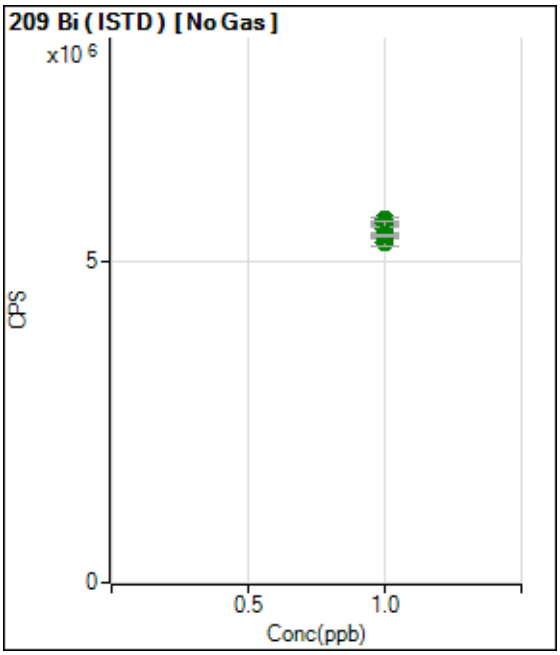


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		7184199.16		A	0.9
2	☐	1.000		7040829.79		A	0.6
3	☐	1.000		7154600.31		A	1.2
4	☐	1.000		7260771.49		A	2.2
5	☐	1.000		7061805.20		A	2.5
6	☐	1.000		7014134.89		A	1.0

Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2482663.88		A	2.5
2	☐	1.000		2493912.51		A	2.3
3	☐	1.000		2506058.01		A	1.9
4	☐	1.000		2483642.03		A	1.1
5	☐	1.000		2432278.47		A	1.7
6	☐	1.000		2387123.49		A	1.3



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5632659.08		A	1.6
2	☐	1.000		5489551.17		A	3.2
3	☐	1.000		5485664.92		A	2.2
4	☐	1.000		5570838.25		A	1.7
5	☐	1.000		5278137.53		A	2.1
6	☐	1.000		5393299.08		A	0.4

Sample Report

Sample Table

Sample Name	LLICCV2
Data File Name	226LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:06:32-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.984	1.984	5.48	169133	0.00	2	
Be	9	1	No Gas	1.895	1.895	2.09	11888	0.02	2	
V	51	2	He	1.824	1.824	3.23	18757	0.01	2	
Cr	52	2	He	1.952	1.952	1.53	23160	0.01	2	
Fe	56	2	He	199.843	199.843	1.87	1926405	0.01	200	
Se	78	2	He	2.011	2.011	15.48	358	0.56	2	
Sn	118	2	He	1.933	1.933	3.59	21665	0.01	2	
As	75	2	He	1.956	1.956	2.82	3081	0.06	2	
Ca	44	2	He	197.436	197.436	2.79	8830	2.24	200	
Na	23	2	He	199.444	199.444	1.73	301064	0.07	200	
Mg	24	2	He	202.102	202.102	0.91	132152	0.15	200	
K	39	2	He	194.684	194.684	2.43	196422	0.10	200	
Mn	55	2	He	1.954	1.954	1.64	14384	0.01	2	
Co	59	2	He	2.013	2.013	2.84	36228	0.01	2	
Ni	60	2	He	1.989	1.989	5.66	9483	0.02	2	
Cu	63	2	He	2.030	2.030	0.35	27455	0.01	2	
Zn	66	2	He	2.355	2.355	5.69	5735	0.04	2	
Al	27	2	He	2.993	2.993	6.87	1493	0.20	2	NewName Main CR1 Failed
B	11	1	No Gas	13.512	13.512	1.44	70233	0.02	10	NewName Main CR1 Failed
Al	27	1	No Gas	3.298	3.298	2.46	141554	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	11.011	11.011	7.84	731638	0.00	10	
P	31	1	No Gas	7.928	7.928	6.28	48408	0.02	10	
Ag	107	1	No Gas	1.943	1.943	3.34	76730	0.00	2	
Cd	111	1	No Gas	1.940	1.940	4.32	15533	0.01	2	
Sr	88	1	No Gas	1.856	1.856	2.58	153858	0.00	2	
Mo	95	1	No Gas	1.834	1.834	4.07	27539	0.01	2	
Sn	118	1	No Gas	2.062	2.062	2.67	55886	0.00	2	
Sb	121	1	No Gas	1.895	1.895	2.78	61726	0.00	2	
Ba	137	1	No Gas	1.982	1.982	3.06	26110	0.01	2	
Tl	205	1	No Gas	2.065	2.065	2.22	124902	0.00	2	
Tl	203	1	No Gas	2.040	2.040	1.04	51659	0.00	2	
Pb	208	1	No Gas	1.921	1.921	1.17	163699	0.00	2	
U	238	1	No Gas	1.893	1.893	2.00	149738	0.00	2	
Ca	43	2	He	215.857	215.857	13.57	543	39.73	200	
Sb	121	2	He	1.919	1.919	1.60	23949	0.01	2	
Ti	47	2	He	1.843	1.843	23.37	543	0.34	200	
Cu	63	1	No Gas	2.049	2.049	3.23	59202	0.00	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2084240	1.42	2076007	100.40	70	120	
Ge	72	2	He	1305688	1.33	1283119	101.76	70	120	
Ge	72	1	No Gas	6070337	1.35	5854434	103.69	70	120	
In	115	1	No Gas	7405764	2.38	7184199	103.08	70	120	
Bi	209	1	No Gas	5455421	1.06	5632659	96.85	70	120	

Sample Report

Sample Table

Sample Name	LLICCV5
Data File Name	227LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:08:24-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.818	4.818	4.51	241207	0.00	5	
Be	9	1	No Gas	4.750	4.750	1.86	29661	0.02	5	
V	51	2	He	4.719	4.719	2.51	45562	0.01	5	
Cr	52	2	He	4.979	4.979	2.73	57237	0.01	5	
Fe	56	2	He	490.694	490.694	1.54	4736612	0.01	500	
Se	78	2	He	5.143	5.143	7.48	757	0.68	5	
Sn	118	2	He	4.812	4.812	3.45	50357	0.01	5	
As	75	2	He	4.846	4.846	1.92	7550	0.06	5	
Ca	44	2	He	497.609	497.609	4.92	21888	2.27	500	
Na	23	2	He	494.473	494.473	2.33	667935	0.07	500	
Mg	24	2	He	506.716	506.716	1.19	331969	0.15	500	
K	39	2	He	488.099	488.099	2.03	427460	0.11	500	
Mn	55	2	He	4.934	4.934	3.59	35717	0.01	5	
Co	59	2	He	5.055	5.055	0.30	91110	0.01	5	
Ni	60	2	He	5.181	5.181	1.28	24499	0.02	5	
Cu	63	2	He	4.977	4.977	3.20	65685	0.01	5	
Zn	66	2	He	5.240	5.240	2.22	11952	0.04	5	
Al	27	2	He	6.134	6.134	0.73	2454	0.25	5	
B	11	1	No Gas	25.331	25.331	3.55	118149	0.02	25	
Al	27	1	No Gas	6.675	6.675	1.36	236796	0.00	5	NewName2 Main CR1 Failed
Si	28	1	No Gas	26.927	26.927	2.78	963401	0.00	25	
P	31	1	No Gas	23.349	23.349	1.60	71290	0.03	25	
Ag	107	1	No Gas	4.978	4.978	1.17	191439	0.00	5	
Cd	111	1	No Gas	4.829	4.829	1.68	37708	0.01	5	
Sr	88	1	No Gas	4.826	4.826	2.82	385578	0.00	5	
Mo	95	1	No Gas	4.693	4.693	1.28	68613	0.01	5	
Sn	118	1	No Gas	4.915	4.915	1.32	125120	0.00	5	
Sb	121	1	No Gas	4.663	4.663	0.82	148455	0.00	5	
Ba	137	1	No Gas	4.911	4.911	4.35	60050	0.01	5	
Tl	205	1	No Gas	4.910	4.910	6.27	297731	0.00	5	
Tl	203	1	No Gas	4.868	4.868	4.25	123560	0.00	5	
Pb	208	1	No Gas	4.846	4.846	3.44	412228	0.00	5	
U	238	1	No Gas	4.753	4.753	2.46	377526	0.00	5	
Ca	43	2	He	535.698	535.698	12.43	1340	39.97	500	
Sb	121	2	He	4.602	4.602	5.78	57195	0.01	5	
Ti	47	2	He	5.056	5.056	9.65	1493	0.34	5	
Cu	63	1	No Gas	5.091	5.091	0.61	140503	0.00	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2076548	1.88	2076007	100.03	70	120	
Ge	72	2	He	1311995	2.00	1283119	102.25	70	120	
Ge	72	1	No Gas	5985608	0.46	5854434	102.24	70	120	
In	115	1	No Gas	7231131	1.81	7184199	100.65	70	120	
Bi	209	1	No Gas	5483948	4.07	5632659	97.36	70	120	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	228_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:10:16-05:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.038	144.1	120983	0.4	0.5	
Be	9	1	No Gas	0.014	13.5	108	9.6	0.5	
V	51	2	He	-0.039	-24.5	1672	7.0	2.5	
Cr	52	2	He	0.000	-22758.0	1370	13.3	2.5	
Fe	56	2	He	0.536	0.4	16487	2.0	100	
Se	78	2	He	0.085	161.7	117	13.0	1	
Sn	118	2	He	0.025	115.5	1787	14.2	2.5	
As	75	2	He	0.006	191.4	92	19.9	2.5	
Ca	44	2	He	12.461	23.0	863	14.8	100	
Na	23	2	He	0.910	112.6	57371	0.7	100	
Mg	24	2	He	0.789	9.2	1157	5.8	100	
K	39	2	He	2.946	15.4	47687	1.3	100	
Mn	55	2	He	0.099	5.6	1220	1.6	2.5	
Co	59	2	He	0.000	810.1	210	23.8	2.5	
Ni	60	2	He	0.035	24.3	363	9.7	2.5	
Cu	63	2	He	0.037	30.6	1830	6.0	1	
Zn	66	2	He	0.930	9.0	2747	6.9	2.5	
Al	27	2	He	1.757	164.8	1131	76.0	5	
B	11	1	No Gas	2.307	1.4	24755	1.1	0.5	ICB Main CR1 Failed
Al	27	1	No Gas	0.374	17.0	56067	1.0	5	
Si	28	1	No Gas	0.479	198.4	567828	0.2	10	
P	31	1	No Gas	0.069	753.4	36141	0.8	10	
Ag	107	1	No Gas	0.000	290.8	370	7.2	2.5	
Cd	111	1	No Gas	0.000	-1223.7	33	124.9	1	
Sr	88	1	No Gas	0.018	24.2	4624	6.8	2.5	
Mo	95	1	No Gas	0.059	14.8	997	11.8	2.5	
Sn	118	1	No Gas	0.032	26.2	4381	4.5	5	
Sb	121	1	No Gas	0.012	29.4	1293	7.9	2.5	
Ba	137	1	No Gas	-0.025	-86.7	1814	12.9	2.5	
Tl	205	1	No Gas	0.025	16.0	1824	10.2	1	
Tl	203	1	No Gas	0.022	32.5	710	23.1	1	
Pb	208	1	No Gas	0.013	16.0	2680	4.9	2.5	
U	238	1	No Gas	0.001	34.6	103	22.3	2.5	
Ca	43	2	He	13.080	35.3	43	26.6	100	
Sb	121	2	He	0.008	56.0	437	13.0	2.5	
Ti	47	2	He	0.011	181.3	7	86.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2118924	1.62	2076007	102.07	70	120	
Ge	72	2	He	1331268	2.05	1283119	103.75	70	120	
Ge	72	1	No Gas	6055815	2.42	5854434	103.44	70	120	
In	115	1	No Gas	7242160	1.59	7184199	100.81	70	120	
Bi	209	1	No Gas	5418241	3.25	5632659	96.19	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	237_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:27:28-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	102.681	0.958	2886878	1.13	100	102.7	90	110	
Be	9	1	No Gas	105.520	0.779	690429	0.75	100	105.5	90	110	
V	51	2	He	103.919	2.376	983677	0.97	100	103.9	90	110	
Cr	52	2	He	104.410	3.660	1200632	1.87	100	104.4	90	110	
Fe	56	2	He	10512.008	2.055	103609018	0.27	10000	105.1	90	110	
Se	78	2	He	104.183	2.338	13625	0.73	100	104.2	90	110	
Sn	118	2	He	102.203	1.187	1002723	0.58	100	102.2	90	110	
As	75	2	He	107.251	1.551	169224	0.54	100	107.3	90	110	
Ca	44	2	He	10399.974	1.971	461878	0.30	10000	104.0	90	110	
Na	23	2	He	10649.797	0.924	13559885	1.17	10000	106.5	90	110	
Mg	24	2	He	10446.326	1.668	6991006	0.13	10000	104.5	90	110	
K	39	2	He	10611.957	2.473	8562300	1.05	10000	106.1	90	110	
Mn	55	2	He	102.949	2.092	752807	0.65	100	102.9	90	110	
Co	59	2	He	108.362	2.964	1993970	1.21	100	108.4	90	110	
Ni	60	2	He	103.902	1.535	499038	1.03	100	103.9	90	110	
Cu	63	2	He	105.082	2.019	1392280	0.77	100	105.1	90	110	
Zn	66	2	He	106.563	2.176	234598	0.87	100	106.6	90	110	
Al	27	2	He	108.445	0.562	34266	1.80	100	108.4	90	110	
B	11	1	No Gas	525.145	0.283	2261615	0.04	500	105.0	90	110	
Al	27	1	No Gas	112.948	0.962	3308327	2.66	100	112.9	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	609.601	3.187	9852265	0.52	5000	12.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	565.479	2.455	902494	0.87	500	113.1	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	108.532	2.255	3980871	1.50	100	108.5	90	110	
Cd	111	1	No Gas	104.485	1.047	778872	1.60	100	104.5	90	110	
Sr	88	1	No Gas	104.913	0.788	7949598	1.00	100	104.9	90	110	
Mo	95	1	No Gas	106.873	2.203	1490065	1.38	100	106.9	90	110	
Sn	118	1	No Gas	106.032	1.777	2509549	2.49	100	106.0	90	110	
Sb	121	1	No Gas	101.682	3.925	3228747	1.52	100	101.7	90	110	
Ba	137	1	No Gas	107.194	1.150	1211236	0.95	100	107.2	90	110	
Tl	205	1	No Gas	108.296	2.254	6035922	0.61	100	108.3	90	110	
Tl	203	1	No Gas	110.221	1.711	2569739	0.79	100	110.2	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	105.059	1.604	8187620	0.59	100	105.1	90	110	
U	238	1	No Gas	102.166	1.253	7460779	1.64	100	102.2	90	110	
Ca	43	2	He	10555.618	1.393	26853	1.87	10000	105.6	90	110	
Sb	121	2	He	104.637	0.517	1324520	1.29	100	104.6	90	110	
Ti	47	2	He	104.442	1.361	31510	0.98	100	104.4	90	110	
Cu	63	1	No Gas	108.839	2.070	2951561	1.37	100	108.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2176916	0.25	2076007	104.86	70	120	
Ge	72	2	He	1342686	1.80	1283119	104.64	70	120	
Ge	72	1	No Gas	6008994	2.51	5854434	102.64	70	120	
In	115	1	No Gas	6909595	0.83	7184199	96.18	70	120	
Bi	209	1	No Gas	5039590	2.20	5632659	89.47	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	238_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:29:13-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.035	340.4	131032	1.1	0.5	
Be	9	1	No Gas	0.029	17.3	220	16.4	0.5	
V	51	2	He	-0.028	-12.9	1798	2.9	2.5	
Cr	52	2	He	-0.001	-1977.5	1383	8.8	2.5	
Fe	56	2	He	0.908	10.9	20379	3.8	100	
Se	78	2	He	0.102	119.2	121	14.0	2	
As	75	2	He	0.018	88.2	112	21.5	2.5	
Ca	44	2	He	3.463	22.8	473	7.4	100	
Na	23	2	He	58.458	1.1	131417	0.5	100	
Mg	24	2	He	1.309	18.4	1520	9.7	100	
K	39	2	He	5.738	15.7	50557	0.9	100	
Mn	55	2	He	0.031	31.6	737	10.3	2.5	
Co	59	2	He	0.005	53.4	300	17.6	2.5	
Ni	60	2	He	0.015	117.9	270	31.6	2.5	
Cu	63	2	He	0.063	27.3	2204	11.3	2	
Zn	66	2	He	0.189	22.6	1150	9.2	2.5	
Al	27	2	He	-0.577	-41.6	430	17.6	5	
B	11	1	No Gas	12.889	7.8	74523	3.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.179	-20.9	40105	2.0	5	
Si	28	1	No Gas	5.514	13.9	646978	1.2	10	
P	31	1	No Gas	1.475	27.9	38417	1.3	10	
Ag	107	1	No Gas	0.017	16.8	960	11.0	2.5	
Cd	111	1	No Gas	0.004	125.2	67	56.8	1	
Sr	88	1	No Gas	0.020	34.9	4598	9.9	2.5	
Mo	95	1	No Gas	0.036	31.6	640	23.6	2.5	
Sn	118	1	No Gas	0.165	10.3	7412	4.6	5	
Sb	121	1	No Gas	0.080	13.9	3501	9.3	2.5	
Ba	137	1	No Gas	-0.084	-9.5	1077	6.7	2.5	
Tl	205	1	No Gas	0.083	26.7	5301	28.5	1	
Tl	203	1	No Gas	0.088	24.2	2387	26.0	1	
Pb	208	1	No Gas	0.024	1.6	3380	4.8	2.5	
U	238	1	No Gas	0.005	9.7	423	13.0	2.5	
Ca	43	2	He	5.006	43.0	23	24.7	100	
Sb	121	2	He	0.054	15.3	1030	10.3	2.5	
Ti	47	2	He	0.022	154.2	10	100.0	2.5	
Cu	63	1	No Gas	0.092	5.0	5645	1.9	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2297665	3.21	2076007	110.68	70	120	
Ge	72	2	He	1348518	1.06	1283119	105.10	70	120	
Ge	72	1	No Gas	6070624	1.22	5854434	103.69	70	120	
In	115	1	No Gas	6989545	1.66	7184199	97.29	70	120	
Bi	209	1	No Gas	5077907	4.01	5632659	90.15	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	248_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:47:53-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.021	-342.9	129721	0.9	0.5	
Be	9	1	No Gas	0.024	10.0	187	6.7	0.5	
V	51	2	He	-0.032	-24.7	1708	3.8	2.5	
Cr	52	2	He	0.004	350.6	1400	11.2	2.5	
Fe	56	2	He	0.677	4.0	17612	1.3	100	
Se	78	2	He	0.039	486.2	110	21.8	2	
As	75	2	He	0.014	177.3	103	37.2	2.5	
Ca	44	2	He	3.675	59.2	470	20.5	100	
Na	23	2	He	36.237	5.3	100332	2.0	100	
Mg	24	2	He	0.468	31.2	930	10.4	100	
K	39	2	He	5.646	17.4	49122	1.2	100	
Mn	55	2	He	0.026	19.1	677	4.8	2.5	
Co	59	2	He	0.004	73.6	270	19.2	2.5	
Ni	60	2	He	0.008	195.4	233	33.3	2.5	
Cu	63	2	He	0.029	48.7	1710	10.3	2	
Zn	66	2	He	0.216	12.6	1177	4.9	2.5	
Al	27	2	He	-0.560	-45.7	423	18.0	5	
B	11	1	No Gas	12.824	5.5	74439	4.1	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.121	-51.2	41578	3.3	5	
Si	28	1	No Gas	2.998	19.8	605357	0.4	10	
P	31	1	No Gas	2.273	21.9	39477	3.1	10	
Ag	107	1	No Gas	0.010	21.6	730	9.9	2.5	
Cd	111	1	No Gas	0.001	151.1	43	26.6	1	
Sr	88	1	No Gas	0.016	22.6	4327	4.6	2.5	
Mo	95	1	No Gas	0.031	38.7	567	28.7	2.5	
Sn	118	1	No Gas	0.103	6.5	5928	2.9	5	
Sb	121	1	No Gas	0.058	24.0	2767	17.2	2.5	
Ba	137	1	No Gas	-0.090	-8.1	1003	9.3	2.5	
Tl	205	1	No Gas	0.080	41.7	5105	38.6	1	
Tl	203	1	No Gas	0.072	37.9	2004	34.3	1	
Pb	208	1	No Gas	0.017	18.5	2827	8.0	2.5	
U	238	1	No Gas	0.005	7.3	393	6.4	2.5	
Ca	43	2	He	14.692	57.8	47	44.6	100	
Sb	121	2	He	0.025	4.0	640	1.6	2.5	
Ti	47	2	He	0.169	151.9	53	142.0	2.5	
Cu	63	1	No Gas	0.040	14.4	4204	4.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2301754	2.02	2076007	110.87	70	120	
Ge	72	2	He	1312108	0.53	1283119	102.26	70	120	
Ge	72	1	No Gas	6042252	1.20	5854434	103.21	70	120	
In	115	1	No Gas	6992261	1.98	7184199	97.33	70	120	
Bi	209	1	No Gas	5122315	0.70	5632659	90.94	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	251_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T20:59:39-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.364	1.241	2901188	1.07	100	103.4	90	110	
Be	9	1	No Gas	107.342	1.016	701381	0.95	100	107.3	90	110	
V	51	2	He	107.484	2.375	988279	1.63	100	107.5	90	110	
Cr	52	2	He	108.446	2.392	1211577	1.73	100	108.4	90	110	
Fe	56	2	He	10656.319	1.819	102029158	0.87	10000	106.6	90	110	
Se	78	2	He	106.404	2.663	13516	2.34	100	106.4	90	110	
Sn	118	2	He	99.906	0.493	975820	0.72	100	99.9	90	110	
As	75	2	He	110.314	0.566	169083	0.70	100	110.3	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10575.044	1.532	456224	0.40	10000	105.8	90	110	
Na	23	2	He	10987.850	2.099	13586114	0.89	10000	109.9	90	110	
Mg	24	2	He	10827.305	1.173	7039363	1.57	10000	108.3	90	110	
K	39	2	He	10839.517	0.172	8496344	1.21	10000	108.4	90	110	
Mn	55	2	He	105.019	2.702	745929	1.63	100	105.0	90	110	
Co	59	2	He	111.450	2.640	1992249	1.53	100	111.5	90	110	CCV Main CR1-2 Failed
Ni	60	2	He	106.680	1.551	497687	0.54	100	106.7	90	110	
Cu	63	2	He	110.274	1.175	1419541	2.36	100	110.3	90	110	CCV Main CR1-2 Failed
Zn	66	2	He	107.574	0.481	230083	1.55	100	107.6	90	110	
Al	27	2	He	111.794	4.192	34281	2.90	100	111.8	90	110	CCV Main CR1-2 Failed
B	11	1	No Gas	537.414	1.815	2310873	1.66	500	107.5	90	110	
Al	27	1	No Gas	111.286	3.065	3280356	1.30	100	111.3	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	602.165	2.516	9804563	1.06	5000	12.0	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	563.145	1.758	904916	0.31	500	112.6	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	113.045	1.694	4065241	0.96	100	113.0	90	110	CCV Main CR1-2 Failed
Cd	111	1	No Gas	106.449	2.252	777786	0.27	100	106.4	90	110	
Sr	88	1	No Gas	109.891	2.017	8162568	1.11	100	109.9	90	110	
Mo	95	1	No Gas	111.832	1.630	1528676	0.84	100	111.8	90	110	CCV Main CR1-2 Failed
Sn	118	1	No Gas	106.995	2.522	2481915	0.45	100	107.0	90	110	
Sb	121	1	No Gas	101.995	1.499	3261306	0.66	100	102.0	90	110	
Ba	137	1	No Gas	106.973	1.212	1185078	1.33	100	107.0	90	110	
Tl	205	1	No Gas	101.718	2.335	6032329	3.53	100	101.7	90	110	
Tl	203	1	No Gas	100.439	1.348	2522515	0.76	100	100.4	90	110	
Pb	208	1	No Gas	105.237	0.929	8193104	2.06	100	105.2	90	110	
U	238	1	No Gas	103.583	1.139	7555095	1.54	100	103.6	90	110	
Ca	43	2	He	10851.624	1.116	26813	0.45	10000	108.5	90	110	
Sb	121	2	He	106.467	1.831	1308905	0.84	100	106.5	90	110	
Ti	47	2	He	107.861	2.065	31607	0.89	100	107.9	90	110	
Cu	63	1	No Gas	109.418	2.752	2986652	1.77	100	109.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2173921	0.23	2076007	104.72	70	120	
Ge	72	2	He	1304161	1.20	1283119	101.64	70	120	
Ge	72	1	No Gas	6048019	1.74	5854434	103.31	70	120	
In	115	1	No Gas	6775031	2.15	7184199	94.30	70	120	
Bi	209	1	No Gas	5032977	1.31	5632659	89.35	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	259_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T21:14:37-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	102.249	0.401	2793275	0.92	100	102.2	90	110	
Be	9	1	No Gas	105.260	0.545	669087	0.47	100	105.3	90	110	
V	51	2	He	105.025	2.163	941939	1.37	100	105.0	90	110	
Cr	52	2	He	106.815	1.586	1164030	0.86	100	106.8	90	110	
Fe	56	2	He	10495.263	2.826	98004272	1.66	10000	105.0	90	110	
Se	78	2	He	101.685	3.018	12602	2.10	100	101.7	90	110	
Sn	118	2	He	100.169	1.527	973664	0.40	100	100.2	90	110	
As	75	2	He	107.195	1.608	160246	0.42	100	107.2	90	110	
Ca	44	2	He	10411.687	1.451	438126	0.48	10000	104.1	90	110	
Na	23	2	He	10771.438	1.005	12992829	0.37	10000	107.7	90	110	
Mg	24	2	He	10624.285	2.469	6736071	1.30	10000	106.2	90	110	
K	39	2	He	10534.446	2.967	8053244	1.78	10000	105.3	90	110	
Mn	55	2	He	102.834	1.317	712511	0.40	100	102.8	90	110	
Co	59	2	He	110.545	0.350	1927814	1.36	100	110.5	90	110	CCV Main CR1-2 Failed
Ni	60	2	He	105.871	1.164	481768	0.39	100	105.9	90	110	
Cu	63	2	He	107.269	1.334	1346626	0.41	100	107.3	90	110	
Zn	66	2	He	107.554	1.376	224347	0.37	100	107.6	90	110	
Al	27	2	He	105.872	0.732	31706	1.19	100	105.9	90	110	
B	11	1	No Gas	526.256	1.681	2201582	0.74	500	105.3	90	110	
Al	27	1	No Gas	112.120	0.927	3205356	1.18	100	112.1	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	591.034	0.345	9343331	0.56	5000	11.8	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	547.222	2.235	853771	2.25	500	109.4	90	110	
Ag	107	1	No Gas	107.224	0.575	3976564	1.99	100	107.2	90	110	
Cd	111	1	No Gas	103.470	0.851	779646	0.58	100	103.5	90	110	
Sr	88	1	No Gas	103.895	1.245	7957668	0.61	100	103.9	90	110	
Mo	95	1	No Gas	104.999	1.851	1479876	0.90	100	105.0	90	110	
Sn	118	1	No Gas	104.880	2.401	2508728	1.29	100	104.9	90	110	
Sb	121	1	No Gas	105.201	0.870	3262051	0.80	100	105.2	90	110	
Ba	137	1	No Gas	103.908	3.674	1186640	2.37	100	103.9	90	110	
Tl	205	1	No Gas	102.344	2.531	6154746	1.04	100	102.3	90	110	
Tl	203	1	No Gas	102.156	4.140	2602035	2.65	100	102.2	90	110	
Pb	208	1	No Gas	105.586	1.803	8337475	0.32	100	105.6	90	110	
U	238	1	No Gas	105.413	2.601	7799992	2.89	100	105.4	90	110	
Ca	43	2	He	10446.243	2.580	25173	1.48	10000	104.5	90	110	
Sb	121	2	He	108.026	0.400	1295525	1.04	100	108.0	90	110	
Ti	47	2	He	102.714	3.208	29355	2.10	100	102.7	90	110	
Cu	63	1	No Gas	109.402	0.506	2896202	0.62	100	109.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2114899	0.95	2076007	101.87	70	120	
Ge	72	2	He	1272051	1.20	1283119	99.14	70	120	
Ge	72	1	No Gas	5864238	0.28	5854434	100.17	70	120	
In	115	1	No Gas	6985067	1.43	7184199	97.23	70	120	
Bi	209	1	No Gas	5106016	1.67	5632659	90.65	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	260_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T21:16:21-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.032	110.5	122887	0.5	0.5	
Be	9	1	No Gas	0.022	38.1	160	33.1	0.5	
V	51	2	He	-0.021	-31.8	1740	3.1	2.5	
Cr	52	2	He	0.006	31.0	1363	1.5	2.5	
Fe	56	2	He	0.651	1.4	16667	0.5	100	
Se	78	2	He	-0.084	-41.8	91	4.6	2	
As	75	2	He	0.020	23.2	108	6.4	2.5	
Ca	44	2	He	1.411	44.6	357	7.1	100	
Na	23	2	He	32.447	4.7	91821	1.6	100	
Mg	24	2	He	0.459	25.6	887	8.0	100	
K	39	2	He	6.085	19.9	47493	1.8	100	
Mn	55	2	He	0.124	19.3	1327	12.0	2.5	
Co	59	2	He	0.003	110.5	237	20.0	2.5	
Ni	60	2	He	0.005	112.3	210	12.6	2.5	
Cu	63	2	He	0.018	47.9	1497	7.0	2	
Zn	66	2	He	0.075	23.2	840	4.8	2.5	
Al	27	2	He	-0.377	-109.5	460	26.4	5	
B	11	1	No Gas	5.898	6.6	40380	4.2	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.013	978.1	44321	8.5	5	
Si	28	1	No Gas	2.198	21.4	577816	1.4	10	
P	31	1	No Gas	1.884	38.4	37859	2.1	10	
Ag	107	1	No Gas	0.007	31.0	630	15.1	2.5	
Cd	111	1	No Gas	0.004	100.6	67	45.8	1	
Sr	88	1	No Gas	0.003	106.2	3337	7.6	2.5	
Mo	95	1	No Gas	0.032	24.1	600	17.6	2.5	
Sn	118	1	No Gas	0.063	26.8	5024	6.4	5	
Sb	121	1	No Gas	0.050	9.4	2464	6.1	2.5	
Ba	137	1	No Gas	-0.104	-8.5	850	10.2	2.5	
Tl	205	1	No Gas	0.078	27.0	5158	24.5	1	
Tl	203	1	No Gas	0.081	34.6	2304	31.3	1	
Pb	208	1	No Gas	0.014	18.3	2714	7.2	2.5	
U	238	1	No Gas	0.008	29.8	607	28.2	2.5	
Ca	43	2	He	0.084	5010.4	10	100.0	100	
Sb	121	2	He	0.033	20.9	717	11.3	2.5	
Ti	47	2	He	0.024	149.1	10	100.0	2.5	
Cu	63	1	No Gas	0.021	12.6	3567	2.8	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2154827	0.28	2076007	103.80	70	120	
Ge	72	2	He	1259743	0.47	1283119	98.18	70	120	
Ge	72	1	No Gas	5886278	1.45	5854434	100.54	70	120	
In	115	1	No Gas	7066833	2.14	7184199	98.37	70	120	
Bi	209	1	No Gas	5283752	1.29	5632659	93.81	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	269_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T21:48:20-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.327	1.319	2610927	0.62	100	103.3	90	110	
Be	9	1	No Gas	104.675	2.254	615658	0.42	100	104.7	90	110	
V	51	2	He	102.140	2.322	912094	1.60	100	102.1	90	110	
Cr	52	2	He	102.826	2.915	1115441	0.41	100	102.8	90	110	
Fe	56	2	He	10369.530	2.019	96409762	0.53	10000	103.7	90	110	
Se	78	2	He	105.179	3.239	12972	1.08	100	105.2	90	110	
Sn	118	2	He	100.212	2.452	972060	0.69	100	100.2	90	110	
As	75	2	He	105.296	1.608	156724	1.22	100	105.3	90	110	
Ca	44	2	He	10398.660	1.966	435634	0.67	10000	104.0	90	110	
Na	23	2	He	10433.086	3.462	12526863	0.93	10000	104.3	90	110	
Mg	24	2	He	10619.843	3.256	6702538	0.97	10000	106.2	90	110	
K	39	2	He	10395.431	2.595	7913017	1.57	10000	104.0	90	110	
Mn	55	2	He	102.813	2.391	709142	0.18	100	102.8	90	110	
Co	59	2	He	109.548	1.755	1901817	1.06	100	109.5	90	110	
Ni	60	2	He	104.628	2.239	473969	0.65	100	104.6	90	110	
Cu	63	2	He	106.162	2.304	1326734	0.46	100	106.2	90	110	
Zn	66	2	He	105.957	2.626	220022	0.57	100	106.0	90	110	
Al	27	2	He	108.320	4.029	32271	2.17	100	108.3	90	110	
B	11	1	No Gas	518.889	3.161	2008729	1.47	500	103.8	90	110	
Al	27	1	No Gas	108.259	1.607	3008502	0.16	100	108.3	90	110	
Si	28	1	No Gas	572.309	0.644	8808193	1.28	5000	11.4	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	528.167	2.200	801804	1.25	500	105.6	90	110	
Ag	107	1	No Gas	105.755	2.066	3951486	1.56	100	105.8	90	110	
Cd	111	1	No Gas	103.121	2.671	782828	0.84	100	103.1	90	110	
Sr	88	1	No Gas	102.878	4.041	7936799	1.33	100	102.9	90	110	
Mo	95	1	No Gas	103.835	2.463	1474602	1.00	100	103.8	90	110	
Sn	118	1	No Gas	103.390	1.331	2492691	2.11	100	103.4	90	110	
Sb	121	1	No Gas	106.397	1.515	3206009	2.16	100	106.4	90	110	
Ba	137	1	No Gas	102.064	1.494	1175449	4.10	100	102.1	90	110	
Tl	205	1	No Gas	99.392	2.712	6291101	1.33	100	99.4	90	110	
Tl	203	1	No Gas	98.517	4.942	2641064	3.70	100	98.5	90	110	
Pb	208	1	No Gas	103.900	0.601	8636692	1.58	100	103.9	90	110	
U	238	1	No Gas	103.151	1.433	8034695	2.87	100	103.2	90	110	
Ca	43	2	He	10416.438	2.702	24990	0.92	10000	104.2	90	110	
Sb	121	2	He	105.517	4.044	1259262	1.53	100	105.5	90	110	
Ti	47	2	He	103.449	3.177	29432	0.71	100	103.4	90	110	
Cu	63	1	No Gas	108.166	0.730	2782503	1.20	100	108.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1957377	1.88	2076007	94.29	70	120	
Ge	72	2	He	1266671	2.52	1283119	98.72	70	120	
Ge	72	1	No Gas	5698668	1.58	5854434	97.34	70	120	
In	115	1	No Gas	7041068	3.46	7184199	98.01	70	120	
Bi	209	1	No Gas	5374123	1.60	5632659	95.41	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	270_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T21:50:05-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	-0.030	-80.4	117524	0.4	0.5	
Be	9	1	No Gas	0.023	7.5	165	6.1	0.5	
V	51	2	He	-0.055	-5.8	1467	3.3	2.5	
Cr	52	2	He	0.012	55.8	1467	7.0	2.5	
Fe	56	2	He	0.605	17.4	16604	5.8	100	
Se	78	2	He	0.071	81.6	112	6.2	2	
As	75	2	He	0.024	41.4	117	13.1	2.5	
Ca	44	2	He	2.487	53.2	410	12.2	100	
Na	23	2	He	17.125	15.5	75222	2.0	100	
Mg	24	2	He	0.737	9.5	1087	6.3	100	
K	39	2	He	0.315	676.6	44118	3.3	100	
Mn	55	2	He	0.112	4.0	1270	2.8	2.5	
Co	59	2	He	0.004	113.4	263	29.0	2.5	
Ni	60	2	He	0.015	68.8	257	15.7	2.5	
Cu	63	2	He	0.008	135.4	1403	11.8	2	
Zn	66	2	He	0.052	76.5	810	11.0	2.5	
Al	27	2	He	-0.510	-41.6	430	12.9	5	
B	11	1	No Gas	5.345	5.1	36872	2.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.099	-21.2	41215	1.3	5	
Si	28	1	No Gas	0.076	321.1	547033	0.7	10	
P	31	1	No Gas	0.043	715.1	35158	1.0	10	
Ag	107	1	No Gas	0.008	24.7	683	11.8	2.5	
Cd	111	1	No Gas	0.002	349.5	50	91.7	1	
Sr	88	1	No Gas	0.051	11.9	7309	5.3	2.5	
Mo	95	1	No Gas	0.030	40.4	577	29.2	2.5	
Sn	118	1	No Gas	0.067	15.2	5275	3.4	5	
Sb	121	1	No Gas	0.078	11.2	3337	8.0	2.5	
Ba	137	1	No Gas	-0.105	-5.2	870	6.9	2.5	
Tl	205	1	No Gas	0.101	31.7	6785	30.1	1	
Tl	203	1	No Gas	0.095	38.0	2737	35.6	1	
Pb	208	1	No Gas	0.017	23.0	3014	11.0	2.5	
U	238	1	No Gas	0.007	21.3	570	20.2	2.5	
Ca	43	2	He	4.209	264.8	20	132.3	100	
Sb	121	2	He	0.052	21.9	953	11.9	2.5	
Ti	47	2	He	0.000	13993.4	3	173.2	2.5	
Cu	63	1	No Gas	0.013	53.9	3381	5.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2088987	0.75	2076007	100.63	70	120	
Ge	72	2	He	1288468	2.59	1283119	100.42	70	120	
Ge	72	1	No Gas	5896012	0.70	5854434	100.71	70	120	
In	115	1	No Gas	7283629	1.50	7184199	101.38	70	120	
Bi	209	1	No Gas	5420492	0.64	5632659	96.23	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	279_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:07:11-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.540	1.984	2843517	1.22	100	103.5	90	110	
Be	9	1	No Gas	102.482	2.718	655143	0.63	100	102.5	90	110	
V	51	2	He	106.925	0.819	966852	0.45	100	106.9	90	110	
Cr	52	2	He	105.657	1.278	1160856	0.79	100	105.7	90	110	
Fe	56	2	He	10488.093	1.039	98759705	1.61	10000	104.9	90	110	
Se	78	2	He	102.528	1.404	12811	1.48	100	102.5	90	110	
Sn	118	2	He	98.329	2.781	961550	0.77	100	98.3	90	110	
As	75	2	He	106.071	0.787	159878	1.07	100	106.1	90	110	
Ca	44	2	He	10508.458	1.908	445810	1.39	10000	105.1	90	110	
Na	23	2	He	10802.559	2.055	13136621	1.80	10000	108.0	90	110	
Mg	24	2	He	10697.274	1.043	6838560	0.46	10000	107.0	90	110	
K	39	2	He	10638.398	1.212	8200175	1.08	10000	106.4	90	110	
Mn	55	2	He	103.553	0.640	723381	0.46	100	103.6	90	110	
Co	59	2	He	107.971	1.183	1898246	1.37	100	108.0	90	110	
Ni	60	2	He	104.747	0.208	480577	0.67	100	104.7	90	110	
Cu	63	2	He	105.834	2.689	1339461	2.24	100	105.8	90	110	
Zn	66	2	He	105.547	0.495	221986	0.47	100	105.5	90	110	
Al	27	2	He	113.426	3.977	34210	4.54	100	113.4	90	110	CCV Main CR1-2 Failed
B	11	1	No Gas	541.876	3.608	2279185	0.94	500	108.4	90	110	
Al	27	1	No Gas	110.501	3.786	3233164	2.26	100	110.5	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	576.390	3.589	9337575	1.52	5000	11.5	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	533.916	2.820	853499	2.63	500	106.8	90	110	
Ag	107	1	No Gas	103.927	2.095	3903607	0.38	100	103.9	90	110	
Cd	111	1	No Gas	101.111	2.662	771661	0.61	100	101.1	90	110	
Sr	88	1	No Gas	101.783	1.710	7897728	1.12	100	101.8	90	110	
Mo	95	1	No Gas	102.519	1.836	1464133	2.79	100	102.5	90	110	
Sn	118	1	No Gas	104.355	3.265	2528870	2.77	100	104.4	90	110	
Sb	121	1	No Gas	104.020	3.259	3300880	2.20	100	104.0	90	110	
Ba	137	1	No Gas	106.594	2.248	1233295	0.53	100	106.6	90	110	
Tl	205	1	No Gas	101.064	4.250	5841356	2.24	100	101.1	90	110	
Tl	203	1	No Gas	102.624	4.167	2512694	2.17	100	102.6	90	110	
Pb	208	1	No Gas	104.790	2.491	7954233	0.95	100	104.8	90	110	
U	238	1	No Gas	102.919	3.312	7325037	5.36	100	102.9	90	110	
Ca	43	2	He	10588.760	1.560	25728	1.04	10000	105.9	90	110	
Sb	121	2	He	106.351	2.881	1285685	2.28	100	106.4	90	110	
Ti	47	2	He	102.891	3.878	29649	3.50	100	102.9	90	110	
Cu	63	1	No Gas	106.838	1.654	2894833	0.49	100	106.8	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2128049	3.08	2076007	102.51	70	120	
Ge	72	2	He	1282397	0.63	1283119	99.94	70	120	
Ge	72	1	No Gas	6003256	1.95	5854434	102.54	70	120	
In	115	1	No Gas	7077268	2.47	7184199	98.51	70	120	
Bi	209	1	No Gas	4908906	2.08	5632659	87.15	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	280_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:08:55-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.349	37.2	132538	0.8	0.5	
Be	9	1	No Gas	0.019	16.1	147	12.0	0.5	
V	51	2	He	-0.059	-14.1	1440	4.4	2.5	
Cr	52	2	He	-0.005	-162.0	1280	7.5	2.5	
Fe	56	2	He	0.569	12.9	16383	4.0	100	
Se	78	2	He	0.064	204.8	112	15.6	2	
As	75	2	He	0.021	96.1	113	28.1	2.5	
Ca	44	2	He	3.107	20.3	440	6.0	100	
Na	23	2	He	117.522	2.6	198749	1.0	100	CCB Main CR1 Failed
Mg	24	2	He	0.526	46.0	957	16.2	100	
K	39	2	He	10.111	15.2	52026	2.4	100	
Mn	55	2	He	0.124	3.4	1363	2.2	2.5	
Co	59	2	He	0.003	140.7	243	25.1	2.5	
Ni	60	2	He	-0.005	-73.2	170	10.2	2.5	
Cu	63	2	He	0.049	27.8	1937	8.0	2	
Zn	66	2	He	0.033	223.7	777	21.3	2.5	
Al	27	2	He	-0.589	-13.0	410	6.5	5	
B	11	1	No Gas	33.348	4.0	158029	1.8	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.061	-28.8	42836	1.2	5	
Si	28	1	No Gas	1.427	18.4	574778	0.8	10	
P	31	1	No Gas	0.656	45.9	36558	0.6	10	
Ag	107	1	No Gas	0.016	11.6	950	5.6	2.5	
Cd	111	1	No Gas	0.005	32.0	70	14.3	1	
Sr	88	1	No Gas	0.057	5.6	7412	4.1	2.5	
Mo	95	1	No Gas	0.031	31.1	567	23.0	2.5	
Sn	118	1	No Gas	0.080	11.4	5338	5.2	5	
Sb	121	1	No Gas	0.051	26.3	2510	17.2	2.5	
Ba	137	1	No Gas	-0.108	-8.7	790	14.9	2.5	
Tl	205	1	No Gas	0.073	31.6	4774	29.6	1	
Tl	203	1	No Gas	0.070	48.5	1964	44.6	1	
Pb	208	1	No Gas	0.014	11.3	2654	5.3	2.5	
U	238	1	No Gas	0.007	26.2	537	24.8	2.5	
Ca	43	2	He	1.325	181.6	13	43.3	100	
Sb	121	2	He	0.037	34.8	780	20.6	2.5	
Ti	47	2	He	0.000	-9001.1	3	173.2	2.5	
Cu	63	1	No Gas	0.075	13.5	5094	4.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2175566	1.83	2076007	104.80	70	120	
Ge	72	2	He	1297152	0.91	1283119	101.09	70	120	
Ge	72	1	No Gas	5974281	1.10	5854434	102.05	70	120	
In	115	1	No Gas	6933777	1.85	7184199	96.51	70	120	
Bi	209	1	No Gas	5176885	0.89	5632659	91.91	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	285_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:18:26-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	101.655	0.649	2675460	1.18	100	101.7	90	110	
Be	9	1	No Gas	104.463	0.447	639561	0.33	100	104.5	90	110	
V	51	2	He	100.576	1.116	901227	1.20	100	100.6	90	110	
Cr	52	2	He	103.510	1.386	1126873	1.19	100	103.5	90	110	
Fe	56	2	He	10235.516	0.959	95490095	0.62	10000	102.4	90	110	
Se	78	2	He	100.107	1.123	12396	1.08	100	100.1	90	110	
Sn	118	2	He	97.680	0.787	926629	0.20	100	97.7	90	110	
As	75	2	He	105.876	0.493	158115	0.34	100	105.9	90	110	
Ca	44	2	He	10218.439	0.835	429565	1.07	10000	102.2	90	110	
Na	23	2	He	10451.528	1.453	12595027	1.31	10000	104.5	90	110	
Mg	24	2	He	10486.285	0.522	6642302	0.37	10000	104.9	90	110	
K	39	2	He	10392.081	0.179	7937851	0.31	10000	103.9	90	110	
Mn	55	2	He	101.346	0.126	701484	0.40	100	101.3	90	110	
Co	59	2	He	106.267	0.597	1851143	1.02	100	106.3	90	110	
Ni	60	2	He	102.111	0.440	464186	0.74	100	102.1	90	110	
Cu	63	2	He	104.795	1.033	1314203	0.67	100	104.8	90	110	
Zn	66	2	He	103.643	0.554	215990	0.27	100	103.6	90	110	
Al	27	2	He	100.954	1.921	30227	1.85	100	101.0	90	110	
B	11	1	No Gas	537.479	2.004	2165409	1.41	500	107.5	90	110	
Al	27	1	No Gas	105.775	1.011	3023678	1.15	100	105.8	90	110	
Si	28	1	No Gas	556.367	1.385	8819224	1.40	5000	11.1	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	533.668	1.171	832720	1.03	500	106.7	90	110	
Ag	107	1	No Gas	105.531	2.849	3780556	3.35	100	105.5	90	110	
Cd	111	1	No Gas	102.022	1.506	742619	1.85	100	102.0	90	110	
Sr	88	1	No Gas	104.053	3.858	7697934	3.32	100	104.1	90	110	
Mo	95	1	No Gas	104.144	4.142	1417825	3.65	100	104.1	90	110	
Sn	118	1	No Gas	102.522	2.096	2369053	1.23	100	102.5	90	110	
Sb	121	1	No Gas	100.184	1.290	3103786	1.40	100	100.2	90	110	
Ba	137	1	No Gas	106.041	3.216	1169773	1.66	100	106.0	90	110	
Tl	205	1	No Gas	100.232	3.010	5939106	3.16	100	100.2	90	110	
Tl	203	1	No Gas	99.577	2.761	2499812	3.59	100	99.6	90	110	
Pb	208	1	No Gas	103.704	0.944	8069105	2.54	100	103.7	90	110	
U	238	1	No Gas	99.651	1.333	7264825	2.83	100	99.7	90	110	
Ca	43	2	He	10118.149	1.955	24362	2.41	10000	101.2	90	110	
Sb	121	2	He	102.897	1.314	1232615	0.97	100	102.9	90	110	
Ti	47	2	He	100.612	1.927	28730	2.34	100	100.6	90	110	
Cu	63	1	No Gas	104.214	0.135	2756497	0.03	100	104.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2036953	0.59	2076007	98.12	70	120	
Ge	72	2	He	1270616	0.49	1283119	99.03	70	120	
Ge	72	1	No Gas	5858945	0.16	5854434	100.08	70	120	
In	115	1	No Gas	6747651	1.79	7184199	93.92	70	120	
Bi	209	1	No Gas	5030935	3.01	5632659	89.32	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	286_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:20:10-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.154	32.4	127958	0.1	0.5	
Be	9	1	No Gas	0.021	5.4	160	5.4	0.5	
V	51	2	He	-0.047	-10.1	1538	3.2	2.5	
Cr	52	2	He	-0.009	-140.2	1223	11.0	2.5	
Fe	56	2	He	0.656	10.6	17038	3.5	100	
Se	78	2	He	0.095	58.7	115	6.6	2	
As	75	2	He	0.008	213.7	92	28.1	2.5	
Ca	44	2	He	2.266	27.4	400	6.6	100	
Na	23	2	He	78.200	0.8	149114	0.6	100	
Mg	24	2	He	0.754	13.3	1093	6.1	100	
K	39	2	He	7.719	2.7	49677	0.8	100	
Mn	55	2	He	0.113	9.9	1270	5.5	2.5	
Co	59	2	He	0.002	64.6	240	11.0	2.5	
Ni	60	2	He	0.014	146.6	253	36.7	2.5	
Cu	63	2	He	0.029	35.5	1670	7.8	2	
Zn	66	2	He	0.090	25.3	887	5.1	2.5	
Al	27	2	He	-0.552	-17.0	417	6.0	5	
B	11	1	No Gas	28.267	2.2	137057	2.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.064	-57.7	42629	2.1	5	
Si	28	1	No Gas	1.774	54.4	578103	1.3	10	
P	31	1	No Gas	0.889	103.8	36786	2.2	10	
Ag	107	1	No Gas	0.015	11.6	897	5.5	2.5	
Cd	111	1	No Gas	0.002	214.9	50	60.0	1	
Sr	88	1	No Gas	0.015	13.2	4257	3.1	2.5	
Mo	95	1	No Gas	0.035	34.6	633	27.5	2.5	
Sn	118	1	No Gas	0.075	39.5	5328	13.8	5	
Sb	121	1	No Gas	0.043	15.6	2250	8.1	2.5	
Ba	137	1	No Gas	-0.113	-6.0	750	10.9	2.5	
Tl	205	1	No Gas	0.073	34.0	4744	32.9	1	
Tl	203	1	No Gas	0.068	35.4	1927	33.7	1	
Pb	208	1	No Gas	0.014	26.3	2624	12.3	2.5	
U	238	1	No Gas	0.008	20.5	650	20.8	2.5	
Ca	43	2	He	0.014	29436.5	10	100.0	100	
Sb	121	2	He	0.028	14.7	667	6.9	2.5	
Ti	47	2	He	0.011	175.2	7	86.6	2.5	
Cu	63	1	No Gas	0.048	26.3	4344	6.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2186324	1.11	2076007	105.31	70	120	
Ge	72	2	He	1284356	0.66	1283119	100.10	70	120	
Ge	72	1	No Gas	5955604	1.62	5854434	101.73	70	120	
In	115	1	No Gas	7080104	1.96	7184199	98.55	70	120	
Bi	209	1	No Gas	5167466	1.37	5632659	91.74	70	120	

Sample Report

Sample Table

Sample Name	MBLK-152654
Data File Name	287SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:22:09-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	0.090	0.090	66.66	131864	0.00	2000	
Be	9	1	No Gas	0.008	0.008	23.75	78	0.01	2000	
V	51	2	He	-0.070	-0.070	-3.77	1362	-0.01	2000	
Cr	52	2	He	0.091	0.091	24.46	2384	0.00	2000	
Fe	56	2	He	1.043	1.043	5.26	21213	0.00	200000	
Se	78	2	He	0.014	0.014	573.72	107	0.01	2000	
Sn	118	2	He	0.022	0.022	102.74	1733	0.00	200	
As	75	2	He	-0.006	-0.006	-213.43	73	-0.01	2000	
Ca	44	2	He	3.796	3.796	22.60	477	0.80	200000	
Na	23	2	He	72.389	72.389	4.97	145677	0.05	200000	
Mg	24	2	He	22.104	22.104	5.00	15135	0.15	200000	
K	39	2	He	6.326	6.326	30.45	49851	0.01	200000	
Mn	55	2	He	-0.014	-0.014	-37.00	393	0.00	2000	
Co	59	2	He	0.001	0.001	7.54	227	0.00	2000	
Ni	60	2	He	-0.017	-0.017	-20.42	117	-0.01	2000	
Cu	63	2	He	0.013	0.013	30.46	1510	0.00	2000	
Zn	66	2	He	-0.016	-0.016	-204.97	680	0.00	2000	
Al	27	2	He	8.366	8.366	0.76	3144	0.27	2000	
B	11	1	No Gas	22.850	22.850	0.86	118861	0.02	2000	
Al	27	1	No Gas	9.556	9.556	2.03	324360	0.00	2000	
Si	28	1	No Gas	101.726	101.726	3.61	2130539	0.00	2000	
Ag	107	1	No Gas	0.006	0.006	55.91	590	0.00	2000	
Cd	111	1	No Gas	-0.003	-0.003	-38.59	10	-0.03	2000	
Sr	88	1	No Gas	0.027	0.027	2.06	5208	0.00	2000	
Mo	95	1	No Gas	0.076	0.076	7.05	1230	0.01	2000	
Sn	118	1	No Gas	0.053	0.053	26.62	4794	0.00	2000	
Sb	121	1	No Gas	-0.006	-0.006	-33.14	723	0.00	2000	
Ba	137	1	No Gas	-0.053	-0.053	-3.91	1447	0.00	2000	
Tl	205	1	No Gas	0.005	0.005	2.74	597	0.00	2000	
Tl	203	1	No Gas	0.006	0.006	10.36	320	0.00	2000	
Pb	208	1	No Gas	0.003	0.003	63.09	1763	0.00	2000	
U	238	1	No Gas	0.001	0.001	52.60	77	0.00	2000	
Ca	43	2	He	5.304	5.304	119.34	23	22.73	200000	
Sb	121	2	He	-0.004	-0.004	-63.61	280	0.00	2000	
Ti	47	2	He	0.067	0.067	76.11	23	0.29	2000	
Cu	63	1	No Gas	0.032	0.032	40.11	3984	0.00	2000	
Zn	66	1	No Gas	-0.049	-0.049	-69.35	2074	0.00	2000	
Se	82	1	No Gas	0.511	0.511	51.98	124	0.41	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2283720	1.14	2076007	110.01	70	120	
Ge	72	2	He	1317471	1.79	1283119	102.68	70	120	
Ge	72	1	No Gas	6073463	1.58	5854434	103.74	70	120	

Sample Report

In	115	1	No Gas	7084027	1.55	7184199	98.61	70	120	
Bi	209	1	No Gas	5197373	1.70	5632659	92.27	70	120	

Sample Report

Sample Table

Sample Name	LCS-152654
Data File Name	288SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:24:08-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	0.094	0.094	95.48	131339	0.00	2000	
Be	9	1	No Gas	46.121	46.121	1.64	315084	0.01	2000	
V	51	2	He	46.606	46.606	2.76	428112	0.01	2000	
Cr	52	2	He	47.103	47.103	3.62	524999	0.01	2000	
Fe	56	2	He	4795.381	4795.381	3.34	45749743	0.01	200000	
Se	78	2	He	49.242	49.242	2.24	6289	0.78	2000	
Sn	118	2	He	0.049	0.049	13.42	1964	0.00	200	
As	75	2	He	49.204	49.204	3.82	75166	0.07	2000	
Ca	44	2	He	4645.559	4645.559	2.83	199865	2.32	200000	
Na	23	2	He	5009.922	5009.922	3.19	6201730	0.08	200000	
Mg	24	2	He	4986.820	4986.820	3.77	3229696	0.15	200000	
K	39	2	He	4968.310	4968.310	4.57	3902386	0.13	200000	
Mn	55	2	He	46.959	46.959	3.53	332582	0.01	2000	
Co	59	2	He	48.450	48.450	3.03	863063	0.01	2000	
Ni	60	2	He	47.977	47.977	4.23	223050	0.02	2000	
Cu	63	2	He	47.953	47.953	3.74	615550	0.01	2000	
Zn	66	2	He	50.545	50.545	2.70	108075	0.05	2000	
Al	27	2	He	53.014	53.014	4.59	16510	0.32	2000	
B	11	1	No Gas	22.452	22.452	1.89	116509	0.02	2000	
Al	27	1	No Gas	57.256	57.256	2.65	1741881	0.00	2000	
Si	28	1	No Gas	113.859	113.859	1.50	2351764	0.00	2000	
Ag	107	1	No Gas	49.908	49.908	3.04	1879324	0.00	2000	
Cd	111	1	No Gas	47.254	47.254	2.68	361577	0.01	2000	
Sr	88	1	No Gas	0.067	0.067	3.94	8356	0.00	2000	
Mo	95	1	No Gas	45.948	45.948	2.26	657820	0.01	2000	
Sn	118	1	No Gas	0.062	0.062	16.34	5014	0.00	2000	
Sb	121	1	No Gas	45.035	45.035	3.79	1467227	0.00	2000	
Ba	137	1	No Gas	44.403	44.403	2.96	516203	0.01	2000	
Tl	205	1	No Gas	47.631	47.631	5.26	2784913	0.00	2000	
Tl	203	1	No Gas	43.602	43.602	6.31	1079785	0.00	2000	
Pb	208	1	No Gas	47.453	47.453	2.78	3645175	0.00	2000	
U	238	1	No Gas	0.000	0.000	92.64	47	0.00	2000	
Ca	43	2	He	4640.721	4640.721	5.22	11428	40.61	200000	
Sb	121	2	He	45.903	45.903	3.02	562446	0.01	2000	
Ti	47	2	He	44.996	44.996	0.53	13147	0.34	2000	
Cu	63	1	No Gas	49.263	49.263	5.07	1371267	0.00	2000	
Zn	66	1	No Gas	48.228	48.228	1.30	361836	0.01	2000	
Se	82	1	No Gas	45.418	45.418	1.74	22426	0.20	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2273144	1.42	2076007	109.50	70	120	
Ge	72	2	He	1300033	3.19	1283119	101.32	70	120	
Ge	72	1	No Gas	6161733	1.77	5854434	105.25	70	120	

Sample Report

In	115	1	No Gas	7094880	2.04	7184199	98.76	70	120	
Bi	209	1	No Gas	4967328	2.72	5632659	88.19	70	120	

Sample Report

Sample Table

Sample Name	HS20040284-01
Data File Name	289SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:26:02-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	17.658	17.658	2.49	594905	0.00	2000	
Be	9	1	No Gas	0.071	0.071	15.14	483	0.01	2000	
V	51	2	He	0.147	0.147	13.47	3319	0.00	2000	
Cr	52	2	He	1.643	1.643	2.96	19528	0.01	2000	
Fe	56	2	He	352.495	352.495	2.87	3358961	0.01	200000	
Se	78	2	He	0.472	0.472	4.24	163	0.29	2000	
Sn	118	2	He	0.110	0.110	26.98	2450	0.00	200	
As	75	2	He	0.716	0.716	6.04	1168	0.06	2000	
Ca	44	2	He	9090.725	9090.725	2.42	389150	2.34	200000	
Na	23	2	He	259203.431	259203.431	2.36	316762149	0.08	200000	>LDR
Mg	24	2	He	19849.775	19849.775	2.01	12803581	0.16	200000	
K	39	2	He	1392.649	1392.649	0.25	1121574	0.12	200000	
Mn	55	2	He	113.712	113.712	3.21	801312	0.01	2000	
Co	59	2	He	2.157	2.157	3.30	38448	0.01	2000	
Ni	60	2	He	4.967	4.967	3.42	23170	0.02	2000	
Cu	63	2	He	1.255	1.255	5.77	17321	0.01	2000	
Zn	66	2	He	55.794	55.794	1.81	118726	0.05	2000	
Al	27	2	He	82.427	82.427	17.03	25200	0.33	2000	
B	11	1	No Gas	48.386	48.386	1.69	221180	0.02	2000	
Al	27	1	No Gas	86.770	86.770	7.38	2496259	0.00	2000	
Si	28	1	No Gas	15752.390	15752.390	1.48	235650850	0.01	2000	>LDR
Ag	107	1	No Gas	0.010	0.010	28.01	663	0.00	2000	
Cd	111	1	No Gas	0.093	0.093	17.49	690	0.01	2000	
Sr	88	1	No Gas	142.087	142.087	0.97	10226295	0.00	2000	
Mo	95	1	No Gas	1.122	1.122	0.43	14985	0.01	2000	
Sn	118	1	No Gas	0.132	0.132	11.00	6212	0.00	2000	
Sb	121	1	No Gas	0.368	0.368	4.89	12313	0.00	2000	
Ba	137	1	No Gas	92.599	92.599	1.42	994207	0.01	2000	
Tl	205	1	No Gas	0.067	0.067	33.32	3837	0.00	2000	
Tl	203	1	No Gas	0.057	0.057	43.16	1440	0.00	2000	
Pb	208	1	No Gas	0.112	0.112	4.02	9188	0.00	2000	
U	238	1	No Gas	0.393	0.393	3.72	25865	0.00	2000	
Ca	43	2	He	9313.324	9313.324	0.81	22839	40.78	200000	
Sb	121	2	He	0.334	0.334	7.86	4408	0.01	2000	
Ti	47	2	He	1.656	1.656	33.44	483	0.34	2000	
Cu	63	1	No Gas	3.310	3.310	1.40	90766	0.00	2000	
Zn	66	1	No Gas	55.380	55.380	0.69	396078	0.01	2000	
Se	82	1	No Gas	1.530	1.530	27.22	603	0.25	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2164273	1.83	2076007	104.25	70	120	
Ge	72	2	He	1294101	1.63	1283119	100.86	70	120	
Ge	72	1	No Gas	5878028	0.26	5854434	100.40	70	120	
In	115	1	No Gas	6563528	0.08	7184199	91.36	70	120	
Bi	209	1	No Gas	4537238	0.75	5632659	80.55	70	120	

Sample Report

Sample Table

Sample Name	HS20040284-01SD
Data File Name	290SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:28:02-05:00
Sample Type	Sample
Dilution	5
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	3.659	18.297	1.28	224045	0.00	2000	
Be	9	1	No Gas	0.018	0.092	6.86	143	0.01	2000	
V	51	2	He	0.055	0.276	12.63	2499	0.00	2000	
Cr	52	2	He	0.345	1.727	7.59	5201	0.01	2000	
Fe	56	2	He	71.046	355.231	3.37	691302	0.01	200000	
Se	78	2	He	0.187	0.933	42.83	128	0.15	2000	
Sn	118	2	He	-0.001	-0.005	-766.44	1457	0.00	200	
As	75	2	He	0.173	0.866	2.84	347	0.05	2000	
Ca	44	2	He	1805.831	9029.155	0.52	78185	2.31	200000	
Na	23	2	He	51244.315	256221.574	0.88	63179542	0.08	200000	
Mg	24	2	He	3961.897	19809.484	1.11	2576601	0.15	200000	
K	39	2	He	270.492	1352.460	1.18	255380	0.11	200000	
Mn	55	2	He	22.967	114.836	0.66	163574	0.01	2000	
Co	59	2	He	0.446	2.231	2.23	8179	0.01	2000	
Ni	60	2	He	1.013	5.064	4.08	4918	0.02	2000	
Cu	63	2	He	0.312	1.559	5.04	5331	0.01	2000	
Zn	66	2	He	11.667	58.334	1.58	25588	0.05	2000	
Al	27	2	He	16.945	84.726	10.59	5702	0.30	2000	
B	11	1	No Gas	27.165	135.825	2.47	133097	0.02	2000	
Al	27	1	No Gas	17.378	86.888	14.65	545735	0.00	2000	
Si	28	1	No Gas	3150.549	15752.744	0.73	48530188	0.01	2000	>LDR
Ag	107	1	No Gas	0.008	0.038	26.99	617	0.00	2000	
Cd	111	1	No Gas	0.021	0.104	34.16	190	0.01	2000	
Sr	88	1	No Gas	29.456	147.282	2.13	2222250	0.00	2000	
Mo	95	1	No Gas	0.250	1.250	10.66	3601	0.01	2000	
Sn	118	1	No Gas	0.025	0.126	44.90	4001	0.00	2000	
Sb	121	1	No Gas	0.064	0.320	12.72	2937	0.00	2000	
Ba	137	1	No Gas	18.162	90.809	1.39	205805	0.01	2000	
Tl	205	1	No Gas	0.009	0.043	11.69	783	0.00	2000	
Tl	203	1	No Gas	0.006	0.032	50.73	303	0.00	2000	
Pb	208	1	No Gas	0.026	0.132	2.02	3430	0.00	2000	
U	238	1	No Gas	0.076	0.379	2.03	5415	0.00	2000	
Ca	43	2	He	1878.277	9391.383	2.26	4651	40.39	200000	
Sb	121	2	He	0.052	0.258	16.52	967	0.01	2000	
Ti	47	2	He	0.170	0.851	10.86	53	0.32	2000	
Cu	63	1	No Gas	0.755	3.773	3.62	23484	0.00	2000	
Zn	66	1	No Gas	11.384	56.921	0.54	84979	0.01	2000	
Se	82	1	No Gas	0.902	4.511	47.33	311	0.29	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2199332	1.07	2076007	105.94	70	120	
Ge	72	2	He	1304398	0.68	1283119	101.66	70	120	
Ge	72	1	No Gas	5997222	0.35	5854434	102.44	70	120	

Sample Report

In	115	1	No Gas	6873838	1.40	7184199	95.68	70	120	
Bi	209	1	No Gas	4903361	1.09	5632659	87.05	70	120	

Sample Report

Sample Table

Sample Name	HS20040284-01MS
Data File Name	291SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:30:00-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	19.085	19.085	1.74	634344	0.00	2000	
Be	9	1	No Gas	48.833	48.833	2.20	318210	0.02	2000	
V	51	2	He	47.350	47.350	1.19	433360	0.01	2000	
Cr	52	2	He	48.498	48.498	2.44	538613	0.01	2000	
Fe	56	2	He	5105.816	5105.816	1.09	48541554	0.01	200000	
Se	78	2	He	48.394	48.394	1.67	6160	0.79	2000	
Sn	118	2	He	0.074	0.074	20.18	2130	0.00	200	
As	75	2	He	50.092	50.092	1.46	76263	0.07	2000	
Ca	44	2	He	14454.409	14454.409	1.17	619039	2.33	200000	
Na	23	2	He	283306.173	283306.173	1.33	346440915	0.08	200000	>LDR
Mg	24	2	He	25879.464	25879.464	1.93	16700826	0.15	200000	
K	39	2	He	6346.481	6346.481	0.86	4956830	0.13	200000	
Mn	55	2	He	173.754	173.754	2.22	1224954	0.01	2000	
Co	59	2	He	49.306	49.306	1.33	875209	0.01	2000	
Ni	60	2	He	51.207	51.207	1.22	237274	0.02	2000	
Cu	63	2	He	46.729	46.729	1.06	597863	0.01	2000	
Zn	66	2	He	107.990	107.990	2.33	229254	0.05	2000	
Al	27	2	He	131.369	131.369	6.04	39886	0.33	2000	
B	11	1	No Gas	48.203	48.203	2.00	220819	0.02	2000	
Al	27	1	No Gas	143.064	143.064	10.62	4068801	0.00	2000	
Si	28	1	No Gas	17225.196	17225.196	1.17	256486883	0.01	2000	>LDR
Ag	107	1	No Gas	48.593	48.593	2.96	1699062	0.00	2000	
Cd	111	1	No Gas	47.424	47.424	1.97	336946	0.01	2000	
Sr	88	1	No Gas	155.694	155.694	1.63	11243927	0.00	2000	
Mo	95	1	No Gas	49.424	49.424	2.20	656926	0.01	2000	
Sn	118	1	No Gas	0.082	0.082	3.47	5121	0.00	2000	
Sb	121	1	No Gas	46.818	46.818	2.05	1449165	0.00	2000	
Ba	137	1	No Gas	146.748	146.748	1.64	1580021	0.01	2000	
Tl	205	1	No Gas	47.345	47.345	1.08	2451812	0.00	2000	
Tl	203	1	No Gas	43.661	43.661	1.71	957764	0.00	2000	
Pb	208	1	No Gas	47.667	47.667	2.62	3241013	0.00	2000	
U	238	1	No Gas	0.434	0.434	2.24	27689	0.00	2000	
Ca	43	2	He	14921.868	14921.868	0.65	36602	40.77	200000	
Sb	121	2	He	44.803	44.803	1.44	547035	0.01	2000	
Ti	47	2	He	48.904	48.904	2.37	14234	0.34	2000	
Cu	63	1	No Gas	52.003	52.003	2.80	1375208	0.00	2000	
Zn	66	1	No Gas	106.609	106.609	1.12	756949	0.01	2000	
Se	82	1	No Gas	47.716	47.716	3.57	22375	0.21	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2168260	1.10	2076007	104.44	70	120	
Ge	72	2	He	1294787	1.52	1283119	100.91	70	120	
Ge	72	1	No Gas	5852584	1.25	5854434	99.97	70	120	
In	115	1	No Gas	6586677	1.27	7184199	91.68	70	120	
Bi	209	1	No Gas	4396010	1.61	5632659	78.05	70	120	

Sample Report

Sample Table

Sample Name	HS20040284-01MSD
Data File Name	292SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:31:58-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	18.470	18.470	0.37	639448	0.00	2000	
Be	9	1	No Gas	47.575	47.575	0.63	320862	0.01	2000	
V	51	2	He	47.534	47.534	1.68	433014	0.01	2000	
Cr	52	2	He	48.384	48.384	2.68	534845	0.01	2000	
Fe	56	2	He	5088.625	5088.625	1.35	48157168	0.01	200000	
Se	78	2	He	48.637	48.637	1.78	6161	0.79	2000	
Sn	118	2	He	0.031	0.031	47.13	1713	0.00	200	
As	75	2	He	50.410	50.410	1.63	76394	0.07	2000	
Ca	44	2	He	14524.053	14524.053	1.33	619120	2.35	200000	
Na	23	2	He	283113.552	283113.552	2.56	344565995	0.08	200000	>LDR
Mg	24	2	He	26086.081	26086.081	2.32	16756064	0.16	200000	
K	39	2	He	6392.780	6392.780	2.59	4968655	0.13	200000	
Mn	55	2	He	174.555	174.555	1.81	1225040	0.01	2000	
Co	59	2	He	49.265	49.265	2.31	870369	0.01	2000	
Ni	60	2	He	50.740	50.740	1.99	234015	0.02	2000	
Cu	63	2	He	46.689	46.689	2.53	594486	0.01	2000	
Zn	66	2	He	108.125	108.125	1.64	228501	0.05	2000	
Al	27	2	He	132.220	132.220	6.75	40004	0.33	2000	
B	11	1	No Gas	46.444	46.444	0.36	220790	0.02	2000	
Al	27	1	No Gas	147.370	147.370	21.59	4156263	0.00	2000	
Si	28	1	No Gas	17502.274	17502.274	1.23	258671776	0.01	2000	>LDR
Ag	107	1	No Gas	47.484	47.484	1.15	1661260	0.00	2000	
Cd	111	1	No Gas	46.731	46.731	1.30	332210	0.01	2000	
Sr	88	1	No Gas	156.864	156.864	2.43	11333677	0.00	2000	
Mo	95	1	No Gas	48.954	48.954	2.59	650946	0.01	2000	
Sn	118	1	No Gas	0.041	0.041	27.85	4187	0.00	2000	
Sb	121	1	No Gas	46.739	46.739	0.83	1436072	0.00	2000	
Ba	137	1	No Gas	145.942	145.942	1.46	1571901	0.01	2000	
Tl	205	1	No Gas	45.691	45.691	2.15	2429535	0.00	2000	
Tl	203	1	No Gas	42.103	42.103	1.32	948489	0.00	2000	
Pb	208	1	No Gas	46.953	46.953	2.35	3278478	0.00	2000	
U	238	1	No Gas	0.420	0.420	2.49	27509	0.00	2000	
Ca	43	2	He	14610.889	14610.889	3.26	35663	40.97	200000	
Sb	121	2	He	44.755	44.755	2.28	543888	0.01	2000	
Ti	47	2	He	49.895	49.895	3.85	14454	0.35	2000	
Cu	63	1	No Gas	52.050	52.050	1.91	1366405	0.00	2000	
Zn	66	1	No Gas	107.757	107.757	1.05	759386	0.01	2000	
Se	82	1	No Gas	47.609	47.609	2.69	22161	0.21	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2243826	0.68	2076007	108.08	70	120	
Ge	72	2	He	1288940	2.16	1283119	100.45	70	120	
Ge	72	1	No Gas	5809038	0.82	5854434	99.22	70	120	
In	115	1	No Gas	6589268	0.91	7184199	91.72	70	120	
Bi	209	1	No Gas	4514164	1.63	5632659	80.14	70	120	

Sample Report

Sample Table

Sample Name	HS20040284-01PDS
Data File Name	293SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:33:57-05:00
Sample Type	Sample
Dilution	1
Comment	TW B152654
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	18.520	18.520	0.77	629488	0.00	2000	
Be	9	1	No Gas	107.870	107.870	1.66	714650	0.02	2000	
V	51	2	He	107.449	107.449	1.78	999506	0.01	2000	
Cr	52	2	He	106.561	106.561	1.48	1204516	0.01	2000	
Fe	56	2	He	10782.215	10782.215	1.94	104454955	0.01	200000	
Se	78	2	He	106.253	106.253	0.44	13656	0.78	2000	
Sn	118	2	He	0.093	0.093	29.66	2327	0.00	200	
As	75	2	He	110.282	110.282	1.08	170999	0.06	2000	
Ca	44	2	He	19718.087	19718.087	1.38	860337	2.29	200000	
Na	23	2	He	279685.647	279685.647	0.80	348533008	0.08	200000	>LDR
Mg	24	2	He	31385.472	31385.472	0.73	20642216	0.15	200000	
K	39	2	He	12268.479	12268.479	2.67	9720681	0.13	200000	
Mn	55	2	He	224.432	224.432	1.52	1612275	0.01	2000	
Co	59	2	He	108.770	108.770	0.56	1967335	0.01	2000	
Ni	60	2	He	104.987	104.987	2.11	495485	0.02	2000	
Cu	63	2	He	104.016	104.016	2.71	1354615	0.01	2000	
Zn	66	2	He	163.063	163.063	1.18	352429	0.05	2000	
Al	27	2	He	192.089	192.089	5.35	59169	0.32	2000	
B	11	1	No Gas	44.790	44.790	0.26	209720	0.02	2000	
Al	27	1	No Gas	198.776	198.776	8.51	5756759	0.00	2000	
Si	28	1	No Gas	16745.553	16745.553	1.19	254495416	0.01	2000	>LDR
Ag	107	1	No Gas	87.689	87.689	3.46	3137560	0.00	2000	
Cd	111	1	No Gas	101.374	101.374	2.23	737071	0.01	2000	
Sr	88	1	No Gas	148.854	148.854	2.23	11000977	0.00	2000	
Mo	95	1	No Gas	107.824	107.824	3.20	1466537	0.01	2000	
Sn	118	1	No Gas	0.113	0.113	11.42	5951	0.00	2000	
Sb	121	1	No Gas	94.888	94.888	1.17	2996522	0.00	2000	
Ba	137	1	No Gas	198.340	198.340	0.59	2184703	0.01	2000	
Tl	205	1	No Gas	99.066	99.066	2.17	5305223	0.00	2000	
Tl	203	1	No Gas	96.503	96.503	2.50	2189176	0.00	2000	
Pb	208	1	No Gas	103.685	103.685	0.77	7289574	0.00	2000	
U	238	1	No Gas	0.420	0.420	2.60	27689	0.00	2000	
Ca	43	2	He	19888.874	19888.874	2.35	49703	40.02	200000	
Sb	121	2	He	98.316	98.316	1.43	1223136	0.01	2000	
Ti	47	2	He	108.213	108.213	2.10	32081	0.34	2000	
Cu	63	1	No Gas	108.053	108.053	1.66	2913012	0.00	2000	
Zn	66	1	No Gas	161.609	161.609	1.35	1169721	0.01	2000	
Se	82	1	No Gas	100.704	100.704	3.63	48325	0.21	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2204087	0.37	2076007	106.17	70	120	
Ge	72	2	He	1319380	1.17	1283119	102.83	70	120	
Ge	72	1	No Gas	5972896	1.60	5854434	102.02	70	120	
In	115	1	No Gas	6740505	0.90	7184199	93.82	70	120	
Bi	209	1	No Gas	4544965	1.03	5632659	80.69	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	294_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:35:46-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	100.463	1.751	2774337	1.28	100	100.5	90	110	
Be	9	1	No Gas	103.477	1.875	664386	0.86	100	103.5	90	110	
V	51	2	He	101.824	4.025	925523	2.50	100	101.8	90	110	
Cr	52	2	He	103.828	3.259	1146721	1.75	100	103.8	90	110	
Fe	56	2	He	10330.551	1.971	97786542	0.46	10000	103.3	90	110	
Se	78	2	He	103.116	2.792	12952	1.43	100	103.1	90	110	
Sn	118	2	He	96.805	1.683	958070	1.44	100	96.8	90	110	
As	75	2	He	106.270	1.870	161025	0.52	100	106.3	90	110	
Ca	44	2	He	10091.018	2.019	430402	0.51	10000	100.9	90	110	
Na	23	2	He	10633.130	1.304	13001709	1.13	10000	106.3	90	110	
Mg	24	2	He	10495.560	2.786	6745134	1.78	10000	105.0	90	110	
K	39	2	He	10433.740	3.080	8085102	1.61	10000	104.3	90	110	
Mn	55	2	He	101.565	2.371	713239	0.93	100	101.6	90	110	
Co	59	2	He	108.604	1.938	1919458	0.58	100	108.6	90	110	
Ni	60	2	He	103.509	2.081	477410	0.92	100	103.5	90	110	
Cu	63	2	He	105.098	2.050	1337290	0.74	100	105.1	90	110	
Zn	66	2	He	103.697	1.345	219276	0.19	100	103.7	90	110	
Al	27	2	He	102.661	1.708	31185	2.70	100	102.7	90	110	
B	11	1	No Gas	525.988	1.790	2223021	1.79	500	105.2	90	110	
Al	27	1	No Gas	108.070	3.457	3146599	1.94	100	108.1	90	110	
Si	28	1	No Gas	590.032	3.598	9495445	1.55	5000	11.8	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	549.520	3.399	872680	2.41	500	109.9	90	110	
Ag	107	1	No Gas	105.194	1.882	3899140	0.34	100	105.2	90	110	
Cd	111	1	No Gas	101.724	1.057	766323	1.90	100	101.7	90	110	
Sr	88	1	No Gas	103.281	0.778	7908832	1.32	100	103.3	90	110	
Mo	95	1	No Gas	106.393	1.982	1499000	0.39	100	106.4	90	110	
Sn	118	1	No Gas	102.635	1.602	2454839	2.17	100	102.6	90	110	
Sb	121	1	No Gas	102.389	1.104	3232717	0.83	100	102.4	90	110	
Ba	137	1	No Gas	101.273	4.060	1156118	2.31	100	101.3	90	110	
Tl	205	1	No Gas	98.614	2.763	5758921	1.05	100	98.6	90	110	
Tl	203	1	No Gas	99.468	1.709	2461072	1.17	100	99.5	90	110	
Pb	208	1	No Gas	102.559	1.702	7865002	1.17	100	102.6	90	110	
U	238	1	No Gas	100.439	2.346	7219898	4.23	100	100.4	90	110	
Ca	43	2	He	10675.749	1.864	26078	0.76	10000	106.8	90	110	
Sb	121	2	He	106.143	1.648	1290146	0.22	100	106.1	90	110	
Ti	47	2	He	100.883	3.040	29225	1.77	100	100.9	90	110	
Cu	63	1	No Gas	107.465	1.732	2896618	1.02	100	107.5	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2136443	1.17	2076007	102.91	70	120	
Ge	72	2	He	1289424	1.50	1283119	100.49	70	120	
Ge	72	1	No Gas	5971778	1.87	5854434	102.00	70	120	
In	115	1	No Gas	6983148	1.76	7184199	97.20	70	120	
Bi	209	1	No Gas	4958883	2.22	5632659	88.04	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	295_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:37:30-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.119	13.9	126553	0.8	0.5	
Be	9	1	No Gas	0.037	6.1	262	4.8	0.5	
V	51	2	He	-0.038	-29.2	1612	5.6	2.5	
Cr	52	2	He	0.006	197.3	1390	8.7	2.5	
Fe	56	2	He	1.038	3.9	20622	2.5	100	
Se	78	2	He	0.085	186.5	113	17.7	2	
As	75	2	He	0.020	60.0	110	16.9	2.5	
Ca	44	2	He	2.736	71.2	420	20.3	100	
Na	23	2	He	84.894	2.2	157096	0.8	100	
Mg	24	2	He	1.828	8.6	1780	6.3	100	
K	39	2	He	7.858	18.3	49738	1.5	100	
Mn	55	2	He	0.136	14.3	1437	9.5	2.5	
Co	59	2	He	0.008	50.5	330	21.0	2.5	
Ni	60	2	He	0.013	151.3	250	36.0	2.5	
Cu	63	2	He	0.039	22.2	1790	5.3	2	
Zn	66	2	He	0.060	80.8	823	13.0	2.5	
Al	27	2	He	-0.551	-42.0	417	16.0	5	
B	11	1	No Gas	19.526	4.1	99150	3.9	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.075	-49.4	42829	1.1	5	
Si	28	1	No Gas	4.579	35.7	628223	4.2	10	
P	31	1	No Gas	0.744	10.2	37026	1.4	10	
Ag	107	1	No Gas	0.016	14.5	947	10.6	2.5	
Cd	111	1	No Gas	0.007	20.7	87	13.3	1	
Sr	88	1	No Gas	0.012	27.8	4004	5.1	2.5	
Mo	95	1	No Gas	0.041	19.8	713	16.7	2.5	
Sn	118	1	No Gas	0.074	7.9	5274	1.2	5	
Sb	121	1	No Gas	0.284	4.7	9964	4.9	2.5	
Ba	137	1	No Gas	-0.095	-5.4	953	7.7	2.5	
Tl	205	1	No Gas	0.077	28.1	4971	26.3	1	
Tl	203	1	No Gas	0.075	33.4	2090	30.9	1	
Pb	208	1	No Gas	0.020	2.6	3107	1.3	2.5	
U	238	1	No Gas	0.006	18.4	470	16.9	2.5	
Ca	43	2	He	-0.020	-20886.7	10	100.0	100	
Sb	121	2	He	0.265	3.0	3534	2.6	2.5	
Ti	47	2	He	0.035	57.2	13	43.3	2.5	
Cu	63	1	No Gas	0.048	22.7	4394	8.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2178344	0.99	2076007	104.93	70	120	
Ge	72	2	He	1283303	0.73	1283119	100.01	70	120	
Ge	72	1	No Gas	6028136	1.38	5854434	102.97	70	120	
In	115	1	No Gas	7044088	1.78	7184199	98.05	70	120	
Bi	209	1	No Gas	5142559	0.39	5632659	91.30	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	301_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:49:09-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	100.303	3.021	2685559	3.03	100	100.3	90	110	
Be	9	1	No Gas	104.250	0.633	648924	0.30	100	104.2	90	110	
V	51	2	He	101.514	0.602	916191	1.41	100	101.5	90	110	
Cr	52	2	He	103.236	1.080	1131937	0.07	100	103.2	90	110	
Fe	56	2	He	10209.982	0.585	95936955	0.43	10000	102.1	90	110	
Se	78	2	He	99.787	0.765	12446	0.66	100	99.8	90	110	
Sn	118	2	He	96.180	0.131	925287	0.76	100	96.2	90	110	
As	75	2	He	105.295	1.107	158373	0.62	100	105.3	90	110	
Ca	44	2	He	9982.567	0.849	422654	0.28	10000	99.8	90	110	
Na	23	2	He	10331.138	1.443	12539515	0.82	10000	103.3	90	110	
Mg	24	2	He	10258.341	1.551	6544396	1.20	10000	102.6	90	110	
K	39	2	He	10137.004	1.658	7800447	2.39	10000	101.4	90	110	
Mn	55	2	He	99.540	1.452	693914	1.13	100	99.5	90	110	
Co	59	2	He	107.732	1.858	1889918	0.84	100	107.7	90	110	
Ni	60	2	He	101.787	1.840	465990	0.86	100	101.8	90	110	
Cu	63	2	He	104.749	2.379	1323050	2.18	100	104.7	90	110	
Zn	66	2	He	103.851	1.224	217969	0.36	100	103.9	90	110	
Al	27	2	He	98.692	0.201	29776	1.18	100	98.7	90	110	
B	11	1	No Gas	519.718	1.527	2129419	1.10	500	103.9	90	110	
Al	27	1	No Gas	105.275	0.887	3061457	1.57	100	105.3	90	110	
Si	28	1	No Gas	559.344	0.632	9016158	1.28	5000	11.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	538.671	1.202	854614	0.44	500	107.7	90	110	
Ag	107	1	No Gas	103.829	4.066	3916135	1.08	100	103.8	90	110	
Cd	111	1	No Gas	100.844	2.384	773170	1.15	100	100.8	90	110	
Sr	88	1	No Gas	99.617	4.134	7761046	1.01	100	99.6	90	110	
Mo	95	1	No Gas	101.799	3.820	1459631	1.45	100	101.8	90	110	
Sn	118	1	No Gas	102.889	3.883	2504108	2.14	100	102.9	90	110	
Sb	121	1	No Gas	102.503	0.488	3230186	0.77	100	102.5	90	110	
Ba	137	1	No Gas	100.271	2.782	1165494	1.52	100	100.3	90	110	
Tl	205	1	No Gas	103.883	3.690	5900104	2.14	100	103.9	90	110	
Tl	203	1	No Gas	105.788	4.680	2545299	3.78	100	105.8	90	110	
Pb	208	1	No Gas	105.048	0.466	7836039	1.07	100	105.0	90	110	
U	238	1	No Gas	100.186	0.709	7002322	1.74	100	100.2	90	110	
Ca	43	2	He	10354.559	1.995	25107	1.45	10000	103.5	90	110	
Sb	121	2	He	102.909	1.336	1241582	0.46	100	102.9	90	110	
Ti	47	2	He	101.199	0.596	29105	1.02	100	101.2	90	110	
Cu	63	1	No Gas	105.328	1.804	2833644	1.17	100	105.3	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2071001	0.42	2076007	99.76	70	120	
Ge	72	2	He	1279771	1.01	1283119	99.74	70	120	
Ge	72	1	No Gas	5959749	0.72	5854434	101.80	70	120	
In	115	1	No Gas	7110309	3.19	7184199	98.97	70	120	
Bi	209	1	No Gas	4822770	1.54	5632659	85.62	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	302_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T22:50:54-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.189	12.4	124007	0.5	0.5	
Be	9	1	No Gas	0.028	9.7	195	9.2	0.5	
V	51	2	He	-0.050	-18.7	1535	5.3	2.5	
Cr	52	2	He	-0.005	-322.0	1287	14.4	2.5	
Fe	56	2	He	0.749	13.9	18189	5.4	100	
Se	78	2	He	0.050	66.1	111	3.8	2	
As	75	2	He	0.014	39.7	103	8.5	2.5	
Ca	44	2	He	1.041	27.2	353	3.3	100	
Na	23	2	He	54.576	0.8	122312	0.6	100	
Mg	24	2	He	1.046	7.8	1300	4.1	100	
K	39	2	He	6.161	7.2	49225	0.6	100	
Mn	55	2	He	0.114	16.1	1303	9.8	2.5	
Co	59	2	He	0.005	40.2	287	12.3	2.5	
Ni	60	2	He	0.004	76.7	213	7.2	2.5	
Cu	63	2	He	0.009	79.9	1440	6.4	2	
Zn	66	2	He	0.083	39.6	887	8.2	2.5	
Al	27	2	He	-0.087	-275.8	563	12.6	5	
B	11	1	No Gas	16.154	3.3	81790	3.2	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.062	-110.2	43572	4.9	5	
Si	28	1	No Gas	2.183	9.3	596492	0.3	10	
P	31	1	No Gas	0.225	404.6	36528	3.6	10	
Ag	107	1	No Gas	0.009	16.8	700	8.9	2.5	
Cd	111	1	No Gas	0.002	130.3	57	44.4	1	
Sr	88	1	No Gas	0.012	11.1	4197	1.8	2.5	
Mo	95	1	No Gas	0.027	31.0	540	22.5	2.5	
Sn	118	1	No Gas	0.089	16.6	5815	5.6	5	
Sb	121	1	No Gas	0.074	15.3	3314	11.2	2.5	
Ba	137	1	No Gas	-0.090	-14.4	1053	14.3	2.5	
Tl	205	1	No Gas	0.075	24.7	4814	22.6	1	
Tl	203	1	No Gas	0.069	41.3	1917	37.5	1	
Pb	208	1	No Gas	0.016	21.9	2770	9.6	2.5	
U	238	1	No Gas	0.005	7.4	427	6.8	2.5	
Ca	43	2	He	10.732	78.5	37	56.8	100	
Sb	121	2	He	0.051	28.1	963	18.3	2.5	
Ti	47	2	He	0.000	-6648.8	3	173.2	2.5	
Cu	63	1	No Gas	0.023	16.0	3751	3.0	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2103048	0.68	2076007	101.30	70	120	
Ge	72	2	He	1304093	0.23	1283119	101.63	70	120	
Ge	72	1	No Gas	6078607	0.28	5854434	103.83	70	120	
In	115	1	No Gas	7279441	0.85	7184199	101.33	70	120	
Bi	209	1	No Gas	5107315	0.59	5632659	90.67	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	308_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:02:25-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	101.787	3.612	2728952	1.30	100	101.8	90	110	
Be	9	1	No Gas	104.485	2.072	651844	0.75	100	104.5	90	110	
V	51	2	He	103.557	0.943	918744	1.41	100	103.6	90	110	
Cr	52	2	He	105.618	3.020	1138222	1.79	100	105.6	90	110	
Fe	56	2	He	10481.025	2.378	96802202	1.21	10000	104.8	90	110	
Se	78	2	He	104.084	3.604	12754	2.22	100	104.1	90	110	
Sn	118	2	He	98.162	1.184	930482	2.09	100	98.2	90	110	
As	75	2	He	108.565	2.492	160500	1.09	100	108.6	90	110	
Ca	44	2	He	10169.001	1.010	423247	0.47	10000	101.7	90	110	
Na	23	2	He	10437.700	0.639	12454508	0.94	10000	104.4	90	110	
Mg	24	2	He	10591.855	1.832	6642222	0.52	10000	105.9	90	110	
K	39	2	He	10516.001	2.266	7951539	1.00	10000	105.2	90	110	
Mn	55	2	He	102.084	1.549	699547	0.15	100	102.1	90	110	
Co	59	2	He	111.243	1.096	1918554	0.41	100	111.2	90	110	CCV Main CR1-2 Failed
Ni	60	2	He	104.377	1.318	469761	0.27	100	104.4	90	110	
Cu	63	2	He	106.302	1.569	1319890	1.08	100	106.3	90	110	
Zn	66	2	He	105.704	1.429	218098	1.50	100	105.7	90	110	
Al	27	2	He	103.945	1.987	30794	0.84	100	103.9	90	110	
B	11	1	No Gas	517.878	3.739	2126262	1.77	500	103.6	90	110	
Al	27	1	No Gas	106.186	1.621	3101317	0.73	100	106.2	90	110	
Si	28	1	No Gas	560.281	2.575	9069782	1.03	5000	11.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	529.694	2.539	844677	0.47	500	105.9	90	110	
Ag	107	1	No Gas	106.344	2.358	3840337	0.64	100	106.3	90	110	
Cd	111	1	No Gas	102.288	1.663	750681	0.91	100	102.3	90	110	
Sr	88	1	No Gas	103.544	1.927	7725415	2.23	100	103.5	90	110	
Mo	95	1	No Gas	105.988	3.067	1454815	1.63	100	106.0	90	110	
Sn	118	1	No Gas	105.248	1.189	2452965	2.82	100	105.2	90	110	
Sb	121	1	No Gas	99.629	2.956	3153790	2.64	100	99.6	90	110	
Ba	137	1	No Gas	104.617	1.416	1164182	2.59	100	104.6	90	110	
Tl	205	1	No Gas	97.264	0.885	5817505	1.11	100	97.3	90	110	
Tl	203	1	No Gas	96.828	1.674	2453048	0.54	100	96.8	90	110	
Pb	208	1	No Gas	101.526	0.653	7972579	0.49	100	101.5	90	110	
U	238	1	No Gas	100.155	0.865	7368706	0.33	100	100.2	90	110	
Ca	43	2	He	10369.647	0.762	24719	1.08	10000	103.7	90	110	
Sb	121	2	He	104.993	2.888	1245070	1.47	100	105.0	90	110	
Ti	47	2	He	103.718	2.895	29318	1.82	100	103.7	90	110	
Cu	63	1	No Gas	104.966	1.579	2836787	0.60	100	105.0	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2076357	2.66	2076007	100.02	70	120	
Ge	72	2	He	1258139	1.44	1283119	98.05	70	120	
Ge	72	1	No Gas	5987844	2.19	5854434	102.28	70	120	
In	115	1	No Gas	6803887	1.81	7184199	94.71	70	120	
Bi	209	1	No Gas	5077037	1.14	5632659	90.14	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	309_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:04:09-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.055	98.4	123736	0.3	0.5	
Be	9	1	No Gas	0.033	24.1	237	23.4	0.5	
V	51	2	He	-0.046	-10.2	1553	4.1	2.5	
Cr	52	2	He	0.000	2552.7	1333	2.6	2.5	
Fe	56	2	He	0.854	11.7	19010	5.8	100	
Se	78	2	He	0.005	2326.9	104	13.5	2	
As	75	2	He	0.025	49.4	119	16.4	2.5	
Ca	44	2	He	0.977	108.7	347	12.0	100	
Na	23	2	He	40.436	4.8	103818	1.1	100	
Mg	24	2	He	1.175	11.2	1370	6.3	100	
K	39	2	He	5.519	34.7	48239	3.9	100	
Mn	55	2	He	0.050	9.6	840	4.1	2.5	
Co	59	2	He	0.008	27.9	333	10.5	2.5	
Ni	60	2	He	0.011	37.1	243	8.6	2.5	
Cu	63	2	He	0.009	100.3	1423	8.8	2	
Zn	66	2	He	-0.042	-114.5	613	17.4	2.5	
Al	27	2	He	-0.234	-121.5	513	15.6	5	
B	11	1	No Gas	14.389	5.3	76472	4.2	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.350	138.1	55123	23.9	5	
Si	28	1	No Gas	3.773	19.0	617041	0.6	10	
P	31	1	No Gas	1.145	63.3	37718	3.1	10	
Ag	107	1	No Gas	0.013	32.0	850	20.1	2.5	
Cd	111	1	No Gas	0.003	64.6	57	20.4	1	
Sr	88	1	No Gas	0.011	8.6	4051	0.9	2.5	
Mo	95	1	No Gas	0.040	15.9	713	14.0	2.5	
Sn	118	1	No Gas	0.089	14.9	5735	3.1	5	
Sb	121	1	No Gas	0.131	14.4	5088	10.7	2.5	
Ba	137	1	No Gas	-0.111	-5.8	790	11.3	2.5	
Tl	205	1	No Gas	0.069	29.8	4498	27.8	1	
Tl	203	1	No Gas	0.070	30.5	1974	28.1	1	
Pb	208	1	No Gas	0.020	15.7	3090	7.4	2.5	
U	238	1	No Gas	0.006	36.8	507	34.5	2.5	
Ca	43	2	He	2.697	87.0	17	34.6	100	
Sb	121	2	He	0.114	7.5	1720	7.3	2.5	
Ti	47	2	He	0.023	150.7	10	100.0	2.5	
Cu	63	1	No Gas	0.028	49.8	3851	8.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2159151	1.40	2076007	104.00	70	120	
Ge	72	2	He	1290915	1.32	1283119	100.61	70	120	
Ge	72	1	No Gas	6040521	1.50	5854434	103.18	70	120	
In	115	1	No Gas	7176666	2.63	7184199	99.90	70	120	
Bi	209	1	No Gas	5171549	0.64	5632659	91.81	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	314_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:13:45-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	101.821	1.567	2740827	0.37	100	101.8	90	110	
Be	9	1	No Gas	104.928	0.989	657137	0.66	100	104.9	90	110	
V	51	2	He	99.583	0.412	921192	2.56	100	99.6	90	110	
Cr	52	2	He	101.681	1.681	1142463	0.86	100	101.7	90	110	
Fe	56	2	He	10089.716	1.912	97159972	2.31	10000	100.9	90	110	
Se	78	2	He	99.922	3.234	12767	0.71	100	99.9	90	110	
Sn	118	2	He	96.691	1.491	936828	1.55	100	96.7	90	110	
As	75	2	He	104.164	2.575	160523	0.76	100	104.2	90	110	
Ca	44	2	He	9925.713	2.323	430585	0.36	10000	99.3	90	110	
Na	23	2	He	10254.626	2.353	12753677	0.80	10000	102.5	90	110	
Mg	24	2	He	10146.493	1.830	6633836	2.21	10000	101.5	90	110	
K	39	2	He	9984.347	1.993	7872083	0.55	10000	99.8	90	110	
Mn	55	2	He	98.573	1.908	704134	0.66	100	98.6	90	110	
Co	59	2	He	103.913	3.326	1867581	0.81	100	103.9	90	110	
Ni	60	2	He	100.785	2.384	472778	0.46	100	100.8	90	110	
Cu	63	2	He	102.759	3.641	1329614	1.52	100	102.8	90	110	
Zn	66	2	He	102.203	2.238	219813	1.11	100	102.2	90	110	
Al	27	2	He	98.333	4.040	30400	3.64	100	98.3	90	110	
B	11	1	No Gas	521.215	2.201	2148601	2.01	500	104.2	90	110	
Al	27	1	No Gas	105.631	3.696	3127423	1.15	100	105.6	90	110	
Si	28	1	No Gas	557.837	2.976	9158044	0.22	5000	11.2	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	534.167	1.301	863617	1.65	500	106.8	90	110	
Ag	107	1	No Gas	103.555	1.750	3880932	0.50	100	103.6	90	110	
Cd	111	1	No Gas	100.436	1.401	764903	0.98	100	100.4	90	110	
Sr	88	1	No Gas	99.760	1.721	7722867	0.58	100	99.8	90	110	
Mo	95	1	No Gas	101.513	3.799	1445824	2.34	100	101.5	90	110	
Sn	118	1	No Gas	101.164	3.264	2445810	2.21	100	101.2	90	110	
Sb	121	1	No Gas	99.681	2.672	3198993	0.33	100	99.7	90	110	
Ba	137	1	No Gas	101.795	4.018	1174867	1.86	100	101.8	90	110	
Tl	205	1	No Gas	98.223	1.887	5903229	1.04	100	98.2	90	110	
Tl	203	1	No Gas	100.381	3.121	2554993	0.44	100	100.4	90	110	
Pb	208	1	No Gas	101.603	1.562	8018458	2.02	100	101.6	90	110	
U	238	1	No Gas	98.223	1.063	7263990	2.83	100	98.2	90	110	
Ca	43	2	He	10186.608	5.689	25294	3.19	10000	101.9	90	110	
Sb	121	2	He	102.525	1.883	1267502	0.65	100	102.5	90	110	
Ti	47	2	He	97.413	3.519	28700	1.90	100	97.4	90	110	
Cu	63	1	No Gas	105.248	2.082	2884005	0.51	100	105.2	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2083798	1.42	2076007	100.38	70	120	
Ge	72	2	He	1311686	2.54	1283119	102.23	70	120	
Ge	72	1	No Gas	6071989	2.61	5854434	103.72	70	120	
In	115	1	No Gas	7060740	2.13	7184199	98.28	70	120	
Bi	209	1	No Gas	5103278	2.90	5632659	90.60	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	315_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:15:29-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.071	38.3	125360	1.5	0.5	
Be	9	1	No Gas	0.024	7.0	175	5.7	0.5	
V	51	2	He	-0.055	-4.5	1475	1.4	2.5	
Cr	52	2	He	-0.005	-157.0	1280	6.2	2.5	
Fe	56	2	He	0.635	27.7	16953	9.5	100	
Se	78	2	He	0.009	247.2	105	2.2	2	
As	75	2	He	0.011	138.1	98	25.6	2.5	
Ca	44	2	He	1.818	40.4	383	6.6	100	
Na	23	2	He	56.450	4.1	123563	0.7	100	
Mg	24	2	He	0.824	5.4	1147	4.1	100	
K	39	2	He	6.784	22.0	49289	0.7	100	
Mn	55	2	He	0.066	21.6	953	11.0	2.5	
Co	59	2	He	0.001	108.3	220	12.0	2.5	
Ni	60	2	He	0.002	573.1	200	25.0	2.5	
Cu	63	2	He	0.001	1961.2	1320	16.1	2	
Zn	66	2	He	-0.028	-71.9	643	7.0	2.5	
Al	27	2	He	-0.441	-32.6	453	10.4	5	
B	11	1	No Gas	12.217	4.9	67906	3.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	-0.026	-156.7	44465	2.6	5	
Si	28	1	No Gas	2.997	6.9	606958	0.3	10	
P	31	1	No Gas	1.137	53.2	37815	2.6	10	
Ag	107	1	No Gas	0.009	19.7	703	11.4	2.5	
Cd	111	1	No Gas	0.005	73.0	77	39.8	1	
Sr	88	1	No Gas	0.010	33.4	3997	6.5	2.5	
Mo	95	1	No Gas	0.026	23.6	523	19.6	2.5	
Sn	118	1	No Gas	0.097	5.8	5985	4.9	5	
Sb	121	1	No Gas	0.060	14.2	2844	9.4	2.5	
Ba	137	1	No Gas	-0.108	-4.1	830	5.3	2.5	
Tl	205	1	No Gas	0.079	34.2	5025	30.7	1	
Tl	203	1	No Gas	0.075	33.7	2057	29.8	1	
Pb	208	1	No Gas	0.016	22.6	2774	8.5	2.5	
U	238	1	No Gas	0.007	14.3	550	14.2	2.5	
Ca	43	2	He	-0.051	-8035.3	10	100.0	100	
Sb	121	2	He	0.055	14.9	1007	11.6	2.5	
Ti	47	2	He	0.000	401874.0	3	173.2	2.5	
Cu	63	1	No Gas	0.024	32.2	3761	5.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2180096	1.38	2076007	105.01	70	120	
Ge	72	2	He	1293358	1.66	1283119	100.80	70	120	
Ge	72	1	No Gas	6057724	0.32	5854434	103.47	70	120	
In	115	1	No Gas	7226421	2.64	7184199	100.59	70	120	
Bi	209	1	No Gas	5109635	2.20	5632659	90.71	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	321_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:26:54-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.041	178.2	127932	0.2	0.5	
Be	9	1	No Gas	0.017	4.8	137	5.6	0.5	
V	51	2	He	-0.039	-19.1	1656	3.5	2.5	
Cr	52	2	He	-0.003	-176.0	1330	3.8	2.5	
Fe	56	2	He	0.542	4.5	16430	1.8	100	
Se	78	2	He	-0.014	-185.7	104	3.8	2	
As	75	2	He	0.024	86.7	120	27.8	2.5	
Ca	44	2	He	0.859	98.5	350	9.9	100	
Na	23	2	He	99.993	0.7	180667	1.1	100	
Mg	24	2	He	0.614	31.2	1033	12.8	100	
K	39	2	He	9.399	10.7	52450	1.3	100	
Mn	55	2	He	0.045	19.7	820	8.4	2.5	
Co	59	2	He	0.006	54.0	320	20.5	2.5	
Ni	60	2	He	-0.005	-40.3	170	5.9	2.5	
Cu	63	2	He	0.013	34.7	1513	4.2	2	
Zn	66	2	He	-0.055	-31.7	600	5.8	2.5	
Al	27	2	He	-0.178	-288.1	543	28.7	5	
B	11	1	No Gas	11.636	4.5	67203	3.4	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.088	24.7	48384	1.3	5	
Si	28	1	No Gas	3.304	14.4	619125	0.3	10	
P	31	1	No Gas	0.347	261.8	37030	2.5	10	
Ag	107	1	No Gas	0.012	1.3	817	2.5	2.5	
Cd	111	1	No Gas	0.003	88.0	60	33.3	1	
Sr	88	1	No Gas	0.005	46.6	3494	6.7	2.5	
Mo	95	1	No Gas	0.065	17.4	1073	13.3	2.5	
Sn	118	1	No Gas	0.095	7.8	5865	2.2	5	
Sb	121	1	No Gas	0.092	11.0	3907	9.2	2.5	
Ba	137	1	No Gas	-0.107	-2.0	827	3.9	2.5	
Tl	205	1	No Gas	0.066	32.9	4248	29.1	1	
Tl	203	1	No Gas	0.059	32.1	1663	27.3	1	
Pb	208	1	No Gas	0.015	20.1	2660	6.3	2.5	
U	238	1	No Gas	0.007	21.5	527	17.9	2.5	
Ca	43	2	He	3.870	207.1	20	100.0	100	
Sb	121	2	He	0.074	23.4	1260	17.6	2.5	
Ti	47	2	He	0.000	-5304.9	3	173.2	2.5	
Cu	63	1	No Gas	0.043	15.9	4331	5.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2239398	1.71	2076007	107.87	70	120	
Ge	72	2	He	1321780	0.71	1283119	103.01	70	120	
Ge	72	1	No Gas	6132016	1.32	5854434	104.74	70	120	
In	115	1	No Gas	7133697	2.16	7184199	99.30	70	120	
Bi	209	1	No Gas	5128638	2.68	5632659	91.05	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	323_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:30:40-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	103.723	2.595	2770766	1.30	100	103.7	90	110	
Be	9	1	No Gas	102.505	2.038	637569	0.89	100	102.5	90	110	
V	51	2	He	98.937	2.912	895617	2.15	100	98.9	90	110	
Cr	52	2	He	101.490	1.507	1116253	0.42	100	101.5	90	110	
Fe	56	2	He	10073.591	0.828	94950529	0.44	10000	100.7	90	110	
Se	78	2	He	99.304	1.805	12424	0.85	100	99.3	90	110	
Sn	118	2	He	96.770	1.502	932538	0.82	100	96.8	90	110	
As	75	2	He	103.033	0.938	155457	0.29	100	103.0	90	110	
Ca	44	2	He	9869.455	1.651	419149	0.47	10000	98.7	90	110	
Na	23	2	He	10214.100	1.477	12436563	0.27	10000	102.1	90	110	
Mg	24	2	He	10219.597	0.543	6540846	1.69	10000	102.2	90	110	
K	39	2	He	9962.656	1.768	7689568	0.70	10000	99.6	90	110	
Mn	55	2	He	98.029	0.928	685538	0.77	100	98.0	90	110	
Co	59	2	He	104.773	1.479	1843888	1.25	100	104.8	90	110	
Ni	60	2	He	101.249	1.238	464995	0.28	100	101.2	90	110	
Cu	63	2	He	101.944	0.513	1291803	1.41	100	101.9	90	110	
Zn	66	2	He	102.061	1.093	214898	0.61	100	102.1	90	110	
Al	27	2	He	97.683	3.447	29562	2.26	100	97.7	90	110	
B	11	1	No Gas	508.102	1.602	2080675	0.42	500	101.6	90	110	
Al	27	1	No Gas	102.560	2.203	3018233	1.27	100	102.6	90	110	
Si	28	1	No Gas	515.697	2.231	8452578	1.14	5000	10.3	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	508.921	2.144	818835	1.21	500	101.8	90	110	
Ag	107	1	No Gas	102.473	2.391	3826852	1.26	100	102.5	90	110	
Cd	111	1	No Gas	98.487	0.999	747462	0.65	100	98.5	90	110	
Sr	88	1	No Gas	100.217	1.362	7731899	1.37	100	100.2	90	110	
Mo	95	1	No Gas	100.404	1.982	1425315	0.84	100	100.4	90	110	
Sn	118	1	No Gas	101.557	2.437	2447073	1.95	100	101.6	90	110	
Sb	121	1	No Gas	97.427	0.345	3106338	0.76	100	97.4	90	110	
Ba	137	1	No Gas	99.843	1.859	1148786	1.43	100	99.8	90	110	
Tl	205	1	No Gas	96.380	2.137	5729436	2.13	100	96.4	90	110	
Tl	203	1	No Gas	95.673	3.758	2408917	3.18	100	95.7	90	110	
Pb	208	1	No Gas	100.531	0.813	7846931	1.56	100	100.5	90	110	
U	238	1	No Gas	99.710	2.201	7291390	2.13	100	99.7	90	110	
Ca	43	2	He	10178.291	3.968	24753	3.03	10000	101.8	90	110	
Sb	121	2	He	101.237	0.374	1225345	1.11	100	101.2	90	110	
Ti	47	2	He	98.619	0.472	28453	1.70	100	98.6	90	110	
Cu	63	1	No Gas	102.357	2.364	2786305	2.39	100	102.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2069710	1.23	2076007	99.70	70	120	
Ge	72	2	He	1283795	1.23	1283119	100.05	70	120	
Ge	72	1	No Gas	6029807	0.94	5854434	103.00	70	120	
In	115	1	No Gas	7035382	1.15	7184199	97.93	70	120	
Bi	209	1	No Gas	5046306	1.51	5632659	89.59	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	331_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:46:01-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	96.522	2.405	2681224	0.99	100	96.5	90	110	
Be	9	1	No Gas	98.392	2.522	634326	0.44	100	98.4	90	110	
V	51	2	He	98.055	1.684	931497	1.61	100	98.1	90	110	
Cr	52	2	He	100.540	0.857	1160397	0.88	100	100.5	90	110	
Fe	56	2	He	9991.327	0.207	98817799	0.35	10000	99.9	90	110	
Se	78	2	He	98.027	1.777	12870	1.32	100	98.0	90	110	
Sn	118	2	He	97.235	1.990	982634	2.31	100	97.2	90	110	
As	75	2	He	99.344	0.958	157281	0.53	100	99.3	90	110	
Ca	44	2	He	9768.448	0.258	435345	0.49	10000	97.7	90	110	
Na	23	2	He	10210.671	0.577	13045836	0.24	10000	102.1	90	110	
Mg	24	2	He	9919.068	1.560	6660960	1.80	10000	99.2	90	110	
K	39	2	He	9962.884	0.977	8069222	0.61	10000	99.6	90	110	
Mn	55	2	He	98.680	0.233	724106	0.42	100	98.7	90	110	
Co	59	2	He	104.542	0.797	1930554	0.94	100	104.5	90	110	
Ni	60	2	He	99.005	0.591	477120	0.41	100	99.0	90	110	
Cu	63	2	He	99.768	1.916	1326459	1.85	100	99.8	90	110	
Zn	66	2	He	99.144	1.067	219064	0.66	100	99.1	90	110	
Al	27	2	He	95.155	2.672	30236	2.34	100	95.2	90	110	
B	11	1	No Gas	492.864	3.307	2092114	1.31	500	98.6	90	110	
Al	27	1	No Gas	99.439	1.963	3015881	0.88	100	99.4	90	110	
Si	28	1	No Gas	504.805	2.058	8535249	0.89	5000	10.1	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	505.213	2.463	837586	1.49	500	101.0	90	110	
Ag	107	1	No Gas	101.052	1.063	3949700	1.68	100	101.1	90	110	
Cd	111	1	No Gas	97.851	1.109	777166	1.78	100	97.9	90	110	
Sr	88	1	No Gas	99.795	2.151	8055518	0.47	100	99.8	90	110	
Mo	95	1	No Gas	99.818	1.365	1483074	2.19	100	99.8	90	110	
Sn	118	1	No Gas	100.239	1.328	2528133	2.79	100	100.2	90	110	
Sb	121	1	No Gas	99.747	2.704	3275432	1.59	100	99.7	90	110	
Ba	137	1	No Gas	100.309	3.518	1207353	1.45	100	100.3	90	110	
Tl	205	1	No Gas	95.421	4.801	6036598	6.63	100	95.4	90	110	
Tl	203	1	No Gas	94.094	1.796	2520613	3.64	100	94.1	90	110	
Pb	208	1	No Gas	100.525	1.245	8345238	2.75	100	100.5	90	110	
U	238	1	No Gas	99.122	3.256	7708250	3.33	100	99.1	90	110	
Ca	43	2	He	9939.850	2.869	25370	3.02	10000	99.4	90	110	
Sb	121	2	He	98.595	0.178	1252130	0.34	100	98.6	90	110	
Ti	47	2	He	97.203	1.587	29425	1.94	100	97.2	90	110	
Cu	63	1	No Gas	101.646	0.693	2850272	0.79	100	101.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2145741	2.37	2076007	103.36	70	120	
Ge	72	2	He	1347001	0.51	1283119	104.98	70	120	
Ge	72	1	No Gas	6211353	1.11	5854434	106.10	70	120	
In	115	1	No Gas	7363087	2.45	7184199	102.49	70	120	
Bi	209	1	No Gas	5367835	3.30	5632659	95.30	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	332_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T23:47:45-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.172	39.9	125925	0.7	0.5	
Be	9	1	No Gas	0.017	31.7	132	27.5	0.5	
V	51	2	He	-0.060	-16.0	1468	5.5	2.5	
Cr	52	2	He	-0.002	-466.7	1340	10.4	2.5	
Fe	56	2	He	0.412	26.4	15209	6.7	100	
Se	78	2	He	0.150	93.7	125	13.8	2	
As	75	2	He	0.008	102.4	94	13.4	2.5	
Ca	44	2	He	-0.078	-1218.7	310	12.9	100	
Na	23	2	He	192.087	1.0	296483	0.1	100	CCB Main CR1 Failed
Mg	24	2	He	0.272	17.5	810	4.5	100	
K	39	2	He	9.329	9.9	52548	1.0	100	
Mn	55	2	He	0.047	2.2	840	1.2	2.5	
Co	59	2	He	0.000	-1513.1	200	26.0	2.5	
Ni	60	2	He	-0.011	-50.0	143	17.6	2.5	
Cu	63	2	He	0.012	36.8	1503	4.0	2	
Zn	66	2	He	-0.045	-140.8	623	21.4	2.5	
Al	27	2	He	-0.260	-75.6	520	12.0	5	
B	11	1	No Gas	4.967	9.1	36240	5.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.191	22.7	51676	1.7	5	
Si	28	1	No Gas	0.294	152.9	575172	0.3	10	
P	31	1	No Gas	-2.179	-20.6	33257	2.2	10	
Ag	107	1	No Gas	0.016	12.7	1023	8.9	2.5	
Cd	111	1	No Gas	-0.001	-383.9	33	62.4	1	
Sr	88	1	No Gas	0.006	63.4	3781	8.3	2.5	
Mo	95	1	No Gas	0.030	16.2	607	14.4	2.5	
Sn	118	1	No Gas	0.051	16.6	5071	2.8	5	
Sb	121	1	No Gas	0.077	3.8	3431	3.5	2.5	
Ba	137	1	No Gas	-0.115	-11.0	777	19.5	2.5	
Tl	205	1	No Gas	0.074	46.2	5011	41.5	1	
Tl	203	1	No Gas	0.068	42.4	1987	37.1	1	
Pb	208	1	No Gas	0.013	38.9	2660	14.0	2.5	
U	238	1	No Gas	0.007	30.0	583	26.6	2.5	
Ca	43	2	He	1.212	380.7	13	86.6	100	
Sb	121	2	He	0.055	13.2	1023	9.5	2.5	
Ti	47	2	He	0.022	153.2	10	100.0	2.5	
Cu	63	1	No Gas	0.086	17.1	5548	6.8	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2143183	0.93	2076007	103.24	70	120	
Ge	72	2	He	1325671	0.73	1283119	103.32	70	120	
Ge	72	1	No Gas	6163148	1.47	5854434	105.27	70	120	
In	115	1	No Gas	7557980	2.92	7184199	105.20	70	120	
Bi	209	1	No Gas	5436373	2.20	5632659	96.52	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	340_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:03:25-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	97.911	3.462	2505013	1.69	100	97.9	90	110	
Be	9	1	No Gas	97.354	2.233	578570	1.39	100	97.4	90	110	
V	51	2	He	96.299	1.485	876659	0.39	100	96.3	90	110	
Cr	52	2	He	98.322	1.184	1087467	0.30	100	98.3	90	110	
Fe	56	2	He	9878.964	0.659	93635512	1.08	10000	98.8	90	110	
Se	78	2	He	99.396	1.224	12504	0.31	100	99.4	90	110	
Sn	118	2	He	96.785	2.297	966295	1.15	100	96.8	90	110	
As	75	2	He	98.787	1.321	149875	0.26	100	98.8	90	110	
Ca	44	2	He	9705.185	1.211	414477	0.46	10000	97.1	90	110	
Na	23	2	He	9875.925	0.872	12094082	0.95	10000	98.8	90	110	
Mg	24	2	He	9799.586	0.670	6306415	1.14	10000	98.0	90	110	
K	39	2	He	9842.225	1.682	7639392	0.98	10000	98.4	90	110	
Mn	55	2	He	97.835	1.273	687952	0.81	100	97.8	90	110	
Co	59	2	He	105.067	3.016	1858936	1.57	100	105.1	90	110	
Ni	60	2	He	99.155	1.352	457909	0.86	100	99.2	90	110	
Cu	63	2	He	100.175	0.169	1276450	1.53	100	100.2	90	110	
Zn	66	2	He	98.788	2.435	209153	1.14	100	98.8	90	110	
Al	27	2	He	93.142	1.897	28383	3.11	100	93.1	90	110	
B	11	1	No Gas	489.648	2.382	1916147	0.74	500	97.9	90	110	
Al	27	1	No Gas	97.447	1.166	2852149	0.48	100	97.4	90	110	
Si	28	1	No Gas	492.857	1.147	8052529	0.20	5000	9.9	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	485.675	0.503	778235	0.85	500	97.1	90	110	
Ag	107	1	No Gas	99.785	1.744	3909626	1.85	100	99.8	90	110	
Cd	111	1	No Gas	98.295	1.682	782552	1.43	100	98.3	90	110	
Sr	88	1	No Gas	98.112	1.479	7939882	0.30	100	98.1	90	110	
Mo	95	1	No Gas	97.429	1.383	1450989	1.18	100	97.4	90	110	
Sn	118	1	No Gas	100.029	2.548	2528785	2.99	100	100.0	90	110	
Sb	121	1	No Gas	100.971	2.741	3198489	1.59	100	101.0	90	110	
Ba	137	1	No Gas	98.858	0.940	1193457	2.41	100	98.9	90	110	
Tl	205	1	No Gas	95.427	4.299	6127326	0.66	100	95.4	90	110	
Tl	203	1	No Gas	94.876	6.430	2578914	2.07	100	94.9	90	110	
Pb	208	1	No Gas	100.618	2.496	8487063	1.98	100	100.6	90	110	
U	238	1	No Gas	98.921	2.280	7818846	2.82	100	98.9	90	110	
Ca	43	2	He	9794.130	2.857	23951	1.53	10000	97.9	90	110	
Sb	121	2	He	100.637	2.243	1224760	2.11	100	100.6	90	110	
Ti	47	2	He	98.972	1.647	28717	3.08	100	99.0	90	110	
Cu	63	1	No Gas	101.418	1.712	2743448	1.83	100	101.4	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1977635	1.76	2076007	95.26	70	120	
Ge	72	2	He	1290928	1.46	1283119	100.61	70	120	
Ge	72	1	No Gas	5992058	1.26	5854434	102.35	70	120	
In	115	1	No Gas	7380322	1.52	7184199	102.73	70	120	
Bi	209	1	No Gas	5457243	4.54	5632659	96.89	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	341_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:05:10-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.096	59.8	116248	0.5	0.5	
Be	9	1	No Gas	0.033	18.9	218	16.6	0.5	
V	51	2	He	-0.052	-6.5	1516	2.0	2.5	
Cr	52	2	He	-0.010	-12.3	1233	1.2	2.5	
Fe	56	2	He	0.817	7.1	18877	2.2	100	
Se	78	2	He	0.022	412.0	107	10.3	2	
As	75	2	He	0.020	60.4	112	16.4	2.5	
Ca	44	2	He	6.826	19.6	603	8.2	100	
Na	23	2	He	126.299	1.5	211009	0.3	100	CCB Main CR1 Failed
Mg	24	2	He	2.622	11.0	2327	6.7	100	
K	39	2	He	8.178	20.2	50885	2.1	100	
Mn	55	2	He	0.080	31.3	1060	16.4	2.5	
Co	59	2	He	0.004	88.7	277	23.5	2.5	
Ni	60	2	He	-0.001	-2676.5	190	55.0	2.5	
Cu	63	2	He	0.013	39.2	1490	4.7	2	
Zn	66	2	He	-0.048	-151.0	607	24.1	2.5	
Al	27	2	He	-0.180	-97.8	537	10.6	5	
B	11	1	No Gas	5.920	1.7	37762	1.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.148	7.0	50002	0.6	5	
Si	28	1	No Gas	0.465	37.0	573347	0.4	10	
P	31	1	No Gas	-2.926	-13.6	31830	2.0	10	
Ag	107	1	No Gas	0.014	32.1	927	18.3	2.5	
Cd	111	1	No Gas	0.002	126.3	57	40.8	1	
Sr	88	1	No Gas	0.049	18.2	7272	9.3	2.5	
Mo	95	1	No Gas	0.035	13.3	667	9.6	2.5	
Sn	118	1	No Gas	0.045	9.9	4854	3.2	5	
Sb	121	1	No Gas	0.343	3.0	12012	2.8	2.5	
Ba	137	1	No Gas	-0.097	-5.1	993	7.1	2.5	
Tl	205	1	No Gas	0.049	23.2	3594	24.3	1	
Tl	203	1	No Gas	0.047	32.8	1493	32.2	1	
Pb	208	1	No Gas	0.021	19.0	3440	12.8	2.5	
U	238	1	No Gas	0.006	38.5	533	39.3	2.5	
Ca	43	2	He	5.267	115.0	23	65.5	100	
Sb	121	2	He	0.281	3.9	3794	3.6	2.5	
Ti	47	2	He	0.057	121.5	20	100.0	2.5	
Cu	63	1	No Gas	0.040	17.9	4251	4.7	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2010696	1.16	2076007	96.85	70	120	
Ge	72	2	He	1306473	1.36	1283119	101.82	70	120	
Ge	72	1	No Gas	6114447	0.04	5854434	104.44	70	120	
In	115	1	No Gas	7476909	1.11	7184199	104.07	70	120	
Bi	209	1	No Gas	5576476	3.45	5632659	99.00	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	352_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:27:04-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	98.656	2.708	2906508	1.72	100	98.7	90	110	
Be	9	1	No Gas	97.903	1.997	670098	0.34	100	97.9	90	110	
V	51	2	He	99.405	0.456	975267	0.30	100	99.4	90	110	
Cr	52	2	He	98.737	1.094	1176986	1.10	100	98.7	90	110	
Fe	56	2	He	9984.485	0.161	101988728	0.07	10000	99.8	90	110	
Se	78	2	He	96.991	1.263	13154	1.40	100	97.0	90	110	
Sn	118	2	He	95.265	1.496	986802	0.72	100	95.3	90	110	
As	75	2	He	99.756	0.220	163116	0.32	100	99.8	90	110	
Ca	44	2	He	9823.407	0.734	452152	0.88	10000	98.2	90	110	
Na	23	2	He	10506.500	0.783	13862505	0.76	10000	105.1	90	110	
Mg	24	2	He	10035.875	3.298	6960282	3.31	10000	100.4	90	110	
K	39	2	He	10183.057	1.067	8517263	1.20	10000	101.8	90	110	
Mn	55	2	He	97.582	0.629	739532	0.56	100	97.6	90	110	
Co	59	2	He	103.767	1.223	1979066	1.19	100	103.8	90	110	
Ni	60	2	He	98.456	0.320	490040	0.24	100	98.5	90	110	
Cu	63	2	He	101.539	1.706	1394266	1.62	100	101.5	90	110	
Zn	66	2	He	99.142	0.930	226250	1.04	100	99.1	90	110	
Al	27	2	He	97.407	0.887	31954	0.78	100	97.4	90	110	
B	11	1	No Gas	499.584	2.569	2251248	0.38	500	99.9	90	110	
Al	27	1	No Gas	103.054	2.153	3250506	2.42	100	103.1	90	110	
Si	28	1	No Gas	523.195	2.144	9182792	2.09	5000	10.5	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	516.479	2.076	890102	2.01	500	103.3	90	110	
Ag	107	1	No Gas	100.507	0.877	3941830	1.98	100	100.5	90	110	
Cd	111	1	No Gas	97.306	1.178	775374	0.75	100	97.3	90	110	
Sr	88	1	No Gas	102.124	1.419	8272979	2.00	100	102.1	90	110	
Mo	95	1	No Gas	101.051	2.481	1506130	1.66	100	101.1	90	110	
Sn	118	1	No Gas	103.373	1.915	2615581	2.57	100	103.4	90	110	
Sb	121	1	No Gas	95.159	1.255	3251654	1.49	100	95.2	90	110	
Ba	137	1	No Gas	101.279	3.871	1223305	3.10	100	101.3	90	110	
Tl	205	1	No Gas	100.361	6.664	5899299	2.83	100	100.4	90	110	
Tl	203	1	No Gas	100.724	5.783	2508949	2.98	100	100.7	90	110	
Pb	208	1	No Gas	101.571	4.420	7843274	0.80	100	101.6	90	110	
U	238	1	No Gas	97.198	1.586	7038622	3.40	100	97.2	90	110	
Ca	43	2	He	9914.189	3.350	26135	3.50	10000	99.1	90	110	
Sb	121	2	He	96.244	0.400	1262368	0.33	100	96.2	90	110	
Ti	47	2	He	98.840	2.915	30902	3.06	100	98.8	90	110	
Cu	63	1	No Gas	99.623	1.152	2906341	0.42	100	99.6	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2277868	2.26	2076007	109.72	70	120	
Ge	72	2	He	1391171	0.15	1283119	108.42	70	120	
Ge	72	1	No Gas	6462166	0.75	5854434	110.38	70	120	
In	115	1	No Gas	7386695	1.12	7184199	102.82	70	120	
Bi	209	1	No Gas	4997664	3.71	5632659	88.73	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	353_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:28:48-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.438	33.5	137527	1.3	0.5	
Be	9	1	No Gas	0.022	26.7	165	21.0	0.5	
V	51	2	He	-0.038	-16.2	1689	1.9	2.5	
Cr	52	2	He	-0.005	-221.0	1320	11.9	2.5	
Fe	56	2	He	0.742	16.9	18600	6.3	100	
Se	78	2	He	0.121	212.9	123	26.1	2	
As	75	2	He	0.008	11.0	97	0.0	2.5	
Ca	44	2	He	12.265	8.7	860	7.0	100	
Na	23	2	He	209.776	1.3	321800	1.5	100	CCB Main CR1 Failed
Mg	24	2	He	4.108	5.2	3377	3.4	100	
K	39	2	He	14.778	9.6	57424	0.6	100	
Mn	55	2	He	0.151	8.5	1603	5.7	2.5	
Co	59	2	He	0.003	145.8	270	35.7	2.5	
Ni	60	2	He	-0.002	-721.5	190	32.9	2.5	
Cu	63	2	He	0.002	481.7	1387	9.8	2	
Zn	66	2	He	-0.020	-90.3	683	7.4	2.5	
Al	27	2	He	-0.181	-128.2	550	14.5	5	
B	11	1	No Gas	14.884	6.4	80653	3.5	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.259	13.1	54965	3.0	5	
Si	28	1	No Gas	3.561	18.6	641103	0.6	10	
P	31	1	No Gas	-0.703	-4.8	36421	1.2	10	
Ag	107	1	No Gas	0.013	25.8	893	17.1	2.5	
Cd	111	1	No Gas	0.000	1086.5	40	50.0	1	
Sr	88	1	No Gas	0.104	4.7	11735	2.2	2.5	
Mo	95	1	No Gas	0.029	2.6	583	2.0	2.5	
Sn	118	1	No Gas	0.082	17.3	5775	8.1	5	
Sb	121	1	No Gas	0.101	11.1	4344	9.9	2.5	
Ba	137	1	No Gas	-0.116	-4.6	760	10.4	2.5	
Tl	205	1	No Gas	0.049	40.5	3431	35.7	1	
Tl	203	1	No Gas	0.047	27.2	1430	22.9	1	
Pb	208	1	No Gas	0.009	26.6	2287	6.4	2.5	
U	238	1	No Gas	0.007	30.6	537	27.7	2.5	
Ca	43	2	He	17.024	88.3	53	71.0	100	
Sb	121	2	He	0.074	3.8	1273	2.0	2.5	
Ti	47	2	He	0.010	370.7	7	173.2	2.5	
Cu	63	1	No Gas	0.074	6.4	5334	3.6	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	2217541	2.09	2076007	106.82	70	120	
Ge	72	2	He	1338860	1.50	1283119	104.34	70	120	
Ge	72	1	No Gas	6308972	1.18	5854434	107.76	70	120	
In	115	1	No Gas	7444392	1.88	7184199	103.62	70	120	
Bi	209	1	No Gas	5364459	2.00	5632659	95.24	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	364_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:50:37-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	98.539	1.810	2397629	0.88	100	98.5	90	110	
Be	9	1	No Gas	97.433	1.838	550744	0.83	100	97.4	90	110	
V	51	2	He	94.433	1.637	809717	0.34	100	94.4	90	110	
Cr	52	2	He	98.492	3.318	1025757	1.42	100	98.5	90	110	
Fe	56	2	He	9672.809	1.122	86348079	0.87	10000	96.7	90	110	
Se	78	2	He	96.037	0.417	11384	1.63	100	96.0	90	110	
Sn	118	2	He	97.607	0.375	889503	1.60	100	97.6	90	110	
As	75	2	He	99.291	1.413	141881	0.64	100	99.3	90	110	
Ca	44	2	He	9381.829	2.408	377334	0.79	10000	93.8	90	110	
Na	23	2	He	9744.119	2.101	11239235	1.87	10000	97.4	90	110	
Mg	24	2	He	9575.119	2.046	5802777	0.32	10000	95.8	90	110	
K	39	2	He	9424.425	2.161	6891203	1.05	10000	94.2	90	110	
Mn	55	2	He	94.279	1.437	624427	1.06	100	94.3	90	110	
Co	59	2	He	103.325	1.048	1722220	1.13	100	103.3	90	110	
Ni	60	2	He	97.890	1.536	425768	0.39	100	97.9	90	110	
Cu	63	2	He	99.466	2.123	1193484	0.22	100	99.5	90	110	
Zn	66	2	He	97.858	1.523	195162	0.51	100	97.9	90	110	
Al	27	2	He	91.424	3.777	26238	2.67	100	91.4	90	110	
B	11	1	No Gas	486.365	2.183	1810738	2.47	500	97.3	90	110	
Al	27	1	No Gas	96.018	1.493	2685610	0.92	100	96.0	90	110	
Si	28	1	No Gas	490.193	0.488	7654984	0.38	5000	9.8	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	485.529	1.342	743272	0.55	500	97.1	90	110	
Ag	107	1	No Gas	101.076	1.167	3692646	0.43	100	101.1	90	110	
Cd	111	1	No Gas	96.740	1.096	718170	0.61	100	96.7	90	110	
Sr	88	1	No Gas	99.953	1.028	7543991	2.04	100	100.0	90	110	
Mo	95	1	No Gas	98.678	1.005	1370400	1.16	100	98.7	90	110	
Sn	118	1	No Gas	102.117	2.100	2406747	1.07	100	102.1	90	110	
Sb	121	1	No Gas	100.595	1.725	3044793	0.97	100	100.6	90	110	
Ba	137	1	No Gas	99.682	3.644	1121698	2.56	100	99.7	90	110	
Tl	205	1	No Gas	93.250	2.019	5648156	0.60	100	93.3	90	110	
Tl	203	1	No Gas	94.523	0.877	2425880	2.19	100	94.5	90	110	
Pb	208	1	No Gas	99.428	0.193	7909525	2.41	100	99.4	90	110	
U	238	1	No Gas	99.810	1.974	7437589	1.96	100	99.8	90	110	
Ca	43	2	He	9543.059	2.521	21981	1.07	10000	95.4	90	110	
Sb	121	2	He	100.161	1.677	1148018	0.42	100	100.2	90	110	
Ti	47	2	He	95.425	2.240	26068	0.64	100	95.4	90	110	
Cu	63	1	No Gas	99.901	2.913	2581711	2.46	100	99.9	90	110	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1880877	1.33	2076007	90.60	70	120	
Ge	72	2	He	1215936	1.89	1283119	94.76	70	120	
Ge	72	1	No Gas	5724665	0.79	5854434	97.78	70	120	
In	115	1	No Gas	6882096	1.58	7184199	95.79	70	120	
Bi	209	1	No Gas	5143046	2.57	5632659	91.31	70	120	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	365_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:52:22-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.486	45.0	119811	1.5	0.5	
Be	9	1	No Gas	0.024	2.7	157	1.8	0.5	
V	51	2	He	-0.051	-14.8	1411	4.6	2.5	
Cr	52	2	He	-0.005	-188.4	1197	8.4	2.5	
Fe	56	2	He	0.525	11.7	14892	2.4	100	
Se	78	2	He	0.132	177.5	112	22.3	2	
As	75	2	He	0.003	82.6	80	4.2	2.5	
Ca	44	2	He	1.666	52.3	353	11.4	100	
Na	23	2	He	170.400	3.4	245849	0.8	100	CCB Main CR1 Failed
Mg	24	2	He	1.496	12.3	1477	5.5	100	
K	39	2	He	10.590	21.3	48875	1.4	100	
Mn	55	2	He	0.086	2.6	1023	1.5	2.5	
Co	59	2	He	0.002	155.5	220	25.3	2.5	
Ni	60	2	He	-0.002	-513.0	170	23.5	2.5	
Cu	63	2	He	0.020	28.2	1463	6.0	2	
Zn	66	2	He	-0.064	-79.4	530	18.2	2.5	
Al	27	2	He	-0.177	-213.8	497	19.3	5	
B	11	1	No Gas	12.728	7.1	61497	2.7	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.177	22.5	47348	1.3	5	
Si	28	1	No Gas	2.380	17.7	561540	0.8	10	
P	31	1	No Gas	-1.240	-13.8	32088	0.8	10	
Ag	107	1	No Gas	0.013	20.1	833	10.3	2.5	
Cd	111	1	No Gas	0.000	460.3	37	15.7	1	
Sr	88	1	No Gas	0.031	23.8	5408	8.9	2.5	
Mo	95	1	No Gas	0.026	35.1	493	24.4	2.5	
Sn	118	1	No Gas	0.078	38.2	5285	12.1	5	
Sb	121	1	No Gas	0.097	20.9	3777	15.7	2.5	
Ba	137	1	No Gas	-0.109	-8.2	780	12.2	2.5	
Tl	205	1	No Gas	0.053	33.6	3671	31.7	1	
Tl	203	1	No Gas	0.052	36.1	1557	33.3	1	
Pb	208	1	No Gas	0.008	43.3	2227	13.2	2.5	
U	238	1	No Gas	0.006	26.9	510	26.4	2.5	
Ca	43	2	He	-1.187	-213.7	7	86.6	100	
Sb	121	2	He	0.074	13.1	1147	8.9	2.5	
Ti	47	2	He	0.062	61.4	20	50.0	2.5	
Cu	63	1	No Gas	0.038	8.7	3907	3.3	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1914316	2.74	2076007	92.21	70	120	
Ge	72	2	He	1210440	1.92	1283119	94.34	70	120	
Ge	72	1	No Gas	5693702	1.25	5854434	97.25	70	120	
In	115	1	No Gas	6922858	1.91	7184199	96.36	70	120	
Bi	209	1	No Gas	5356594	1.06	5632659	95.10	70	120	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	367_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:56:20-05:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Fail

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Li	7	1	No Gas	54.684	37.552	2067370	8.35	100	54.7	90	110	CCV Main CR1-2 Failed
Be	9	1	No Gas	50.992	38.338	429733	11.90	100	51.0	90	110	CCV Main CR1-2 Failed
V	51	2	He	95.024	0.928	796868	0.32	100	95.0	90	110	
Cr	52	2	He	97.930	2.978	997574	2.00	100	97.9	90	110	
Fe	56	2	He	9709.665	1.608	84762039	0.61	10000	97.1	90	110	
Se	78	2	He	96.457	1.344	11181	1.87	100	96.5	90	110	
Sn	118	2	He	96.813	2.104	880886	1.08	100	96.8	90	110	
As	75	2	He	100.058	1.040	139829	0.26	100	100.1	90	110	
Ca	44	2	He	9520.277	1.679	374492	0.47	10000	95.2	90	110	
Na	23	2	He	9696.383	1.403	10938807	1.85	10000	97.0	90	110	
Mg	24	2	He	9663.573	1.143	5727856	0.22	10000	96.6	90	110	
K	39	2	He	9586.466	1.356	6855537	1.68	10000	95.9	90	110	
Mn	55	2	He	95.880	1.737	620993	0.59	100	95.9	90	110	
Co	59	2	He	102.964	2.721	1678125	1.68	100	103.0	90	110	
Ni	60	2	He	98.491	0.924	418964	0.30	100	98.5	90	110	
Cu	63	2	He	100.632	3.359	1180753	2.13	100	100.6	90	110	
Zn	66	2	He	99.098	0.688	193286	0.74	100	99.1	90	110	
Al	27	2	He	92.249	2.083	25891	1.57	100	92.2	90	110	
B	11	1	No Gas	249.394	40.012	1392278	13.06	500	49.9	90	110	CCV Main CR1-2 Failed
Al	27	1	No Gas	66.122	22.414	2807285	10.39	100	66.1	90	110	CCV Main CR1-2 Failed
Si	28	1	No Gas	321.497	22.126	7926227	19.64	5000	6.4	90	110	CCV Main CR1-2 Failed
P	31	1	No Gas	247.167	43.376	575815	12.55	500	49.4	90	110	CCV Main CR1-2 Failed
Ag	107	1	No Gas	53.858	40.152	2882813	11.37	100	53.9	90	110	CCV Main CR1-2 Failed
Cd	111	1	No Gas	50.831	41.849	550983	13.08	100	50.8	90	110	CCV Main CR1-2 Failed
Sr	88	1	No Gas	52.295	40.688	5778662	11.86	100	52.3	90	110	CCV Main CR1-2 Failed
Mo	95	1	No Gas	51.991	42.696	1053304	13.83	100	52.0	90	110	CCV Main CR1-2 Failed
Sn	118	1	No Gas	54.457	42.560	1874763	13.62	100	54.5	90	110	CCV Main CR1-2 Failed
Sb	121	1	No Gas	52.481	39.963	2315181	12.83	100	52.5	90	110	CCV Main CR1-2 Failed
Ba	137	1	No Gas	52.800	43.247	867412	14.24	100	52.8	90	110	CCV Main CR1-2 Failed
Tl	205	1	No Gas	50.740	42.411	4532222	13.56	100	50.7	90	110	CCV Main CR1-2 Failed
Tl	203	1	No Gas	49.640	41.010	1881979	12.27	100	49.6	90	110	CCV Main CR1-2 Failed
Pb	208	1	No Gas	53.487	42.679	6274749	13.84	100	53.5	90	110	CCV Main CR1-2 Failed
U	238	1	No Gas	53.497	41.911	5884979	13.07	100	53.5	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9501.992	1.453	21407	0.75	10000	95.0	90	110	
Sb	121	2	He	100.250	2.262	1123943	2.91	100	100.3	90	110	
Ti	47	2	He	96.708	3.953	25838	3.58	100	96.7	90	110	
Cu	63	1	No Gas	54.392	39.304	2052855	12.13	100	54.4	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
Li	6	1	No Gas	2989235	25.02	2076007	143.99	70	120	ISTD Failed
Ge	72	2	He	1189056	1.21	1283119	92.67	70	120	
Ge	72	1	No Gas	8924473	25.32	5854434	152.44	70	120	ISTD Failed
In	115	1	No Gas	10817013	25.98	7184199	150.57	70	120	ISTD Failed
Bi	209	1	No Gas	8194588	27.38	5632659	145.48	70	120	ISTD Failed

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	368_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T00:58:05-05:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.424	9.8	115968	0.4	0.5	
Be	9	1	No Gas	0.017	17.0	117	15.1	0.5	
V	51	2	He	-0.054	-15.0	1376	4.3	2.5	
Cr	52	2	He	-0.010	-24.4	1137	2.2	2.5	
Fe	56	2	He	0.625	8.2	15649	3.3	100	
Se	78	2	He	0.298	15.0	131	4.9	2	
As	75	2	He	0.000	-2527.6	74	14.4	2.5	
Ca	44	2	He	-0.008	-12328.2	283	12.4	100	
Na	23	2	He	146.134	3.4	216263	2.1	100	CCB Main CR1 Failed
Mg	24	2	He	1.489	19.4	1460	11.2	100	
K	39	2	He	9.091	13.4	47396	2.4	100	
Mn	55	2	He	0.068	17.5	897	7.8	2.5	
Co	59	2	He	0.004	36.1	247	8.4	2.5	
Ni	60	2	He	-0.001	-510.9	173	12.0	2.5	
Cu	63	2	He	0.018	40.1	1427	6.9	2	
Zn	66	2	He	-0.033	-30.9	587	3.9	2.5	
Al	27	2	He	-0.238	-145.5	477	20.4	5	
B	11	1	No Gas	12.031	4.6	57698	3.3	0.5	CCB Main CR1 Failed
Al	27	1	No Gas	0.144	57.4	47012	3.8	5	
Si	28	1	No Gas	0.130	372.5	535552	0.5	10	
P	31	1	No Gas	-1.749	-3.7	31740	1.8	10	
Ag	107	1	No Gas	0.013	22.5	830	12.8	2.5	
Cd	111	1	No Gas	0.004	109.1	63	48.2	1	
Sr	88	1	No Gas	0.013	29.7	4021	6.5	2.5	
Mo	95	1	No Gas	0.029	36.4	543	27.3	2.5	
Sn	118	1	No Gas	0.097	17.2	5728	6.2	5	
Sb	121	1	No Gas	0.103	16.8	4004	11.6	2.5	
Ba	137	1	No Gas	-0.101	-4.8	873	6.3	2.5	
Tl	205	1	No Gas	0.061	37.1	3971	36.0	1	
Tl	203	1	No Gas	0.060	38.8	1707	36.9	1	
Pb	208	1	No Gas	0.011	21.5	2397	9.7	2.5	
U	238	1	No Gas	0.007	26.8	563	26.4	2.5	
Ca	43	2	He	6.154	109.8	23	65.5	100	
Sb	121	2	He	0.064	2.9	1030	1.9	2.5	
Ti	47	2	He	0.001	2689.4	3	173.2	2.5	
Cu	63	1	No Gas	0.033	13.3	3804	4.4	2.5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1874197	0.74	2076007	90.28	70	120	
Ge	72	2	He	1199877	0.94	1283119	93.51	70	120	
Ge	72	1	No Gas	5764463	1.55	5854434	98.46	70	120	
In	115	1	No Gas	6926884	0.69	7184199	96.42	70	120	
Bi	209	1	No Gas	5124136	1.75	5632659	90.97	70	120	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	370LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T01:01:50-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	2.229	2.229	2.70	157705	0.00	2	
Be	9	1	No Gas	1.888	1.888	3.61	10649	0.02	2	
V	51	2	He	1.842	1.842	1.95	17240	0.01	2	
Cr	52	2	He	1.957	1.957	1.26	21160	0.01	2	
Fe	56	2	He	199.937	199.937	0.78	1756699	0.01	200	
Se	78	2	He	1.960	1.960	4.82	321	0.61	2	
Sn	118	2	He	1.920	1.920	2.27	19451	0.01	2	
As	75	2	He	1.886	1.886	0.62	2710	0.07	2	
Ca	44	2	He	188.988	188.988	2.11	7716	2.45	200	
Na	23	2	He	330.577	330.577	1.27	421748	0.08	200	NewName Main CR1 Failed
Mg	24	2	He	194.218	194.218	1.67	115758	0.17	200	
K	39	2	He	194.836	194.836	0.39	179144	0.11	200	
Mn	55	2	He	1.995	1.995	3.04	13370	0.01	2	
Co	59	2	He	1.985	1.985	0.90	32566	0.01	2	
Ni	60	2	He	1.960	1.960	0.95	8516	0.02	2	
Cu	63	2	He	2.013	2.013	1.02	24823	0.01	2	
Zn	66	2	He	2.404	2.404	2.22	5324	0.05	2	
Al	27	2	He	2.787	2.787	30.04	1303	0.21	2	NewName Main CR1 Failed
B	11	1	No Gas	17.305	17.305	1.42	77088	0.02	10	NewName Main CR1 Failed
Al	27	1	No Gas	3.439	3.439	0.95	136316	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	11.441	11.441	5.75	690812	0.00	10	
P	31	1	No Gas	7.319	7.319	6.08	44415	0.02	10	
Ag	107	1	No Gas	1.967	1.967	2.62	73638	0.00	2	
Cd	111	1	No Gas	1.868	1.868	2.27	14175	0.01	2	
Sr	88	1	No Gas	1.940	1.940	0.69	152328	0.00	2	
Mo	95	1	No Gas	1.864	1.864	1.40	26537	0.01	2	
Sn	118	1	No Gas	1.993	1.993	2.42	51325	0.00	2	
Sb	121	1	No Gas	1.894	1.894	0.99	57734	0.00	2	
Ba	137	1	No Gas	2.092	2.092	5.27	26006	0.01	2	
Tl	205	1	No Gas	1.777	1.777	2.87	111739	0.00	2	
Tl	203	1	No Gas	1.691	1.691	2.71	45063	0.00	2	
Pb	208	1	No Gas	1.875	1.875	2.36	155907	0.00	2	
U	238	1	No Gas	1.817	1.817	2.04	140206	0.00	2	
Ca	43	2	He	216.292	216.292	4.69	497	43.55	200	
Sb	121	2	He	1.918	1.918	1.81	21808	0.01	2	
Ti	47	2	He	1.611	1.611	23.30	433	0.37	200	
Cu	63	1	No Gas	2.046	2.046	1.74	55326	0.00	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1873475	0.84	2076007	90.24	70	120	
Ge	72	2	He	1189932	0.80	1283119	92.74	70	120	
Ge	72	1	No Gas	5679536	0.53	5854434	97.01	70	120	
In	115	1	No Gas	7018314	0.94	7184199	97.69	70	120	
Bi	209	1	No Gas	5323833	2.72	5632659	94.52	70	120	

Sample Report

Sample Table

Sample Name	LLCCV5
Data File Name	371LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T01:03:43-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	218CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.924	4.924	3.81	221452	0.00	5	
Be	9	1	No Gas	4.681	4.681	2.28	26532	0.02	5	
V	51	2	He	4.562	4.562	0.55	40574	0.01	5	
Cr	52	2	He	4.782	4.782	1.63	50627	0.01	5	
Fe	56	2	He	486.067	486.067	1.04	4315919	0.01	500	
Se	78	2	He	5.048	5.048	3.68	685	0.74	5	
Sn	118	2	He	4.733	4.733	1.94	46299	0.01	5	
As	75	2	He	4.859	4.859	1.87	6962	0.07	5	
Ca	44	2	He	458.710	458.710	1.37	18583	2.47	500	
Na	23	2	He	602.508	602.508	1.99	737451	0.08	500	
Mg	24	2	He	474.261	474.261	0.67	285808	0.17	500	
K	39	2	He	467.494	467.494	2.23	378299	0.12	500	
Mn	55	2	He	4.731	4.731	2.22	31523	0.02	5	
Co	59	2	He	4.882	4.882	2.74	80930	0.01	5	
Ni	60	2	He	4.911	4.911	1.54	21367	0.02	5	
Cu	63	2	He	4.899	4.899	1.97	59500	0.01	5	
Zn	66	2	He	5.238	5.238	1.93	10988	0.05	5	
Al	27	2	He	5.634	5.634	9.11	2117	0.27	5	
B	11	1	No Gas	29.810	29.810	1.91	123847	0.02	25	
Al	27	1	No Gas	6.449	6.449	1.67	222141	0.00	5	
Si	28	1	No Gas	26.921	26.921	3.29	929520	0.00	25	
P	31	1	No Gas	21.048	21.048	2.52	65397	0.03	25	
Ag	107	1	No Gas	5.052	5.052	0.58	183584	0.00	5	
Cd	111	1	No Gas	4.889	4.889	1.75	36070	0.01	5	
Sr	88	1	No Gas	4.828	4.828	2.04	364590	0.00	5	
Mo	95	1	No Gas	4.767	4.767	1.14	65853	0.01	5	
Sn	118	1	No Gas	4.996	4.996	2.16	120128	0.00	5	
Sb	121	1	No Gas	4.731	4.731	0.70	145285	0.00	5	
Ba	137	1	No Gas	5.154	5.154	3.49	59464	0.01	5	
Tl	205	1	No Gas	4.591	4.591	1.23	283324	0.00	5	
Tl	203	1	No Gas	4.396	4.396	3.72	114909	0.00	5	
Pb	208	1	No Gas	4.754	4.754	2.09	386178	0.00	5	
U	238	1	No Gas	4.517	4.517	2.74	342755	0.00	5	
Ca	43	2	He	435.024	435.024	4.54	1003	43.36	500	
Sb	121	2	He	4.717	4.717	2.40	53948	0.01	5	
Ti	47	2	He	4.669	4.669	18.48	1270	0.37	5	
Cu	63	1	No Gas	4.996	4.996	2.50	133043	0.00	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1885019	2.41	2076007	90.80	70	120	
Ge	72	2	He	1206539	0.66	1283119	94.03	70	120	

Sample Report

Ge	72	1	No Gas	5774761	1.61	5854434	98.64	70	120	
In	115	1	No Gas	6832153	1.11	7184199	95.10	70	120	
Bi	209	1	No Gas	5233208	2.11	5632659	92.91	70	120	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	372ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T01:05:35-05:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Li	7	1	No Gas	0.802	6.4	117632	0.4	0	ICSA Main CR1 Failed
Be	9	1	No Gas	0.003	188.8	32	87.0	0	ICSA Main CR1 Failed
V	51	2	He	0.012	100.6	1909	5.2	0	ICSA Main CR1 Failed
Cr	52	2	He	0.994	5.4	11318	4.4	0	ICSA Main CR1 Failed
Fe	56	2	He	101747.043	1.3	886353187	0.5	0	
Se	78	2	He	0.230	64.8	121	13.3	0	ICSA Main CR1 Failed
Sn	118	2	He	0.017	28.1	1483	2.4	0	ICSA Main CR1 Failed
As	75	2	He	0.117	6.8	238	5.3	0	ICSA Main CR1 Failed
Ca	44	2	He	99466.174	1.3	3902352	1.1	0	
Na	23	2	He	100968.033	0.4	113197858	0.4	0	
Mg	24	2	He	99020.132	1.1	58568567	0.3	0	
K	39	2	He	102595.298	1.6	72822076	0.9	0	
Mn	55	2	He	0.209	5.6	1800	4.5	0	ICSA Main CR1 Failed
Co	59	2	He	0.197	0.5	3391	1.2	0	ICSA Main CR1 Failed
Ni	60	2	He	0.236	17.9	1177	15.7	0	ICSA Main CR1 Failed
Cu	63	2	He	0.440	1.4	6345	1.3	0	ICSA Main CR1 Failed
Zn	66	2	He	0.382	29.6	1387	16.5	0	ICSA Main CR1 Failed
Al	27	2	He	94329.030	1.8	25872951	1.1	0	
B	11	1	No Gas	8.837	2.4	43333	2.3	0	
Al	27	1	No Gas	98537.402	1.2	2595381668	1.3	0	
Si	28	1	No Gas	22.546	6.4	820714	2.3	0	
P	31	1	No Gas	97339.310	2.5	136065651	1.4	0	
Ag	107	1	No Gas	0.016	15.1	860	9.9	0	ICSA Main CR1 Failed
Cd	111	1	No Gas	1.462	2.4	10171	1.9	0	ICSA Main CR1 Failed
Sr	88	1	No Gas	0.991	0.6	72684	0.9	0	ICSA Main CR1 Failed
Mo	95	1	No Gas	2112.665	1.8	27404151	0.9	0	
Sn	118	1	No Gas	0.028	21.0	3801	4.4	0	ICSA Main CR1 Failed
Sb	121	1	No Gas	0.021	16.7	1447	8.1	0	ICSA Main CR1 Failed
Ba	137	1	No Gas	0.046	38.4	2350	8.3	0	ICSA Main CR1 Failed
Tl	205	1	No Gas	0.007	34.2	660	18.9	0	ICSA Main CR1 Failed
Tl	203	1	No Gas	0.010	22.9	363	16.1	0	ICSA Main CR1 Failed
Pb	208	1	No Gas	0.030	9.5	3460	4.7	0	ICSA Main CR1 Failed
U	238	1	No Gas	0.003	17.2	237	13.6	0	ICSA Main CR1 Failed
Ca	43	2	He	97329.162	2.4	218734	1.8	0	
Sb	121	2	He	0.017	67.9	490	25.5	0	ICSA Main CR1 Failed
Ti	47	2	He	1958.915	0.8	522299	0.3	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1767758	0.63	2076007	85.15	70	120	
Ge	72	2	He	1186618	0.75	1283119	92.48	70	120	
Ge	72	1	No Gas	5477839	1.21	5854434	93.57	70	120	
In	115	1	No Gas	6428918	1.01	7184199	89.49	70	120	
Bi	209	1	No Gas	4614303	1.91	5632659	81.92	70	120	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	373ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-15T01:07:34-05:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	218CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	107.065	2.606	2506919	1.09	100	107.1	180	120	ICSB Main CR1 Failed
Be	9	1	No Gas	104.097	2.129	568281	0.83	100	104.1	80	120	
V	51	2	He	100.877	0.511	846426	0.28	100	100.9	80	120	
Cr	52	2	He	105.729	1.808	1077842	1.97	100	105.7	80	120	
Fe	56	2	He	114171.285	1.010	997323798	1.11	100	114171.3	80	120	ICSB Main CR1 Failed
Se	78	2	He	107.898	1.814	12504	2.05	100	107.9	80	120	
Sn	118	2	He	101.795	0.459	919454	1.23	100	101.8	80	120	
As	75	2	He	108.603	0.613	151873	0.78	100	108.6	80	120	
Ca	44	2	He	110761.387	0.351	4357320	0.68	100	110761.4	80	120	
Na	23	2	He	110487.838	0.407	124200338	0.27	100	110487.8	80	120	
Mg	24	2	He	111008.032	1.686	65836484	1.34	100	111008.0	80	120	
K	39	2	He	114256.469	0.304	81317797	0.15	100	114256.5	80	120	
Mn	55	2	He	99.735	0.906	646453	1.27	100	99.7	80	120	
Co	59	2	He	105.537	1.716	1721566	2.09	100	105.5	80	120	
Ni	60	2	He	100.536	0.875	427963	1.09	100	100.5	80	120	
Cu	63	2	He	99.493	1.081	1168443	0.86	100	99.5	80	120	
Zn	66	2	He	102.945	0.336	200900	0.68	100	102.9	80	120	
Al	27	2	He	95153.801	1.226	26170935	0.89	100	95153.8	80	120	ICSB Main CR1 Failed
B	11	1	No Gas	517.703	2.375	1860528	1.98	100	517.7	80	120	
Al	27	1	No Gas	98303.254	1.456	2643241027	2.15	100	98303.3	80	120	ICSB Main CR1 Failed
Si	28	1	No Gas	535.447	0.262	8119688	0.85	100	535.4	80	120	
P	31	1	No Gas	98273.382	0.088	140250251	0.79	100	98273.4	80	120	ICSB Main CR1 Failed
Ag	107	1	No Gas	102.392	1.721	3597673	0.85	100	102.4	80	120	
Cd	111	1	No Gas	103.625	1.088	739880	0.28	100	103.6	80	120	
Sr	88	1	No Gas	110.847	1.066	8045446	1.19	100	110.8	80	120	
Mo	95	1	No Gas	2200.619	1.945	29388514	1.31	100	2200.6	80	120	
Sn	118	1	No Gas	110.223	1.633	2498752	2.34	100	110.2	80	120	
Sb	121	1	No Gas	105.258	0.410	3112125	1.11	100	105.3	80	120	
Ba	137	1	No Gas	109.980	1.836	1190324	1.52	100	110.0	80	120	
Tl	205	1	No Gas	103.596	0.458	5702086	1.04	100	103.6	80	120	
Tl	203	1	No Gas	103.820	1.787	2420663	1.94	100	103.8	80	120	
Pb	208	1	No Gas	107.139	0.982	7742801	1.68	100	107.1	80	120	
U	238	1	No Gas	107.892	1.522	7304696	1.06	100	107.9	80	120	
Ca	43	2	He	109135.527	1.165	245948	0.98	100	109135.5	80	120	
Sb	121	2	He	106.047	1.588	1189587	1.63	100	106.0	80	120	
Ti	47	2	He	2095.607	0.699	560279	1.09	100	2095.6	80	120	ICSB Main CR1 Failed
Cu	63	1	No Gas	102.539	2.324	2588139	1.49	100	102.5	80	120	

QC ISTD Table

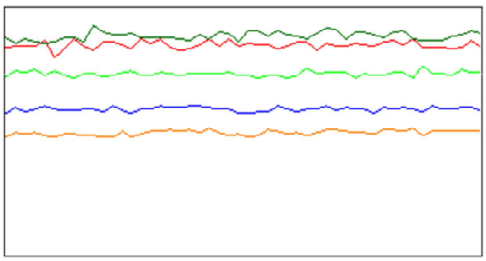
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1816628	1.42	2076007	87.51	70	120	
Ge	72	2	He	1189809	0.39	1283119	92.73	70	120	
Ge	72	1	No Gas	5591592	0.86	5854434	95.51	70	120	
In	115	1	No Gas	6618748	0.93	7184199	92.13	70	120	
Bi	209	1	No Gas	4672052	1.00	5632659	82.95	70	120	

Tune Check Report

Operator Name	ALSHS NoUser
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\041320A.b
Acq. Date-Time	4/13/2020 12:24:44 PM
Report Comment	---
Instrument Name	G8421A SG18523544

[No Gas]

Sensitivity



Sampling Period [sec]	0.514
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	10000	8520	85195.24		
24	50000	36748	367479.81		
59	100000	59222	592219.47		
115	200000	99263	992627.84		
208	50000	44431	444308.06		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	
115		-	
208		-	

Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	1.776	5.000	
24	1.357	5.000	
59	1.408	5.000	
115	1.887	5.000	
208	1.943	5.000	

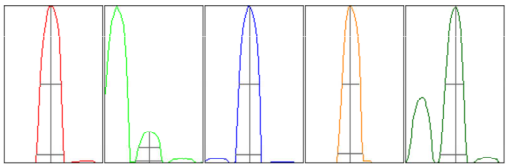
Mass	Background	Background (Required)	Background (Flag)
9	0.300		
24	0.100		
59	0.400		
115	1.000		
208	1.700		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.822 %
Doubly Charged	70 / 140 0.887 %

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	8626.29	8.95	8.90 - 9.10	
24	37622.85	23.90	23.90 - 24.10	
59	62012.82	58.90	58.90 - 59.10	
115	103891.83	114.90	114.90 - 115.10	
208	44608.48	208.05	207.90 - 208.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.65	0.828		
24	0.64	0.822		
59	0.60	0.779		
115	0.55	0.767		
208	0.57	0.808		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.60 L/min	Dilution Gas	0.40 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.1 V	Deflect	12.6 V
Extract 2	-195.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-90 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	---	OctP RF	190 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0002	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	0.03		

Hardware Settings

Torch

Torch H	0.5 mm	Torch V	0.0 mm

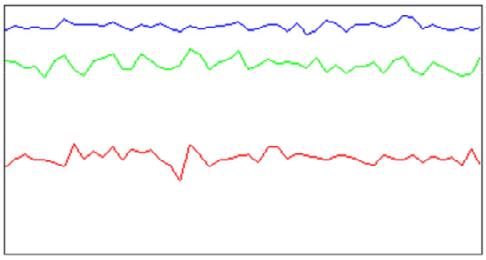
EM

Discriminator	3.2 mV	Analog HV	2390 V	Pulse HV	1162 V

[He]

Tune Check Report

Sensitivity



Sampling Period [sec]	0.306
Integration Time [sec]	0.1

Mass	Range	Count	Resp [cps/ug/l]	Resp (Required) [cps/ug/l]	Resp (Flag)
9	500	194	1937.13		
24	1000	765	7648.88		
59	20000	18389	183889.54		

Mass	Resp Ratio	Resp Ratio (Required)	Resp Ratio (Flag)
9		-	
24		-	
59		-	

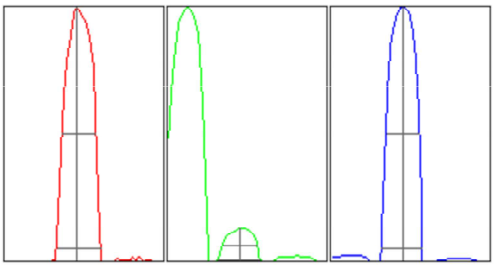
Mass	RSD%	RSD% (Required)	RSD% (Flag)
9	7.004	5.000	Fail
24	3.620	5.000	
59	1.604	5.000	

Mass	Background	Background (Required)	Background (Flag)
9	0.100		
24	0.000		
59	0.200		

Oxide/Doubly Charged Ratio

Oxide	156 / 140 0.282 %
Doubly Charged	70 / 140 0.931 %

Resolution/Axis



Integration Time [sec]	0.1
Acquisition Time [sec]	22.24
Y Axis	Linear

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
9	205.27	8.90	8.90 - 9.10	
24	769.74	23.90	23.90 - 24.10	
59	18958.97	58.90	58.90 - 59.10	

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
9	0.65	0.827		
24	0.64	0.806		

Tune Check Report

Mass	W-50%	W-5%	W-5% (Required)	W-5% (Flag)
59	0.61	0.779		

Tune Parameters

Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.60 L/min	Dilution Gas	0.40 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.80 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	8.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	10.0 V	Deflect	0.0 V
Extract 2	-195.0 V	Cell Entrance	-40 V	Plate Bias	-70 V
Omega Bias	-80 V	Cell Exit	-60 V		

Cell Parameters

Use Gas	Yes	3rd Gas Flow	---	Energy Discrimination	3.0 V
He Flow	5.0 mL/min	OctP Bias	-18.0 V		
H2 Flow	---	OctP RF	200 V		

QP Parameters

Mass Gain	130	Axis Gain	1.0002	QP Bias	-15.0 V
Mass Offset	125	Axis Offset	0.03		

Hardware Settings

Torch

Torch H	0.5 mm	Torch V	0.0 mm

EM

Discriminator	3.2 mV	Analog HV	2390 V	Pulse HV	1162 V

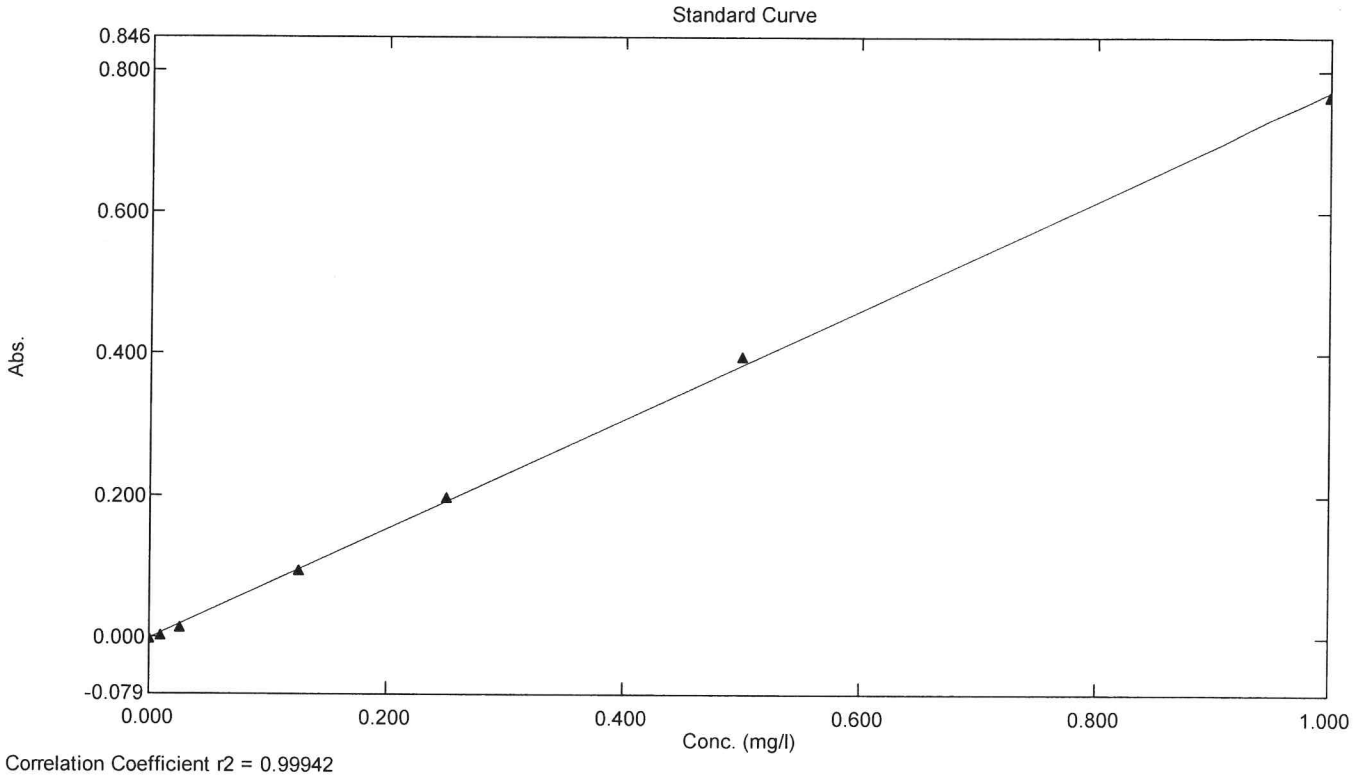
HS20040284 WC CHROME

ALS WO# HS20040284

Standard Table Report

04/30/2020 05:33:00 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2020\04082020CR6_W_.pho



Correlation Coefficient r2 = 0.99942

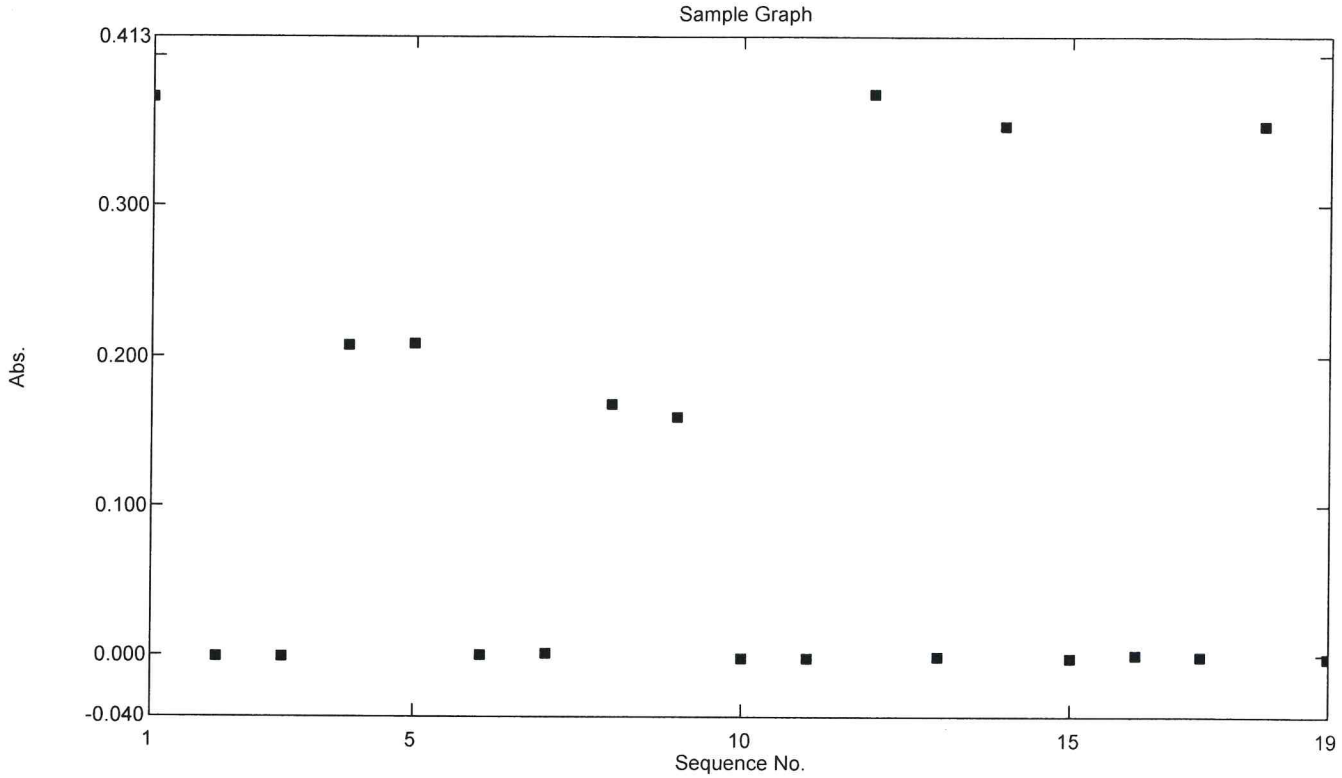
Standard Table

	Sample ID	Type	Ex	Conc	WL540.0	Wgt.Factor	Comments
1	STD1	Standard		0.000	-0.002	1.000	
2	STD2	Standard		0.010	0.002	1.000	
3	STD3	Standard		0.025	0.013	1.000	
4	STD4	Standard		0.125	0.094	1.000	
5	STD5	Standard		0.250	0.197	1.000	
6	STD6	Standard		0.500	0.397	1.000	
7	SYD7	Standard		1.000	0.763	1.000	
8							

Sample Table Report

04/30/2020 05:33:04 PM

File Name: C:\Program Files (x86)\Shimadzu\UVProbe\Data\CR6+_UNKNOWN\2020\04082020CR6_W_.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL540.0	Comments
1	CCV	Unknown		0.485	0.373	313102405 WC-14
2	CCB	Unknown		0.001	-0.001	313102507 WC-13
3	MBLK	Unknown		0.001	-0.001	313101607 WC-13
4	LCS	Unknown		0.271	0.207	313102404 WC-14
5	LCSD	Unknown		0.272	0.208	
6	20040287.01	Unknown		0.003	0.001	SAMP-BKG=TOTAL,12:55PM
7	20040287.01BKG	Unknown		0.004	0.001	-0.001 12:57PM
8	20040287.01MS	Unknown		0.219	0.168	12:58PM
9	20040287.01MSD	Unknown		0.209	0.160	12:58PM
10	20040284.01	Unknown		-0.000	-0.002	12:58PM ,0
11	20040284.01BKG	Unknown		-0.000	-0.002	12:59PM
12	CCV2	Unknown		0.488	0.375	
13	CCB2	Unknown		0.001	-0.000	
14	CCV3	Unknown		0.460	0.353	
15	CCB3	Unknown		-0.001	-0.002	
16	20040308.01	Unknown		0.003	0.001	4:55PM 0.002
17	20040308.01BKG	Unknown		0.001	-0.001	4:55PM
18	CCV4	Unknown		0.460	0.353	
19	CCB4	Unknown		-0.001	-0.002	

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WorkOrder: HS20040287

Longhorn GW Treatment Plant Monthly Influent Samples

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

04-May-2020

ALS Environmental
ALS Group USA, Corp
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  - Sample Tracking Record
  - SampleReceiptCheckList
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- HS20040287 - ME - ICP_W_DOD
  - Form 12 - ICPMS06_359908 Preparation Log
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HS20040287 WC CHROME

HS20040287

ALS WO# HS20040287

HS20040287 Longhorn GW Treatment Plant Monthly Influent Samples Final

ALS WO# HS20040287

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Houston, TX 77099
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April 22, 2020

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

Work Order: **HS20040287**

Laboratory Results for: **Longhorn GW Treatment Plant Monthly Influent Samples**

Dear Marcia,

ALS Environmental received 1 sample(s) on Apr 08, 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: 22-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS20040287

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20040287-01	LH18/24-SP140_040720	Water		07-Apr-2020 14:00	08-Apr-2020 08:22	☐

ALS Houston, US Date: 22-Apr-20

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS20040287

Work Order Comments

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

Metals by Method SW6020

Batch ID: 152654

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

WetChemistry by Method SW7196

Batch ID: R359757

Sample ID: LH18/24-SP140_040720 (HS20040287-01MS)

- The recovery of the Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) associated with this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS/MSD may be due to sample matrix interference. (Chromium, Hexavalent)

ALS Houston, US Date: 22-Apr-20

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

Project: Longhorn GW Treatment Plant Monthly Influent Samples WorkOrder:HS20040287

Sample ID: LH18/24-SP140_040720 Lab ID:HS20040287-01

Collection Date: 07-Apr-2020 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
METALS BY ICPMS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 13-Apr-2020		Analyst: JHD
Selenium	0.00250	U	0.00110	0.00250	0.00500	mg/L	1	14-Apr-2020 22:45
Silver	0.000500	U	0.000200	0.000500	0.00500	mg/L	1	14-Apr-2020 22:45
HEXAVALENT CHROMIUM BY SW7196A		**Method:SW7196**						Analyst: KVL
Chromium, Hexavalent	0.0100	U	0.00600	0.0100	0.0100	mg/L	1	08-Apr-2020 13:00
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: CGG
Subcontract Analysis	**0**		**0**	**0**	**0**	**NA**	1	22-Apr-2020 15:35

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

ALS Houston, US Date: 22-Apr-20

Weight / Prep Log

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Batch ID: 152654 **Start Date:** 13 Apr 2020 08:00 **End Date:** 13 Apr 2020 12:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20040287-01		10 (mL)	10 (mL)	1

ALS Houston, US Date: 22-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 152654 (0)	**Test Name :** METALS BY ICPMS BY SW6020A				**Matrix:** Water	
HS20040287-01	LH18/24-SP140_040720	07 Apr 2020 14:00		13 Apr 2020 12:00	14 Apr 2020 22:45	1
Batch ID: R359757 (0)	**Test Name :** HEXAVALENT CHROMIUM BY SW7196A				**Matrix:** Water	
HS20040287-01	LH18/24-SP140_040720	07 Apr 2020 14:00			08 Apr 2020 13:00	1
Batch ID: R360393 (0)	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)				**Matrix:** Water	
HS20040287-01	LH18/24-SP140_040720	07 Apr 2020 14:00			22 Apr 2020 15:35	1

ALS Houston, US Date: 22-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

QC BATCH REPORT

Batch ID: 152654 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

MBLK Sample ID: **MBLK-152654** Units: **mg/L** Analysis Date: **14-Apr-2020 22:22**
Client ID: Run ID: **ICPMS06_359908** SeqNo: **5554534** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.00250	0.00500								U
Silver	0.000500	0.00500								U

LCS Sample ID: **LCS-152654** Units: **mg/L** Analysis Date: **14-Apr-2020 22:24**
Client ID: Run ID: **ICPMS06_359908** SeqNo: **5554535** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04924	0.00500	0.05	0	98.5	80 - 120				
Silver	0.04991	0.00500	0.05	0	99.8	85 - 116				

MS Sample ID: **HS20040284-01MS** Units: **mg/L** Analysis Date: **14-Apr-2020 22:30**
Client ID: Run ID: **ICPMS06_359908** SeqNo: **5554538** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04839	0.00500	0.05	0.000472	95.8	80 - 120				
Silver	0.04859	0.00500	0.05	0.00001	97.2	85 - 116				

MSD Sample ID: **HS20040284-01MSD** Units: **mg/L** Analysis Date: **14-Apr-2020 22:31**
Client ID: Run ID: **ICPMS06_359908** SeqNo: **5554539** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.04864	0.00500	0.05	0.000472	96.3	80 - 120	0.04839	0.501	20	
Silver	0.04748	0.00500	0.05	0.00001	94.9	85 - 116	0.04859	2.31	20	

PDS Sample ID: **HS20040284-01PDS** Units: **mg/L** Analysis Date: **14-Apr-2020 22:33**
Client ID: Run ID: **ICPMS06_359908** SeqNo: **5554540** PrepDate: **13-Apr-2020** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.1063	0.00500	0.1	0.000472	106	80 - 120				
Silver	0.08769	0.00500	0.1	0.00001	87.7	80 - 120				

ALS Houston, US Date: 22-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

QC BATCH REPORT

Batch ID: 152654 (0) **Instrument: ICPMS06** **Method: METALS BY ICPMS BY SW6020A**

SD Sample ID: **HS20040284-01SD** Units: **mg/L** Analysis Date: **14-Apr-2020 22:28**
Client ID: Run ID: **ICPMS06_359908** SeqNo: **5554537** PrepDate: **13-Apr-2020** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Selenium	0.0125	0.0250					0.000472	0	10	U
Silver	0.00250	0.0250					0.00001	0	10	U

The following samples were analyzed in this batch: HS20040287-01

ALS Houston, US Date: 22-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

QC BATCH REPORT

Batch ID: R359757 (0) **Instrument: UV-2450** **Method: HEXAVALENT CHROMIUM BY SW7196A**

MBLK Sample ID: **MBLK-R359757** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: Run ID: **UV-2450_359757** SeqNo: **5549696** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.0100	0.0100								U

LCS Sample ID: **LCS-R359757** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: Run ID: **UV-2450_359757** SeqNo: **5549695** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.271	0.0100	0.25	0	108	90 - 111				

LCSD Sample ID: **LCSD-R359757** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: Run ID: **UV-2450_359757** SeqNo: **5549694** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.272	0.0100	0.25	0	109	90 - 111	0.271	0.368	20	

MS Sample ID: **HS20040287-01MS** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: **LH18/24-SP140_040720** Run ID: **UV-2450_359757** SeqNo: **5549698** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.219	0.0100	0.25	-0.001	88.0	90 - 111				S

MSD Sample ID: **HS20040287-01MSD** Units: **mg/L** Analysis Date: **08-Apr-2020 13:00**
Client ID: **LH18/24-SP140_040720** Run ID: **UV-2450_359757** SeqNo: **5549697** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	0.209	0.0100	0.25	-0.001	84.0	90 - 111	0.219	4.67	20	S

The following samples were analyzed in this batch: HS20040287-01

ALS Houston, US Date: 22-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: **HS20040287**

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
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

ALS Houston, US Date: 22-Apr-20

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
Work Order: HS20040287

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20040287-01	LH18/24-SP140_040720	Login	4/8/2020 9:49:40 AM	PMG	MET031
HS20040287-01	LH18/24-SP140_040720	Login	4/8/2020 9:49:40 AM	PMG	Sub
HS20040287-01	LH18/24-SP140_040720	Login	4/8/2020 9:49:40 AM	PMG	WET293

ALS Houston, US Date: 22-Apr-20

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS20040287
Date/Time Received: **08-Apr-2020 08:22**
Received by: **AC**

Checklist completed by: *Paresh M. Giga* eSignature 8-Apr-2020 Date
Reviewed by: *RJ Modashia* eSignature 8-Apr-2020 Date

Matrices: **Water**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:None
Samplers name present on COC?	Yes ☐	No ☑	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.5C U/c	IR25	
Cooler(s)/Kit(s):	2759		
Date/Time sample(s) sent to storage:	4/8/2020 10:00		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

CHAIN OF CUSTODY

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

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

Project No. NWO1312.0150.0 16.0001

Job: GROUNDWATER TREATMENT PLANT MONTHLY INFLUENT SAMPLES

Prepared By: Scott Beesinger

P.O. Number

HS20040287

Bhate Environmental Associates, Inc.
Longhorn GW Treatment Plant Monthly Influent Sample

Field Sample I.D.	Sample Matrix	Date / Time	MS / MSD	No. OF CONTAINERS	Analyses: SILVER & SELENIUM	HEXAVALENT CHROMIUM	PERCHLORATE	Remarks (Preservatives, etc.)	Lab I.D.#
LH18/24-SP140_040720	Water	04/07/20 / 14:00		1	X			HNO3	
LH18/24-SP140_040720	Water	04/07/20 / 14:00		2		X	X	NONE	

Additional Remarks: STANDARD TURN AROUND TIME

Relinquished By:	Date	Time	Received By:	Date	Time	Relinquished By:	Date	Time	Received By:	Date	Time
Scott Beesinger	04/07/20	14:30	AC	4/8/2020	08:02						

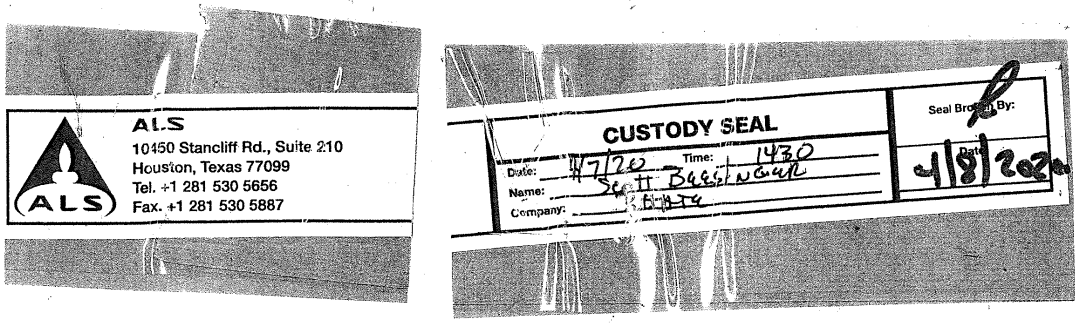
For Lab Use Only

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

Remarks:

VIC 2.5 IR#35 CF0.0 2759

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


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
CUSTODY SEAL
Date: 4/7/20
Time: 1430
Name: Scott Bassinger
Company: ALS
Seal Broken By:
Date: 4/8/2020

TRK# 0221 4380 9533 6806
WED - 08 APR 10:30A
PRIORITY OVERNIGHT
AB SGRA
2759
77099
TX-US
IAH
3853259 08Apr 08:

April 22, 2020 Service Request No:E2000305

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

Laboratory Results for: HS20040287

Dear RJ,

Enclosed are the results of the sample(s) submitted to our laboratory April 08, 2020
For your reference, these analyses have been assigned our service request number **E2000305.**

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.:**	E2000305
Project:	HS20040287	**Date Received:**	04/08/20
Sample Matrix:	W		

CASE NARRATIVE

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

Sample Receipt

One sample was received for analysis at ALS Environmental in Houston on 04/08/20.

The sample was received in good condition and is consistent with the accompanying chain of custody form. The sample was stored in a refrigerator at 4°C upon receipt at the laboratory.

Data Validation Notes and Discussion

Precision and Accuracy:

EQ2000143: 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.

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:**E2000305
Project: HS20040287

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
E2000305-001	LH18/24-SP140_040720	4/7/2020	1400

Service Request Summary

Folder #: **E2000305**
Client Name: ALS Environmental - US
Project Name: HS20040287
Project Number:

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

Project Chemist: Corey Grandits
Originating Lab: HOUSTON
Logged By: CGRANDITS
Date Received: 04/08/20
Internal Due Date: 4/22/2020
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: HS20040287
EDD: No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved
Location: EHRMS-WIC 10B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON ClO4 DOD/6850
E2000305-001	LH18/24-SP140_040720	Water	04/07/20 1400	IV

Service Request Summary

Folder #:	**E2000305**
Client Name:	ALS Environmental - US
Project Name:	HS20040287
Project Number:	

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

Project Chemist:	Corey Grandits
Originating Lab:	HOUSTON
Logged By:	CGRANDITS
Date Received:	04/08/20
Internal Due Date:	4/22/2020
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	HS20040287
EDD:	No EDD Specified

1 250 mL-Plastic Bottle HDPE WM CLEAR Unpreserved

Location: EHRMS-WIC 10B

Pressure Gas:

Data Qualifiers

Lab Standard

+	Possible Tedlar bag artifact.
A	TIC is a suspected aldol-condensation product
B	Analyte found in the associated method blank as well as in the sample.
BC	Reported results are not blank corrected.
BH	The back section of the tube yielded higher results than the front.
BT	Results indicated possible breakthrough; back section >=10% front section.
C	Result identification confirmed.
D	Compound identified in an analysis at a secondary dilution factor
D	Spike was diluted out
DE	Reported results are corrected for desorption efficiency.
E	Estimated value. Concentration above calibration range
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
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
Arizona Department of Health Services	AZ0793	5/27/2020
California Department of Health Services	2919	4/30/2020
Department of Defense	A2LA 2897.01	11/30/2021
Florida Department of Health	E87611	6/30/2020
Hawaii Department of Health	TX02694	4/30/2020
Illinois Environmental Protection Agency	2000322019-2	5/9/2020
Kansas Department of Health and Environment	E-10352	7/31/2020
Louisiana Department of Environmental Quality	03087	6/30/2020
Louisiana Department of Health and Hospitals	LA028-2020	12/31/2020
Maine Center for Disease Control and Prevention	201815	6/5/2020
Maryland Department of the Environment	343	6/30/2020
Minnesota Department of Health	1785988	12/31/2020
Nebraska Department of Health and Human Services	NE-OS-25-13	4/30/2020
Nevada Department of Concervation and Natural Resources	TX026932019-1	7/31/2020
New Hampshire Environmental Laboratory Accreditation Program	209419	4/24/2020
New Jersey Department of Environmental Protection	NLC190001	6/30/2020
New York Department of Health	11707	3/31/2021
Oklahoma Department of Environmental Quality	2019-067	8/31/2020
Pennsylvania Department of Environmental Protection	68-03441-013	6/30/2020
Tennessee Department of Environment and Concervation	04016	6/30/2020
Texas Commision on Environmental Quality	TX104704231-19-25	4/30/2020
United States Department of Agriculture	P330-19-00299	10/10/2022
Utah Department of Health Environmental Laboratory Certification	TX026932019-9	7/31/2020
Washington Department of Health	C819	11/14/2020
West Virginia Department of Environmental Protection	347	6/30/2020

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

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:** **13659**

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:	HS20040287
TSR:	Danielle Winnings

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS20040287-01**	**LH18/24-SP140_040720**	**Water**	**07 Apr 2020 14:00**
	SUB_Perch-6850			22 Apr 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: 4/8/2020 11:42.

Received By: _____ Date/Time: 4/8/2020 11:42

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

ALS Environmental

Cooler Receipt Form

Project Chemist CA

Client/Project AUS-H

Thermometer ID 5M04

Date/Time Received: 4/8/26 Initials: CA

Date/Time Logged in: 4/8/26 Initials CA

1. Method of delivery: ○ US Mail ○ Fed Ex ○ UPS ○ DHL ✓ Courier (ALS) ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ○ Yes ✓ No

If yes, how many and where?

Were they intact? ○ Yes ○ No ✓ N/A

Were they signed and dated? ○ Yes ○ No ✓ N/A

4. Packing Material: ○ Inserts ✓ Baggies ○ Bubble Wrap ○ Gel Packs ✓ Wet Ice ○ Sleeves ○ Other

5. Foreign or Regulated Soil? ○ Yes ○ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
1		4/8/26	1142	CA	2.6 R 0	☒
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label:

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

SAMPLE ACCEPTANCE POLICY

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

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

- ✓ Intact on outside of cooler, signed and dated

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

The following is required on each COC:

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

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

Sample Integrity (mandatory):

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

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

Temperature Requirement (varies by sample matrix):

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

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

Preparation Information Benchsheets

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

Preparation Information Benchsheet

Prep Run#: 357146 **Prep WorkFlow:** GenExt28Day **Status:** Prepped
Team: Semivoa GCMS/DBOTROS **Prep Method:** Method **Prep Date/Time:** 4/20/20 09:32

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	E2000275-001	M1Q2014	.01	6850/ClO4 DOD			Water	10mL	
2	E2000275-002	PZ-373-NS	.01	6850/ClO4 DOD			Water	10mL	
3	E2000275-003	PZ-489-NS	.01	6850/ClO4 DOD			Water	10mL	
4	E2000287-001	LH18/24-SP650_033120_BIX	.01	6850/ClO4 DOD			Water	10mL	
5	E2000303-001	LH18/24-SP650_040720_BIX	.01	6850/ClO4 DOD			Water	10mL	
6	E2000304-001	LH18/24-SP650_040720_BIX	.01	6850/ClO4 DOD			Water	10mL	
7	E2000305-001	LH18/24-SP140_040720	.01	6850/ClO4 DOD			Water	10mL	
8	EQ2000143-01	MB		6850/ClO4 DOD			Liquid	10mL	
9	EQ2000143-02	LCS		6850/ClO4 DOD			Liquid	10mL	
10	EQ2000143-03	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

E2000275-001 100.00µL E2000275-002 100.00µL E2000275-003 100.00µL E2000287-001 100.00µL E2000303-001 100.00µL E2000304-001 100.00µL
E2000305-001 100.00µL EQ2000143-01 100.00µL EQ2000143-02 100.00µL EQ2000143-03 100.00µL

Name: Perchlorate Intermediate Stock1 Inventory ID 204799 Logbook Ref: 200657 1.0ug/mL KN Expires On: 05/15/2020

EQ2000143-02 1.00µL EQ2000143-03 1.00µL

Preparation Steps

Step: Preparation
Started: 4/20/20 09:32
Finished: 4/20/20 10:00
By: KBROWN
Comments

Comments: _____

Reviewed By: kn Date: 04/20/2020

Chain of Custody

Relinquished By: _____ Date: _____ Extracts Examined

Received By: _____ Date: _____ Yes No

Analytical Results

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

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000305
Project:	HS20040287	**Date Collected:**	4/ 7/20 1400
Sample Matrix:	Water	**Date Received:**	4/ 8/20
Sample Name:	LH18/24-SP140_040720	**Units:**	µg/L
Lab Code:	E2000305-001	**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	**10600**		25.0	12.5	6.25	250	4/20/20	4/22/20 13:32	357146	677638	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000305
Project:	HS20040287	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	µg/L
Lab Code:	EQ2000143-01	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	ND	U	0.100	0.0500	0.0250	1	4/20/20	4/20/20 15:10	357146	677504	

Accuracy & Precision

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

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040287
Sample Matrix: Water

Service Request: E2000305
Date Analyzed: 4/20/20

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/L
Basis: NA

Extraction Lot: 357146

	Lab Control Sample EQ2000143-02			Duplicate Lab Control Sample EQ2000143-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Perchlorate	0.112	0.100	112	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:**	E2000305
Project:	HS20040287	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000143-02	**Basis:**	NA

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

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	LOQ	LOD	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	**0.112**		0.100	0.0500	0.0250	1	4/20/20	4/20/20 15:18	357146	677504	

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	ALS Environmental - US	**Service Request:**	E2000305
Project:	HS20040287	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	µg/L
Lab Code:	EQ2000143-03	**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	4/20/20	4/20/20 15:26	357146	677504	

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

20200420

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
LCMS01 -Shimadzu 8050

ICAL Date: 4/20/2020
Cal. Std. xp: 5/14/2020
ICAL ID: **EC2000003**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100803-09 **B:** MeOH 3100802-01

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200420_001	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:01
	null		20200420_002	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:06
	DIBLK		20200420_003	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:11
	IB		20200420_004	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:19
	PERCHLORATE7		20200420_005	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 13:27
	LODV		20200420_006	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:35
	PERCHLORATE1		20200420_007	Perchlorate6850b.lcm	1x	☒	3100804-05	4/20/2020 13:43
	PERCHLORATE2		20200420_008	Perchlorate6850b.lcm	1x	☒	3100804-06	4/20/2020 13:51
	PERCHLORATE3		20200420_009	Perchlorate6850b.lcm	1x	☒	3100804-07	4/20/2020 13:58
	PERCHLORATE4		20200420_010	Perchlorate6850b.lcm	1x	☒	3100804-08	4/20/2020 14:06
	PERCHLORATE5		20200420_011	Perchlorate6850b.lcm	1x	☒	3100804-09	4/20/2020 14:14
	PERCHLORATE6		20200420_012	Perchlorate6850b.lcm	1x	☒	3100805-01	4/20/2020 14:22
	PERCHLORATE8		20200420_013	Perchlorate6850b.lcm	1x	☒	3100805-03	4/20/2020 14:30
	PERCHLORATE9		20200420_014	Perchlorate6850b.lcm	1x	☒	3100805-04	4/20/2020 14:38
	PERCHLORATE10		20200420_015	Perchlorate6850b.lcm	1x	☒	3100805-05	4/20/2020 14:46
	ICV		20200420_016	Perchlorate6850b.lcm	1x	☒	3100805-06	4/20/2020 14:54
	LODV		20200420_017	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:02
	EQ2000143-01		20200420_018	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:10
	EQ2000143-02		20200420_019	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:18
	EQ2000143-03		20200420_020	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:26
	E2000275-001		20200420_021	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:33
	E2000275-002		20200420_022	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:41
	E2000275-003		20200420_023	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:49
	E2000287-001		20200420_024	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:57
	E2000303-001		20200420_025	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:05
	E2000304-001		20200420_026	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:13
	E2000305-001		20200420_027	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:21
	PERCHLORATE7		20200420_028	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 16:29
	E2000303-001		20200420_029	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:47
	E2000304-001		20200420_030	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:55
	PERCHLORATE7		20200420_031	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 17:02

Initial Calibration - Detailed Report

Calibration ID: EC2000003 **Instrument ID:** E-LCMS-01
Column Name: 1

#	Lab Code	Sample Name	File Location	Aquisition Date
08	EC2000003-08	PERCHLORATE7	20200420_005	04/20/2020 13:27
01	EC2000003-01	PERCHLORATE1	20200420_007	04/20/2020 13:43
02	EC2000003-02	PERCHLORATE2	20200420_008	04/20/2020 13:51
03	EC2000003-03	PERCHLORATE3	20200420_009	04/20/2020 13:58
04	EC2000003-04	PERCHLORATE4	20200420_010	04/20/2020 14:06
05	EC2000003-05	PERCHLORATE5	20200420_011	04/20/2020 14:14
06	EC2000003-06	PERCHLORATE6	20200420_012	04/20/2020 14:22
07	EC2000003-07	PERCHLORATE8	20200420_013	04/20/2020 14:30
09	EC2000003-09	PERCHLORATE9	20200420_014	04/20/2020 14:38
10	EC2000003-10	PERCHLORATE10	20200420_015	04/20/2020 14:46

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

Perchlorate **Average RF** **RSD = 8.066** **Average RF = 0.1368**

#	Amount	RF	#	Amount	RF	#	Amount	RF	#	Amount	RF
01	0.1000	0.1558	02	0.5000	0.1297	03	0.7000	0.1277	04	1.0000	0.1397
05	2.0000	0.1298	06	5.0000	0.1245	07	20.0000	0.1341	08	10.0000	0.1562
09	30.0000	0.1365	10	50.0000	0.1345						

Analyte

Perchlorate

#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D	#	Amount	Calculated Conc	%D
01	0.1000	0.114	13.9	02	0.5000	0.474	-5.2	03	0.7000	0.653	-6.7
04	1.0000	1.02	2.1	05	2.0000	1.90	-5.1	06	5.0000	4.55	-9.0
07	20.0000	19.6	-2.0	08	10.0000	11.4	14.2	09	30.0000	29.9	-0.2
10	50.0000	49.1	-1.7								

Initial Calibration Verification Summary Report

Calibration ID:	EC2000003	**Instrument ID:**	E-LCMS-01
Datafile ID:	20200420_016	**Column Name:**	1

Analyte	Lab Code	Type	Curve Fit	True Value	Calc Conc	Units	Result	Criteria
Perchlorate	EC2000003-11	T	Average RF	10	11.345	ng/mL	13.4	<= 15

ALS Group Houston

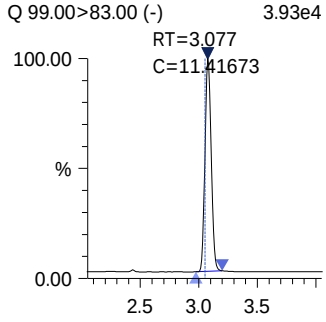
PERCHLORATE7

Date acquired: 4/20/2020 1:27:21 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_005.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	4/20/2020 1:27:21 PM	144494	11.41673	20200420_005	3.077	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	4/20/2020 1:27:21 PM	92497	1.00000	20200420_005	3.076	25.0000	1.0000	3

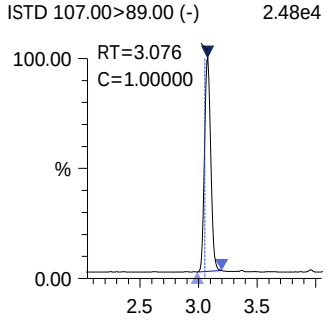
Perchlorate

Conc 11.41673
Area 144494



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 92497



ALS Group Houston

PERCHLORATE1

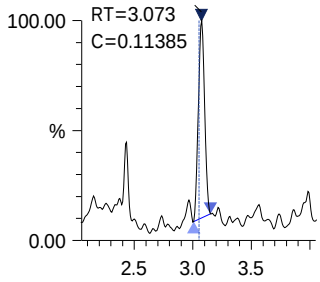
Date acquired: 4/20/2020 1:43:09 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_007.lcd
Vial: 5 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE1	4/20/2020 1:43:09 PM	1840	0.11385	20200420_007	3.073	25.0000	1.0000	5
Sodium Perchlorate-18O4_IS	PERCHLORATE1	4/20/2020 1:43:09 PM	118078	1.00000	20200420_007	3.073	25.0000	1.0000	5

Perchlorate

Conc 0.11385
Area 1840

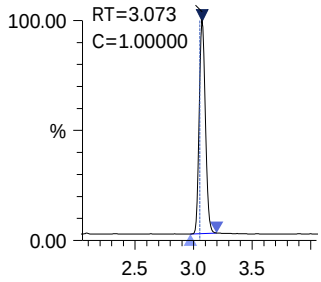
Q 99.00>83.00 (-) 5.37e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 118078

ISTD 107.00>89.00 (-) 3.18e4



ALS Group Houston

PERCHLORATE2

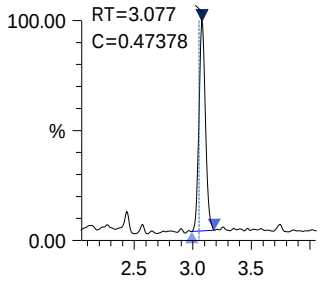
Date acquired: 4/20/2020 1:51:02 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_008.lcd
Vial: 6 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE2	4/20/2020 1:51:02 PM	7551	0.47378	20200420_008	3.077	25.0000	1.0000	6
Sodium Perchlorate-18O4_IS	PERCHLORATE2	4/20/2020 1:51:02 PM	116479	1.00000	20200420_008	3.075	25.0000	1.0000	6

Perchlorate

Conc 0.47378
Area 7551

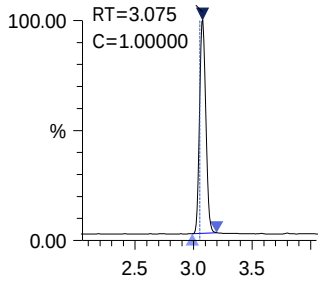
Q 99.00>83.00 (-) 2.00e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 116479

ISTD 107.00>89.00 (-) 3.08e4



ALS Group Houston

PERCHLORATE3

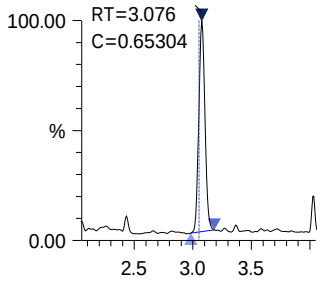
Date acquired: 4/20/2020 1:58:56 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_009.lcd
Vial: 7 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE3	4/20/2020 1:58:56 PM	11235	0.65304	20200420_009	3.076	25.0000	1.0000	7
Sodium Perchlorate-18O4_IS	PERCHLORATE3	4/20/2020 1:58:56 PM	125731	1.00000	20200420_009	3.073	25.0000	1.0000	7

Perchlorate

Conc 0.65304
Area 11235

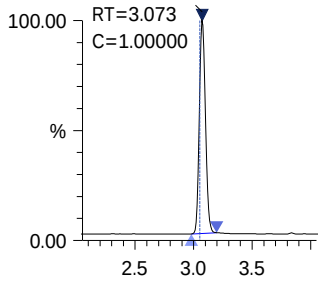
Q 99.00>83.00 (-) 3.12e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 125731

ISTD 107.00>89.00 (-) 3.41e4



ALS Group Houston

PERCHLORATE4

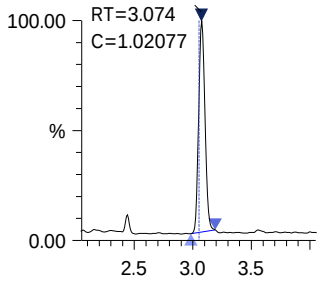
Date acquired: 4/20/2020 2:06:51 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_010.lcd
Vial: 8 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE4	4/20/2020 2:06:51 PM	16670	1.02077	20200420_010	3.074	25.0000	1.0000	8
Sodium Perchlorate-18O4_IS	PERCHLORATE4	4/20/2020 2:06:51 PM	119354	1.00000	20200420_010	3.074	25.0000	1.0000	8

Perchlorate

Conc 1.02077
Area 16670

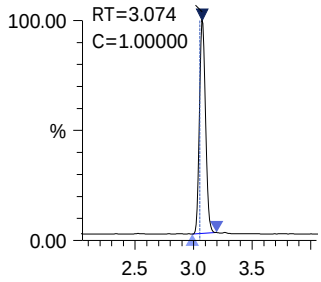
Q 99.00>83.00 (-) 4.51e3



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 119354

ISTD 107.00>89.00 (-) 3.26e4



ALS Group Houston

PERCHLORATE5

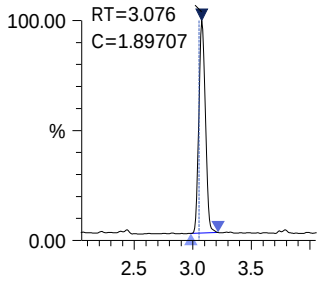
Date acquired: 4/20/2020 2:14:45 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_011.lcd
Vial: 9 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE5	4/20/2020 2:14:45 PM	33786	1.89707	20200420_011	3.076	25.0000	1.0000	9
Sodium Perchlorate-18O4_IS	PERCHLORATE5	4/20/2020 2:14:45 PM	130159	1.00000	20200420_011	3.075	25.0000	1.0000	9

Perchlorate

Conc 1.89707
Area 33786

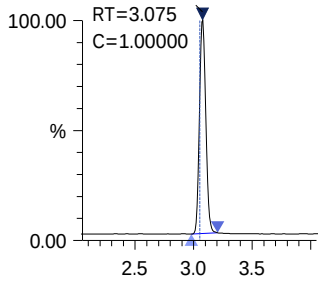
Q 99.00>83.00 (-) 8.73e3



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 130159

ISTD 107.00>89.00 (-) 3.41e4



ALS Group Houston

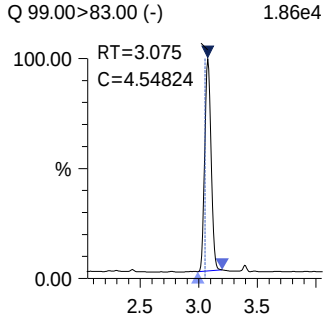
PERCHLORATE6

Date acquired: 4/20/2020 2:22:39 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_012.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	4/20/2020 2:22:39 PM	69848	4.54824	20200420_012	3.075	25.0000	1.0000	10
Sodium Perchlorate-18O4_IS	PERCHLORATE6	4/20/2020 2:22:39 PM	112235	1.00000	20200420_012	3.074	25.0000	1.0000	10

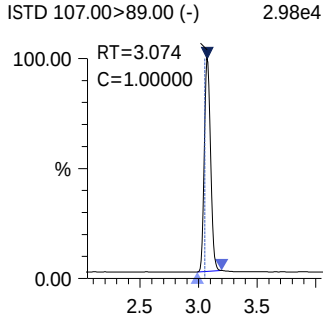
Perchlorate

Conc 4.54824
Area 69848



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 112235



ALS Group Houston

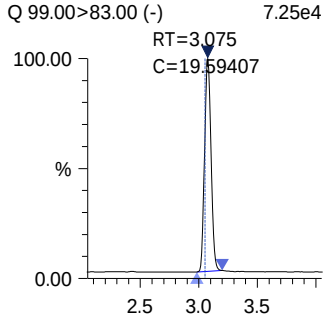
PERCHLORATE8

Date acquired: 4/20/2020 2:30:36 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_013.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	4/20/2020 2:30:36 PM	275854	19.59407	20200420_013	3.075	25.0000	1.0000	11
Sodium Perchlorate-18O4_IS	PERCHLORATE8	4/20/2020 2:30:36 PM	102890	1.00000	20200420_013	3.072	25.0000	1.0000	11

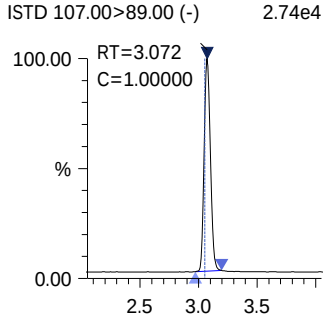
Perchlorate

Conc 19.59407
Area 275854



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 102890



ALS Group Houston

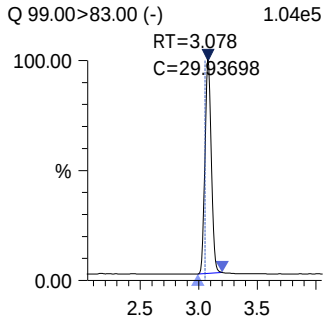
PERCHLORATE9

Date acquired: 4/20/2020 2:38:33 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_014.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	4/20/2020 2:38:33 PM	390068	29.93698	20200420_014	3.078	25.0000	1.0000	12
Sodium Perchlorate-18O4_IS	PERCHLORATE9	4/20/2020 2:38:33 PM	95225	1.00000	20200420_014	3.075	25.0000	1.0000	12

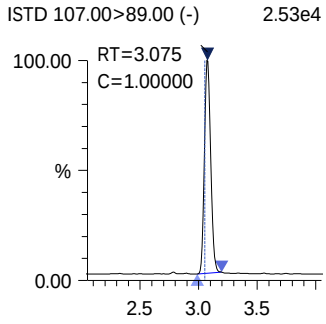
Perchlorate

Conc 29.93698
Area 390068



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 95225



ALS Group Houston

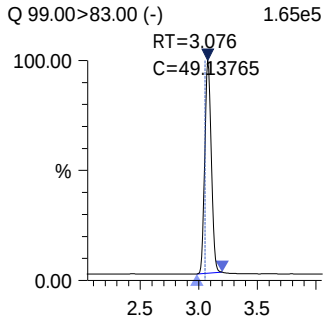
PERCHLORATE10

Date acquired: 4/20/2020 2:46:25 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_015.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	4/20/2020 2:46:25 PM	632804	49.13765	20200420_015	3.076	25.0000	1.0000	13
Sodium Perchlorate-18O4_IS	PERCHLORATE10	4/20/2020 2:46:25 PM	94118	1.00000	20200420_015	3.075	25.0000	1.0000	13

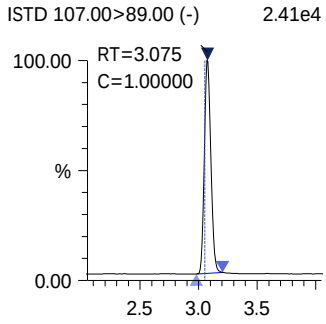
Perchlorate

Conc 49.13765
Area 632804



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 94118



ALS Group Houston

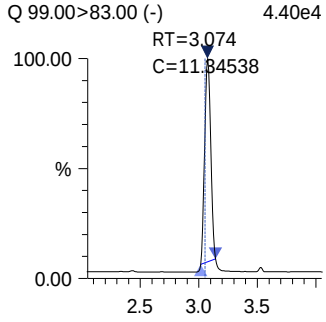
PERCHLORATEICV

Date acquired: 4/20/2020 2:54:20 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_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	4/20/2020 2:54:20 PM	149807	11.34538	20200420_016	3.074	25.0000	1.0000	14
Sodium Perchlorate-18O4_IS	PERCHLORATEICV	4/20/2020 2:54:20 PM	96501	1.00000	20200420_016	3.072	25.0000	1.0000	14

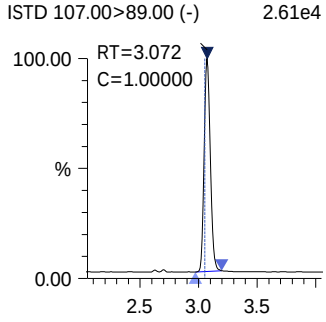
Perchlorate

Conc 11.34538
Area 149807



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 96501



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

20200420

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
LCMS01 -Shimadzu 8050

ICAL Date: 4/20/2020
Cal. Std. xp: 5/14/2020
ICAL ID: **EC2000003**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100803-09 **B:** MeOH 3100802-01

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200420_001	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:01
	null		20200420_002	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:06
	DIBLK		20200420_003	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:11
	IB		20200420_004	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:19
	PERCHLORATE7		20200420_005	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 13:27
	LODV		20200420_006	Perchlorate6850b.lcm	1x	☒		4/20/2020 13:35
	PERCHLORATE1		20200420_007	Perchlorate6850b.lcm	1x	☒	3100804-05	4/20/2020 13:43
	PERCHLORATE2		20200420_008	Perchlorate6850b.lcm	1x	☒	3100804-06	4/20/2020 13:51
	PERCHLORATE3		20200420_009	Perchlorate6850b.lcm	1x	☒	3100804-07	4/20/2020 13:58
	PERCHLORATE4		20200420_010	Perchlorate6850b.lcm	1x	☒	3100804-08	4/20/2020 14:06
	PERCHLORATE5		20200420_011	Perchlorate6850b.lcm	1x	☒	3100804-09	4/20/2020 14:14
	PERCHLORATE6		20200420_012	Perchlorate6850b.lcm	1x	☒	3100805-01	4/20/2020 14:22
	PERCHLORATE8		20200420_013	Perchlorate6850b.lcm	1x	☒	3100805-03	4/20/2020 14:30
	PERCHLORATE9		20200420_014	Perchlorate6850b.lcm	1x	☒	3100805-04	4/20/2020 14:38
	PERCHLORATE10		20200420_015	Perchlorate6850b.lcm	1x	☒	3100805-05	4/20/2020 14:46
	ICV		20200420_016	Perchlorate6850b.lcm	1x	☒	3100805-06	4/20/2020 14:54
	LODV		20200420_017	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:02
	EQ2000143-01		20200420_018	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:10
	EQ2000143-02		20200420_019	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:18
	EQ2000143-03		20200420_020	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:26
	E2000275-001		20200420_021	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:33
	E2000275-002		20200420_022	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:41
	E2000275-003		20200420_023	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:49
	E2000287-001		20200420_024	Perchlorate6850b.lcm	1x	☒		4/20/2020 15:57
	E2000303-001		20200420_025	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:05
	E2000304-001		20200420_026	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:13
	E2000305-001		20200420_027	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:21
	PERCHLORATE7		20200420_028	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 16:29
	E2000303-001		20200420_029	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:47
	E2000304-001		20200420_030	Perchlorate6850b.lcm	1x	☒		4/20/2020 16:55
	PERCHLORATE7		20200420_031	Perchlorate6850b.lcm	1x	☒	3100805-02	4/20/2020 17:02

20200422

1st Review: Kneir
2nd Review: Hvan

ALS Environmental
LCMS01 -Shimadzu 8050

ICAL Date: 4/20/2020
Cal. Std. xp: 5/14/2020
ICAL ID: **EC2000003**

Mobile Phases **A:** 0.75% Formic Acid/Water 3100803-09 **B:** MeOH 3100802-01

	Sample Name		File Name	Acquisition Method	Dilution	R	Comments	Date/Time
	null		20200422_001	Perchlorate6850b.lcm	1x	☒		4/22/2020 12:55
	IB		20200422_002	Perchlorate6850b.lcm	1x	☒		4/22/2020 13:00
	PERCHLORATE7		20200422_003	Perchlorate6850b.lcm	1x	☒	3100805-02	4/22/2020 13:08
	E2000303-001		20200422_004	Perchlorate6850b.lcm	1x	☒		4/22/2020 13:16
	E2000304-001		20200422_005	Perchlorate6850b.lcm	1x	☒		4/22/2020 13:24
	E2000305-001X250		20200422_006	Perchlorate6850b.lcm	250x	☒		4/22/2020 13:32
	PERCHLORATE7		20200422_007	Perchlorate6850b.lcm	1x	☒	3100805-02	4/22/2020 13:40

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040287

Service Request: E2000305
Date Analyzed: 4/20/20 14:54

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

File ID: I:\LCMS01\DATA\20200420\20200420_016
Instrument ID: E-LCMS-01
Analytical Method: 6850

Lab Code: EQ2000148-01
Analysis Lot: 677504
Signal ID: 1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000148-01	96,501	3.07
Method Blank	EQ2000143-01	113,200	3.08
Lab Control Sample	EQ2000143-02	84,678	3.07
Duplicate Lab Control Sample	EQ2000143-03	108,366	3.07

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:**	E2000305
Project:	HS20040287	**Date Analyzed:**	4/20/20 16:29

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200420\20200420_028	**Lab Code:**	EQ2000148-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	677504
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000148-02	97,156	3.07

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:**	E2000305
Project:	HS20040287	**Date Analyzed:**	4/22/20 13:08

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

File ID:	I:\LCMS01\DATA\20200422\20200422_003	**Lab Code:**	EQ2000153-01
Instrument ID:	E-LCMS-01	**Analysis Lot:**	677638
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000153-01	76,714	3.08
LH18/24-SP140_040720	E2000305-001	67,470	3.08

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:**	E2000305
Project:	HS20040287	**Date Analyzed:**	4/22/20 13:40

Internal Standard Area and RT Summary

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

File ID:	I:\LCMS01\DATA\20200422\20200422_007	**Lab Code:**	EQ2000153-02
Instrument ID:	E-LCMS-01	**Analysis Lot:**	677638
Analytical Method:	6850	**Signal ID:**	1

		Sodium Perchlorate-18O4	
		Area	**RT**
	ICAL Average ==>	110,677	3.07
	Upper Limit ==>	166,016	5.07
	Lower Limit ==>	55,339	1.07
Associated Analyses			
Continuing Calibration Verification	EQ2000153-02	93,873	3.02

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: HS20040287

Service Request: E2000305
Date Analyzed: 4/20/20

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\20200420\20200420_016

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 677504
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1368	0.1552	13.5	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040287

Service Request: E2000305
Date Analyzed: 4/20/20

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\20200420\20200420_028

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 677504
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1368	0.1543	12.7	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040287

Service Request: E2000305
Date Analyzed: 4/22/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200422\20200422_003

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 677638
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	11.3	0.1368	0.1546	13.0	NA	± 15 %	Average RF

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client: ALS Environmental - US
Project: HS20040287

Service Request: E2000305
Date Analyzed: 4/22/20

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

Analytical Method: 6850
File ID: I:\LCMS01\DATA\20200422\20200422_007

Calibration Date: 4/20/20
Calibration ID: EC2000003
Analysis Lot: 677638
Units: ng/mL

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Perchlorate	10.0	10.8	0.1368	0.1481	8.3	NA	± 15 %	Average RF

ALS Group Houston

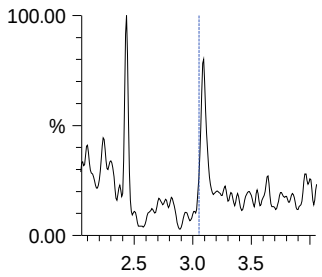
EQ2000143-01

Date acquired: 4/20/2020 3:10:11 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_018.lcd
Vial: 15 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000143-01	4/20/2020 3:10:11 PM	----	----	20200420_018	----	25.0000	1.0000	15
Sodium Perchlorate-18O4_IS	EQ2000143-01	4/20/2020 3:10:11 PM	113200	1.00000	20200420_018	3.076	25.0000	1.0000	15

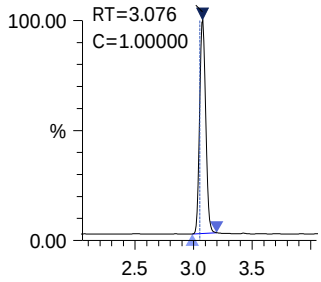
Perchlorate

Conc ----
Area ----
Q 99.00>83.00 (-) 2.29e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 113200
ISTD 107.00>89.00 (-) 3.08e4



ALS Group Houston

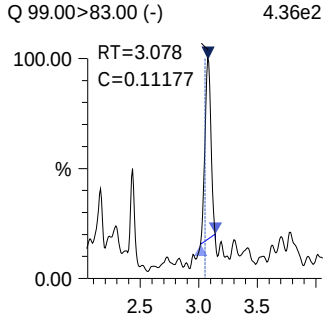
EQ2000143-02

Date acquired: 4/20/2020 3:18:04 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_019.lcd
Vial: 16 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000143-02	4/20/2020 3:18:04 PM	1295	0.11177	20200420_019	3.078	25.0000	1.0000	16
Sodium Perchlorate-18O4_IS	EQ2000143-02	4/20/2020 3:18:04 PM	84678	1.00000	20200420_019	3.072	25.0000	1.0000	16

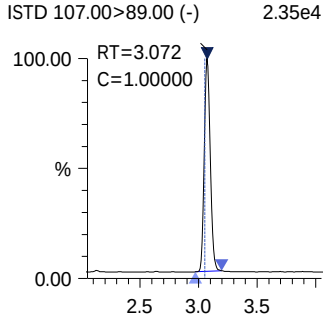
Perchlorate

Conc 0.11177
Area 1295



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 84678



ALS Group Houston

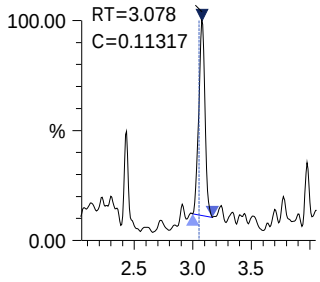
EQ2000143-03

Date acquired: 4/20/2020 3:26:00 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_020.lcd
Vial: 17 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	EQ2000143-03	4/20/2020 3:26:00 PM	1678	0.11317	20200420_020	3.078	25.0000	1.0000	17
Sodium Perchlorate-18O4_IS	EQ2000143-03	4/20/2020 3:26:00 PM	108366	1.00000	20200420_020	3.072	25.0000	1.0000	17

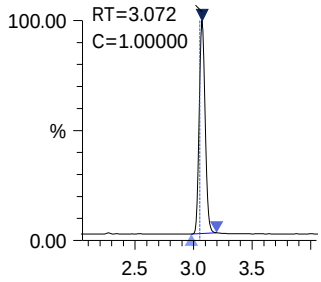
Perchlorate

Conc 0.11317
Area 1678
Q 99.00>83.00 (-) 4.97e2



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 108366
ISTD 107.00>89.00 (-) 3.03e4



ALS Group Houston

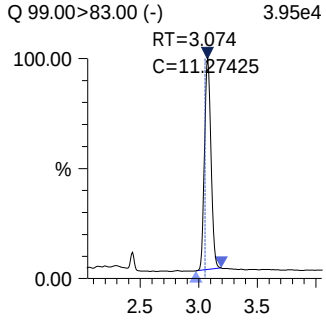
PERCHLORATE7

Date acquired: 4/20/2020 4:29:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200420\20200420_028.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	4/20/2020 4:29:14 PM	149879	11.27425	20200420_028	3.074	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	4/20/2020 4:29:14 PM	97156	1.00000	20200420_028	3.073	25.0000	1.0000	3

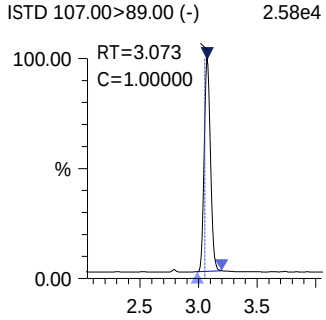
Perchlorate

Conc 11.27425
Area 149879



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 97156



ALS Group Houston

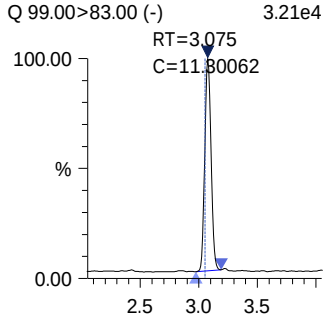
PERCHLORATE7

Date acquired: 4/22/2020 1:08:31 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200422\20200422_003.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	4/22/2020 1:08:31 PM	118621	11.30062	20200422_003	3.075	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	4/22/2020 1:08:31 PM	76714	1.00000	20200422_003	3.075	25.0000	1.0000	3

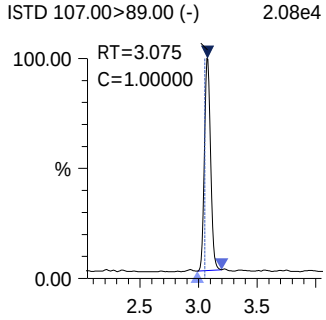
Perchlorate

Conc 11.30062
Area 118621



Sodium Perchlorate-18O4 _IS

Conc 1.00000
Area 76714



ALS Group Houston

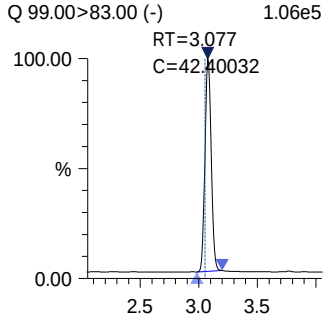
E2000305-001X250

Date acquired: 4/22/2020 1:32:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200422\20200422_006.lcd
Vial: 24 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	E2000305-001X250	4/22/2020 1:32:14 PM	391434	42.40032	20200422_006	3.077	25.0000	1.0000	24
Sodium Perchlorate-18O4_IS	E2000305-001X250	4/22/2020 1:32:14 PM	67470	1.00000	20200422_006	3.075	25.0000	1.0000	24

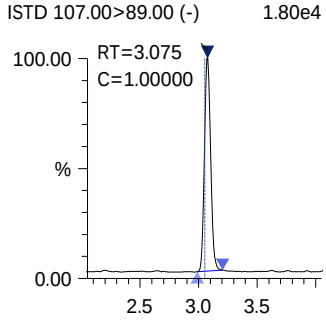
Perchlorate

Conc 42.40032
Area 391434



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 67470



ALS Group Houston

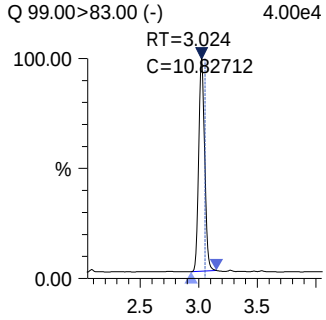
PERCHLORATE7

Date acquired: 4/22/2020 1:40:14 PM
Acquired by: System Administrator
Data File: I:\LCMS01\DATA\20200422\20200422_007.lcd
Vial: 3 | Inj. Volume: 25.0000uL | Tray: 1

Name	Sample ID	Acquired Date	Area	Conc.	Data Filename	Found RT	Inj Vol	ISTD Amount	Vial
Perchlorate	PERCHLORATE7	4/22/2020 1:40:14 PM	139071	10.82712	20200422_007	3.024	25.0000	1.0000	3
Sodium Perchlorate-18O4_IS	PERCHLORATE7	4/22/2020 1:40:14 PM	93873	1.00000	20200422_007	3.021	25.0000	1.0000	3

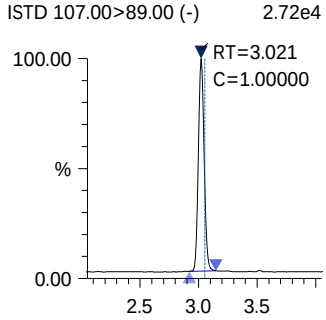
Perchlorate

Conc 10.82712
Area 139071



Sodium Perchlorate-18O4_IS

Conc 1.00000
Area 93873



HS20040287 - ME - ICP_W_DOD

ALS WO# HS20040287

ALS Houston, US Date: 30-Apr-20

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287
Start Date: 13-Apr-2020 08:00 End Date: 13-Apr-2020 12:00

Batch ID: 152654
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS20040284-01MS				10	10	1
HS20040284-01MSD				10	10	1
HS20040284-01PDS				10	10	1
HS20040284-01SD				10	10	1
HS20040287-01	LH18/24-SP140_040720	Water		10	10	1
LCS-152654				10	10	1
MBLK-152654				10	10	1

ALS Houston, US Date: 30-Apr-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287
Start Date: 14-Apr-2020 End Date: 15-Apr-2020

Run ID:ICPMS06_359908
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS06_359908_Tune	1	14-Apr-2020 00:00	ICPMS06_359908_Tune_1	
CAL BLK	1	14-Apr-2020 08:35	010CALB.d_5553114	AG SE
2/10/200	1	14-Apr-2020 08:37	011CALS.d_5553115	AG SE
5/25/500	1	14-Apr-2020 08:39	012CALS.d_5553116	AG SE
10/50/100	1	14-Apr-2020 08:40	013CALS.d_5553117	AG SE
100/500/10K	1	14-Apr-2020 08:42	014CALS.d_5553118	AG SE
200/1000/20K	1	14-Apr-2020 08:44	015CALS.d_5553119	AG SE
ICV	1	14-Apr-2020 08:48	017_ICV.d_5553121	AG SE
LLICV2	1	14-Apr-2020 08:50	018LCV2.d_5553122	AG SE
LLICV5	1	14-Apr-2020 08:51	019LCV5.d_5553123	AG SE
ICB	1	14-Apr-2020 08:53	020_ICB.d_5553124	AG SE
ICSA	1	14-Apr-2020 08:55	021ICSA.d_5553125	AG SE
ICSAB	1	14-Apr-2020 08:57	022ICSB.d_5553126	AG SE
CCV 1	1	14-Apr-2020 09:25	029_CCV.d_5553635	AG SE
CCB 1	1	14-Apr-2020 09:26	030_CCB.d_5553636	AG SE
CAL BLK	1	14-Apr-2020 10:55	051CALB.d_5553609	AG SE
2/10/200	1	14-Apr-2020 10:57	052CALS.d_5553610	AG SE
5/25/500	1	14-Apr-2020 10:58	053CALS.d_5553611	AG SE
10/50/100	1	14-Apr-2020 11:00	054CALS.d_5553612	AG SE
100/500/10K	1	14-Apr-2020 11:02	055CALS.d_5553613	AG SE
200/1000/20K	1	14-Apr-2020 11:04	056CALS.d_5553614	AG SE
ICCV 2	1	14-Apr-2020 11:07	058_ICV.d_5553616	AG SE
LLICCV2	1	14-Apr-2020 11:09	059LCV2.d_5553617	AG SE
LLICCV5	1	14-Apr-2020 11:11	060LCV5.d_5553618	AG SE
ICCB 2	1	14-Apr-2020 11:13	061_ICB.d_5553619	AG SE
CCV 3	1	14-Apr-2020 11:58	081_CCV.d_5553620	AG SE
CCB 3	1	14-Apr-2020 12:00	082_CCB.d_5553621	AG SE
CCV 4	1	14-Apr-2020 12:15	089_CCV.d_5553628	AG SE
CCB 4	1	14-Apr-2020 12:17	090_CCB.d_5553629	AG SE
CCV 5	1	14-Apr-2020 12:39	100_CCV.d_5553670	AG SE
CCB 5	1	14-Apr-2020 12:41	101_CCB.d_5553671	AG SE
CCV 6	1	14-Apr-2020 13:03	112_CCV.d_5553682	AG SE
CCB 6	1	14-Apr-2020 13:05	113_CCB.d_5553683	AG SE
CCV 7	1	14-Apr-2020 13:27	124_CCV.d_5553704	AG SE
CCB 7	1	14-Apr-2020 13:28	125_CCB.d_5553705	AG SE
CCV 8	1	14-Apr-2020 13:50	136_CCV.d_5553824	AG SE
CCB 8	1	14-Apr-2020 13:52	137_CCB.d_5553825	AG SE
CCV 9	1	14-Apr-2020 14:24	147_CCV.d_5554031	AG SE
CCB 9	1	14-Apr-2020 14:26	148_CCB.d_5554032	AG SE
CCV 10	1	14-Apr-2020 14:28	149_CCV.d_5554033	AG SE
CCV 11	1	14-Apr-2020 14:49	158_CCV.d_5554166	AG SE
CCB 10	1	14-Apr-2020 14:51	159_CCB.d_5554167	AG SE
CCB 11	1	14-Apr-2020 16:03	171_CCB.d_5554214	AG SE
CCV 12	1	14-Apr-2020 16:12	173_CCV.d_5554216	AG SE
CCV 13	1	14-Apr-2020 16:32	182_CCV.d_5554223	AG SE
CCB 12	1	14-Apr-2020 16:34	183_CCB.d_5554224	AG SE
CCV 14	1	14-Apr-2020 17:03	194_CCV.d_5554288	AG SE
CCB 13	1	14-Apr-2020 17:05	195_CCB.d_5554289	AG SE
CCV 15	1	14-Apr-2020 17:07	196_CCV.d_5554290	AG SE
CCB 14	1	14-Apr-2020 17:09	197_CCB.d_5554291	AG SE
CCV 16	1	14-Apr-2020 17:31	208_CCV.d_5554293	AG SE

ALS Houston, US Date: 30-Apr-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287
Start Date: 14-Apr-2020 End Date: 15-Apr-2020

Run ID:ICPMS06_359908
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
CCB 15	1	14-Apr-2020 17:33	209_CCB.d_5554294	AG SE
CAL BLK	1	14-Apr-2020 19:51	218CALB.d_5554386	AG SE
2/10/200	1	14-Apr-2020 19:53	219CALS.d_5554387	AG SE
5/25/500	1	14-Apr-2020 19:55	220CALS.d_5554388	AG SE
10/50/100	1	14-Apr-2020 19:57	221CALS.d_5554389	AG SE
100/500/10K	1	14-Apr-2020 19:59	222CALS.d_5554390	AG SE
200/1000/20K	1	14-Apr-2020 20:01	223CALS.d_5554391	AG SE
ICCV 17	1	14-Apr-2020 20:04	225_ICV.d_5554393	AG SE
LLICCV2	1	14-Apr-2020 20:06	226LCV2.d_5554394	AG SE
LLICCV5	1	14-Apr-2020 20:08	227LCV5.d_5554395	AG SE
ICCB 16	1	14-Apr-2020 20:10	228_ICB.d_5554396	AG SE
CCV 18	1	14-Apr-2020 20:27	237_CCV.d_5554405	AG SE
CCB 17	1	14-Apr-2020 20:29	238_CCB.d_5554406	AG SE
CCB 18	1	14-Apr-2020 20:47	248_CCB.d_5554416	AG SE
CCV 19	1	14-Apr-2020 20:59	251_CCV.d_5554418	AG SE
CCV 20	1	14-Apr-2020 21:14	259_CCV.d_5554492	AG SE
CCB 19	1	14-Apr-2020 21:16	260_CCB.d_5554493	AG SE
CCV 21	1	14-Apr-2020 21:48	269_CCV.d_5554502	AG SE
CCB 20	1	14-Apr-2020 21:50	270_CCB.d_5554503	AG SE
CCV 22	1	14-Apr-2020 22:07	279_CCV.d_5554517	AG SE
CCB 21	1	14-Apr-2020 22:08	280_CCB.d_5554518	AG SE
CCV 23	1	14-Apr-2020 22:18	285_CCV.d_5554523	AG SE
CCB 22	1	14-Apr-2020 22:20	286_CCB.d_5554524	AG SE
MBLK-152654	1	14-Apr-2020 22:22	287SMPL.d_5554534	AG SE
LCS-152654	1	14-Apr-2020 22:24	288SMPL.d_5554535	AG SE
ZZZZZZSD	5	14-Apr-2020 22:28	290SMPL.d_5554537	AG SE
ZZZZZZMS	1	14-Apr-2020 22:30	291SMPL.d_5554538	AG SE
ZZZZZZMSD	1	14-Apr-2020 22:31	292SMPL.d_5554539	AG SE
ZZZZZZPDS	1	14-Apr-2020 22:33	293SMPL.d_5554540	AG SE
CCV 24	1	14-Apr-2020 22:35	294_CCV.d_5554541	AG SE
CCB 23	1	14-Apr-2020 22:37	295_CCB.d_5554542	AG SE
LH18/24-SP140_040720	1	14-Apr-2020 22:45	299SMPL.d_5554546	AG SE
CCV 25	1	14-Apr-2020 22:49	301_CCV.d_5554548	AG SE
CCB 24	1	14-Apr-2020 22:50	302_CCB.d_5554549	AG SE
CCV 26	1	14-Apr-2020 23:02	308_CCV.d_5554555	AG SE
CCB 25	1	14-Apr-2020 23:04	309_CCB.d_5554556	AG SE
CCV 27	1	14-Apr-2020 23:13	314_CCV.d_5554561	AG SE
CCB 26	1	14-Apr-2020 23:15	315_CCB.d_5554562	AG SE
CCB 27	1	14-Apr-2020 23:26	321_CCB.d_5554568	AG SE
CCV 28	1	14-Apr-2020 23:30	323_CCV.d_5554570	AG SE
CCV 29	1	14-Apr-2020 23:46	331_CCV.d_5554578	AG SE
CCB 28	1	14-Apr-2020 23:47	332_CCB.d_5554579	AG SE
CCV 30	1	15-Apr-2020 00:03	340_CCV.d_5554702	AG SE
CCB 29	1	15-Apr-2020 00:05	341_CCB.d_5554703	AG SE
CCV 31	1	15-Apr-2020 00:27	352_CCV.d_5554714	AG SE
CCB 30	1	15-Apr-2020 00:28	353_CCB.d_5554715	AG SE
CCV 32	1	15-Apr-2020 00:50	364_CCV.d_5554726	AG SE
CCB 31	1	15-Apr-2020 00:52	365_CCB.d_5554727	AG SE
CCV 33	1	15-Apr-2020 00:56	367_CCV.d_5554729	AG SE
CCB 32	1	15-Apr-2020 00:58	368_CCB.d_5554730	AG SE
LLCCV2	1	15-Apr-2020 01:01	370LCV2.d_5554696	AG SE

ALS Houston, US Date: 30-Apr-20

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287
Start Date: 14-Apr-2020 End Date: 15-Apr-2020

Run ID:ICPMS06_359908
Instrument:ICPMS06
Method:

Sample No.	D/F	Time	FileID	Analytes
LLCCV5	1	15-Apr-2020 01:03	371LCV5.d_5554697	AG SE
ICSA	1	15-Apr-2020 01:05	372ICSA.d_5554698	AG SE
ICSAB	1	15-Apr-2020 01:07	373ICSB.d_5554699	AG SE

ALS Houston, US Date: 30-Apr-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc. Run ID: ICPMS06_359908
Project: Longhorn GW Treatment Plant Monthly Influent Samples Instrument: ICPMS06
WorkOrder: HS20040287 Method: SW6020

ICV	Date: 14-Apr-2020 08:48		Seq: 5553121	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	96.104	96	90-110	
Silver	100	101.747	102	90-110	

CCV1	Date: 14-Apr-2020 09:25		Seq: 5553635	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	95.648	96	90-110	
Silver	100	99.608	100	90-110	

ICCV2	Date: 14-Apr-2020 11:07		Seq: 5553616	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	97.589	98	90-110	
Silver	100	100.241	100	90-110	

CCV3	Date: 14-Apr-2020 11:58		Seq: 5553620	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.08	99	90-110	
Silver	100	95.57	96	90-110	

CCV4	Date: 14-Apr-2020 12:15		Seq: 5553628	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.572	100	90-110	
Silver	100	97.223	97	90-110	

CCV5	Date: 14-Apr-2020 12:39		Seq: 5553670	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	101.208	101	90-110	
Silver	100	99.066	99	90-110	

CCV6	Date: 14-Apr-2020 13:03		Seq: 5553682	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.418	100	90-110	
Silver	100	97.261	97	90-110	

CCV7	Date: 14-Apr-2020 13:27		Seq: 5553704	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.775	100	90-110	
Silver	100	99.936	100	90-110	

CCV8	Date: 14-Apr-2020 13:50		Seq: 5553824	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	97.669	98	90-110	
Silver	100	95.652	96	90-110	

CCV9	Date: 14-Apr-2020 14:24		Seq: 5554031	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	108.449	108	90-110	
Silver	100	106.599	107	90-110	

CCV10	Date: 14-Apr-2020 14:28		Seq: 5554033	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.107	100	90-110	
Silver	100	97.222	97	90-110	

ALS Houston, US Date: 30-Apr-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCV11	Date: 14-Apr-2020 14:49		Seq: 5554166	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	106.644	107	90-110	
Silver	100	104.782	105	90-110	

CCV12	Date: 14-Apr-2020 16:12		Seq: 5554216	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.627	101	90-110	
Silver	100	92.79	93	90-110	

CCV13	Date: 14-Apr-2020 16:32		Seq: 5554223	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	106.926	107	90-110	
Silver	100	101.865	102	90-110	

CCV14	Date: 14-Apr-2020 17:03		Seq: 5554288	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	104.546	105	90-110	
Silver	100	100.685	101	90-110	

CCV15	Date: 14-Apr-2020 17:07		Seq: 5554290	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	103.809	104	90-110	
Silver	100	101.459	101	90-110	

CCV16	Date: 14-Apr-2020 17:31		Seq: 5554293	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	106.537	107	90-110	
Silver	100	98.338	98	90-110	

ICCV17	Date: 14-Apr-2020 20:04		Seq: 5554393	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.8	101	90-110	
Silver	100	99.588	100	90-110	

CCV18	Date: 14-Apr-2020 20:27		Seq: 5554405	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	104.183	104	90-110	
Silver	100	108.532	109	90-110	

CCV19	Date: 14-Apr-2020 20:59		Seq: 5554418	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	106.404	106	90-110	
Silver	100	113.045	113	90-110	S

CCV20	Date: 14-Apr-2020 21:14		Seq: 5554492	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	101.685	102	90-110	
Silver	100	107.224	107	90-110	

CCV21	Date: 14-Apr-2020 21:48		Seq: 5554502	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	105.179	105	90-110	
Silver	100	105.755	106	90-110	

ALS Houston, US Date: 30-Apr-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCV22	Date: 14-Apr-2020 22:07		Seq: 5554517	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	102.528	103	90-110	
Silver	100	103.927	104	90-110	

CCV23	Date: 14-Apr-2020 22:18		Seq: 5554523	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	100.107	100	90-110	
Silver	100	105.531	106	90-110	

CCV24	Date: 14-Apr-2020 22:35		Seq: 5554541	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	103.116	103	90-110	
Silver	100	105.194	105	90-110	

CCV25	Date: 14-Apr-2020 22:49		Seq: 5554548	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.787	100	90-110	
Silver	100	103.829	104	90-110	

CCV26	Date: 14-Apr-2020 23:02		Seq: 5554555	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	104.084	104	90-110	
Silver	100	106.344	106	90-110	

CCV27	Date: 14-Apr-2020 23:13		Seq: 5554561	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.922	100	90-110	
Silver	100	103.555	104	90-110	

CCV28	Date: 14-Apr-2020 23:30		Seq: 5554570	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.304	99	90-110	
Silver	100	102.473	102	90-110	

CCV29	Date: 14-Apr-2020 23:46		Seq: 5554578	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	98.027	98	90-110	
Silver	100	101.052	101	90-110	

CCV30	Date: 15-Apr-2020 00:03		Seq: 5554702	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	99.396	99	90-110	
Silver	100	99.785	100	90-110	

CCV31	Date: 15-Apr-2020 00:27		Seq: 5554714	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	96.991	97	90-110	
Silver	100	100.507	101	90-110	

CCV32	Date: 15-Apr-2020 00:50		Seq: 5554726	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Selenium	100	96.037	96	90-110	
Silver	100	101.076	101	90-110	

ALS Houston, US Date: 30-Apr-20

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCV33 Date: 15-Apr-2020 00:56 Seq: 5554729 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Selenium	100	96.457	97	90-110	
Silver	100	53.858	54	90-110	S

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

ICB	Date: 14-Apr-2020 08:53		Seq: 5553124	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB1	Date: 14-Apr-2020 09:26		Seq: 5553636	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
ICCB2	Date: 14-Apr-2020 11:13		Seq: 5553619	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB3	Date: 14-Apr-2020 12:00		Seq: 5553621	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB4	Date: 14-Apr-2020 12:17		Seq: 5553629	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB5	Date: 14-Apr-2020 12:41		Seq: 5553671	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB6	Date: 14-Apr-2020 13:05		Seq: 5553683	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB7	Date: 14-Apr-2020 13:28		Seq: 5553705	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB8	Date: 14-Apr-2020 13:52		Seq: 5553825	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB9	Date: 14-Apr-2020 14:26		Seq: 5554032	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB10	Date: 14-Apr-2020 14:51		Seq: 5554167	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB11	Date: 14-Apr-2020 16:03		Seq: 5554214	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

CCB11	Date: 14-Apr-2020 16:03		Seq: 5554214	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Silver	2	0.2	2	U	

CCB12	Date: 14-Apr-2020 16:34		Seq: 5554224	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB13	Date: 14-Apr-2020 17:05		Seq: 5554289	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB14	Date: 14-Apr-2020 17:09		Seq: 5554291	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB15	Date: 14-Apr-2020 17:33		Seq: 5554294	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ICCB16	Date: 14-Apr-2020 20:10		Seq: 5554396	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB17	Date: 14-Apr-2020 20:29		Seq: 5554406	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB18	Date: 14-Apr-2020 20:47		Seq: 5554416	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB19	Date: 14-Apr-2020 21:16		Seq: 5554493	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB20	Date: 14-Apr-2020 21:50		Seq: 5554503	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB21	Date: 14-Apr-2020 22:08		Seq: 5554518	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

CCB22	Date: 14-Apr-2020 22:20		Seq: 5554524	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

MBLK-152654	Date: 14-Apr-2020 22:22		Seq: 5554534	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	5	1.1	5	U	
Silver	5	0.2	5	U	
CCB23	Date: 14-Apr-2020 22:37		Seq: 5554542	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB24	Date: 14-Apr-2020 22:50		Seq: 5554549	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB25	Date: 14-Apr-2020 23:04		Seq: 5554556	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB26	Date: 14-Apr-2020 23:15		Seq: 5554562	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB27	Date: 14-Apr-2020 23:26		Seq: 5554568	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB28	Date: 14-Apr-2020 23:47		Seq: 5554579	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB29	Date: 15-Apr-2020 00:05		Seq: 5554703	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB30	Date: 15-Apr-2020 00:28		Seq: 5554715	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB31	Date: 15-Apr-2020 00:52		Seq: 5554727	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
CCB32	Date: 15-Apr-2020 00:58		Seq: 5554730	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	

ALS Houston, US Date: 30-Apr-20

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Run ID: ICPMS06_359908
Instrument: ICPMS06
Method: SW6020

ICSA	Date: 14-Apr-2020 08:55	Seq: 5553125	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		0.038	0	
Silver		0.012	0	
ICSAB	Date: 14-Apr-2020 08:57	Seq: 5553126	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	112.1	112	
Silver	100	100.6	101	
ICSA	Date: 15-Apr-2020 01:05	Seq: 5554698	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium		0.23	0	
Silver		0.016	0	
ICSAB	Date: 15-Apr-2020 01:07	Seq: 5554699	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Selenium	100	107.9	108	
Silver	100	102.4	102	

ALS Houston, US Date: 30-Apr-20

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Date Analyzed: 14-Apr-2020 22:31
Date Extracted: 13-Apr-2020 12:00
Units: ug/L

Matrix Spike: HS20040284-01MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Selenium	5.000	48.39	50.00	95.8	48.64	50.00	96.3	80-120	0.501	20
Silver	5.000	48.59	50.00	97.2	47.48	50.00	94.9	85-116	2.31	20

ALS Houston, US Date: 30-Apr-20

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Date Analyzed: 14-Apr-2020 22:33
Date Extracted: 13-Apr-2020 12:00
Units: ug/L

Lab Sample ID: HS20040284-01PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Selenium	0	106.3	100	106	80-120
Silver	0	87.69	100	88	80-120

ALS Houston, US Date: 30-Apr-20

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Date Analyzed: 14-Apr-2020 22:24
Date Extracted: 13-Apr-2020 12:00
Units: ug/L

Lab Sample ID: LCS-152654 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Selenium	50	49.24	99	80-120
Silver	50	49.91	100	85-116

ALS Houston, US Date: 30-Apr-20

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: Longhorn GW Treatment Plant Monthly Influent Samples
WorkOrder: HS20040287

Date Analyzed: 14-Apr-2020 22:28
Date Extracted: 13-Apr-2020 12:00
Units: ug/L

Lab Sample ID: HS20040284-01SD
Client Sample ID:

Analysis Method: SW6020

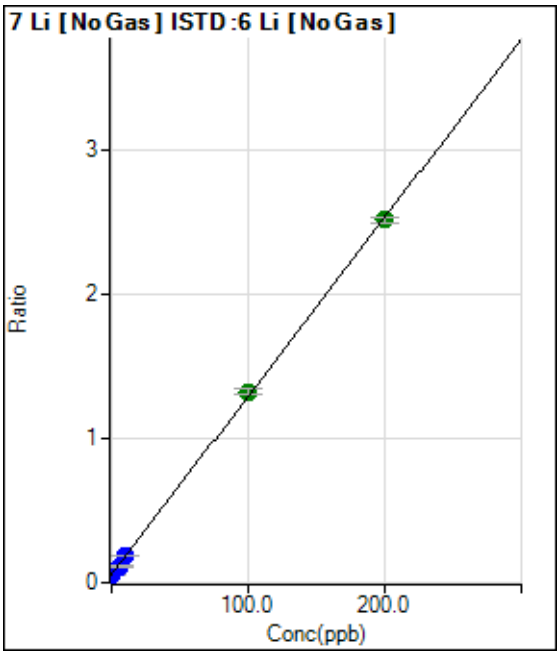
Analyte	Sample Result	C	SD Result	C	RPD	Q
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	

Calibration for 225_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	218CALB.d	CAL BLK	4/14/2020 7:51:57 PM
2	219CALS.d	2/10/200	4/14/2020 7:53:50 PM
3	220CALS.d	5/25/500	4/14/2020 7:55:42 PM
4	221CALS.d	10/50/100	4/14/2020 7:57:35 PM
5	222CALS.d	100/500/10K	4/14/2020 7:59:26 PM
6	223CALS.d	200/1000/20K	4/14/2020 8:01:10 PM

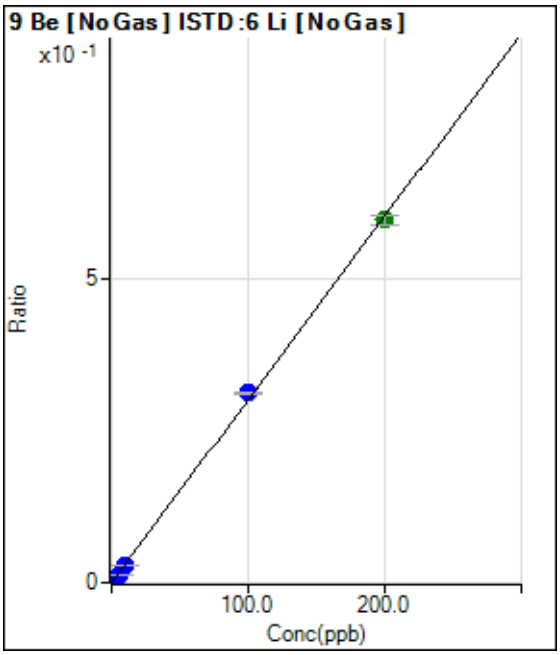
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	117560.68	0.0566	P	0.7
2	☐	2.000	1.774	165723.09	0.0786	P	1.6
3	☐	5.000	4.506	238155.57	0.1123	P	2.5
4	☐	10.000	10.442	381647.38	0.1857	P	1.1
5	☐	100.000	102.390	2609249.65	1.3225	A	2.7
6	☐	200.000	198.798	4877017.85	2.5144	A	1.6

y = 0.0124 * x + 0.0566
R = 0.9999
DL = 0.09319
BEC = 4.58

Weight: <None>
Min Conc: <None>

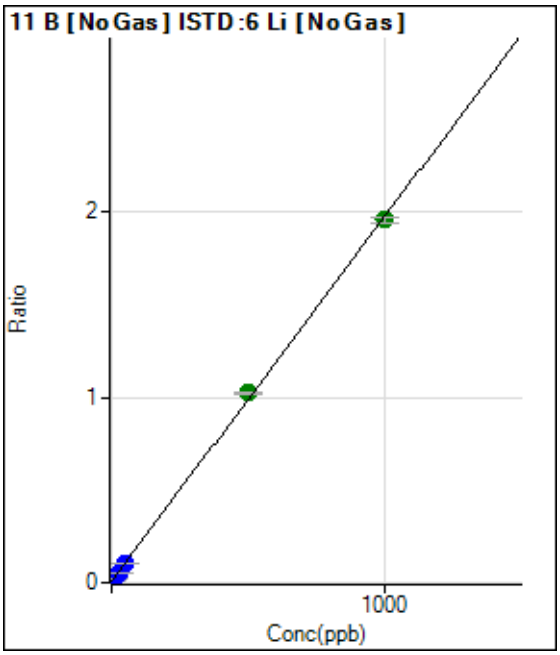


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	0.8
2	☐	2.000	1.849	11748.31	0.0056	P	2.2
3	☐	5.000	4.657	29698.05	0.0140	P	1.9
4	☐	10.000	9.923	61304.37	0.0298	P	0.3
5	☐	100.000	103.587	614364.04	0.3114	P	1.4
6	☐	200.000	198.221	1155516.03	0.5958	A	2.6

y = 0.0030 * x + 9.6343E-006
R = 0.9998
DL = 7.427E-05
BEC = 0.003205

Weight: <None>
Min Conc: <None>

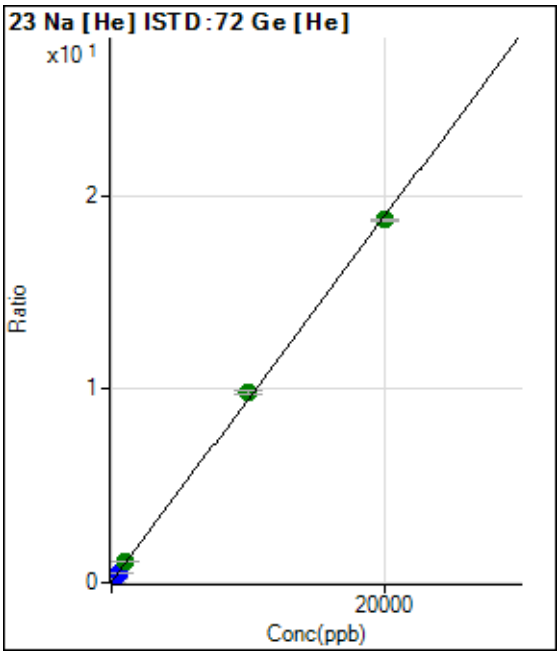
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14844.61	0.0072	P	2.2
2	☐	10.000	8.810	51585.96	0.0245	P	2.9
3	☐	25.000	22.321	108125.34	0.0510	P	3.0
4	☐	50.000	48.835	211844.78	0.1031	P	1.4
5	☐	500.000	516.717	2017444.97	1.0224	A	0.9
6	☐	1000.000	991.778	3793364.21	1.9557	A	1.5

y = 0.0020 * x + 0.0072
R = 0.9998
DL = 0.24
BEC = 3.639

Weight: <None>
Min Conc: <None>

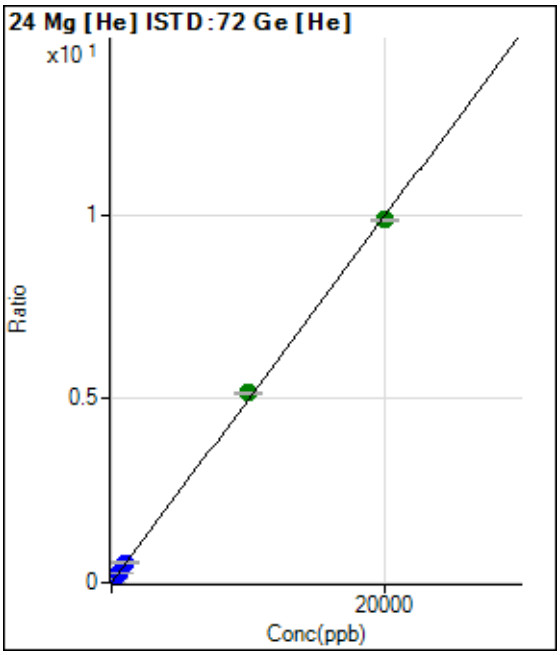


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	54201.96	0.0422	P	3.1
2	☐	200.000	199.661	297679.10	0.2308	P	2.4
3	☐	500.000	493.656	661261.68	0.5085	P	2.2
4	☐	1000.000	1075.172	1348069.04	1.0576	A	2.4
5	☐	10000.00	10374.87	12624036.48	9.8403	A	1.5
6	☐	20000.00	19808.96	23811826.31	18.7500	A	0.7

y = 9.4441E-004 * x + 0.0422
R = 0.9997
DL = 4.154
BEC = 44.74

Weight: <None>
Min Conc: <None>

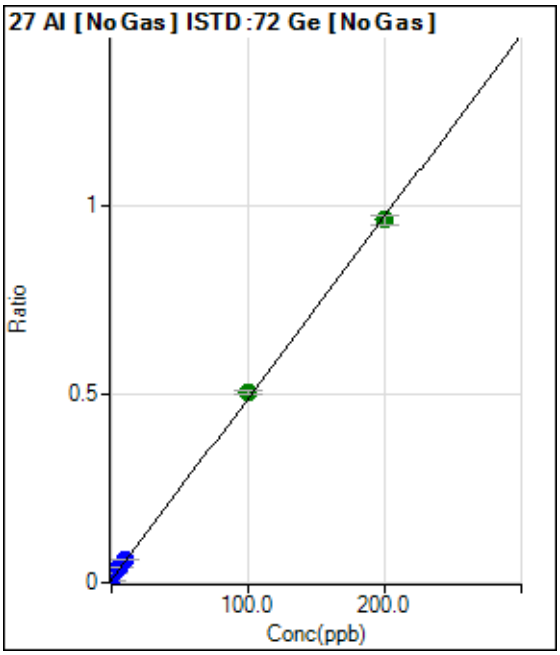
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.02	0.0005	P	2.1
2	☐	200.000	204.244	131892.96	0.1023	P	3.9
3	☐	500.000	504.543	327681.95	0.2520	P	2.8
4	☐	1000.000	1089.533	692857.99	0.5436	P	2.3
5	☐	10000.00	10379.82	6637792.61	5.1746	A	1.2
6	☐	20000.00	19805.45	12539487.31	9.8731	A	0.5

y = 4.9848E-004 * x + 4.7546E-004
R = 0.9997
DL = 0.06097
BEC = 0.9538

Weight: <None>
Min Conc: <None>

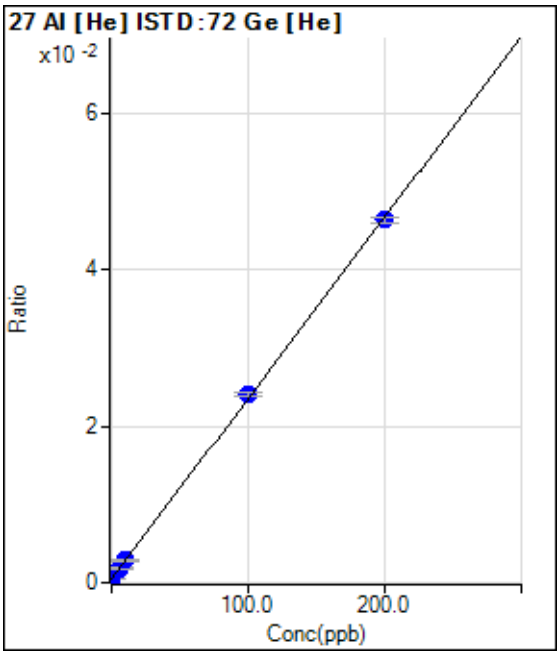


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43708.86	0.0075	P	0.5
2	☐	2.000	3.299	139005.58	0.0233	P	0.9
3	☐	5.000	6.522	231166.06	0.0388	P	0.9
4	☐	10.000	11.314	362355.55	0.0619	P	0.2
5	☐	100.000	103.452	2932348.29	0.5049	A	2.0
6	☐	200.000	198.157	5495455.54	0.9603	A	2.8

y = 0.0048 * x + 0.0075
R = 0.9998
DL = 0.02327
BEC = 1.553

Weight: <None>
Min Conc: <None>

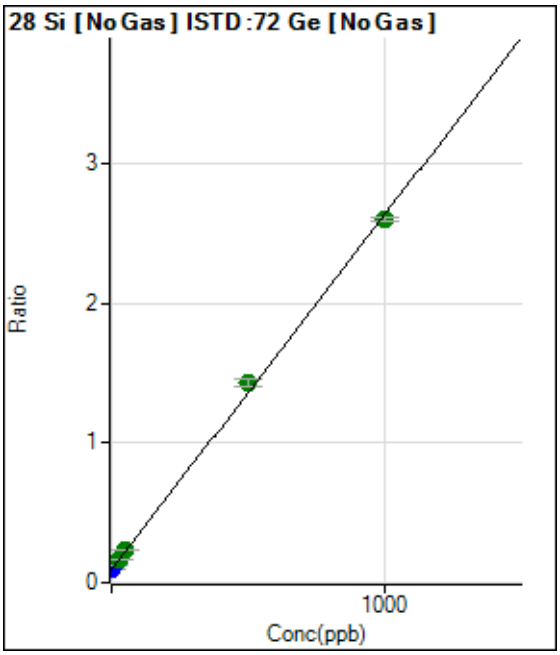
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.03	0.0005	P	6.6
2	☐	2.000	3.169	1530.12	0.0012	P	8.7
3	☐	5.000	5.819	2340.25	0.0018	P	6.0
4	☐	10.000	10.276	3600.55	0.0028	P	13.0
5	☐	100.000	102.694	31034.84	0.0242	P	1.9
6	☐	200.000	198.607	58874.68	0.0464	P	1.5

y = 2.3116E-004 * x + 4.5218E-004
R = 0.9999
DL = 0.3887
BEC = 1.956

Weight: <None>
Min Conc: <None>

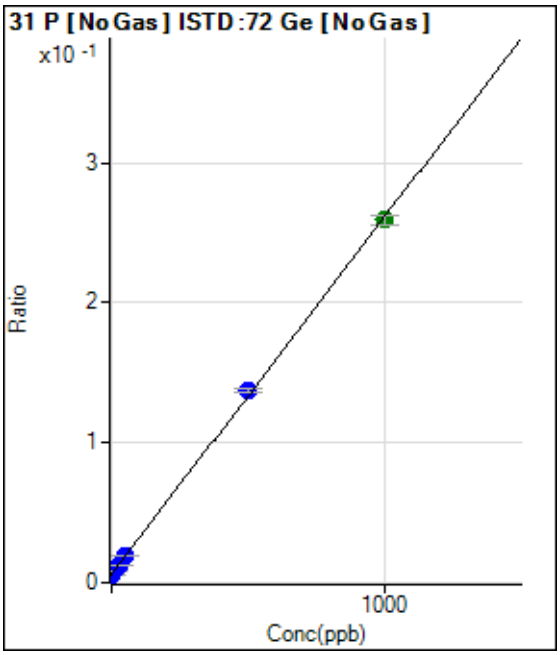


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	542048.82	0.0926	P	0.6
2	☐	10.000	9.991	702863.77	0.1180	P	1.4
3	☐	25.000	26.854	957190.77	0.1608	A	1.8
4	☐	50.000	55.848	1372764.77	0.2344	A	2.6
5	☐	500.000	527.070	8308417.17	1.4309	A	3.3
6	☐	1000.000	986.126	14861831.86	2.5964	A	1.2

y = 0.0025 * x + 0.0926
R = 0.9995
DL = 0.6942
BEC = 36.47

Weight: <None>
Min Conc: <None>

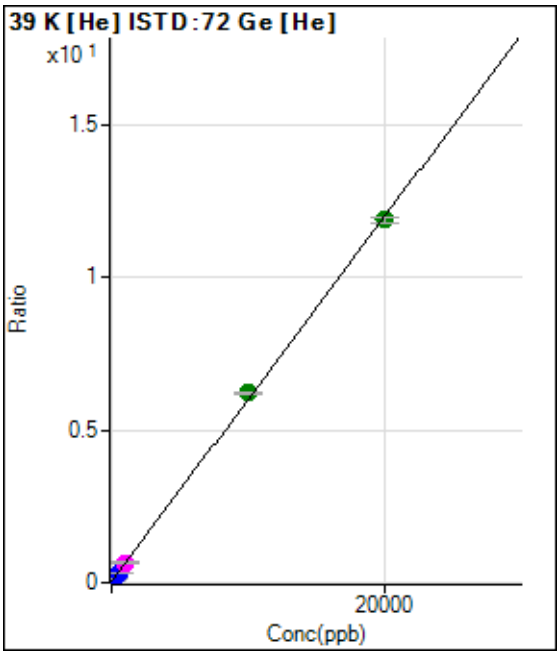
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34847.55	0.0060	P	0.5
2	☐	10.000	8.003	47635.35	0.0080	P	1.8
3	☐	25.000	23.029	70428.23	0.0118	P	0.3
4	☐	50.000	52.191	112859.55	0.0193	P	0.8
5	☐	500.000	516.033	799289.31	0.1376	P	2.1
6	☐	1000.000	991.943	1482542.06	0.2591	A	2.9

y = 2.5517E-004 * x + 0.0060
R = 0.9998
DL = 0.3371
BEC = 23.33

Weight: <None>
Min Conc: <None>

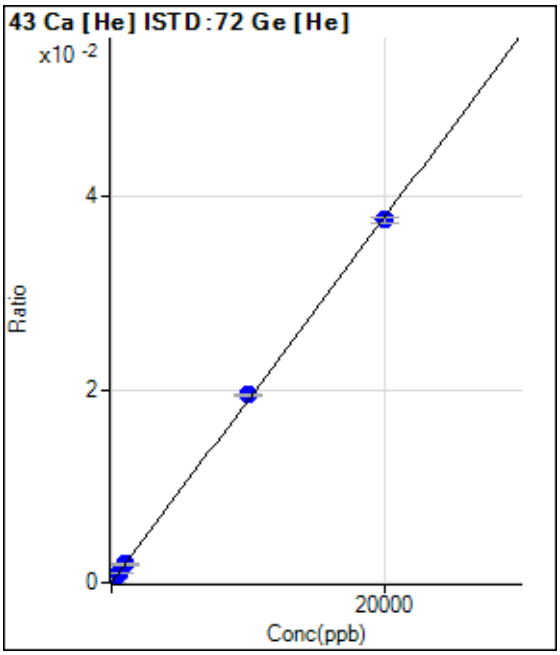


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43707.13	0.0341	P	0.9
2	☐	200.000	197.438	196145.24	0.1521	P	3.4
3	☐	500.000	488.282	423994.90	0.3260	P	2.0
4	☐	1000.000	1047.639	841844.57	0.6604	M	1.6
5	☐	10000.00	10339.02	7973459.26	6.2156	A	0.5
6	☐	20000.00	19828.42	15096581.44	11.8891	A	1.8

y = 5.9788E-004 * x + 0.0341
R = 0.9998
DL = 1.461
BEC = 56.97

Weight: <None>
Min Conc: <None>

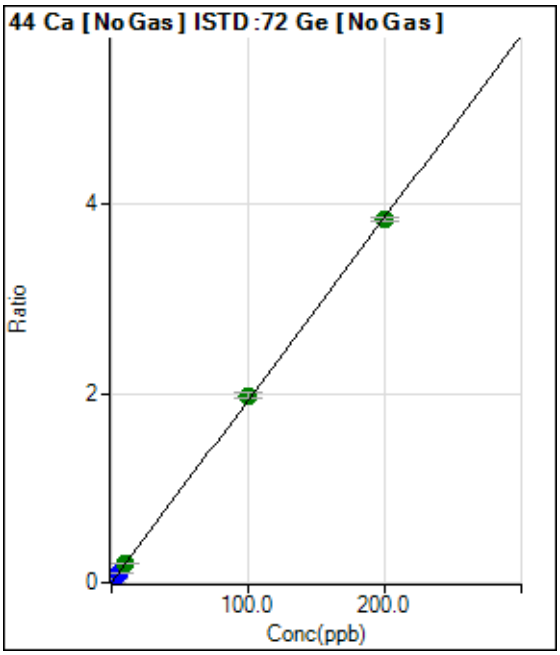
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	0.8
2	☐	200.000	245.917	610.02	0.0005	P	11.8
3	☐	500.000	520.171	1290.09	0.0010	P	12.0
4	☐	1000.000	1011.613	2453.60	0.0019	P	4.1
5	☐	10000.00	10273.87	24973.01	0.0195	P	1.5
6	☐	20000.00	19861.51	47779.81	0.0376	P	1.6

y = 1.8941E-006 * x + 7.7938E-006
R = 0.9999
DL = 0.09259
BEC = 4.115

Weight: <None>
Min Conc: <None>

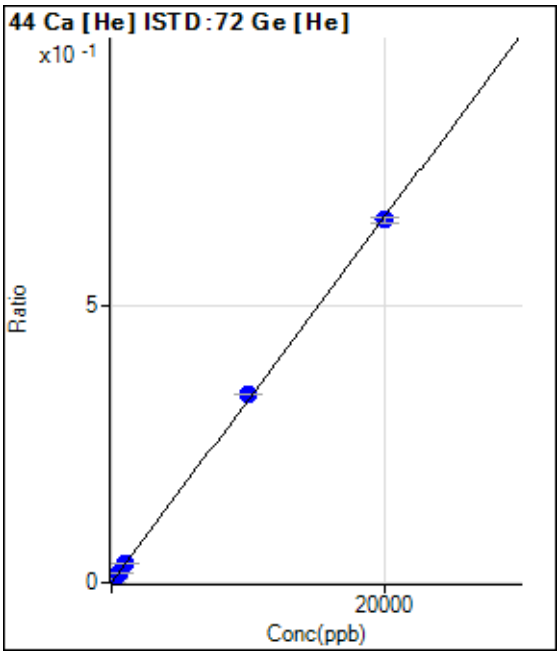


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12455.81	0.0021	P	6.0
2	☐	2.000	1.998	242067.76	0.0406	P	0.8
3	☐	5.000	4.866	570878.83	0.0959	P	2.0
4	☐	10.000	10.707	1220883.58	0.2085	A	2.7
5	☐	100.000	102.339	11463469.00	1.9742	A	3.3
6	☐	200.000	198.799	21941067.18	3.8329	A	1.0

y = 0.0193 * x + 0.0021
R = 0.9999
DL = 0.01972
BEC = 0.1104

Weight: <None>
Min Conc: <None>

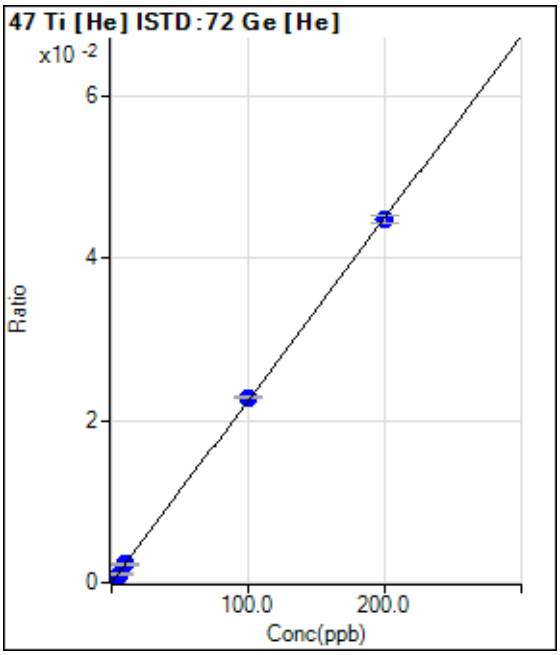
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	303.34	0.0002	P	13.0
2	☐	200.000	195.384	8632.86	0.0067	P	4.9
3	☐	500.000	482.327	21039.72	0.0162	P	4.5
4	☐	1000.000	1024.560	43488.99	0.0341	P	1.2
5	☐	10000.00	10302.09	437225.33	0.3408	P	0.4
6	☐	20000.00	19848.21	833558.27	0.6564	P	1.6

y = 3.3062E-005 * x + 2.3654E-004
R = 0.9998
DL = 2.799
BEC = 7.155

Weight: <None>
Min Conc: <None>

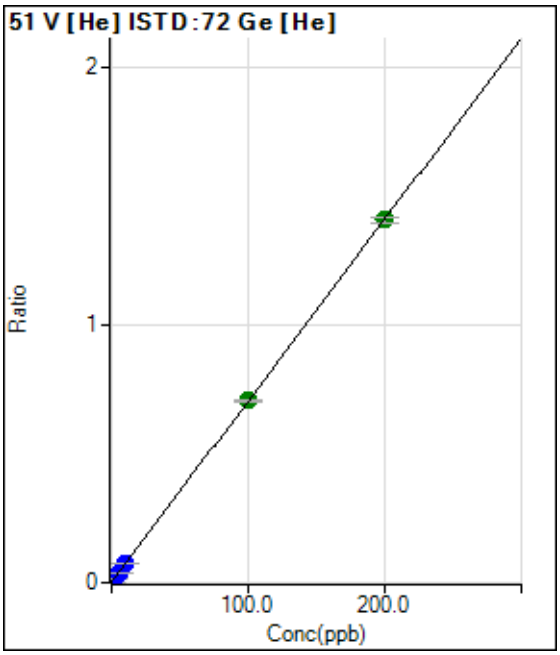


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	2.031	593.36	0.0005	P	18.2
3	☐	5.000	4.565	1336.76	0.0010	P	10.9
4	☐	10.000	10.279	2950.37	0.0023	P	6.9
5	☐	100.000	101.723	29324.99	0.0229	P	1.5
6	☐	200.000	199.135	56824.37	0.0447	P	2.3

y = 2.2470E-004 * x + 2.6169E-006
R = 0.9999
DL = 0.06052
BEC = 0.01165

Weight: <None>
Min Conc: <None>

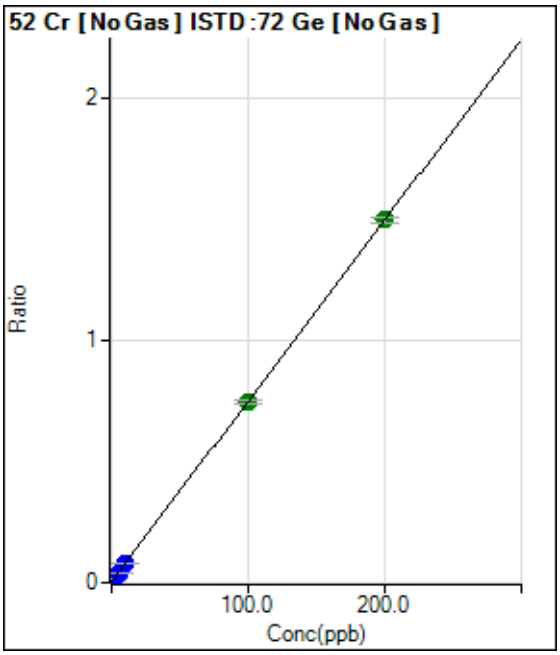
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1960.15	0.0015	P	4.8
2	☐	2.000	1.895	19170.12	0.0149	P	1.8
3	☐	5.000	4.679	44807.33	0.0345	P	1.9
4	☐	10.000	9.969	91376.72	0.0717	P	1.8
5	☐	100.000	100.315	907539.37	0.7075	A	1.2
6	☐	200.000	199.853	1787766.11	1.4079	A	1.5

y = 0.0070 * x + 0.0015
R = 1.0000
DL = 0.03121
BEC = 0.2171

Weight: <None>
Min Conc: <None>

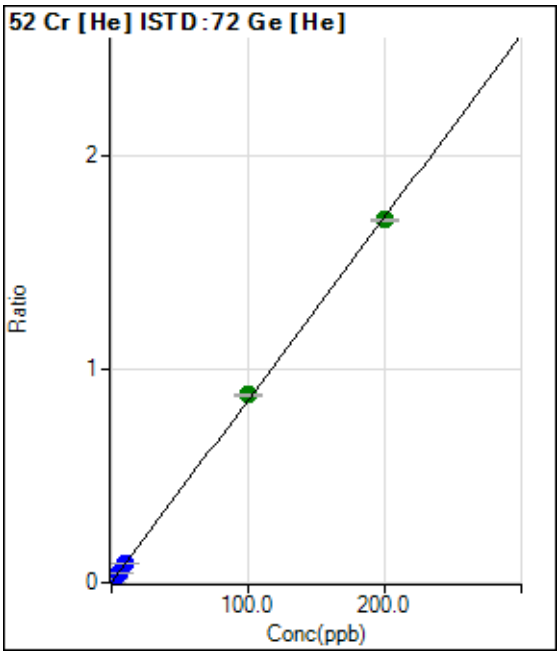


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	28914.21	0.0049	P	2.3
2	☐	2.000	1.915	114401.15	0.0192	P	0.7
3	☐	5.000	4.820	243077.09	0.0408	P	1.3
4	☐	10.000	10.348	480224.28	0.0820	P	0.0
5	☐	100.000	99.373	4326184.63	0.7449	A	1.9
6	☐	200.000	200.301	8565096.75	1.4964	A	1.5

y = 0.0074 * x + 0.0049
R = 1.0000
DL = 0.04568
BEC = 0.6633

Weight: <None>
Min Conc: <None>

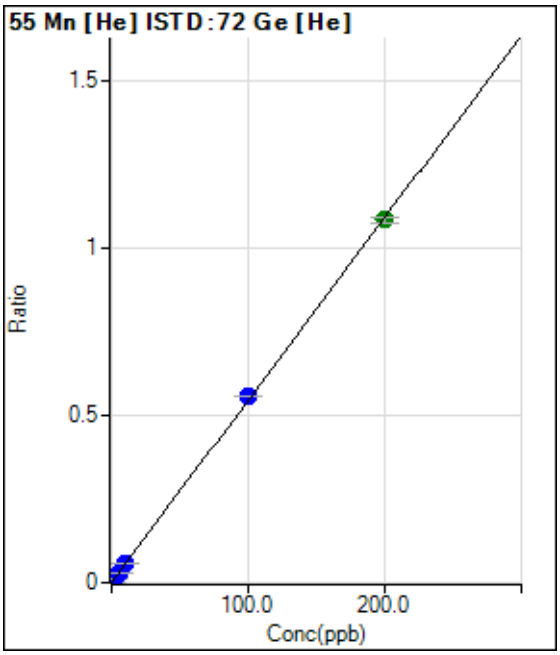
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.41	0.0010	P	9.6
2	☐	2.000	2.018	23617.44	0.0183	P	1.8
3	☐	5.000	4.870	55539.44	0.0427	P	3.7
4	☐	10.000	10.333	114045.58	0.0895	P	1.0
5	☐	100.000	102.724	1129007.95	0.8802	A	1.6
6	☐	200.000	198.625	2160006.94	1.7009	A	0.8

y = 0.0086 * x + 0.0010
R = 0.9999
DL = 0.03463
BEC = 0.1206

Weight: <None>
Min Conc: <None>

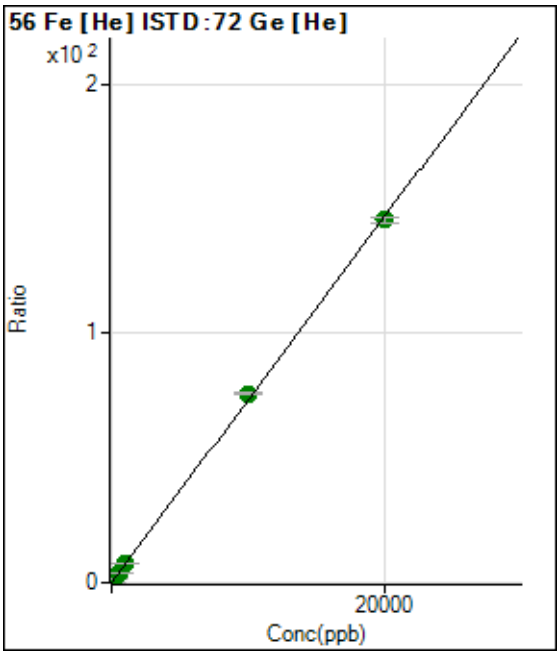


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	483.35	0.0004	P	15.1
2	☐	2.000	1.968	14301.03	0.0111	P	2.2
3	☐	5.000	4.919	35312.74	0.0272	P	4.3
4	☐	10.000	10.245	71577.32	0.0561	P	0.8
5	☐	100.000	102.091	713400.28	0.5561	P	0.6
6	☐	200.000	198.945	1376281.80	1.0834	A	1.7

y = 0.0054 * x + 3.7664E-004
R = 0.9999
DL = 0.03128
BEC = 0.06919

Weight: <None>
Min Conc: <None>

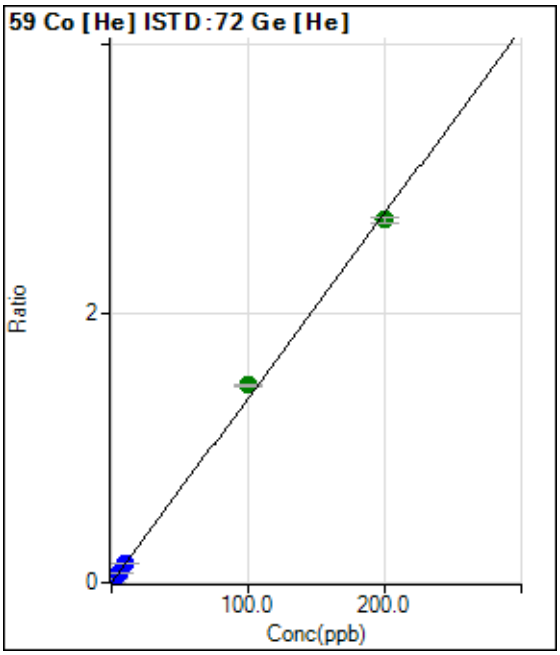
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10841.11	0.0085	P	5.9
2	☐	200.000	201.936	1923039.50	1.4910	A	2.5
3	☐	500.000	489.254	4681862.22	3.6004	A	3.0
4	☐	1000.000	1046.663	9806555.69	7.6927	A	1.1
5	☐	10000.00	10337.19	97365098.55	75.9010	A	0.4
6	☐	20000.00	19829.32	184868570.5	145.589	A	1.6

y = 0.0073 * x + 0.0085
R = 0.9998
DL = 0.2022
BEC = 1.151

Weight: <None>
Min Conc: <None>

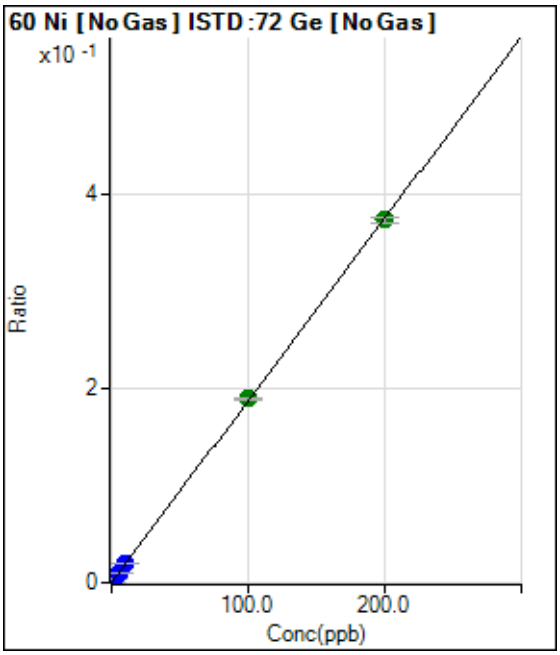


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	196.67	0.0002	P	2.4
2	☐	2.000	1.999	35546.69	0.0276	P	2.7
3	☐	5.000	4.976	88915.96	0.0684	P	3.0
4	☐	10.000	10.615	185659.09	0.1457	P	2.7
5	☐	100.000	106.907	1880216.01	1.4656	A	1.0
6	☐	200.000	196.516	3421601.62	2.6940	A	1.3

y = 0.0137 * x + 1.5326E-004
R = 0.9991
DL = 0.0007889
BEC = 0.01118

Weight: <None>
Min Conc: <None>

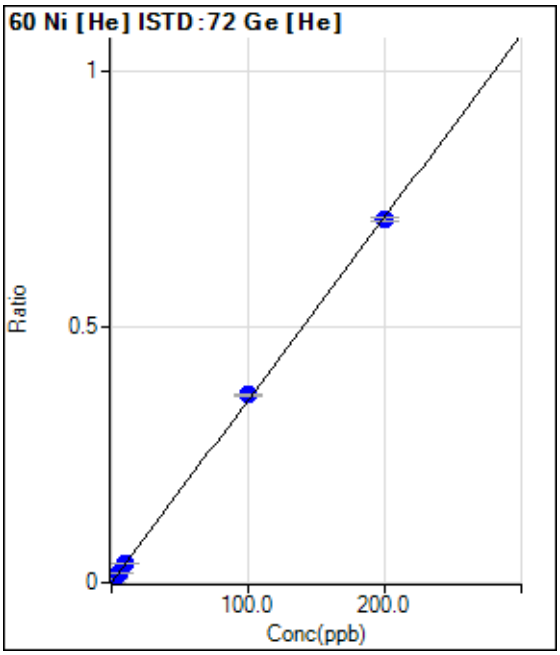
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	580.02	0.0001	P	6.0
2	☐	2.000	1.977	22669.21	0.0038	P	3.2
3	☐	5.000	5.113	57652.24	0.0097	P	1.2
4	☐	10.000	10.607	117023.01	0.0200	P	1.9
5	☐	100.000	101.234	1102684.33	0.1898	A	0.9
6	☐	200.000	199.350	2139117.42	0.3737	A	1.6

y = 0.0019 * x + 9.9073E-005
R = 1.0000
DL = 0.009438
BEC = 0.05286

Weight: <None>
Min Conc: <None>

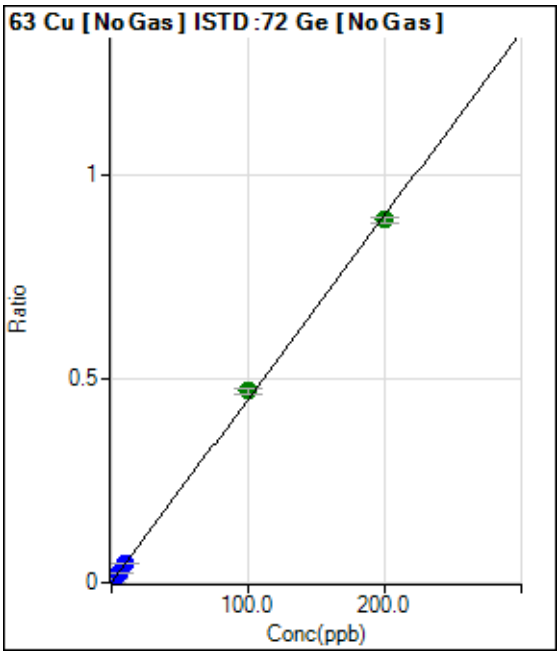


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0001	P	40.7
2	☐	2.000	1.945	9159.88	0.0071	P	4.9
3	☐	5.000	5.110	23967.98	0.0184	P	0.2
4	☐	10.000	10.568	48349.49	0.0379	P	4.4
5	☐	100.000	102.710	471384.42	0.3675	P	1.3
6	☐	200.000	198.614	902179.57	0.7104	P	1.0

y = 0.0036 * x + 1.4784E-004
R = 0.9999
DL = 0.05052
BEC = 0.04134

Weight: <None>
Min Conc: <None>

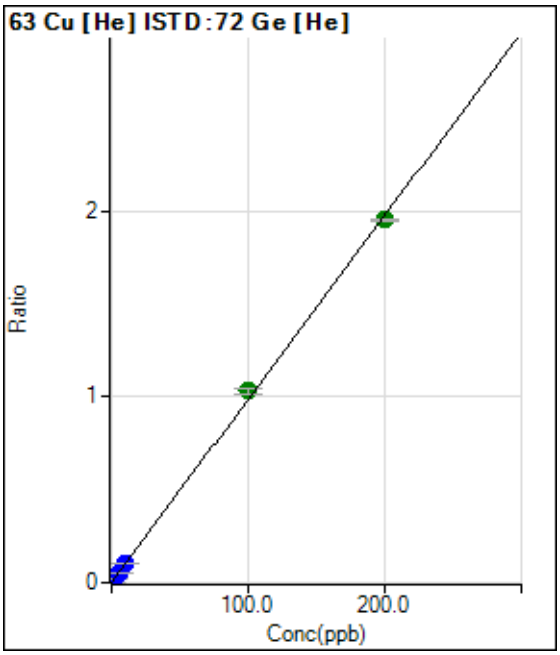
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3003.73	0.0005	P	2.3
2	☐	2.000	2.017	57264.18	0.0096	P	2.5
3	☐	5.000	5.044	138459.59	0.0233	P	2.9
4	☐	10.000	10.558	281852.52	0.0481	P	0.3
5	☐	100.000	104.661	2744117.04	0.4725	A	3.1
6	☐	200.000	197.640	5104372.01	0.8918	A	1.5

y = 0.0045 * x + 5.1308E-004
R = 0.9996
DL = 0.007849
BEC = 0.1138

Weight: <None>
Min Conc: <None>

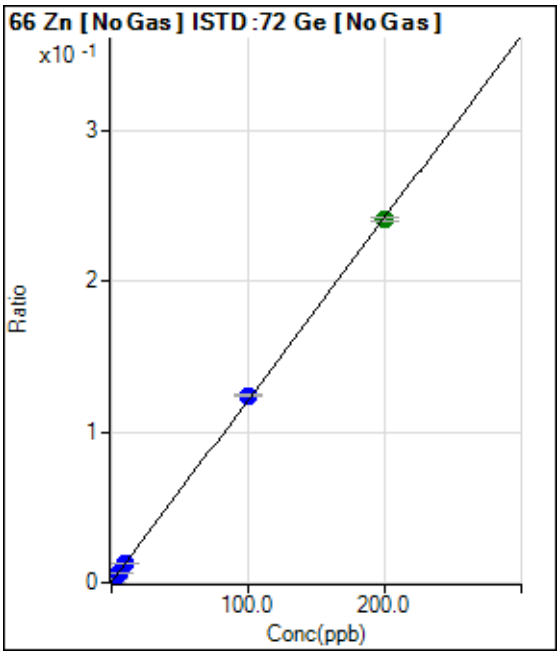


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1300.09	0.0010	P	4.3
2	☐	2.000	1.942	25998.54	0.0202	P	2.8
3	☐	5.000	4.965	64995.33	0.0500	P	2.3
4	☐	10.000	10.394	131898.34	0.1035	P	3.6
5	☐	100.000	104.337	1320889.12	1.0298	A	3.0
6	☐	200.000	197.813	2478475.59	1.9515	A	0.3

y = 0.0099 * x + 0.0010
R = 0.9997
DL = 0.01319
BEC = 0.1028

Weight: <None>
Min Conc: <None>

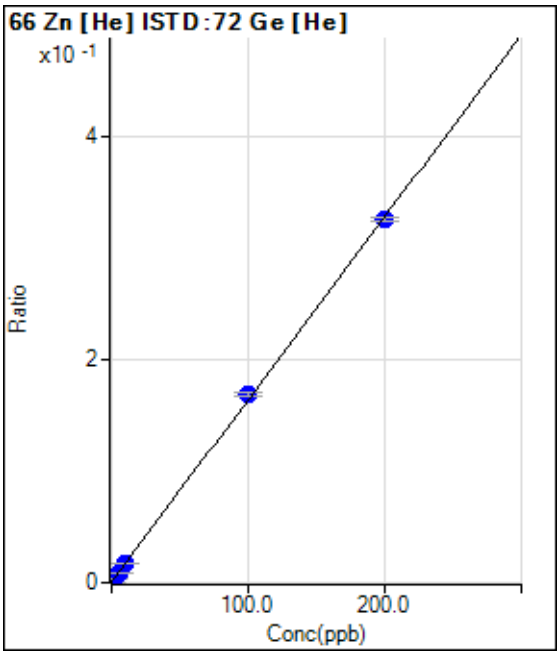
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2343.59	0.0004	P	3.2
2	☐	2.000	2.195	18209.20	0.0031	P	2.4
3	☐	5.000	5.105	39140.01	0.0066	P	1.2
4	☐	10.000	10.392	75958.88	0.0130	P	1.4
5	☐	100.000	102.265	720749.31	0.1241	P	1.2
6	☐	200.000	198.843	1378962.17	0.2409	A	1.0

y = 0.0012 * x + 4.0031E-004
R = 0.9999
DL = 0.0315
BEC = 0.331

Weight: <None>
Min Conc: <None>

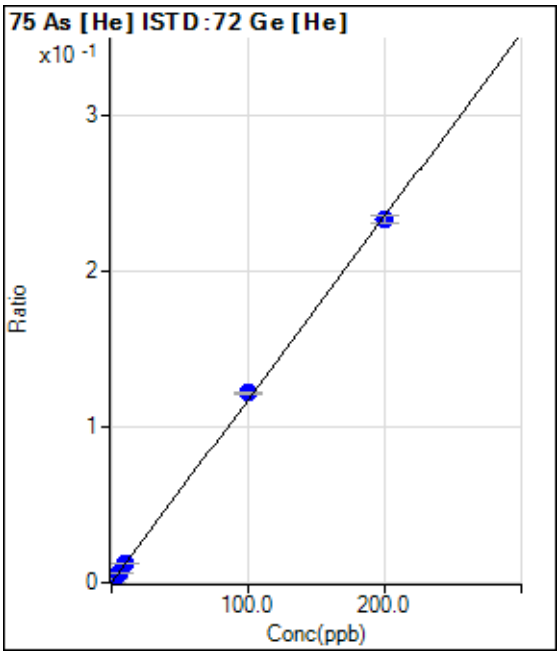


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	696.70	0.0005	P	15.5
2	☐	2.000	2.296	5544.56	0.0043	P	2.4
3	☐	5.000	5.228	11822.01	0.0091	P	3.5
4	☐	10.000	10.452	22475.60	0.0176	P	3.9
5	☐	100.000	102.854	216397.50	0.1687	P	2.1
6	☐	200.000	198.542	412886.66	0.3251	P	1.2

y = 0.0016 * x + 5.4338E-004
R = 0.9999
DL = 0.1543
BEC = 0.3324

Weight: <None>
Min Conc: <None>

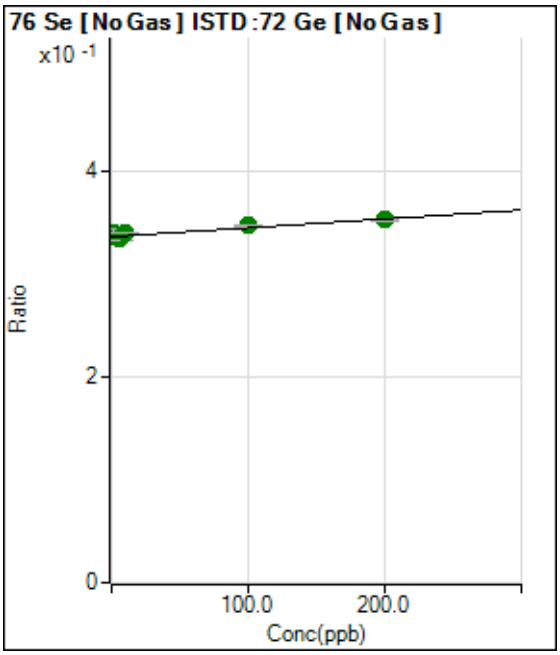
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	80.00	0.0001	P	22.9
2	☐	2.000	1.875	2921.45	0.0023	P	0.9
3	☐	5.000	4.929	7613.30	0.0059	P	2.4
4	☐	10.000	10.168	15305.37	0.0120	P	2.8
5	☐	100.000	103.826	156544.39	0.1220	P	1.1
6	☐	200.000	198.082	295544.41	0.2328	P	1.9

y = 0.0012 * x + 6.2322E-005
R = 0.9997
DL = 0.03638
BEC = 0.05305

Weight: <None>
Min Conc: <None>

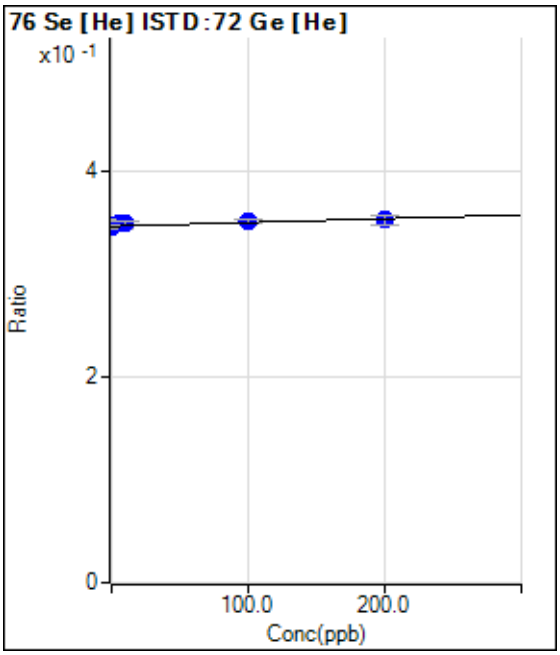


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1967477.42	0.3361	A	0.9
2	☐	2.000	34.690	2020141.95	0.3391	A	3.2
3	☐	5.000	-18.390	1991306.27	0.3345	A	1.4
4	☐	10.000	45.406	1991237.73	0.3400	A	0.2
5	☐	100.000	120.167	2012479.87	0.3464	A	0.3
6	☐	200.000	188.404	2016839.97	0.3523	A	0.8

y = 8.6316E-005 * x + 0.3361
R = 0.9550
DL = 105
BEC = 3893

Weight: <None>
Min Conc: <None>

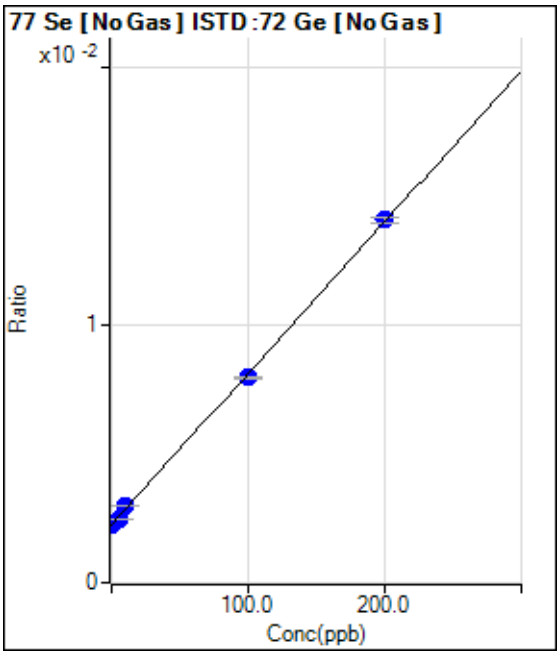
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	444365.30	0.3463	P	0.9
2	☐	2.000	49.205	449078.44	0.3482	P	1.7
3	☐	5.000	58.422	453237.47	0.3485	P	2.2
4	☐	10.000	87.603	445633.55	0.3496	P	1.3
5	☐	100.000	156.372	451742.30	0.3521	P	1.0
6	☐	200.000	166.126	447545.64	0.3525	P	2.7

y = 3.7163E-005 * x + 0.3463
R = 0.8626
DL = 242.2
BEC = 9319

Weight: <None>
Min Conc: <None>

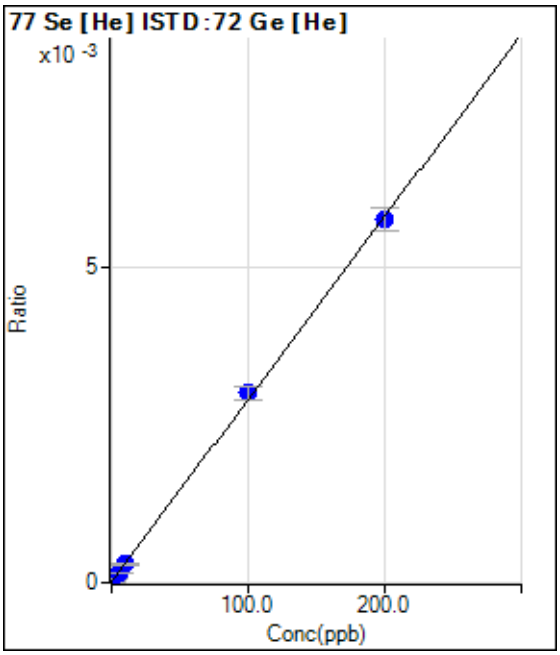


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13220.10	0.0023	P	2.8
2	☐	2.000	1.598	14017.56	0.0024	P	2.0
3	☐	5.000	3.938	14825.08	0.0025	P	0.8
4	☐	10.000	12.288	17458.33	0.0030	P	0.7
5	☐	100.000	97.167	46313.26	0.0080	P	1.3
6	☐	200.000	201.332	80701.47	0.0141	P	1.8

y = 5.8818E-005 * x + 0.0023
R = 0.9998
DL = 3.174
BEC = 38.39

Weight: <None>
Min Conc: <None>

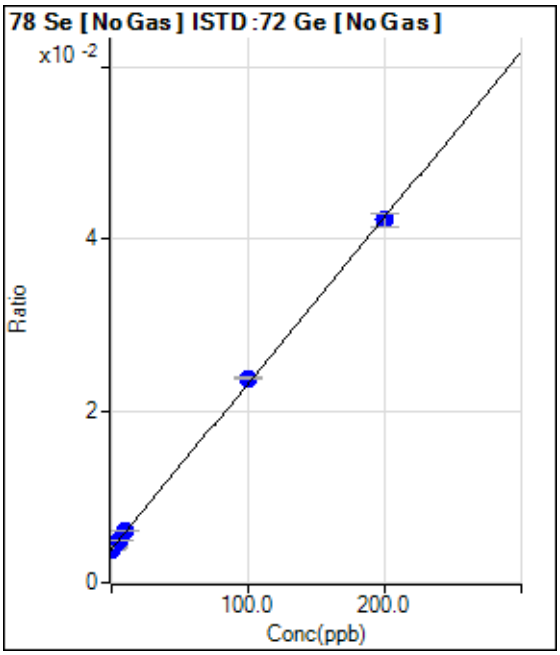
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	91.8
2	☐	2.000	2.506	110.00	0.0001	P	27.6
3	☐	5.000	4.873	200.01	0.0002	P	15.0
4	☐	10.000	9.959	383.34	0.0003	P	9.3
5	☐	100.000	103.394	3847.31	0.0030	P	7.8
6	☐	200.000	198.303	7282.09	0.0057	P	6.2

y = 2.8872E-005 * x + 1.3049E-005
R = 0.9998
DL = 1.245
BEC = 0.452

Weight: <None>
Min Conc: <None>

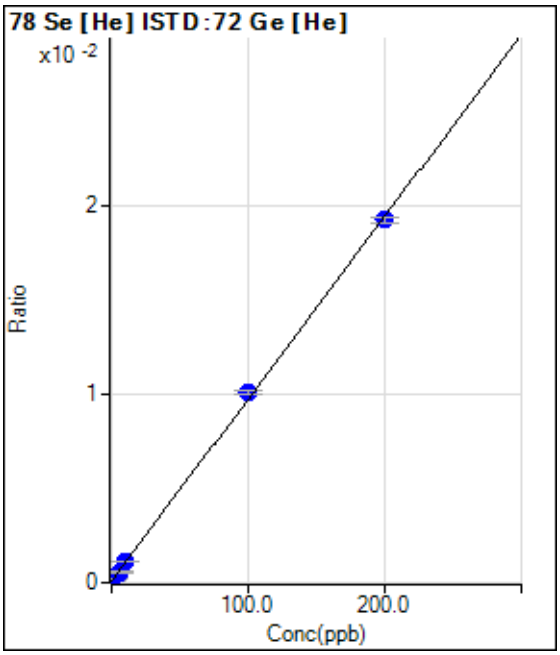


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22802.87	0.0039	P	2.0
2	☐	2.000	1.535	24973.46	0.0042	P	2.5
3	☐	5.000	4.999	28934.73	0.0049	P	1.7
4	☐	10.000	10.675	34885.47	0.0060	P	0.3
5	☐	100.000	102.999	138157.59	0.0238	P	1.4
6	☐	200.000	198.472	241582.89	0.0422	P	3.5

y = 1.9310E-004 * x + 0.0039
R = 0.9998
DL = 1.193
BEC = 20.17

Weight: <None>
Min Conc: <None>

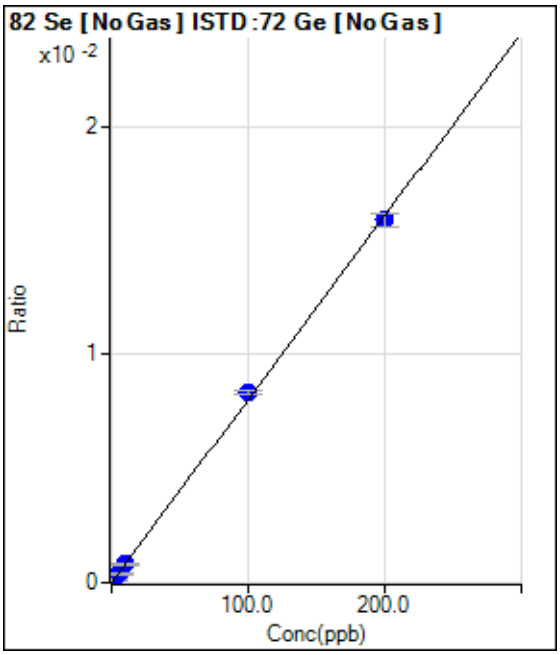
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	102.67	0.0001	P	14.4
2	☐	2.000	1.823	330.67	0.0003	P	1.9
3	☐	5.000	4.963	727.36	0.0006	P	9.2
4	☐	10.000	10.654	1414.75	0.0011	P	1.4
5	☐	100.000	103.328	12914.19	0.0101	P	2.3
6	☐	200.000	198.306	24441.43	0.0192	P	1.7

y = 9.6658E-005 * x + 8.0071E-005
R = 0.9998
DL = 0.3581
BEC = 0.8284

Weight: <None>
Min Conc: <None>

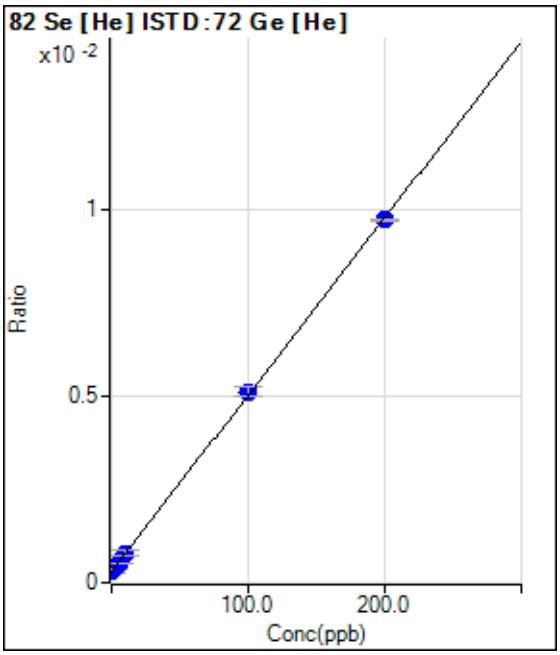


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	-121.12	0.0000	P	-418.2
2	☐	2.000	1.646	665.61	0.0001	P	52.9
3	☐	5.000	5.023	2286.75	0.0004	P	19.3
4	☐	10.000	9.975	4585.96	0.0008	P	8.0
5	☐	100.000	103.878	48511.39	0.0083	P	1.2
6	☐	200.000	198.065	91198.06	0.0159	P	3.8

y = 8.0577E-005 * x - 2.0683E-005
R = 0.9997
DL = 3.22
BEC = -0.2567

Weight: <None>
Min Conc: <None>

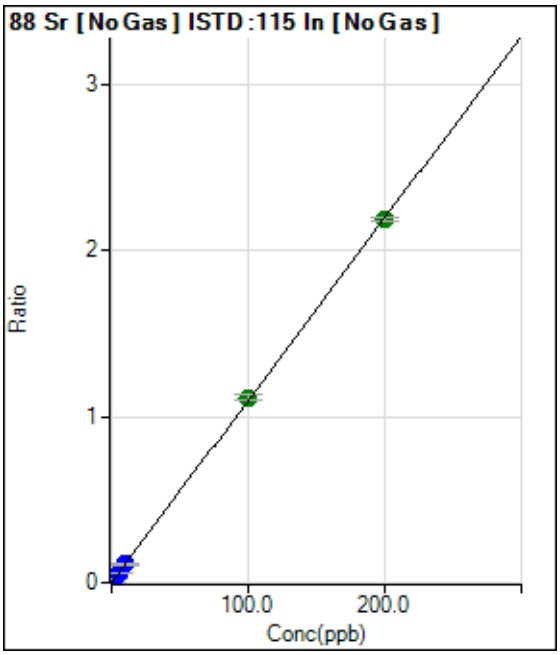
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0003	P	28.6
2	☐	2.000	1.313	463.35	0.0004	P	10.7
3	☐	5.000	4.554	666.70	0.0005	P	5.4
4	☐	10.000	10.206	993.39	0.0008	P	18.4
5	☐	100.000	101.880	6571.74	0.0051	P	4.7
6	☐	200.000	199.068	12352.59	0.0097	P	0.7

y = 4.7363E-005 * x + 2.9656E-004
R = 0.9999
DL = 5.369
BEC = 6.261

Weight: <None>
Min Conc: <None>

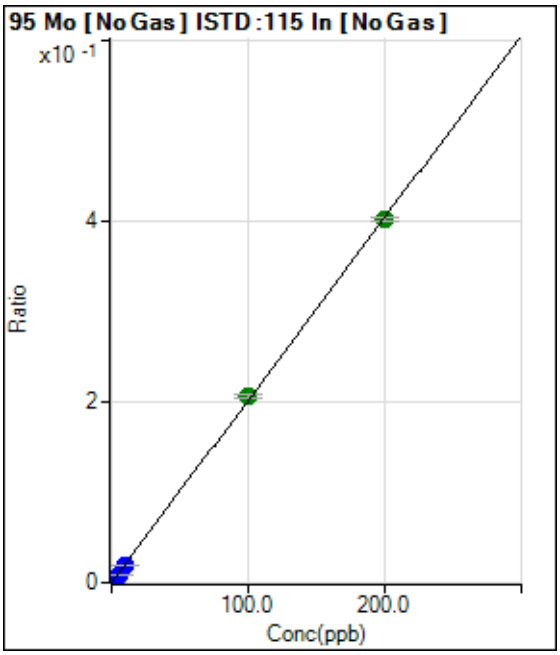


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3160.44	0.0004	P	4.9
2	☐	2.000	1.950	153629.64	0.0218	P	1.8
3	☐	5.000	4.749	375570.31	0.0525	P	1.5
4	☐	10.000	10.090	805955.98	0.1110	P	2.9
5	☐	100.000	101.691	7872586.96	1.1152	A	2.5
6	☐	200.000	199.157	15317249.77	2.1837	A	1.1

y = 0.0110 * x + 4.3983E-004
R = 0.9999
DL = 0.005954
BEC = 0.04012

Weight: <None>
Min Conc: <None>

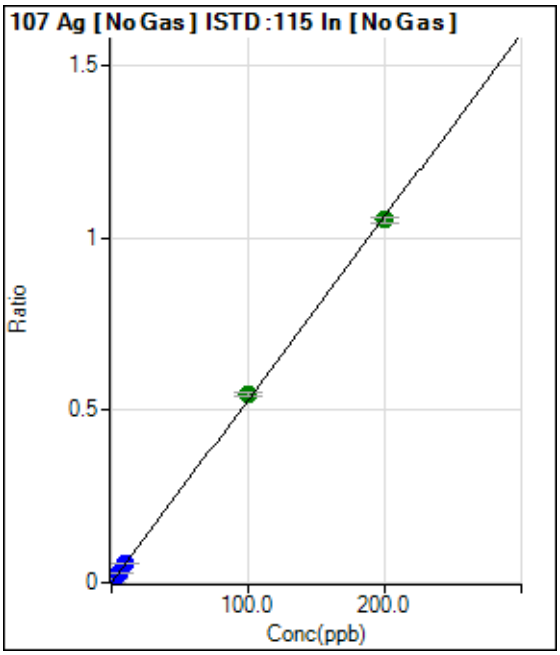
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	140.00	0.0000	P	30.4
2	☐	2.000	1.873	26743.89	0.0038	P	1.2
3	☐	5.000	4.650	67263.86	0.0094	P	0.5
4	☐	10.000	9.694	142117.06	0.0196	P	2.9
5	☐	100.000	102.212	1456186.70	0.2063	A	2.4
6	☐	200.000	198.919	2815524.96	0.4014	A	1.0

y = 0.0020 * x + 1.9451E-005
R = 0.9999
DL = 0.008797
BEC = 0.009639

Weight: <None>
Min Conc: <None>

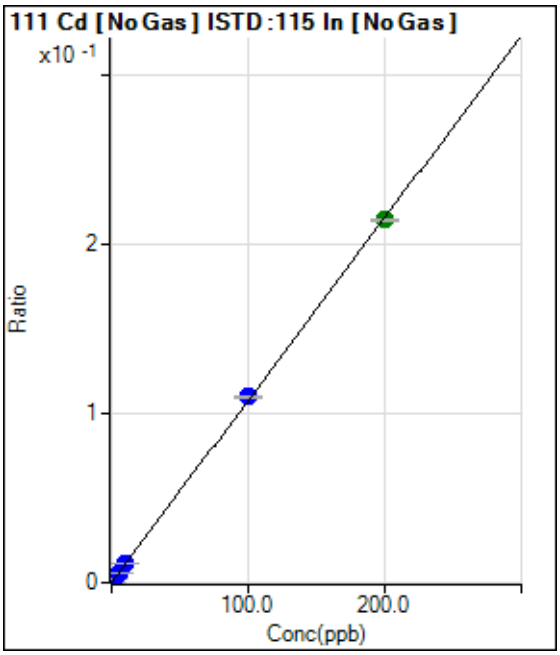


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	356.68	0.0000	P	5.6
2	☐	2.000	2.065	77531.23	0.0110	P	1.2
3	☐	5.000	4.938	187922.35	0.0263	P	0.5
4	☐	10.000	10.488	404437.09	0.0557	P	3.1
5	☐	100.000	103.436	3876816.19	0.5492	A	1.9
6	☐	200.000	198.259	7381696.14	1.0525	A	1.9

y = 0.0053 * x + 4.9631E-005
R = 0.9998
DL = 0.001573
BEC = 0.009349

Weight: <None>
Min Conc: <None>

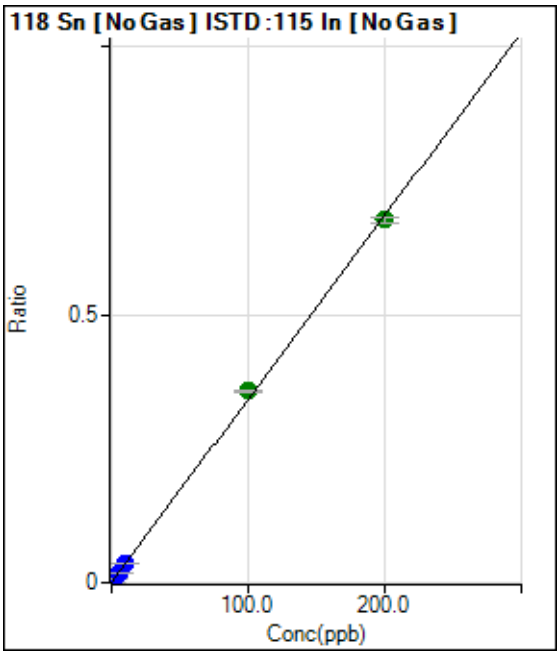
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	16.3
2	☐	2.000	1.960	14925.38	0.0021	P	1.5
3	☐	5.000	4.937	38145.78	0.0053	P	2.7
4	☐	10.000	10.282	80569.91	0.0111	P	1.2
5	☐	100.000	101.931	776423.51	0.1100	P	1.0
6	☐	200.000	199.022	1505987.22	0.2147	A	0.4

y = 0.0011 * x + 5.1074E-006
R = 0.9999
DL = 0.002317
BEC = 0.004734

Weight: <None>
Min Conc: <None>

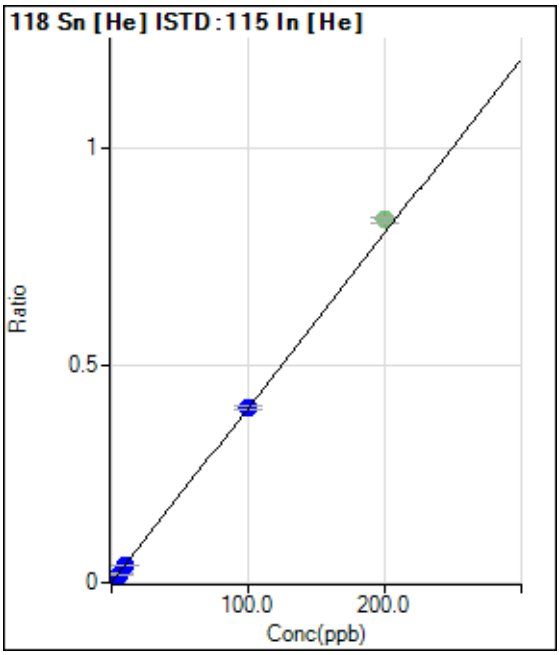


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3563.89	0.0005	P	8.3
2	☐	2.000	1.995	51525.31	0.0073	P	1.4
3	☐	5.000	4.901	123467.30	0.0173	P	1.7
4	☐	10.000	10.356	260719.36	0.0359	P	2.1
5	☐	100.000	104.370	2524397.20	0.3575	A	0.3
6	☐	200.000	197.800	4748482.43	0.6771	A	1.5

y = 0.0034 * x + 4.9588E-004
R = 0.9997
DL = 0.03625
BEC = 0.145

Weight: <None>
Min Conc: <None>

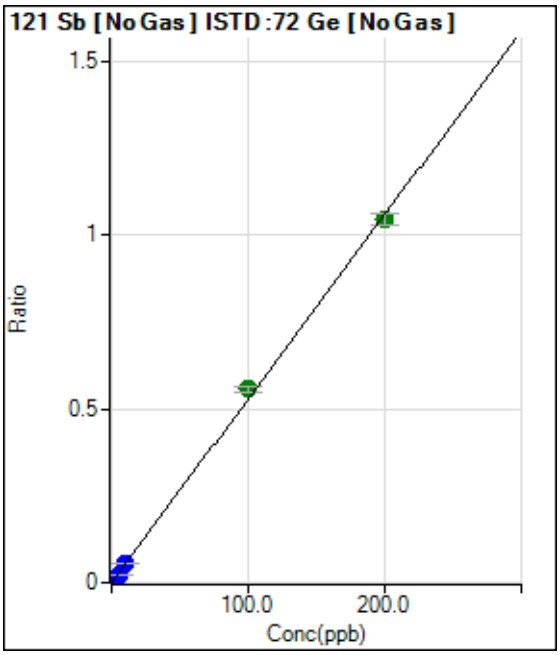
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1523.45	0.0006	P	5.5
2	☐	2.000	1.922	20750.06	0.0083	P	1.6
3	☐	5.000	4.782	49574.95	0.0198	P	2.3
4	☐	10.000	10.214	103241.28	0.0416	P	1.0
5	☐	100.000	99.991	976547.62	0.4016	P	1.7
6	☑	200.000		1990122.21	0.8338	A	1.9

y = 0.0040 * x + 6.1397E-004
R = 1.0000
DL = 0.0254
BEC = 0.1531

Weight: <None>
Min Conc: <None>

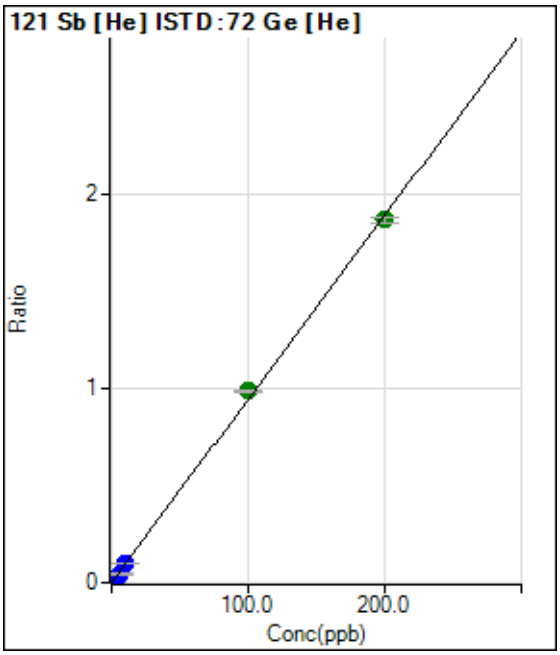


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	890.05	0.0002	P	9.1
2	☐	2.000	1.862	59552.51	0.0100	P	1.1
3	☐	5.000	4.638	146885.12	0.0247	P	0.9
4	☐	10.000	10.143	314927.15	0.0538	P	0.6
5	☐	100.000	105.334	3234429.32	0.5570	A	2.5
6	☐	200.000	197.336	5970505.75	1.0433	A	3.3

y = 0.0053 * x + 1.5202E-004
R = 0.9995
DL = 0.007875
BEC = 0.02876

Weight: <None>
Min Conc: <None>

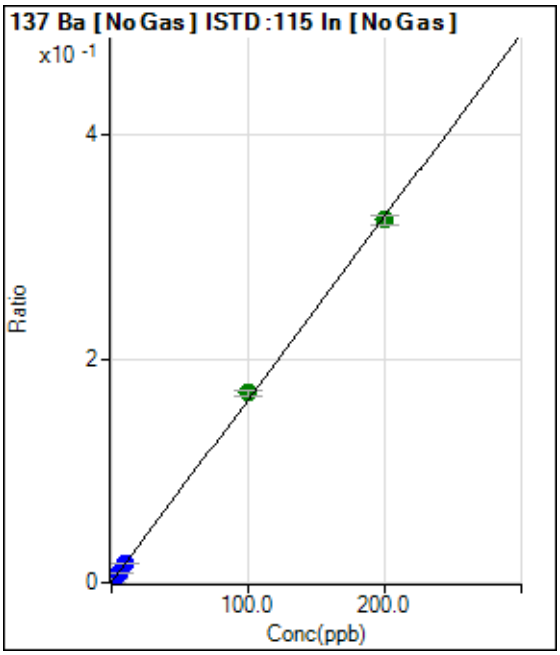
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	326.68	0.0003	P	14.6
2	☐	2.000	1.832	22606.54	0.0175	P	1.3
3	☐	5.000	4.637	57161.30	0.0440	P	3.0
4	☐	10.000	10.031	120857.61	0.0948	P	0.7
5	☐	100.000	104.549	1264523.29	0.9857	A	1.4
6	☐	200.000	197.735	2367390.22	1.8640	A	1.5

y = 0.0094 * x + 2.5446E-004
R = 0.9996
DL = 0.01182
BEC = 0.027

Weight: <None>
Min Conc: <None>

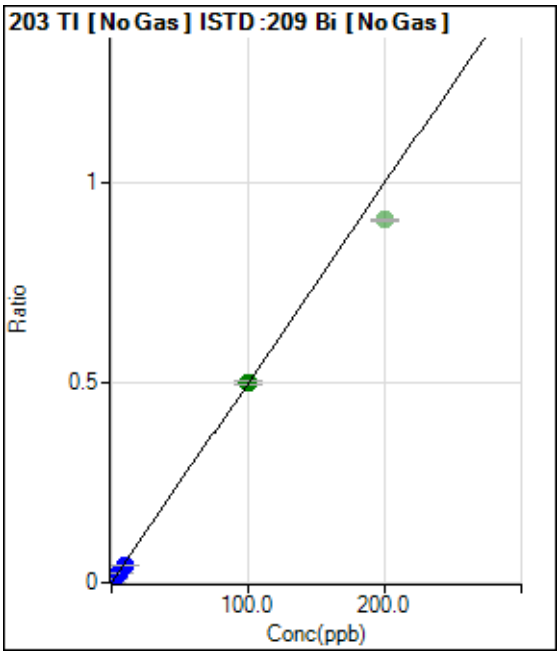


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2090.20	0.0003	P	3.5
2	☐	2.000	2.053	25642.29	0.0036	P	2.1
3	☐	5.000	4.928	59644.05	0.0083	P	1.4
4	☐	10.000	10.173	122665.95	0.0169	P	2.3
5	☐	100.000	103.561	1195568.76	0.1694	A	2.6
6	☐	200.000	198.212	2272263.46	0.3239	A	2.4

y = 0.0016 * x + 2.9089E-004
R = 0.9998
DL = 0.01848
BEC = 0.1782

Weight: <None>
Min Conc: <None>

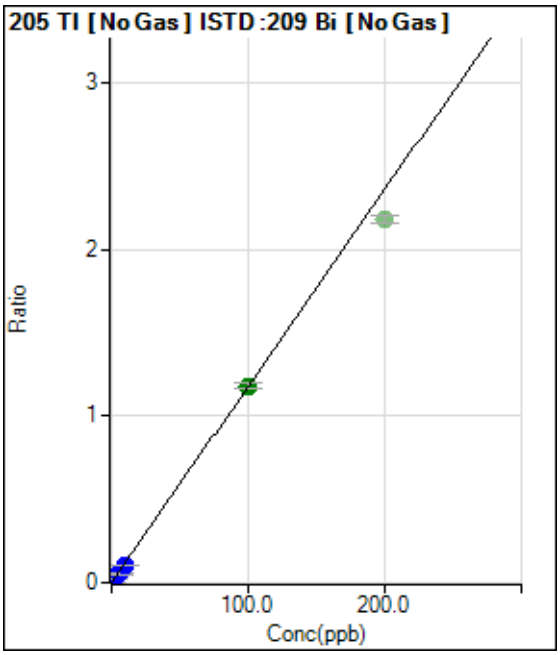
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	170.00	0.0000	P	24.6
2	☐	2.000	1.785	49007.41	0.0089	P	6.1
3	☐	5.000	4.432	121442.81	0.0221	P	2.9
4	☐	10.000	9.103	253210.47	0.0455	P	0.9
5	☐	100.000	100.122	2637551.00	0.4997	A	2.6
6	☑	200.000		4891973.05	0.9071	A	0.3

y = 0.0050 * x + 3.0226E-005
R = 1.0000
DL = 0.004461
BEC = 0.006057

Weight: <None>
Min Conc: <None>

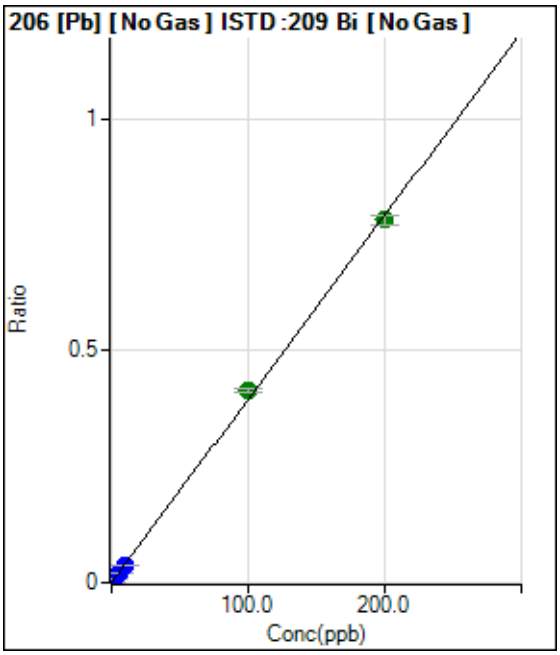


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	333.35	0.0001	P	21.0
2	☐	2.000	1.820	117891.97	0.0215	P	5.4
3	☐	5.000	4.479	289597.91	0.0528	P	4.0
4	☐	10.000	9.135	599715.38	0.1077	P	2.9
5	☐	100.000	100.116	6225833.24	1.1795	A	2.5
6	☑	200.000		11737576.07	2.1762	A	2.2

y = 0.0118 * x + 5.9050E-005
R = 1.0000
DL = 0.003153
BEC = 0.005013

Weight: <None>
Min Conc: <None>

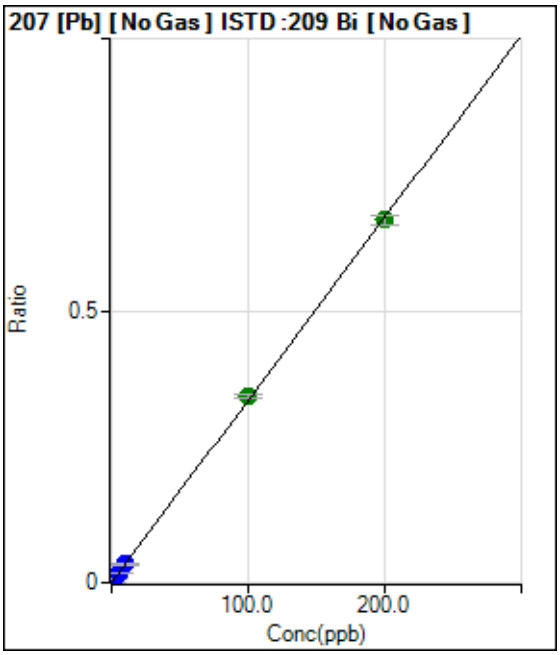
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0001	P	3.7
2	☐	2.000	1.878	41052.38	0.0075	P	4.5
3	☐	5.000	4.770	103694.92	0.0189	P	2.9
4	☐	10.000	9.494	209246.67	0.0376	P	3.5
5	☐	100.000	104.601	2181426.94	0.4133	A	2.3
6	☐	200.000	197.732	4213805.35	0.7812	A	2.9

y = 0.0040 * x + 6.7440E-005
R = 0.9996
DL = 0.001883
BEC = 0.01707

Weight: <None>
Min Conc: <None>

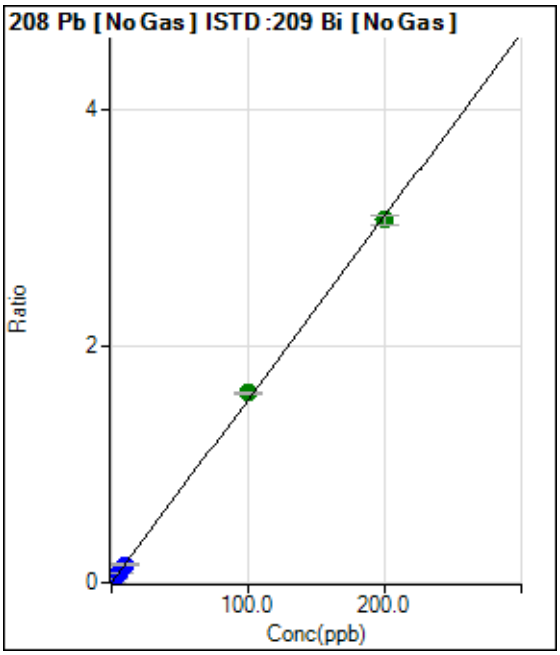


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	363.34	0.0001	P	10.3
2	☐	2.000	1.866	34709.61	0.0063	P	3.8
3	☐	5.000	4.863	89870.56	0.0164	P	1.5
4	☐	10.000	10.011	187496.27	0.0337	P	2.3
5	☐	100.000	102.353	1813194.29	0.3436	A	1.8
6	☐	200.000	198.828	3599494.11	0.6674	A	2.5

y = 0.0034 * x + 6.4469E-005
R = 0.9999
DL = 0.005931
BEC = 0.01921

Weight: <None>
Min Conc: <None>

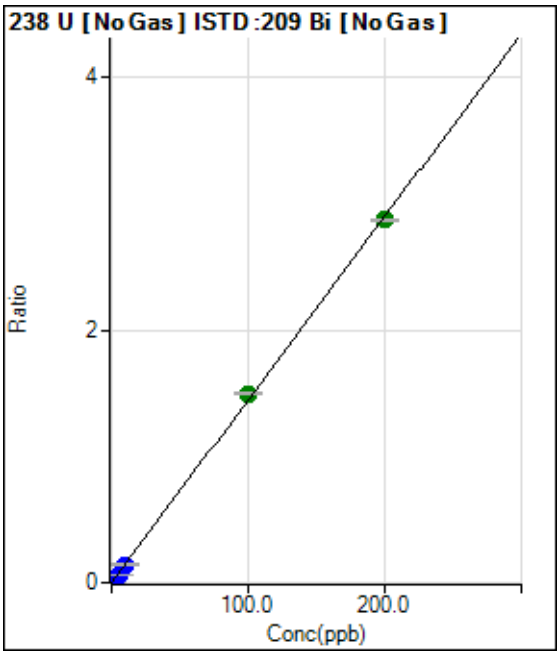
Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1650.08	0.0003	P	4.0
2	☐	2.000	1.880	161151.09	0.0294	P	2.6
3	☐	5.000	4.779	406863.95	0.0742	P	2.5
4	☐	10.000	9.938	857644.88	0.1540	P	2.0
5	☐	100.000	103.895	8482721.59	1.6070	A	1.0
6	☐	200.000	198.063	16522800.38	3.0634	A	2.9

y = 0.0155 * x + 2.9285E-004
R = 0.9997
DL = 0.002261
BEC = 0.01894

Weight: <None>
Min Conc: <None>

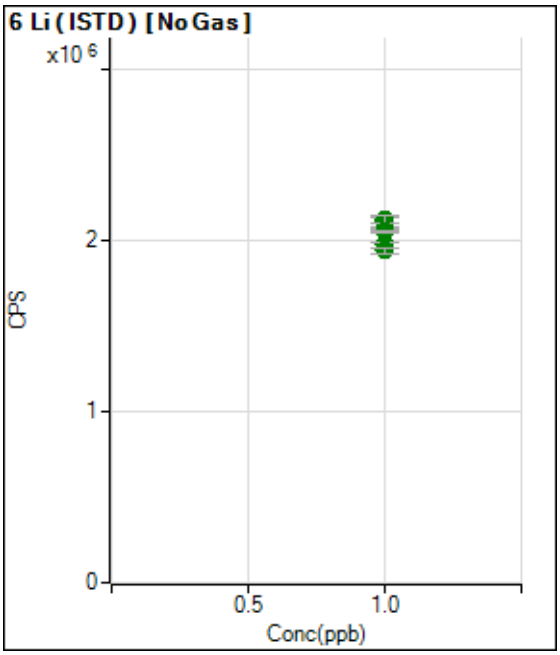


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0000	P	18.8
2	☐	2.000	1.861	148037.80	0.0270	P	3.2
3	☐	5.000	4.651	369811.87	0.0674	P	0.5
4	☐	10.000	9.926	801177.85	0.1439	P	3.5
5	☐	100.000	103.309	7903940.72	1.4972	A	1.4
6	☐	200.000	198.359	15503802.69	2.8747	A	0.5

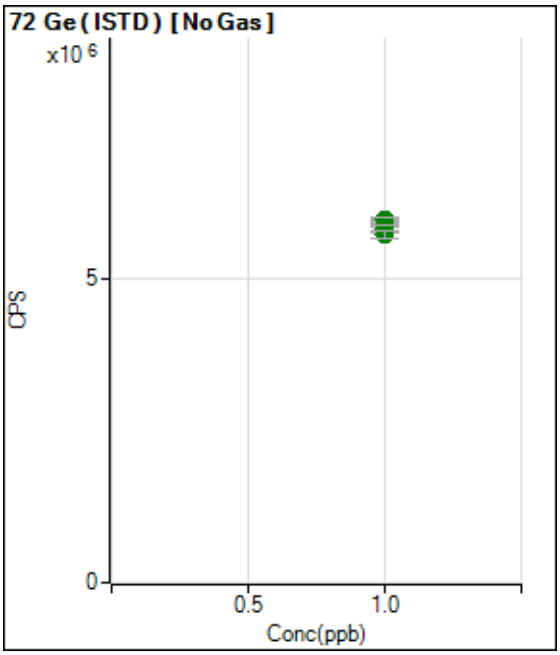
y = 0.0145 * x + 5.9284E-006
R = 0.9998
DL = 0.0002311
BEC = 0.0004091

Weight: <None>
Min Conc: <None>

Calibration for 225_ICV.d

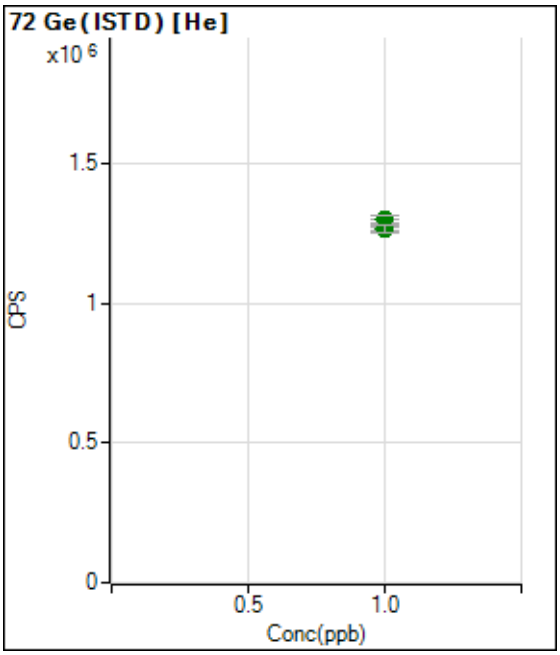


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2076006.97		A	0.8
2	☐	1.000		2110097.15		A	2.7
3	☐	1.000		2120843.18		A	2.3
4	☐	1.000		2054928.81		A	0.6
5	☐	1.000		1973480.47		A	1.5
6	☐	1.000		1939908.73		A	1.5

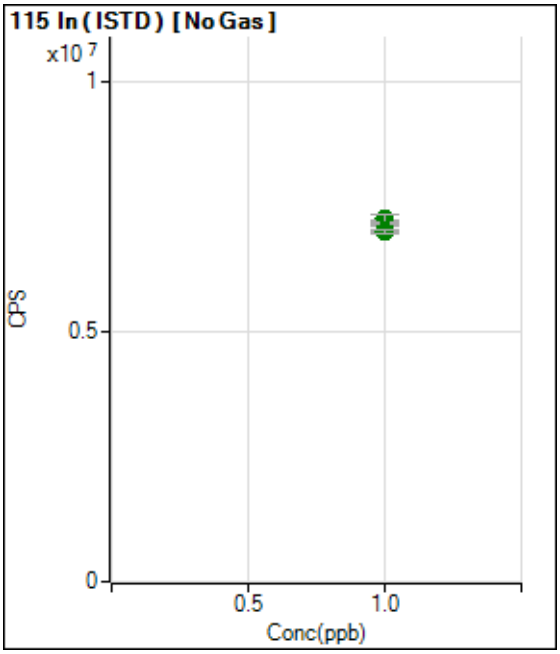


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5854434.29		A	0.1
2	☐	1.000		5959027.00		A	0.8
3	☐	1.000		5954110.54		A	1.2
4	☐	1.000		5856828.25		A	0.2
5	☐	1.000		5809304.71		A	2.2
6	☐	1.000		5724952.21		A	2.2

Calibration for 225_ICV.d

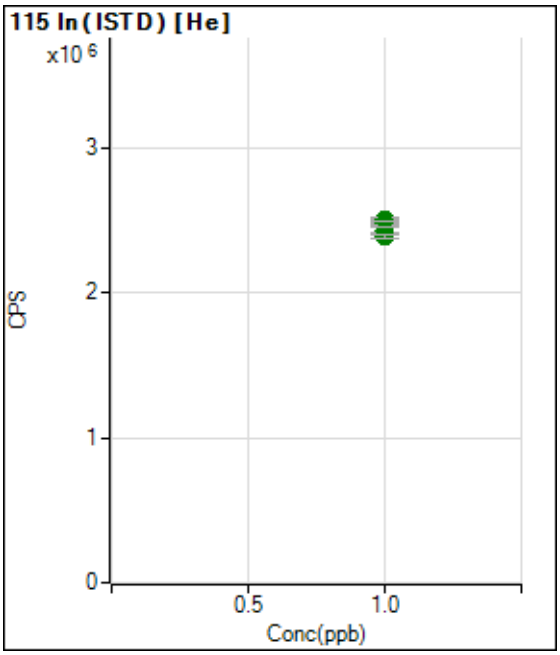


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1283118.52		A	0.8
2	☐	1.000		1290210.92		A	2.4
3	☐	1.000		1300933.81		A	2.1
4	☐	1.000		1274944.93		A	1.8
5	☐	1.000		1282806.44		A	0.6
6	☐	1.000		1270062.01		A	2.0

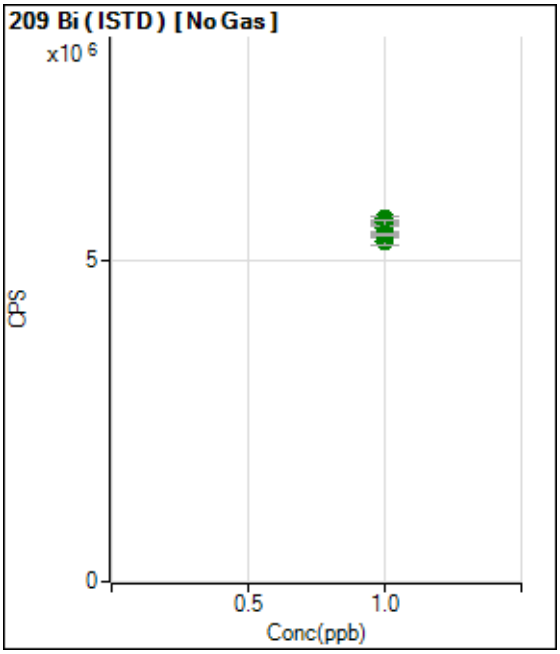


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		7184199.16		A	0.9
2	☐	1.000		7040829.79		A	0.6
3	☐	1.000		7154600.31		A	1.2
4	☐	1.000		7260771.49		A	2.2
5	☐	1.000		7061805.20		A	2.5
6	☐	1.000		7014134.89		A	1.0

Calibration for 225_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2482663.88		A	2.5
2	☐	1.000		2493912.51		A	2.3
3	☐	1.000		2506058.01		A	1.9
4	☐	1.000		2483642.03		A	1.1
5	☐	1.000		2432278.47		A	1.7
6	☐	1.000		2387123.49		A	1.3



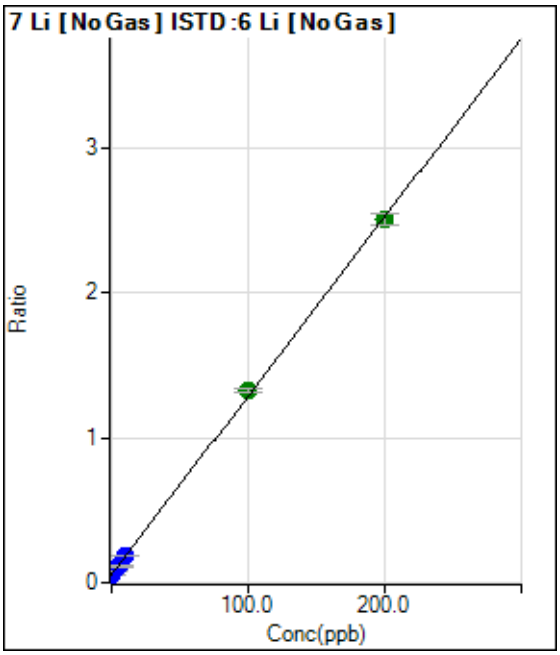
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5632659.08		A	1.6
2	☐	1.000		5489551.17		A	3.2
3	☐	1.000		5485664.92		A	2.2
4	☐	1.000		5570838.25		A	1.7
5	☐	1.000		5278137.53		A	2.1
6	☐	1.000		5393299.08		A	0.4

Calibration for 058_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	051CALB.d	CAL BLK	4/14/2020 10:55:12 AM
2	052CALS.d	2/10/200	4/14/2020 10:57:04 AM
3	053CALS.d	5/25/500	4/14/2020 10:58:56 AM
4	054CALS.d	10/50/100	4/14/2020 11:00:48 AM
5	055CALS.d	100/500/10K	4/14/2020 11:02:39 AM
6	056CALS.d	200/1000/20K	4/14/2020 11:04:21 AM

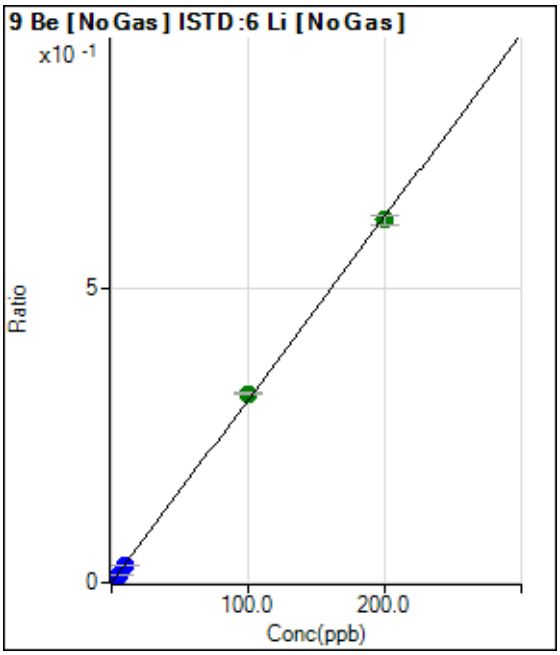
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	153482.29	0.0557	P	3.0
2	☐	2.000	1.842	219142.19	0.0784	P	1.2
3	☐	5.000	4.674	307802.44	0.1133	P	1.8
4	☐	10.000	10.091	494398.08	0.1800	P	0.7
5	☐	100.000	102.991	3403454.22	1.3242	A	1.5
6	☐	200.000	198.510	6358755.11	2.5007	A	3.1

y = 0.0123 * x + 0.0557
R = 0.9998
DL = 0.4113
BEC = 4.524

Weight: <None>
Min Conc: <None>

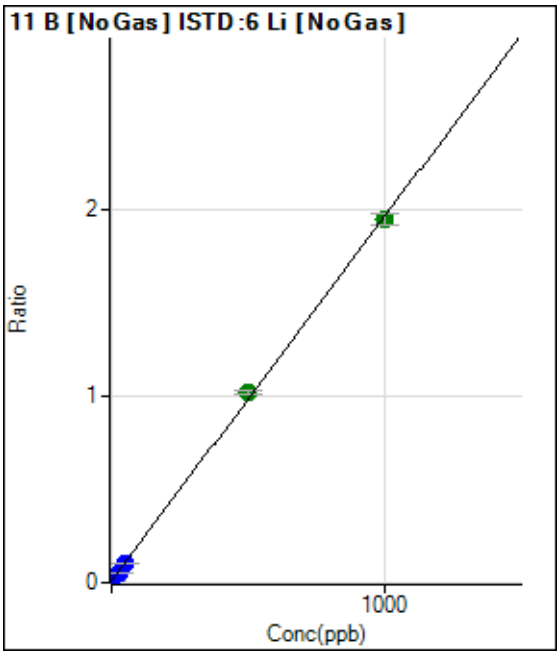


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38.33	0.0000	P	29.6
2	☐	2.000	1.837	16010.85	0.0057	P	3.0
3	☐	5.000	4.646	39316.36	0.0145	P	2.9
4	☐	10.000	9.650	82527.01	0.0300	P	0.9
5	☐	100.000	103.365	826867.07	0.3217	A	1.1
6	☐	200.000	198.346	1569949.56	0.6173	A	2.5

y = 0.0031 * x + 1.3968E-005
R = 0.9998
DL = 0.003981
BEC = 0.004488

Weight: <None>
Min Conc: <None>

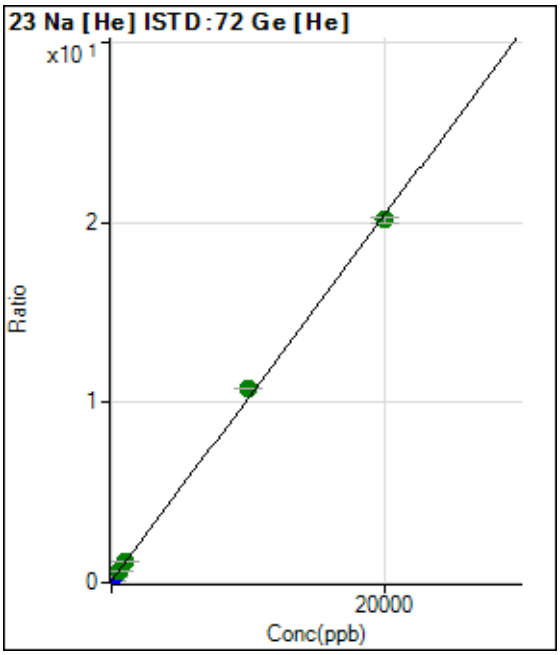
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26593.55	0.0097	P	2.3
2	☐	10.000	9.006	76034.32	0.0272	P	1.7
3	☐	25.000	23.383	150026.25	0.0552	P	2.7
4	☐	50.000	49.063	289140.56	0.1053	P	1.2
5	☐	500.000	517.538	2617259.34	1.0183	A	1.2
6	☐	1000.000	991.328	4937597.84	1.9417	A	3.3

y = 0.0019 * x + 0.0097
R = 0.9998
DL = 0.3466
BEC = 4.953

Weight: <None>
Min Conc: <None>

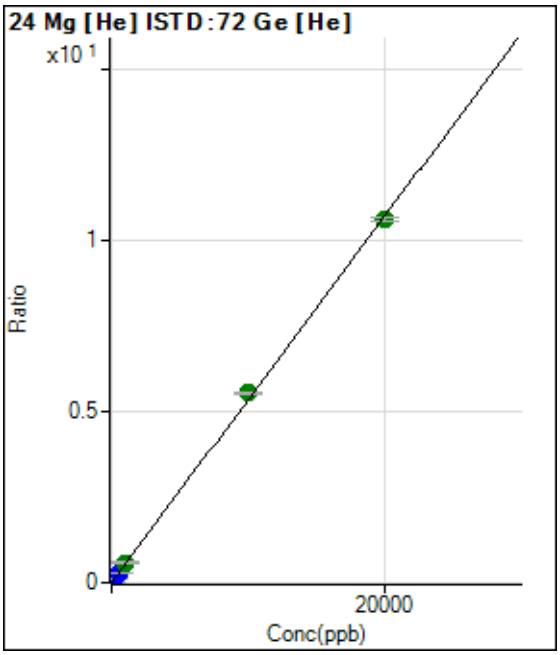


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	135330.39	0.0868	P	1.7
2	☐	200.000	202.541	443984.45	0.2926	P	1.7
3	☐	500.000	523.935	939433.55	0.6192	A	4.5
4	☐	1000.000	1080.872	1773708.77	1.1852	A	1.1
5	☐	10000.00	10510.37	15889182.26	10.7669	A	0.4
6	☐	20000.00	19740.14	29694778.72	20.1456	A	1.7

y = 0.0010 * x + 0.0868
R = 0.9995
DL = 4.461
BEC = 85.45

Weight: <None>
Min Conc: <None>

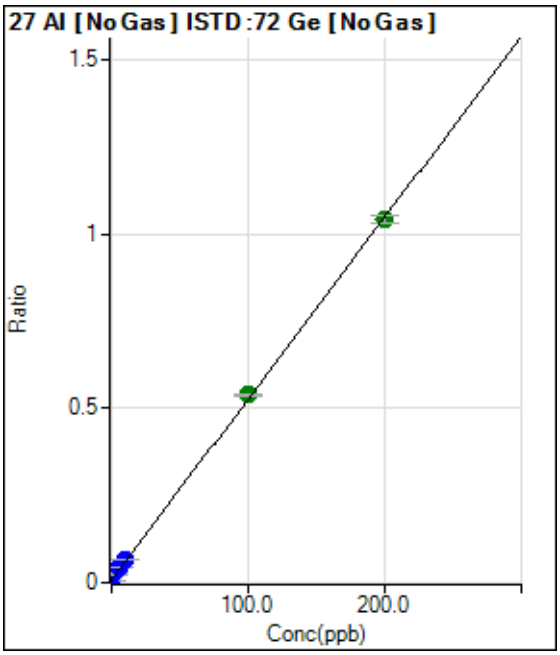
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1360.09	0.0009	P	6.6
2	☐	200.000	204.181	166789.50	0.1099	P	1.3
3	☐	500.000	506.990	412331.31	0.2717	P	1.4
4	☐	1000.000	1097.038	878300.35	0.5868	A	1.2
5	☐	10000.00	10356.09	8164462.79	5.5324	A	0.8
6	☐	20000.00	19816.88	15604247.68	10.5857	A	1.1

y = 5.3413E-004 * x + 8.7291E-004
R = 0.9998
DL = 0.3226
BEC = 1.634

Weight: <None>
Min Conc: <None>

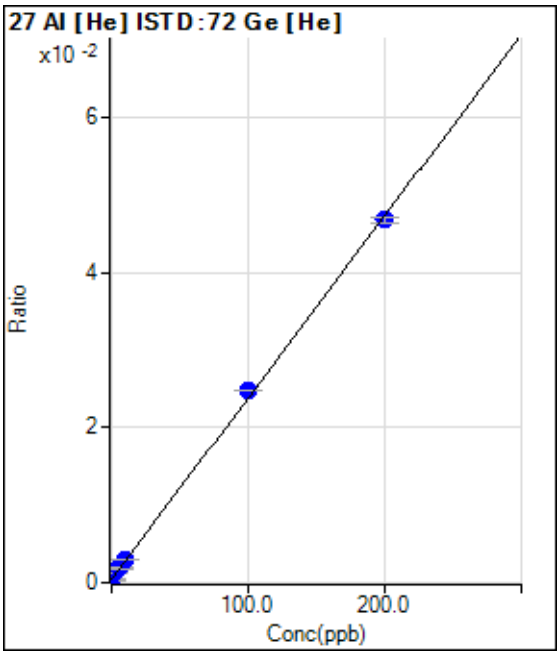


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	48913.14	0.0071	P	2.3
2	☐	2.000	3.445	172305.76	0.0250	P	4.3
3	☐	5.000	6.806	291863.88	0.0425	P	0.4
4	☐	10.000	11.298	447057.57	0.0659	P	1.9
5	☐	100.000	102.236	3636200.15	0.5394	A	1.5
6	☐	200.000	198.758	6808533.86	1.0418	A	1.9

y = 0.0052 * x + 0.0071
R = 0.9999
DL = 0.09617
BEC = 1.365

Weight: <None>
Min Conc: <None>

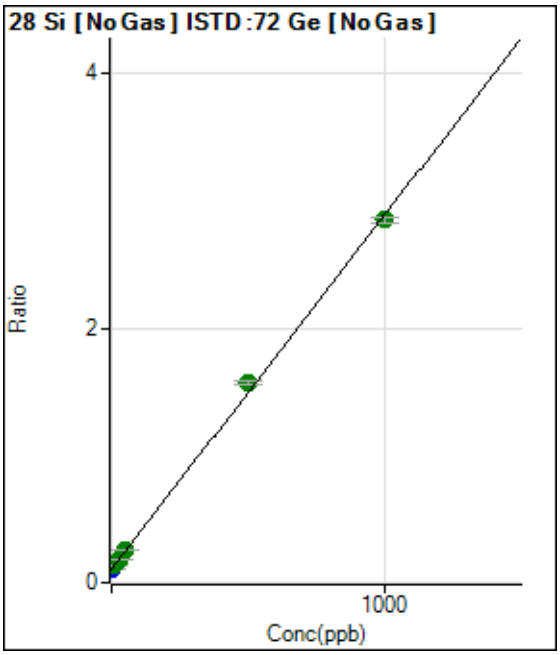
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	630.03	0.0004	P	19.8
2	☐	2.000	3.395	1820.15	0.0012	P	0.7
3	☐	5.000	6.276	2843.68	0.0019	P	1.8
4	☐	10.000	10.510	4287.40	0.0029	P	0.9
5	☐	100.000	103.932	36498.27	0.0247	P	0.7
6	☐	200.000	197.963	68896.97	0.0467	P	1.5

y = 2.3406E-004 * x + 4.0466E-004
R = 0.9997
DL = 1.026
BEC = 1.729

Weight: <None>
Min Conc: <None>

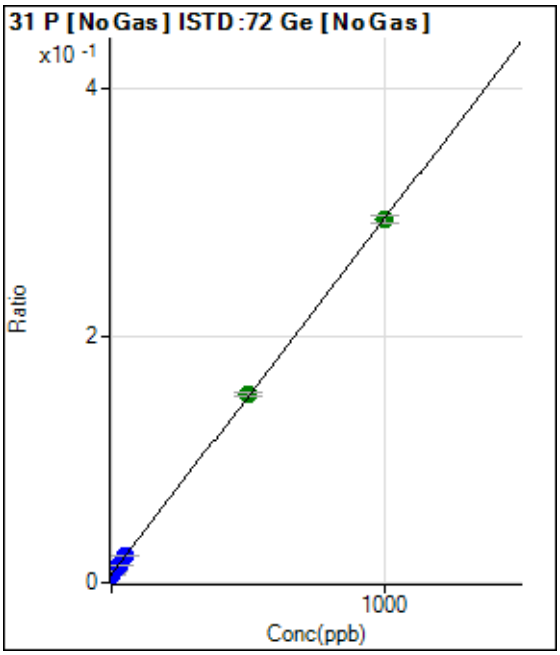


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	726456.11	0.1055	P	1.8
2	☐	10.000	12.619	967703.61	0.1406	A	3.2
3	☐	25.000	28.864	1274756.54	0.1858	A	0.1
4	☐	50.000	55.832	1768656.06	0.2608	A	1.6
5	☐	500.000	525.435	10563431.09	1.5669	A	1.6
6	☐	1000.000	986.868	18623432.64	2.8504	A	1.9

y = 0.0028 * x + 0.1055
R = 0.9996
DL = 2.034
BEC = 37.93

Weight: <None>
Min Conc: <None>

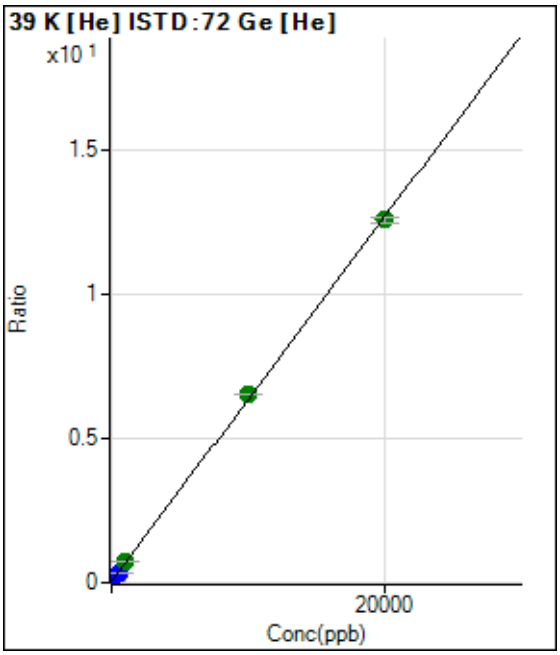
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	47755.82	0.0069	P	3.7
2	☐	10.000	8.129	63850.47	0.0093	P	2.4
3	☐	25.000	22.765	92564.27	0.0135	P	0.7
4	☐	50.000	51.443	147481.58	0.0217	P	1.9
5	☐	500.000	506.145	1029254.98	0.1527	A	2.4
6	☐	1000.000	996.930	1920832.52	0.2940	A	2.1

y = 2.8794E-004 * x + 0.0069
R = 1.0000
DL = 2.644
BEC = 24.09

Weight: <None>
Min Conc: <None>

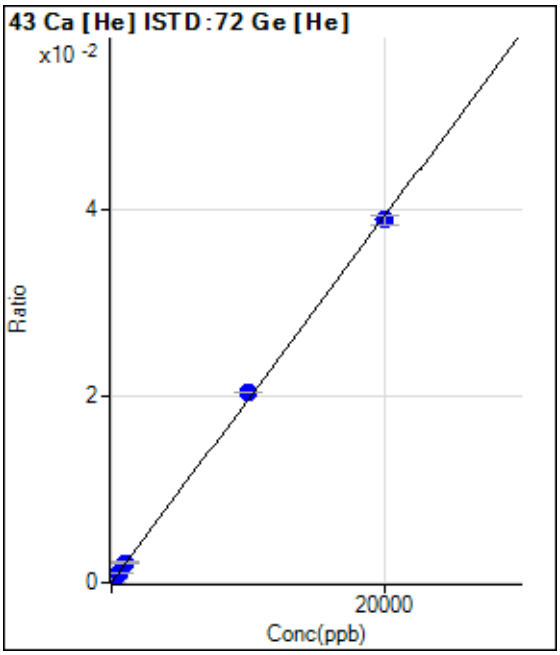


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	66561.86	0.0427	P	1.5
2	☐	200.000	198.938	255694.10	0.1685	P	1.3
3	☐	500.000	490.156	535309.43	0.3527	P	1.8
4	☐	1000.000	1084.230	1090243.37	0.7285	A	0.9
5	☐	10000.00	10291.19	9668437.57	6.5517	A	0.7
6	☐	20000.00	19850.44	18569146.39	12.5977	A	1.8

y = 6.3248E-004 * x + 0.0427
R = 0.9998
DL = 3.052
BEC = 67.51

Weight: <None>
Min Conc: <None>

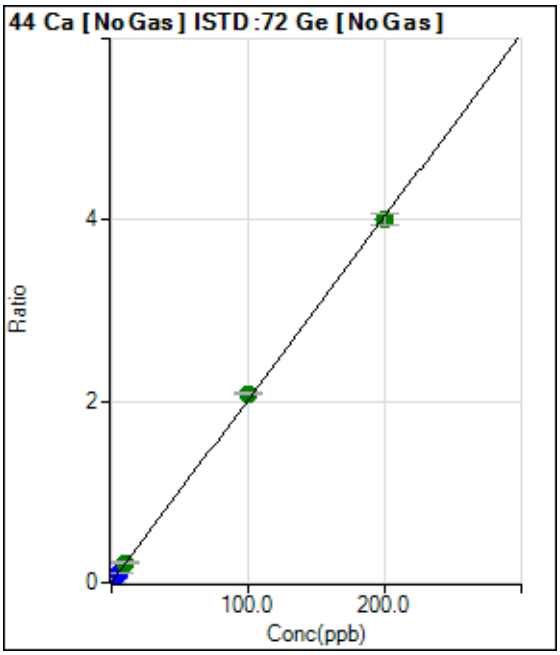
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26.67	0.0000	P	56.6
2	☐	200.000	203.605	630.03	0.0004	P	21.1
3	☐	500.000	532.058	1606.80	0.0011	P	9.0
4	☐	1000.000	1076.830	3183.76	0.0021	P	10.2
5	☐	10000.00	10383.68	30046.36	0.0204	P	0.9
6	☐	20000.00	19803.48	57205.55	0.0388	P	2.8

y = 1.9592E-006 * x + 1.7047E-005
R = 0.9997
DL = 14.76
BEC = 8.701

Weight: <None>
Min Conc: <None>

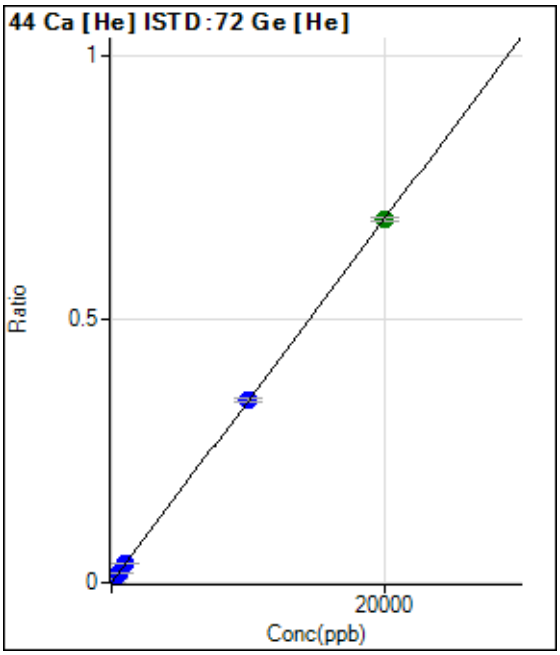


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	19881.29	0.0029	P	5.1
2	☐	2.000	2.000	297438.04	0.0432	P	2.0
3	☐	5.000	4.878	694423.48	0.1012	P	1.3
4	☐	10.000	10.873	1505548.94	0.2220	A	3.0
5	☐	100.000	103.276	14054082.71	2.0846	A	0.8
6	☐	200.000	198.322	26133416.28	4.0004	A	3.3

y = 0.0202 * x + 0.0029
R = 0.9998
DL = 0.02181
BEC = 0.1433

Weight: <None>
Min Conc: <None>

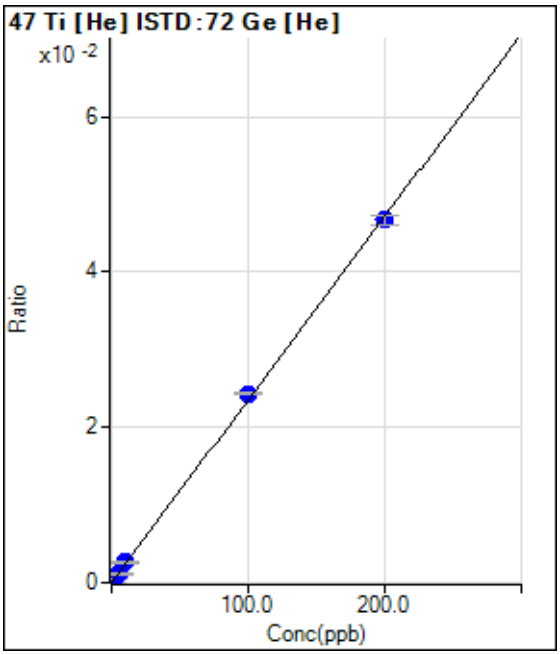
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	353.34	0.0002	P	13.3
2	☐	200.000	193.029	10447.50	0.0069	P	0.6
3	☐	500.000	487.422	25857.94	0.0170	P	2.3
4	☐	1000.000	1045.684	54320.70	0.0363	P	0.5
5	☐	10000.00	10089.72	513863.47	0.3482	P	2.1
6	☐	20000.00	19953.23	1014869.23	0.6885	A	1.2

y = 3.4493E-005 * x + 2.2650E-004
R = 1.0000
DL = 2.614
BEC = 6.567

Weight: <None>
Min Conc: <None>

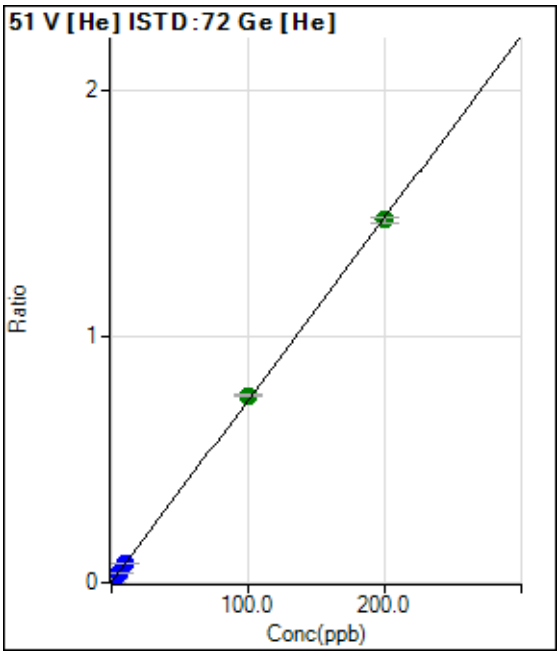


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.2
2	☐	2.000	1.992	713.37	0.0005	P	15.5
3	☐	5.000	4.882	1750.14	0.0012	P	11.0
4	☐	10.000	11.060	3900.63	0.0026	P	11.1
5	☐	100.000	103.125	35833.86	0.0243	P	1.2
6	☐	200.000	198.387	68839.38	0.0467	P	2.8

y = 2.3544E-004 * x + 2.1473E-006
R = 0.9998
DL = 0.04739
BEC = 0.009121

Weight: <None>
Min Conc: <None>

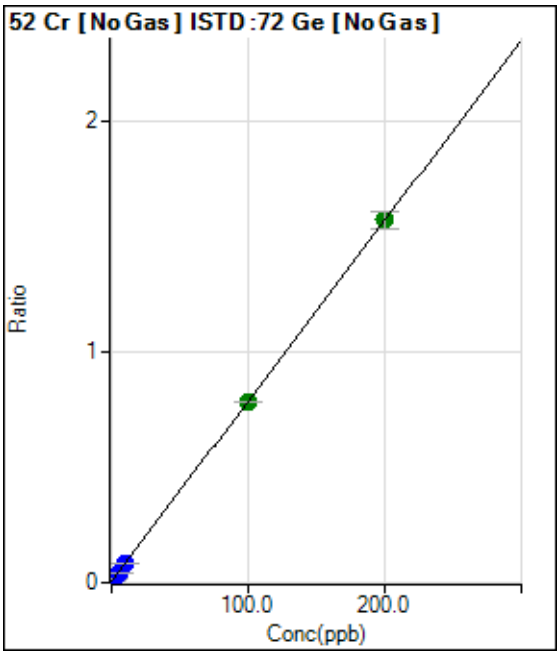
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2284.65	0.0015	P	4.2
2	☐	2.000	1.904	23604.80	0.0156	P	2.2
3	☐	5.000	4.725	55318.79	0.0364	P	1.8
4	☐	10.000	10.024	113255.63	0.0757	P	0.8
5	☐	100.000	102.249	1119196.76	0.7584	A	1.2
6	☐	200.000	198.882	2172410.68	1.4739	A	1.6

y = 0.0074 * x + 0.0015
R = 0.9999
DL = 0.02519
BEC = 0.198

Weight: <None>
Min Conc: <None>

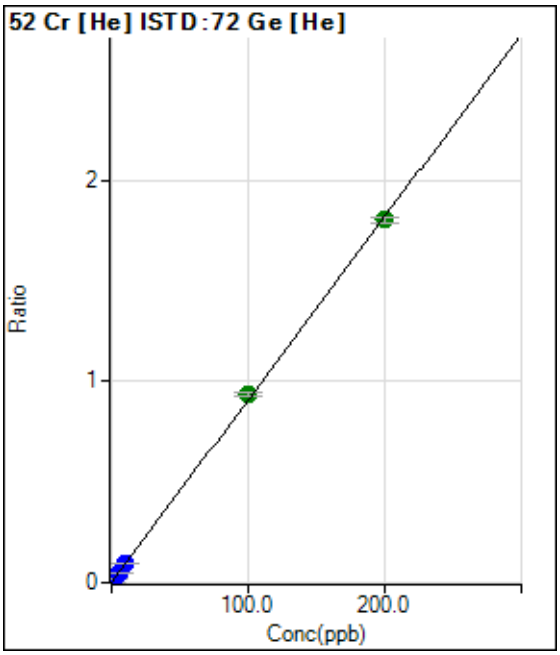


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33180.55	0.0048	P	3.4
2	☐	2.000	1.953	138518.03	0.0201	P	1.9
3	☐	5.000	4.828	292663.21	0.0427	P	1.2
4	☐	10.000	10.155	572117.49	0.0844	P	3.6
5	☐	100.000	99.100	5267846.38	0.7813	A	0.1
6	☐	200.000	200.447	10289977.34	1.5754	A	4.6

y = 0.0078 * x + 0.0048
R = 1.0000
DL = 0.06328
BEC = 0.6151

Weight: <None>
Min Conc: <None>

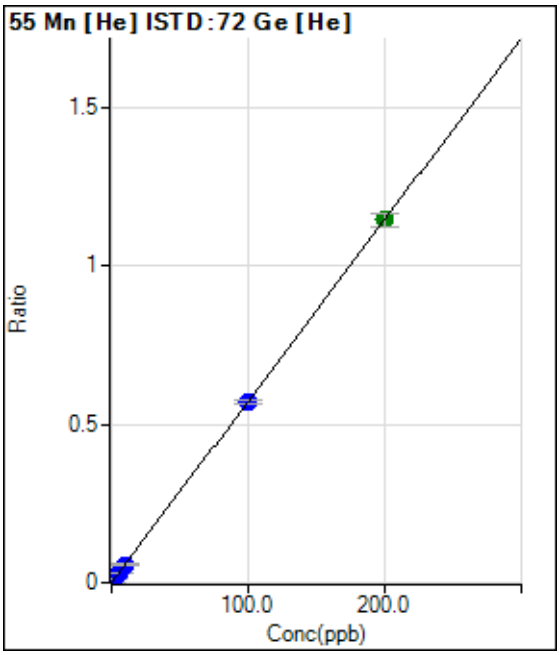
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1573.45	0.0010	P	0.9
2	☐	2.000	2.008	29204.82	0.0192	P	1.5
3	☐	5.000	4.881	68826.27	0.0453	P	2.6
4	☐	10.000	10.087	138645.52	0.0926	P	1.4
5	☐	100.000	103.117	1383793.52	0.9377	A	1.3
6	☐	200.000	198.440	2658482.36	1.8036	A	1.5

y = 0.0091 * x + 0.0010
R = 0.9998
DL = 0.003125
BEC = 0.1111

Weight: <None>
Min Conc: <None>

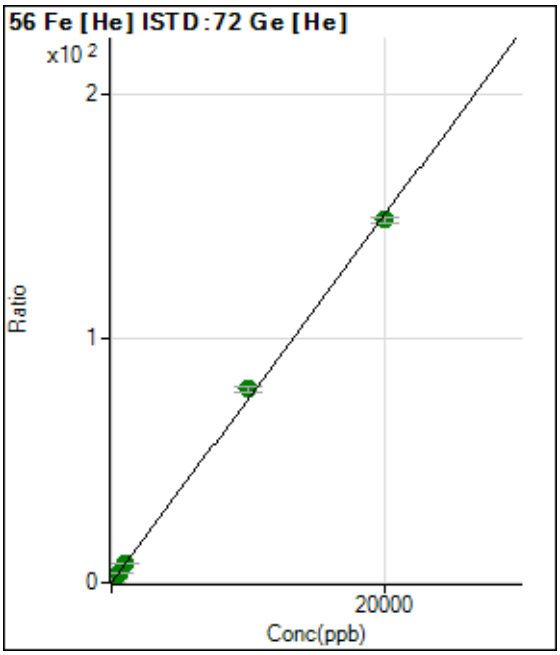


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	536.68	0.0003	P	12.0
2	☐	2.000	2.008	17972.13	0.0118	P	2.1
3	☐	5.000	4.812	42342.56	0.0279	P	2.3
4	☐	10.000	9.979	86044.21	0.0575	P	0.8
5	☐	100.000	99.934	844933.58	0.5726	P	2.3
6	☐	200.000	200.039	1689008.88	1.1459	A	3.6

y = 0.0057 * x + 3.4422E-004
R = 1.0000
DL = 0.02173
BEC = 0.06011

Weight: <None>
Min Conc: <None>

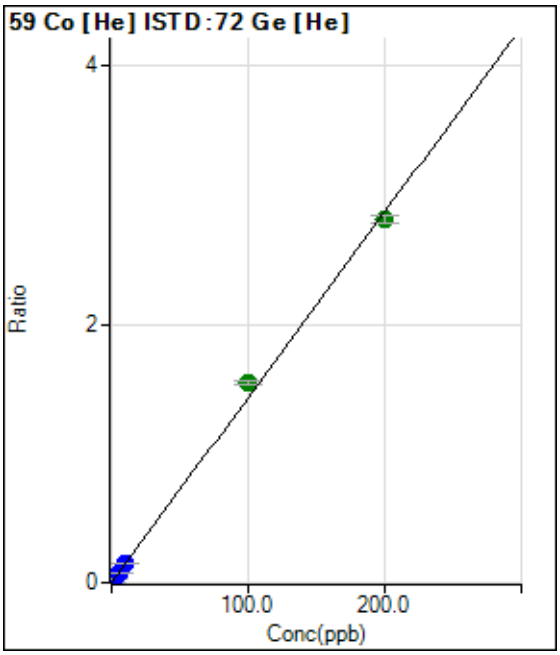
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13703.80	0.0088	P	1.7
2	☐	200.000	206.182	2366320.48	1.5596	A	0.9
3	☐	500.000	499.691	5716395.54	3.7672	A	3.0
4	☐	1000.000	1062.706	11975226.49	8.0019	A	2.3
5	☐	10000.00	10521.35	116773724.9	79.1447	A	3.2
6	☐	20000.00	19736.13	218811436.7	148.453	A	1.7

y = 0.0075 * x + 0.0088
R = 0.9995
DL = 0.05966
BEC = 1.169

Weight: <None>
Min Conc: <None>

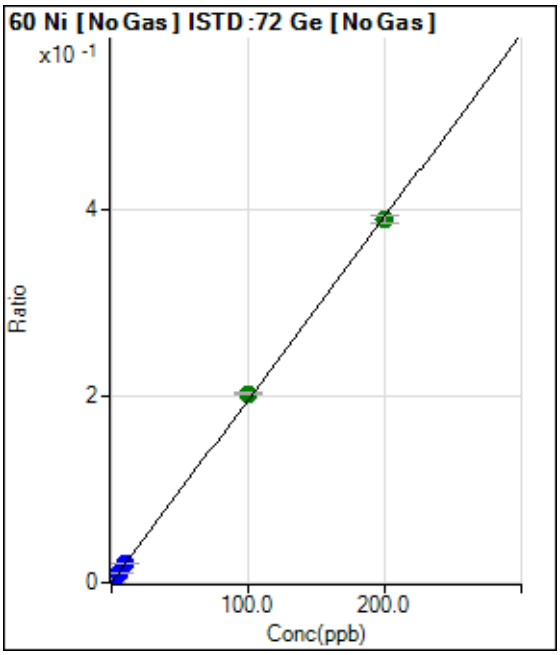


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	240.01	0.0002	P	4.1
2	☐	2.000	1.957	42814.27	0.0282	P	3.4
3	☐	5.000	5.005	109179.69	0.0719	P	2.7
4	☐	10.000	10.452	224603.54	0.1501	P	1.8
5	☐	100.000	108.107	2288500.80	1.5509	A	1.9
6	☐	200.000	195.924	4142571.61	2.8106	A	2.1

y = 0.0143 * x + 1.5398E-004
R = 0.9988
DL = 0.001326
BEC = 0.01073

Weight: <None>
Min Conc: <None>

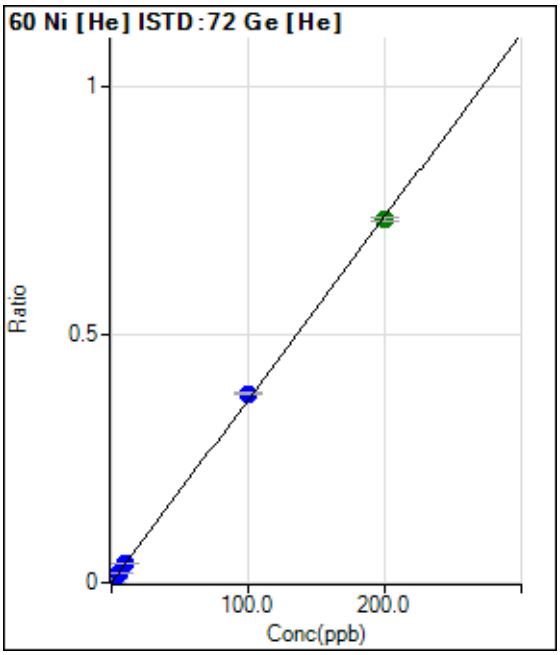
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	973.39	0.0001	P	5.6
2	☐	2.000	1.952	27267.69	0.0040	P	3.5
3	☐	5.000	5.012	68271.55	0.0099	P	1.1
4	☐	10.000	10.406	139043.48	0.0205	P	3.7
5	☐	100.000	103.191	1362501.49	0.2021	A	1.2
6	☐	200.000	198.384	2537653.71	0.3884	A	2.1

y = 0.0020 * x + 1.4141E-004
R = 0.9998
DL = 0.01208
BEC = 0.07226

Weight: <None>
Min Conc: <None>

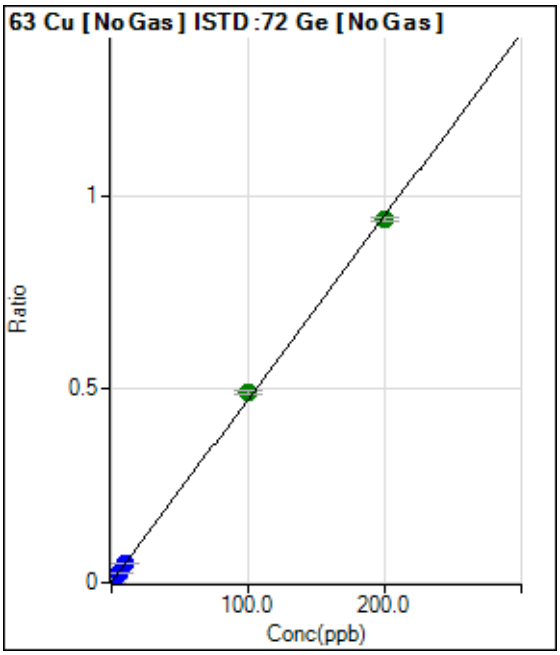


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	226.67	0.0001	P	19.7
2	☐	2.000	1.940	11067.99	0.0073	P	5.8
3	☐	5.000	5.106	28790.88	0.0190	P	3.4
4	☐	10.000	10.739	59489.98	0.0397	P	1.5
5	☐	100.000	103.317	562446.06	0.3812	P	1.4
6	☐	200.000	198.302	1078321.96	0.7314	A	1.1

y = 0.0037 * x + 1.4522E-004
R = 0.9998
DL = 0.02325
BEC = 0.03938

Weight: <None>
Min Conc: <None>

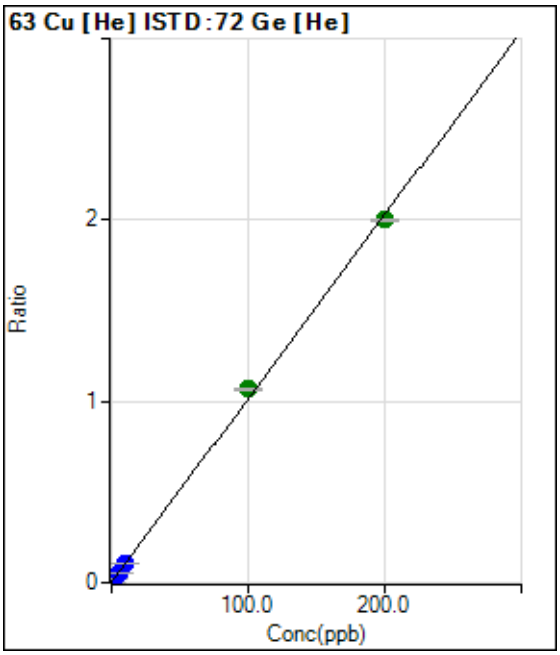
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8306.03	0.0012	P	7.2
2	☐	2.000	1.961	72117.83	0.0105	P	2.1
3	☐	5.000	4.880	166555.83	0.0243	P	1.2
4	☐	10.000	10.428	342486.45	0.0505	P	2.6
5	☐	100.000	104.143	3326896.00	0.4935	A	2.0
6	☐	200.000	197.911	6121414.07	0.9368	A	1.0

y = 0.0047 * x + 0.0012
R = 0.9997
DL = 0.05545
BEC = 0.2553

Weight: <None>
Min Conc: <None>

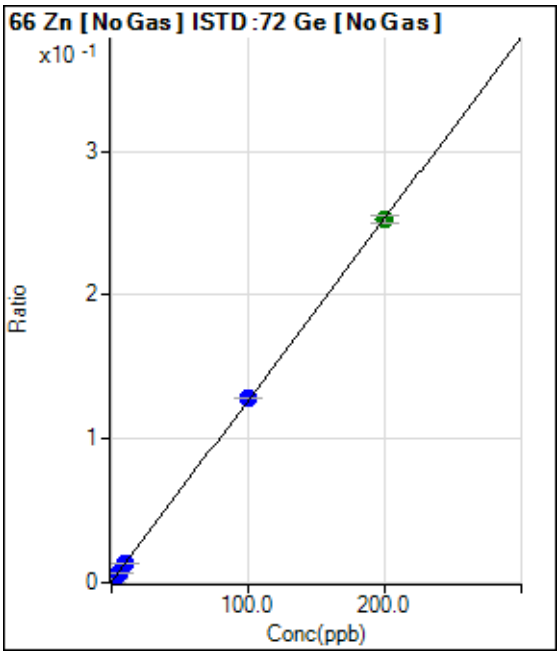


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2903.71	0.0019	P	7.3
2	☐	2.000	1.972	33124.14	0.0218	P	3.1
3	☐	5.000	4.965	79150.81	0.0521	P	1.1
4	☐	10.000	10.341	159523.62	0.1066	P	1.5
5	☐	100.000	105.287	1576342.95	1.0682	A	0.6
6	☐	200.000	197.341	2949157.87	2.0005	A	0.2

y = 0.0101 * x + 0.0019
R = 0.9995
DL = 0.04049
BEC = 0.1839

Weight: <None>
Min Conc: <None>

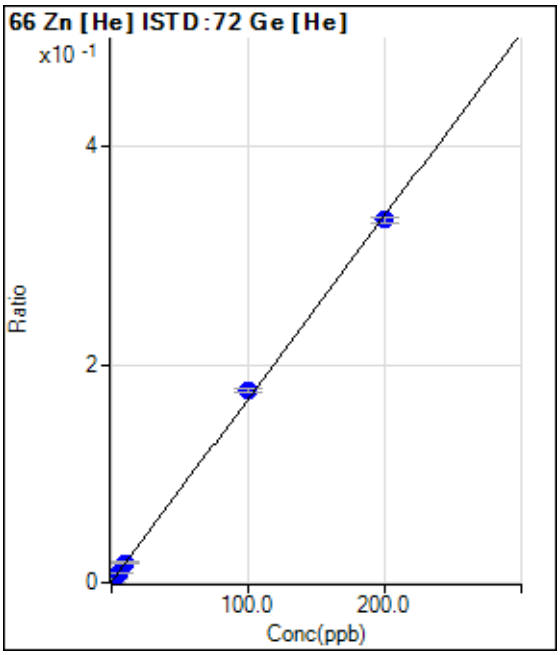
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4167.37	0.0006	P	1.7
2	☐	2.000	2.163	22957.03	0.0033	P	3.5
3	☐	5.000	5.097	48296.42	0.0070	P	2.1
4	☐	10.000	10.357	92755.93	0.0137	P	2.5
5	☐	100.000	101.190	865223.45	0.1283	P	0.8
6	☐	200.000	199.383	1648640.39	0.2523	A	2.0

y = 0.0013 * x + 6.0519E-004
R = 1.0000
DL = 0.0239
BEC = 0.4794

Weight: <None>
Min Conc: <None>

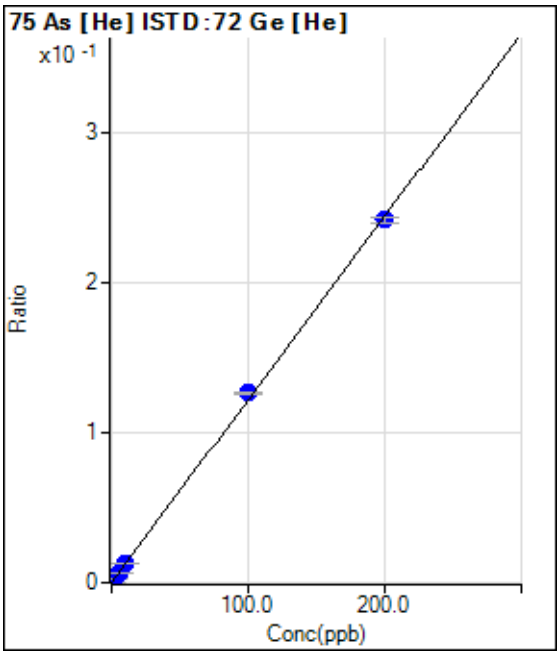


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1160.07	0.0007	P	6.9
2	☐	2.000	2.113	6504.98	0.0043	P	3.2
3	☐	5.000	5.274	14558.08	0.0096	P	1.2
4	☐	10.000	10.544	27585.14	0.0184	P	3.1
5	☐	100.000	104.369	259431.90	0.1758	P	1.8
6	☐	200.000	197.780	490111.50	0.3325	P	1.3

y = 0.0017 * x + 7.4395E-004
R = 0.9997
DL = 0.09236
BEC = 0.4435

Weight: <None>
Min Conc: <None>

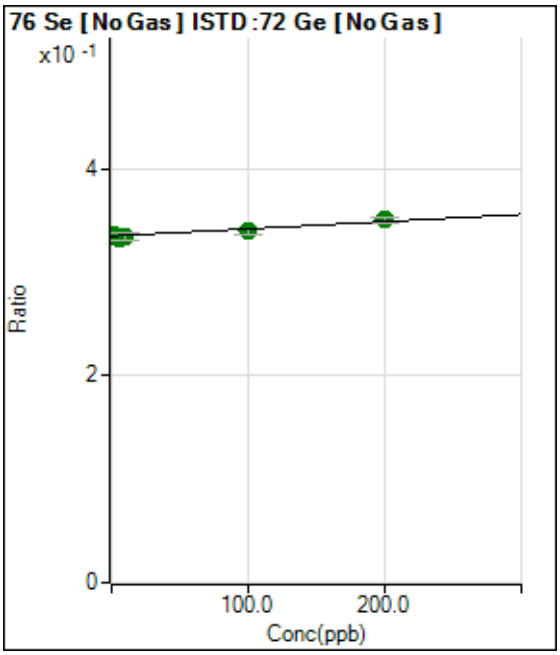
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	98.89	0.0001	P	12.9
2	☐	2.000	2.031	3859.46	0.0025	P	2.1
3	☐	5.000	4.871	9123.12	0.0060	P	3.4
4	☐	10.000	10.145	18636.23	0.0125	P	1.0
5	☐	100.000	103.513	186616.89	0.1265	P	0.9
6	☐	200.000	198.239	356880.21	0.2421	P	1.8

y = 0.0012 * x + 6.3502E-005
R = 0.9998
DL = 0.02005
BEC = 0.052

Weight: <None>
Min Conc: <None>

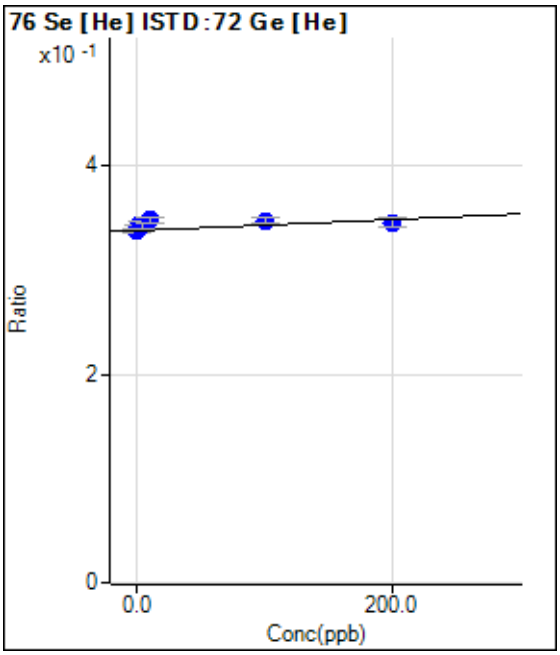


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2308282.88	0.3352	A	1.7
2	☐	2.000	15.737	2316258.56	0.3363	A	1.1
3	☐	5.000	-34.962	2283219.55	0.3327	A	0.7
4	☐	10.000	-11.254	2267738.61	0.3344	A	2.0
5	☐	100.000	59.398	2287785.43	0.3394	A	1.5
6	☐	200.000	222.226	2292096.53	0.3508	A	1.4

y = 7.0037E-005 * x + 0.3352
R = 0.9618
DL = 247.7
BEC = 4786

Weight: <None>
Min Conc: <None>

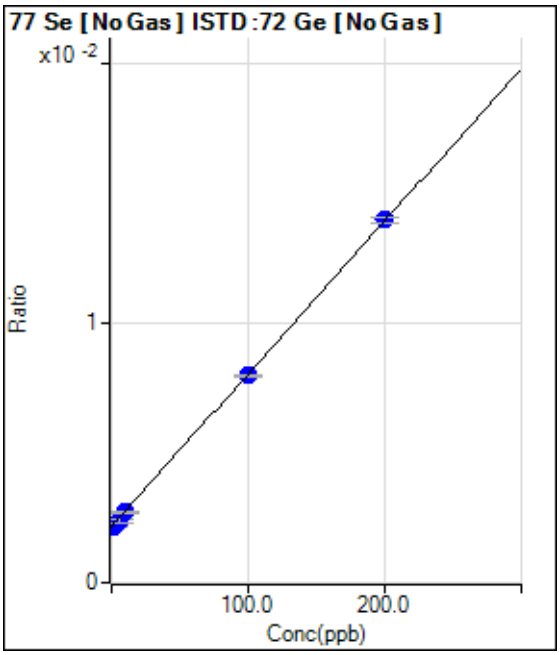
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	526607.17	0.3379	P	0.7
2	☐	2.000	103.922	521201.43	0.3435	P	0.1
3	☐	5.000	94.135	520448.48	0.3429	P	2.3
4	☐	10.000	191.667	521097.06	0.3482	P	1.6
5	☐	100.000	179.207	512812.04	0.3475	P	1.5
6	☐	200.000	148.065	509697.86	0.3458	P	2.5

y = 5.3829E-005 * x + 0.3379
R = 0.4261
DL = 140.6
BEC = 6277

Weight: <None>
Min Conc: <None>

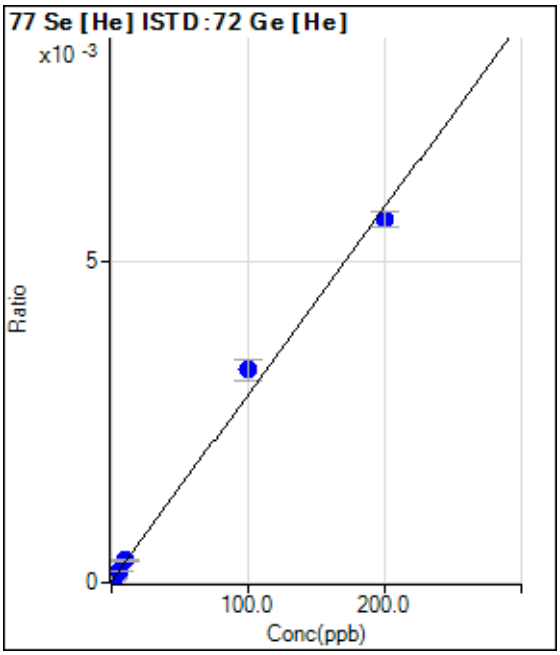


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14915.18	0.0022	P	1.0
2	☐	2.000	-0.686	14634.80	0.0021	P	1.1
3	☐	5.000	2.958	16049.85	0.0023	P	5.9
4	☐	10.000	9.168	18349.48	0.0027	P	2.1
5	☐	100.000	98.697	53720.71	0.0080	P	0.7
6	☐	200.000	200.771	91272.59	0.0140	P	1.8

y = 5.8791E-005 * x + 0.0022
R = 0.9999
DL = 1.134
BEC = 36.84

Weight: <None>
Min Conc: <None>

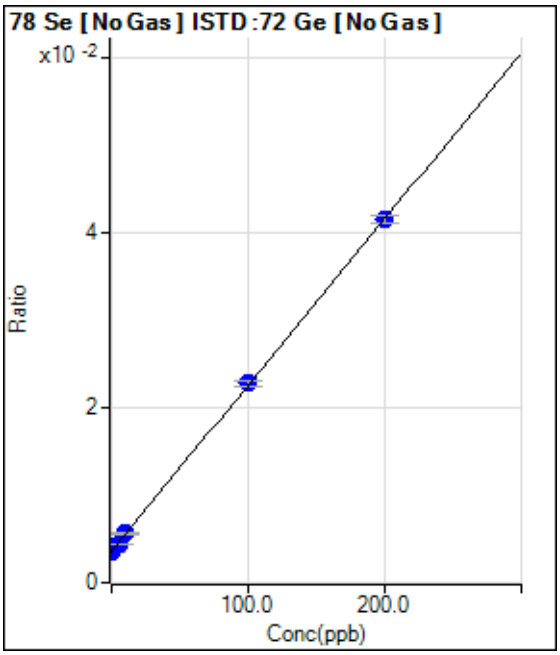
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	40.00	0.0000	P	25.9
2	☐	2.000	1.454	103.33	0.0001	P	30.2
3	☐	5.000	5.165	266.68	0.0002	P	6.3
4	☐	10.000	11.068	520.02	0.0003	P	7.3
5	☐	100.000	113.059	4884.31	0.0033	P	10.5
6	☐	200.000	193.419	8322.72	0.0056	P	4.1

y = 2.9063E-005 * x + 2.5709E-005
R = 0.9969
DL = 0.6885
BEC = 0.8846

Weight: <None>
Min Conc: <None>

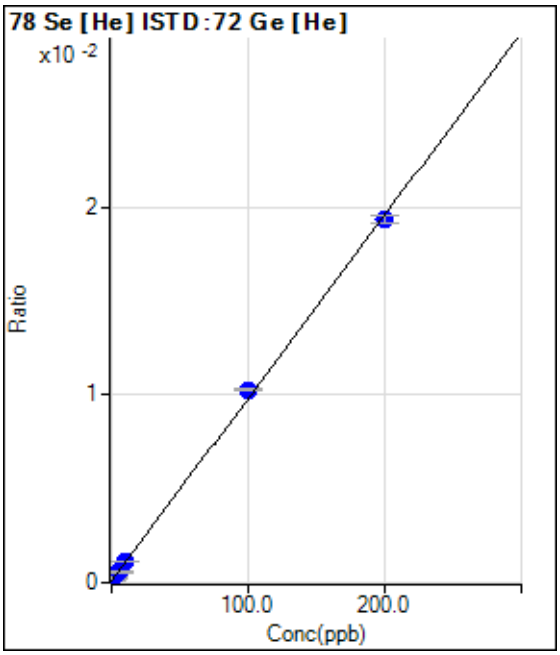


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	24829.78	0.0036	P	2.9
2	☐	2.000	2.457	28029.45	0.0041	P	1.9
3	☐	5.000	4.382	30441.52	0.0044	P	2.0
4	☐	10.000	10.602	38070.81	0.0056	P	2.8
5	☐	100.000	101.041	153351.20	0.0227	P	3.2
6	☐	200.000	199.460	270454.97	0.0414	P	2.2

y = 1.8946E-004 * x + 0.0036
R = 1.0000
DL = 1.671
BEC = 19.03

Weight: <None>
Min Conc: <None>

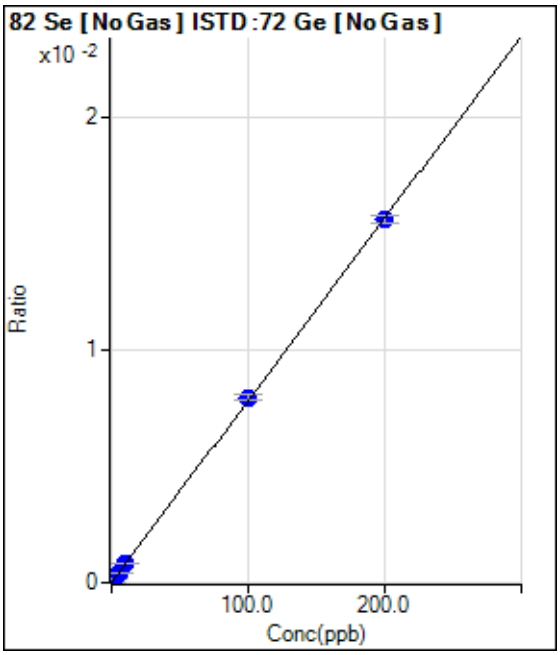
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0001	P	6.1
2	☐	2.000	1.888	406.01	0.0003	P	15.6
3	☐	5.000	4.940	856.70	0.0006	P	6.9
4	☐	10.000	10.916	1716.78	0.0011	P	2.5
5	☐	100.000	104.757	15185.91	0.0103	P	1.1
6	☐	200.000	197.578	28498.05	0.0193	P	2.0

y = 9.7438E-005 * x + 8.3431E-005
R = 0.9996
DL = 0.1574
BEC = 0.8562

Weight: <None>
Min Conc: <None>

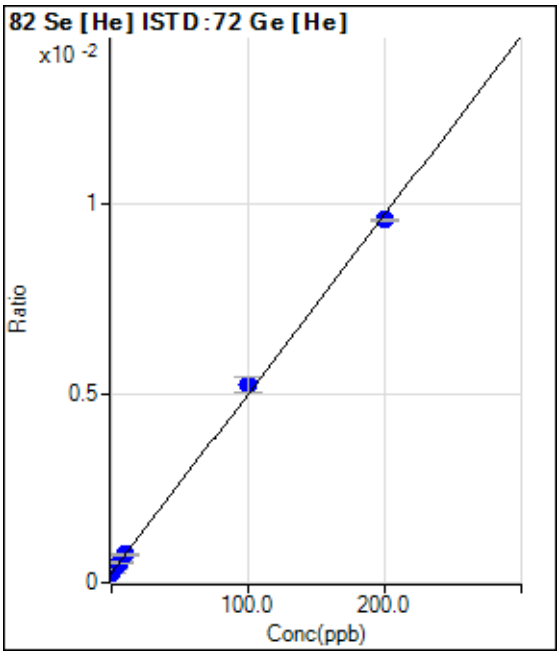


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31.54	0.0000	P	1039.5
2	☐	2.000	2.247	1242.64	0.0002	P	12.4
3	☐	5.000	4.865	2642.27	0.0004	P	6.5
4	☐	10.000	10.370	5534.32	0.0008	P	2.2
5	☐	100.000	101.587	53638.88	0.0080	P	2.8
6	☐	200.000	199.189	101912.89	0.0156	P	2.0

y = 7.8287E-005 * x + 4.1836E-006
R = 1.0000
DL = 1.666
BEC = 0.05344

Weight: <None>
Min Conc: <None>

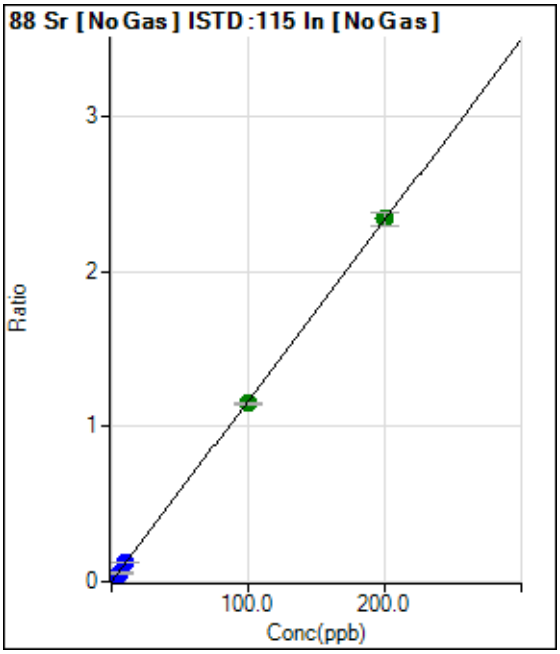
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	403.35	0.0003	P	13.4
2	☐	2.000	2.468	570.02	0.0004	P	5.0
3	☐	5.000	5.768	806.71	0.0005	P	6.8
4	☐	10.000	10.535	1133.40	0.0008	P	5.3
5	☐	100.000	105.527	7752.38	0.0053	P	7.7
6	☐	200.000	197.186	14147.70	0.0096	P	0.3

y = 4.7356E-005 * x + 2.5852E-004
R = 0.9995
DL = 2.19
BEC = 5.459

Weight: <None>
Min Conc: <None>

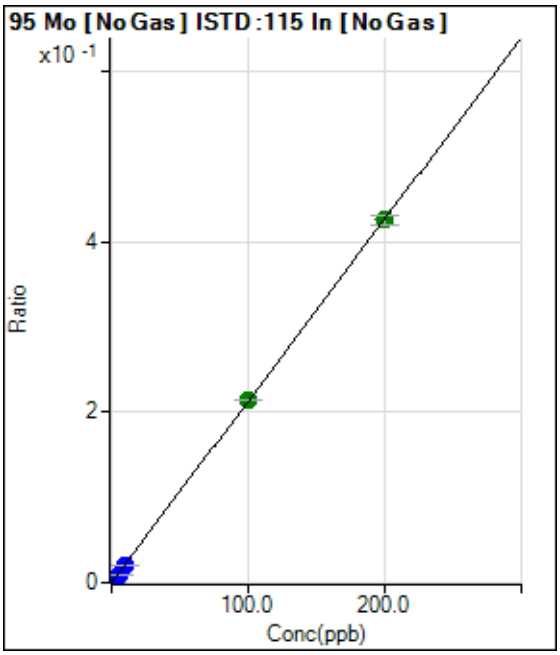


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3443.83	0.0004	P	1.1
2	☐	2.000	1.885	170881.60	0.0224	P	4.0
3	☐	5.000	4.749	418818.47	0.0557	P	2.0
4	☐	10.000	10.278	901404.42	0.1201	P	2.4
5	☐	100.000	98.454	8569087.58	1.1466	A	0.9
6	☐	200.000	200.766	17062115.58	2.3376	A	3.4

y = 0.0116 * x + 4.4598E-004
R = 1.0000
DL = 0.001213
BEC = 0.03831

Weight: <None>
Min Conc: <None>

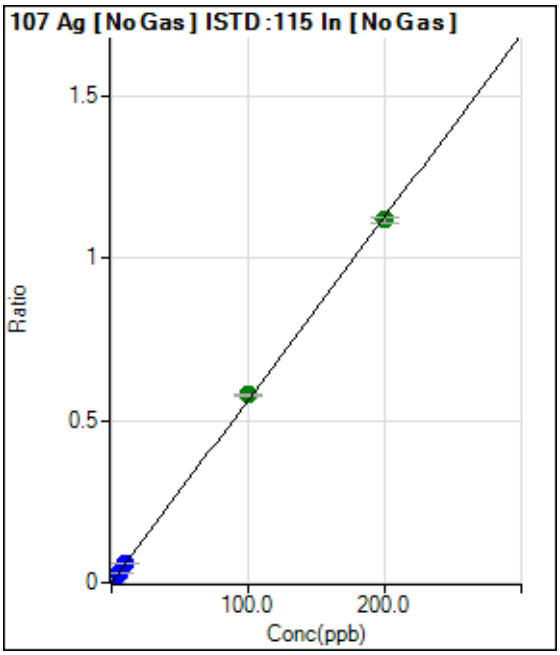
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	180.01	0.0000	P	29.7
2	☐	2.000	1.846	30228.14	0.0040	P	4.7
3	☐	5.000	4.727	75957.53	0.0101	P	0.3
4	☐	10.000	9.927	159134.60	0.0212	P	1.4
5	☐	100.000	100.425	1601034.45	0.2142	A	0.4
6	☐	200.000	199.800	3110394.33	0.4262	A	2.9

y = 0.0021 * x + 2.3351E-005
R = 1.0000
DL = 0.009739
BEC = 0.01095

Weight: <None>
Min Conc: <None>

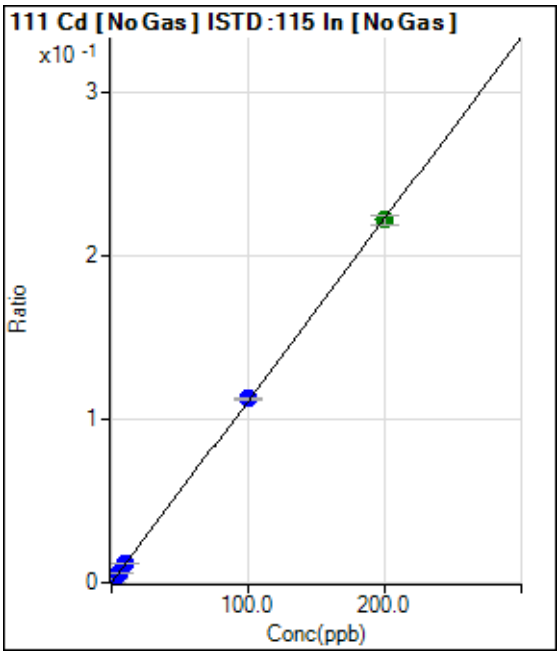


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1373.43	0.0002	P	4.2
2	☐	2.000	1.930	84252.65	0.0110	P	2.1
3	☐	5.000	4.971	211439.18	0.0281	P	2.4
4	☐	10.000	10.410	440977.94	0.0587	P	0.9
5	☐	100.000	102.786	4321986.71	0.5783	A	0.4
6	☐	200.000	198.588	8155549.25	1.1171	A	1.9

y = 0.0056 * x + 1.7802E-004
R = 0.9999
DL = 0.004012
BEC = 0.03165

Weight: <None>
Min Conc: <None>

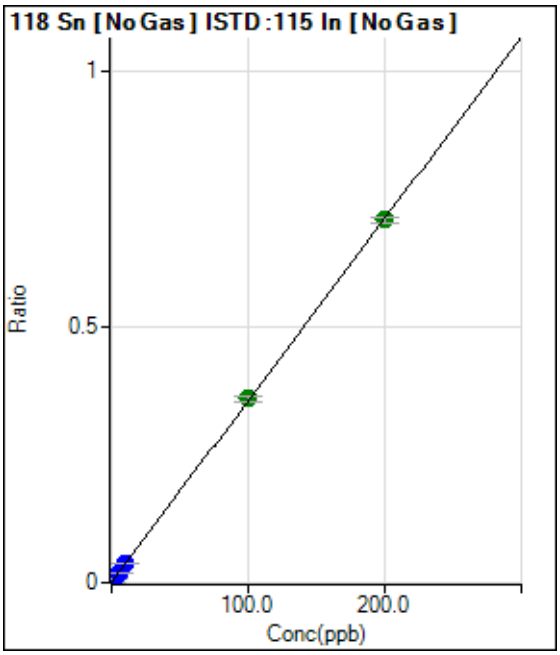
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23.33	0.0000	P	89.5
2	☐	2.000	1.953	16604.16	0.0022	P	2.7
3	☐	5.000	4.861	40616.70	0.0054	P	3.4
4	☐	10.000	10.294	85928.00	0.0114	P	2.0
5	☐	100.000	101.032	839178.89	0.1123	P	1.2
6	☐	200.000	199.473	1618252.32	0.2217	A	2.6

y = 0.0011 * x + 2.9719E-006
R = 1.0000
DL = 0.007177
BEC = 0.002674

Weight: <None>
Min Conc: <None>

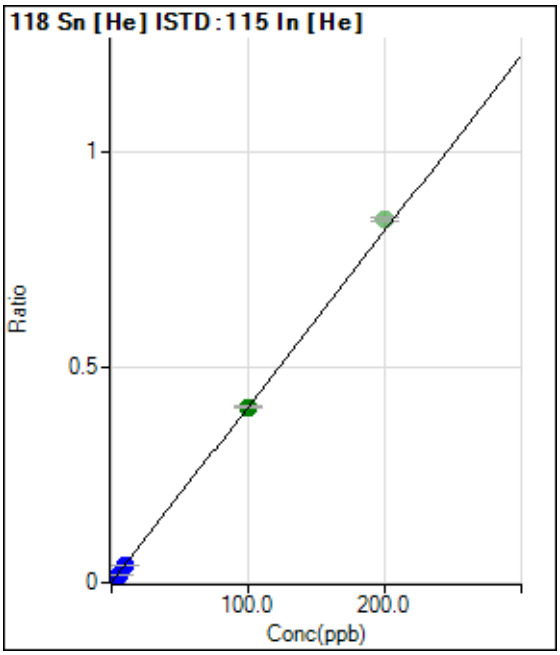


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4517.53	0.0006	P	0.6
2	☐	2.000	1.918	56418.83	0.0074	P	2.0
3	☐	5.000	4.774	131667.12	0.0175	P	1.2
4	☐	10.000	10.153	274725.52	0.0366	P	2.0
5	☐	100.000	100.992	2681677.46	0.3588	A	3.2
6	☐	200.000	199.503	5170264.09	0.7083	A	1.5

y = 0.0035 * x + 5.8520E-004
R = 1.0000
DL = 0.002761
BEC = 0.165

Weight: <None>
Min Conc: <None>

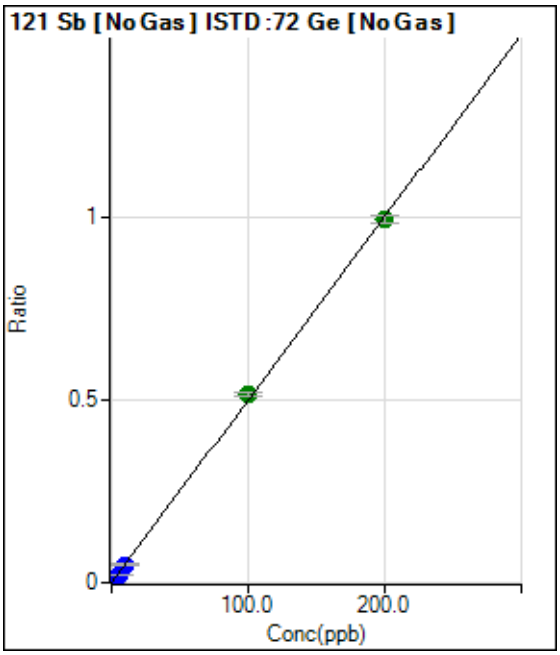
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1833.50	0.0007	P	15.1
2	☐	2.000	1.952	23521.67	0.0086	P	3.1
3	☐	5.000	4.645	54785.17	0.0196	P	1.6
4	☐	10.000	10.078	112820.15	0.0418	P	2.0
5	☐	100.000	100.011	1096747.07	0.4086	A	1.5
6	☑	200.000		2195177.88	0.8426	A	1.1

y = 0.0041 * x + 6.6408E-004
R = 1.0000
DL = 0.07389
BEC = 0.1628

Weight: <None>
Min Conc: <None>

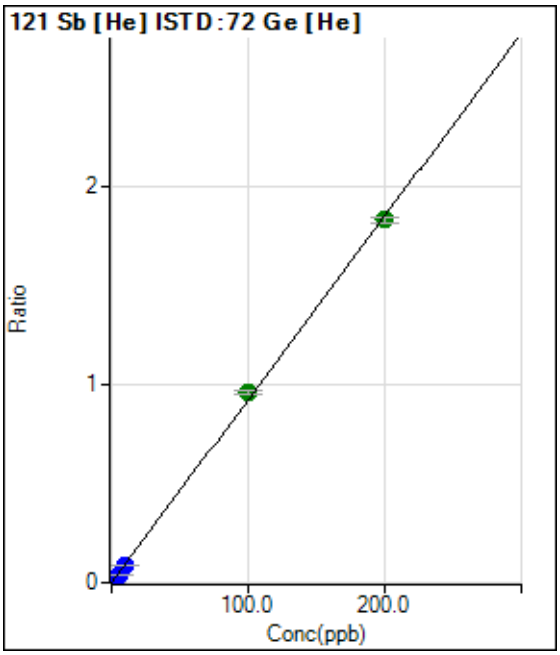


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	670.03	0.0001	P	9.2
2	☐	2.000	1.851	64452.40	0.0094	P	1.7
3	☐	5.000	4.659	160686.23	0.0234	P	2.0
4	☐	10.000	9.912	337089.89	0.0497	P	2.3
5	☐	100.000	103.036	3477598.07	0.5158	A	1.5
6	☐	200.000	198.496	6492269.07	0.9936	A	2.1

y = 0.0050 * x + 9.7372E-005
R = 0.9998
DL = 0.005383
BEC = 0.01945

Weight: <None>
Min Conc: <None>

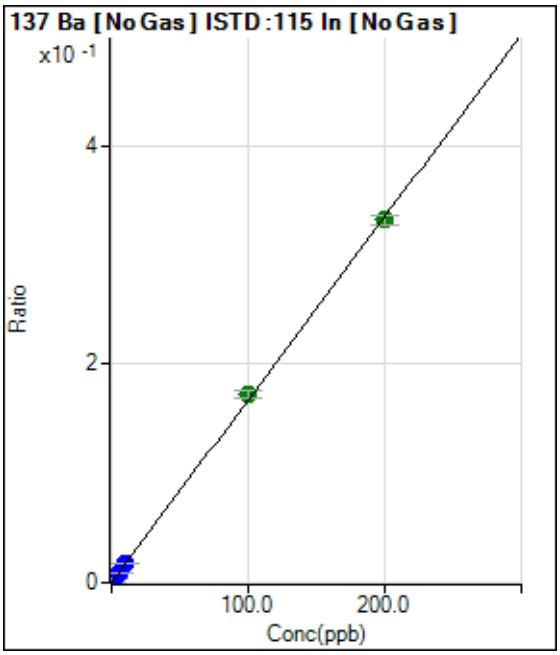
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	296.68	0.0002	P	10.4
2	☐	2.000	1.794	25411.85	0.0168	P	1.9
3	☐	5.000	4.585	64532.57	0.0425	P	0.5
4	☐	10.000	9.723	134603.99	0.0899	P	0.4
5	☐	100.000	103.783	1413784.35	0.9581	A	1.8
6	☐	200.000	198.135	2696239.96	1.8290	A	1.6

y = 0.0092 * x + 1.9035E-004
R = 0.9997
DL = 0.006432
BEC = 0.02062

Weight: <None>
Min Conc: <None>

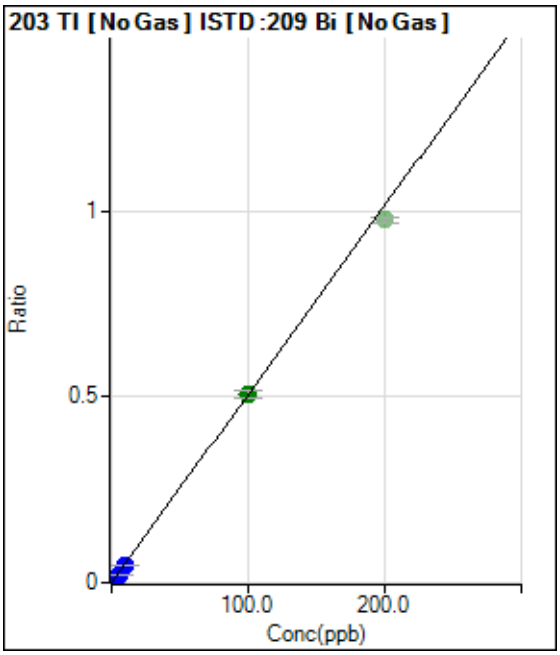


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1323.43	0.0002	P	0.8
2	☐	2.000	1.906	25642.53	0.0034	P	5.4
3	☐	5.000	4.801	61658.50	0.0082	P	2.3
4	☐	10.000	10.112	128299.52	0.0171	P	3.0
5	☐	100.000	102.871	1287621.54	0.1723	A	3.8
6	☐	200.000	198.565	2426422.26	0.3324	A	2.5

y = 0.0017 * x + 1.7141E-004
R = 0.9999
DL = 0.002405
BEC = 0.1024

Weight: <None>
Min Conc: <None>

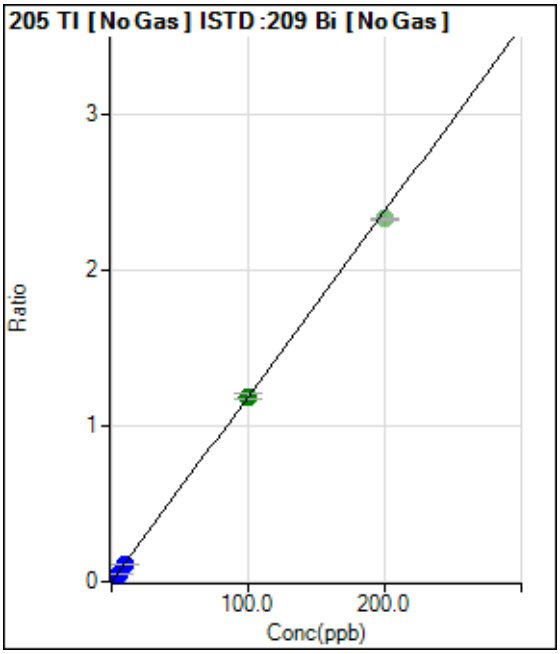
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	60.00	0.0000	P	61.2
2	☐	2.000	1.768	49566.67	0.0090	P	4.5
3	☐	5.000	4.360	120498.68	0.0221	P	4.7
4	☐	10.000	9.289	257036.68	0.0471	P	7.1
5	☐	100.000	100.108	2698425.79	0.5073	A	4.3
6	☑	200.000		5064301.07	0.9762	A	1.6

y = 0.0051 * x + 1.1241E-005
R = 1.0000
DL = 0.004074
BEC = 0.002218

Weight: <None>
Min Conc: <None>

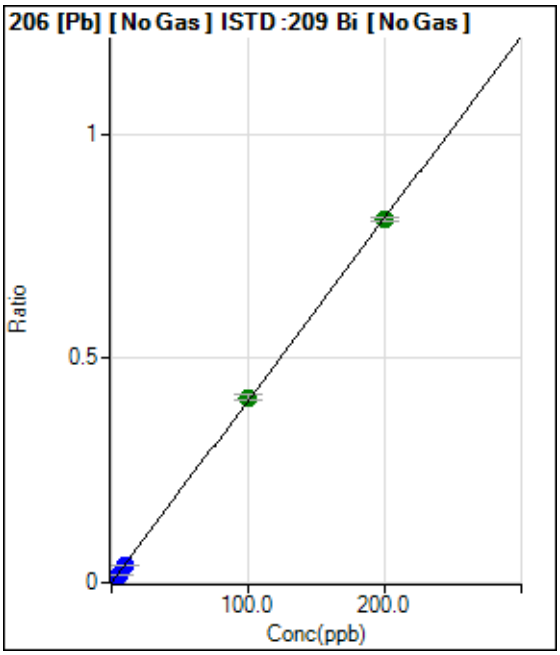


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	246.67	0.0000	P	30.1
2	☐	2.000	1.761	115889.83	0.0210	P	4.3
3	☐	5.000	4.466	289712.00	0.0531	P	4.4
4	☐	10.000	9.355	607451.76	0.1113	P	7.0
5	☐	100.000	100.096	6331910.12	1.1901	A	2.9
6	☑	200.000		12093338.57	2.3308	A	0.4

y = 0.0119 * x + 4.6080E-005
R = 1.0000
DL = 0.003505
BEC = 0.003876

Weight: <None>
Min Conc: <None>

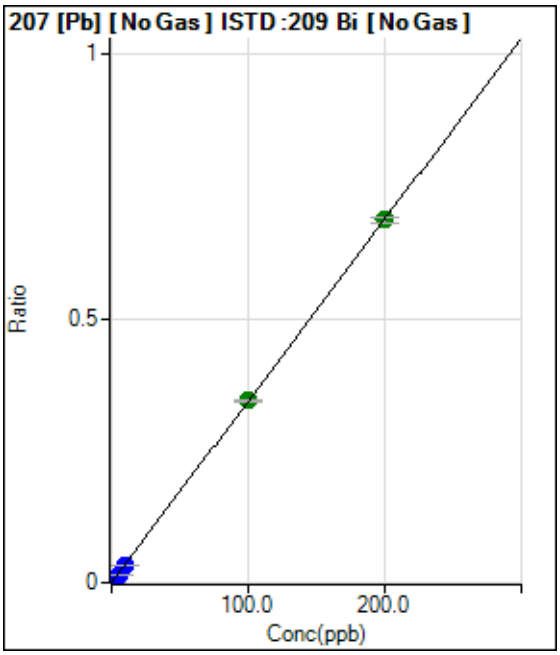
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	576.70	0.0001	P	6.2
2	☐	2.000	1.728	39370.38	0.0071	P	4.4
3	☐	5.000	4.456	99326.23	0.0182	P	1.7
4	☐	10.000	9.347	208010.19	0.0381	P	5.4
5	☐	100.000	101.789	2200845.33	0.4136	A	2.8
6	☐	200.000	199.155	4198284.52	0.8092	A	1.0

y = 0.0041 * x + 1.0775E-004
R = 0.9999
DL = 0.00497
BEC = 0.02652

Weight: <None>
Min Conc: <None>

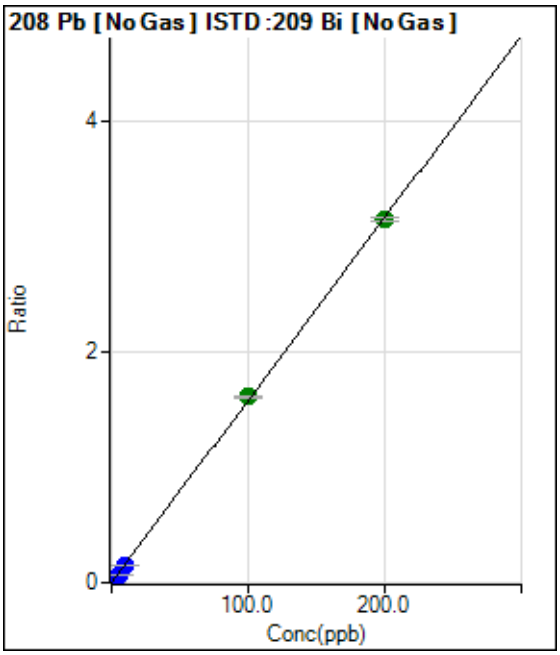


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	453.35	0.0001	P	19.8
2	☐	2.000	1.781	34271.39	0.0062	P	2.9
3	☐	5.000	4.652	87625.85	0.0161	P	2.2
4	☐	10.000	9.476	178461.99	0.0326	P	2.5
5	☐	100.000	100.292	1834212.68	0.3447	A	1.6
6	☐	200.000	199.891	3563290.36	0.6869	A	1.3

y = 0.0034 * x + 8.4772E-005
R = 1.0000
DL = 0.01469
BEC = 0.02467

Weight: <None>
Min Conc: <None>

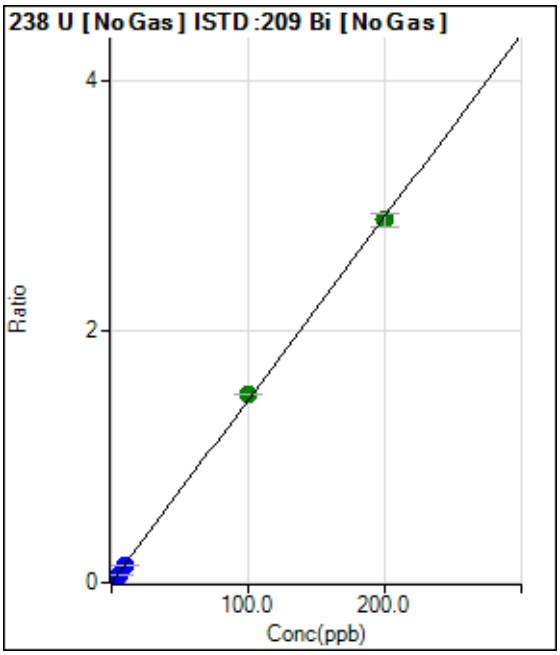
Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2206.79	0.0004	P	7.7
2	☐	2.000	1.795	159070.35	0.0288	P	2.9
3	☐	5.000	4.649	403165.76	0.0739	P	1.4
4	☐	10.000	9.548	827486.56	0.1514	P	2.7
5	☐	100.000	102.215	8602913.05	1.6164	A	1.0
6	☐	200.000	198.926	16318843.51	3.1455	A	1.1

y = 0.0158 * x + 4.1221E-004
R = 0.9999
DL = 0.006051
BEC = 0.02607

Weight: <None>
Min Conc: <None>

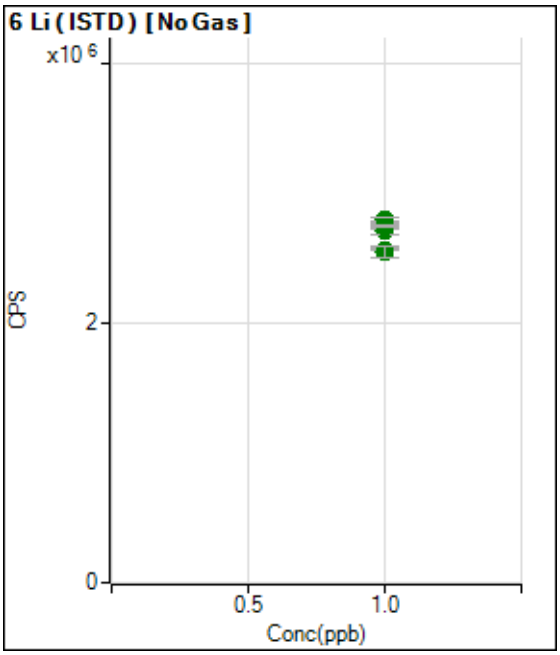


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30.00	0.0000	P	1.6
2	☐	2.000	1.784	143416.47	0.0260	P	4.8
3	☐	5.000	4.630	367571.18	0.0674	P	0.8
4	☐	10.000	9.828	782275.27	0.1430	P	1.5
5	☐	100.000	102.954	7975055.30	1.4983	A	0.4
6	☐	200.000	198.543	14984756.03	2.8894	A	3.7

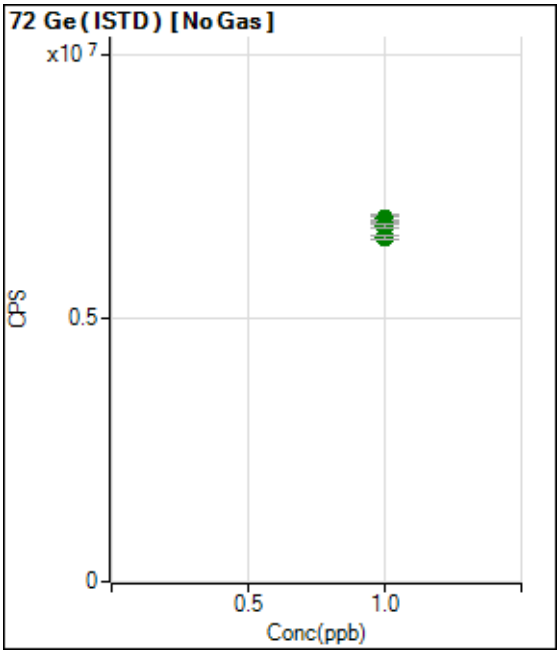
y = 0.0146 * x + 5.6033E-006
R = 0.9998
DL = 1.809E-05
BEC = 0.000385

Weight: <None>
Min Conc: <None>

Calibration for 058_ICV.d

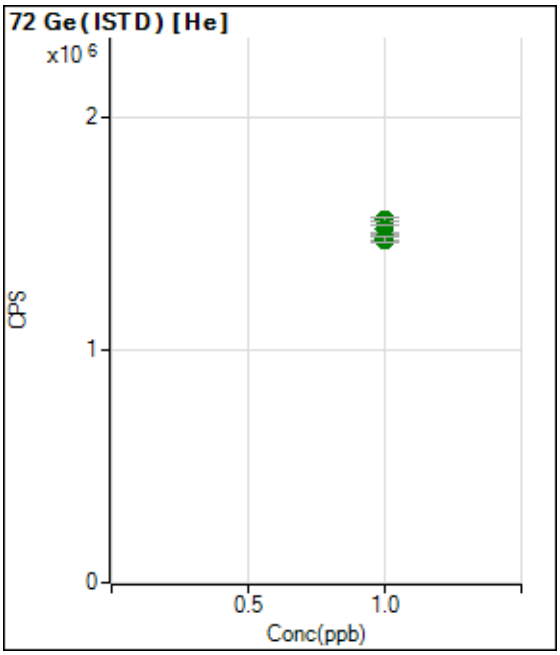


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2755843.10		A	2.6
2	☐	1.000		2795305.57		A	1.8
3	☐	1.000		2717869.68		A	2.6
4	☐	1.000		2746624.04		A	0.6
5	☐	1.000		2570284.96		A	0.5
6	☐	1.000		2544684.62		A	3.5

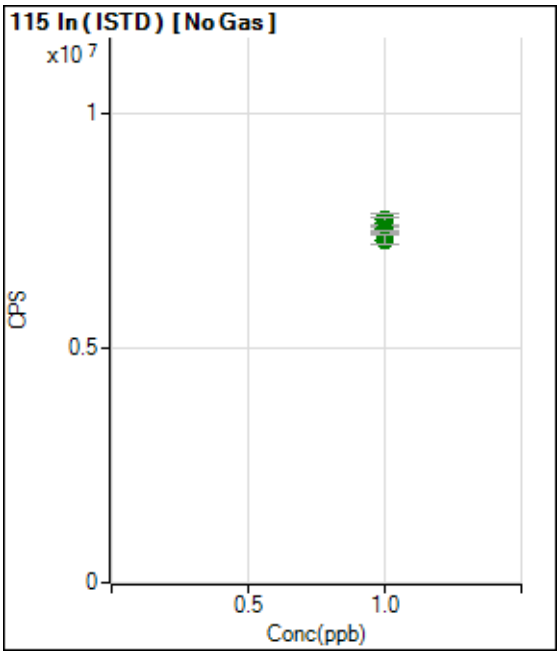


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		6887145.52		A	1.5
2	☐	1.000		6886294.69		A	2.7
3	☐	1.000		6861701.98		A	0.5
4	☐	1.000		6783334.27		A	2.3
5	☐	1.000		6742389.48		A	1.3
6	☐	1.000		6534974.69		A	1.6

Calibration for 058_ICV.d

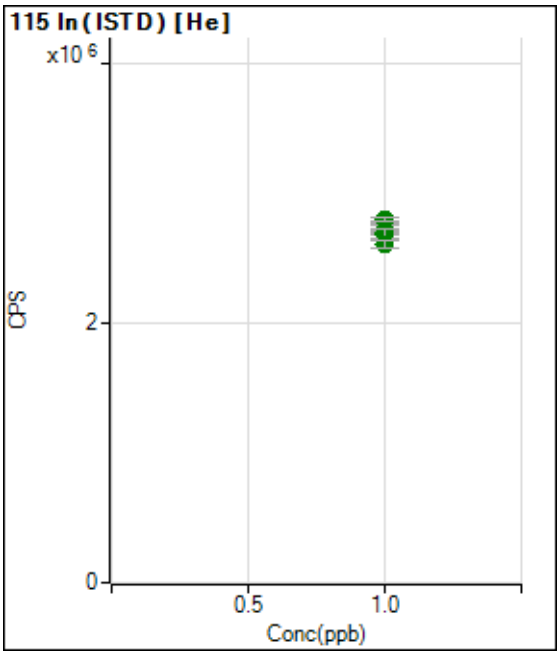


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1558698.15		A	1.1
2	☐	1.000		1517485.76		A	2.2
3	☐	1.000		1517999.14		A	2.0
4	☐	1.000		1496638.94		A	0.4
5	☐	1.000		1475759.46		A	1.0
6	☐	1.000		1474249.40		A	1.8

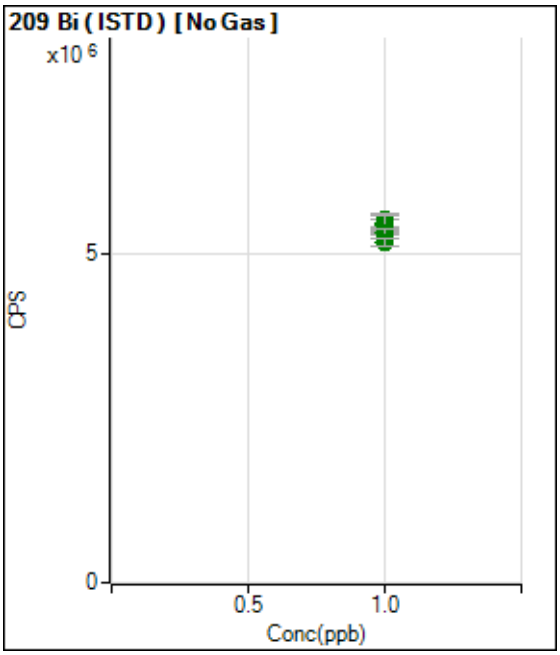


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		7720243.72		A	3.2
2	☐	1.000		7640288.98		A	4.0
3	☐	1.000		7516456.13		A	2.0
4	☐	1.000		7508754.98		A	2.5
5	☐	1.000		7473741.61		A	0.9
6	☐	1.000		7301870.36		A	2.7

Calibration for 058_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		2760329.10		A	0.3
2	☐	1.000		2727321.36		A	2.2
3	☐	1.000		2793710.43		A	1.1
4	☐	1.000		2701074.35		A	1.2
5	☐	1.000		2684641.56		A	2.5
6	☐	1.000		2605474.05		A	2.1



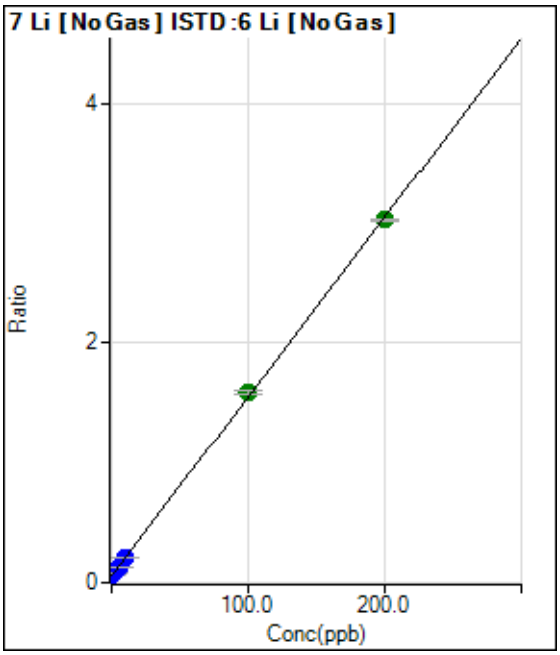
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5354842.42		A	1.6
2	☐	1.000		5528727.21		A	3.8
3	☐	1.000		5455525.96		A	3.2
4	☐	1.000		5471256.79		A	4.7
5	☐	1.000		5322986.38		A	2.6
6	☐	1.000		5188880.86		A	2.3

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	010CALB.d	CAL BLK	4/14/2020 8:35:20 AM
2	011CALS.d	2/10/200	4/14/2020 8:37:12 AM
3	012CALS.d	5/25/500	4/14/2020 8:39:05 AM
4	013CALS.d	10/50/100	4/14/2020 8:40:57 AM
5	014CALS.d	100/500/10K	4/14/2020 8:42:48 AM
6	015CALS.d	200/1000/20K	4/14/2020 8:44:32 AM

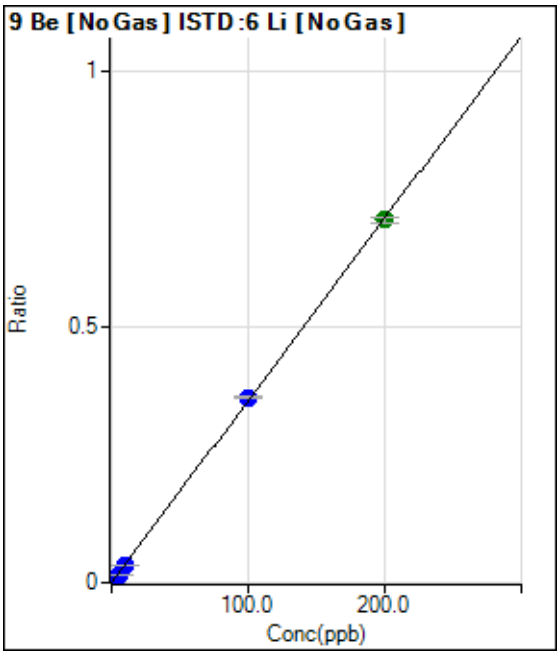
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	109231.13	0.0565	P	0.6
2	☐	2.000	1.816	163987.78	0.0837	P	0.9
3	☐	5.000	4.759	245262.11	0.1277	P	1.4
4	☐	10.000	10.055	402531.93	0.2069	P	3.0
5	☐	100.000	102.535	2921902.04	1.5902	A	1.1
6	☐	200.000	198.738	5388221.59	3.0292	A	0.6

y = 0.0150 * x + 0.0565
R = 0.9999
DL = 0.06565
BEC = 3.78

Weight: <None>
Min Conc: <None>

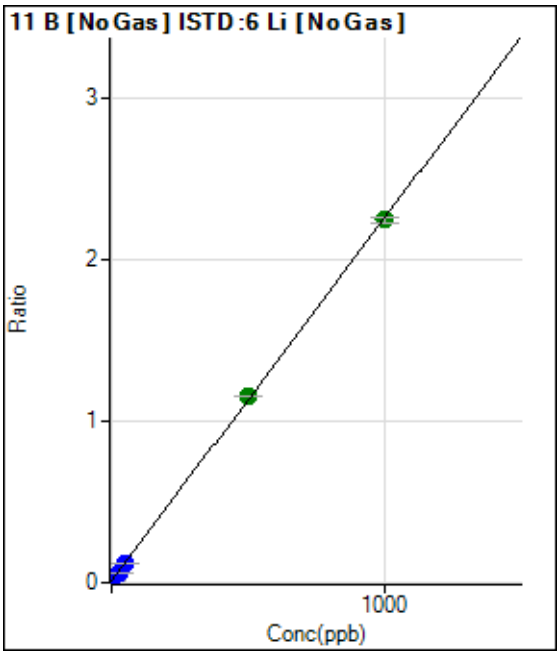


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	28.5
2	☐	2.000	1.796	12575.68	0.0064	P	3.1
3	☐	5.000	4.622	31643.86	0.0165	P	1.0
4	☐	10.000	9.707	67269.66	0.0346	P	2.2
5	☐	100.000	101.599	664472.44	0.3616	P	1.4
6	☐	200.000	199.227	1261257.87	0.7091	A	1.9

y = 0.0036 * x + 2.9339E-005
R = 0.9999
DL = 0.007052
BEC = 0.008243

Weight: <None>
Min Conc: <None>

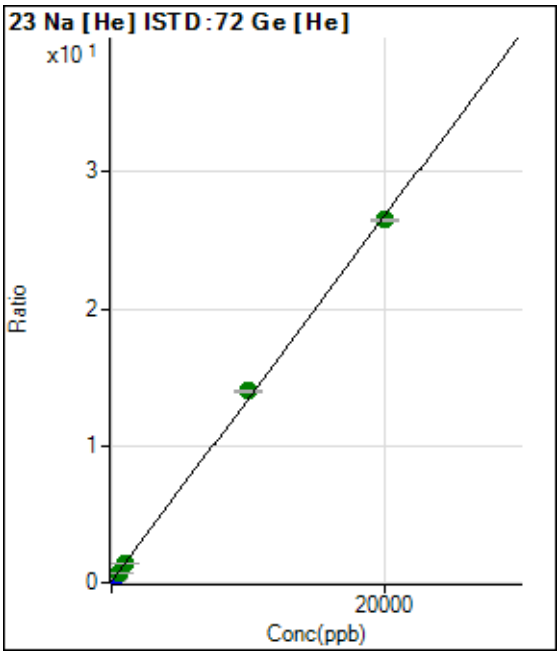
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20054.34	0.0104	P	2.0
2	☐	10.000	8.947	59768.24	0.0305	P	0.9
3	☐	25.000	23.228	120266.59	0.0626	P	1.9
4	☐	50.000	48.574	232750.40	0.1197	P	3.0
5	☐	500.000	510.064	2127570.75	1.1578	A	0.5
6	☐	1000.000	995.094	4000419.94	2.2490	A	1.9

y = 0.0022 * x + 0.0104
R = 0.9999
DL = 0.2734
BEC = 4.614

Weight: <None>
Min Conc: <None>

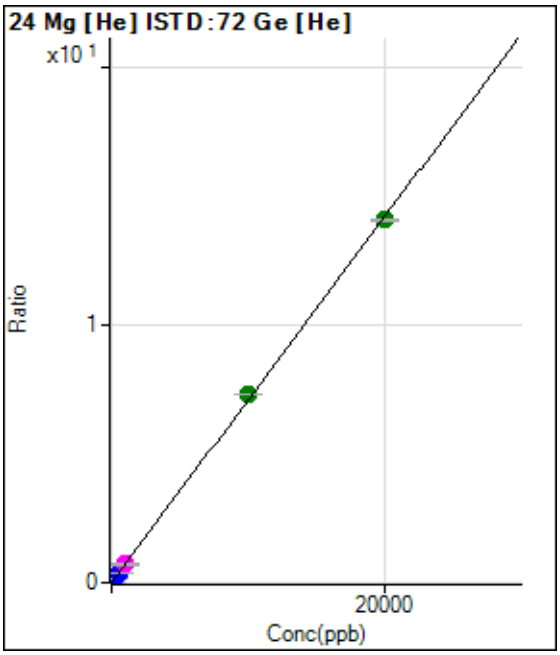


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	84887.26	0.0831	P	3.8
2	☐	200.000	190.729	350480.79	0.3378	P	1.8
3	☐	500.000	496.975	757136.21	0.7467	A	0.7
4	☐	1000.000	1014.355	1487931.49	1.4374	A	1.3
5	☐	10000.00	10411.95	13683541.46	13.9847	A	0.3
6	☐	20000.00	19793.47	25398862.95	26.5105	A	0.8

y = 0.0013 * x + 0.0831
R = 0.9997
DL = 7.183
BEC = 62.26

Weight: <None>
Min Conc: <None>

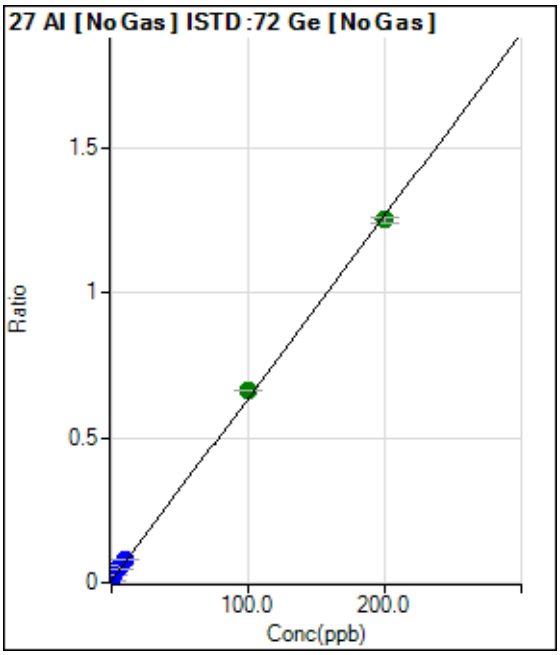
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.36	0.0006	P	12.0
2	☐	200.000	195.054	144233.04	0.1390	P	2.5
3	☐	500.000	494.148	356134.71	0.3513	P	3.0
4	☐	1000.000	1012.278	744026.09	0.7191	M	3.4
5	☐	10000.00	10312.41	7162779.89	7.3205	A	0.3
6	☐	20000.00	19843.37	13495781.05	14.0858	A	0.3

y = 7.0982E-004 * x + 5.5965E-004
R = 0.9998
DL = 0.2845
BEC = 0.7884

Weight: <None>
Min Conc: <None>

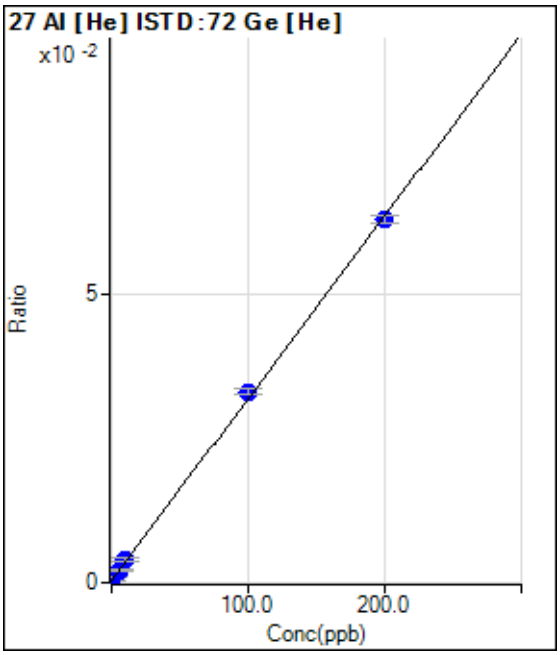


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30907.92	0.0065	P	3.7
2	☐	2.000	2.929	119436.31	0.0249	P	1.7
3	☐	5.000	7.144	245673.15	0.0515	P	21.4
4	☐	10.000	11.324	374199.75	0.0778	P	1.7
5	☐	100.000	104.195	3098462.25	0.6632	A	0.7
6	☐	200.000	197.773	5717278.67	1.2530	A	1.3

y = 0.0063 * x + 0.0065
R = 0.9997
DL = 0.1135
BEC = 1.027

Weight: <None>
Min Conc: <None>

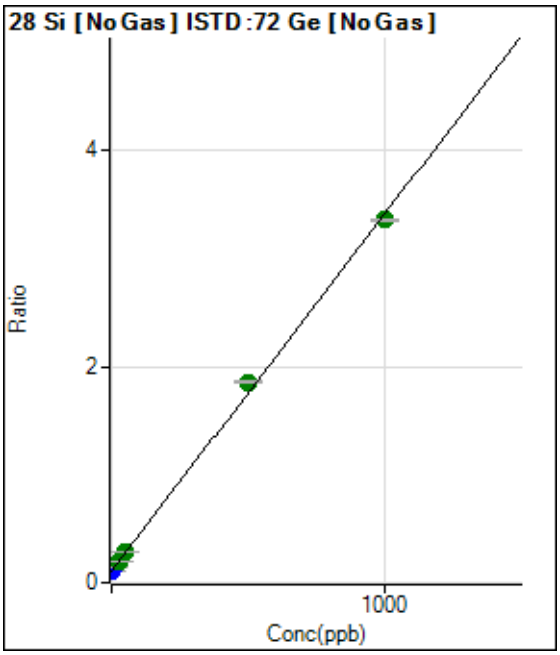
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.68	0.0003	P	10.6
2	☐	2.000	2.691	1233.41	0.0012	P	9.6
3	☐	5.000	5.742	2180.21	0.0022	P	4.9
4	☐	10.000	11.511	4107.33	0.0040	P	10.0
5	☐	100.000	103.706	32344.50	0.0331	P	3.3
6	☐	200.000	198.046	60180.00	0.0628	P	2.2

y = 3.1548E-004 * x + 3.3967E-004
R = 0.9998
DL = 0.3411
BEC = 1.077

Weight: <None>
Min Conc: <None>

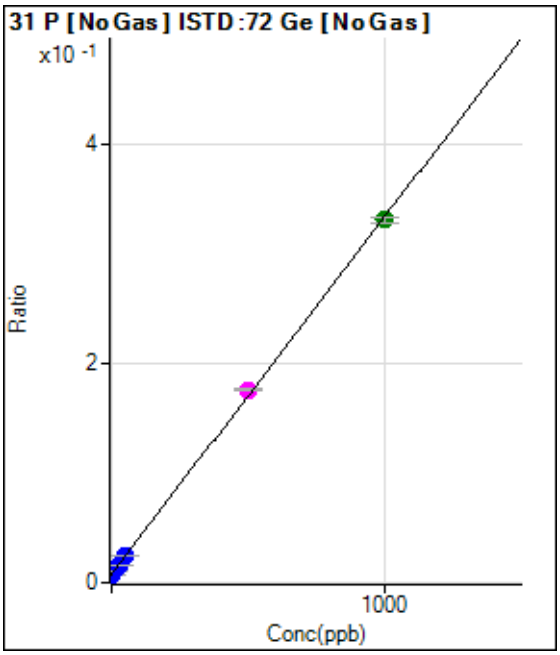


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	509787.55	0.1067	P	0.9
2	☐	10.000	10.319	674371.84	0.1408	P	1.2
3	☐	25.000	27.204	934355.17	0.1965	A	0.7
4	☐	50.000	54.973	1384914.67	0.2881	A	0.9
5	☐	500.000	530.530	8677055.70	1.8572	A	0.7
6	☐	1000.000	984.428	15307535.60	3.3548	A	0.5

y = 0.0033 * x + 0.1067
R = 0.9993
DL = 0.8524
BEC = 32.34

Weight: <None>
Min Conc: <None>

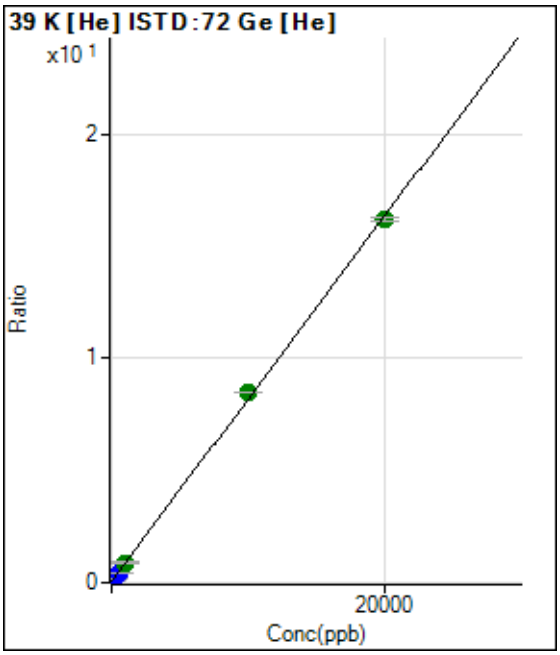
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37133.34	0.0078	P	2.1
2	☐	10.000	8.722	50853.29	0.0106	P	1.0
3	☐	25.000	24.115	74305.22	0.0156	P	2.1
4	☐	50.000	51.046	117296.94	0.0244	P	1.6
5	☐	500.000	515.603	820899.05	0.1757	M	1.3
6	☐	1000.000	992.181	1509890.60	0.3309	A	1.9

y = 3.2570E-004 * x + 0.0078
R = 0.9998
DL = 1.491
BEC = 23.87

Weight: <None>
Min Conc: <None>

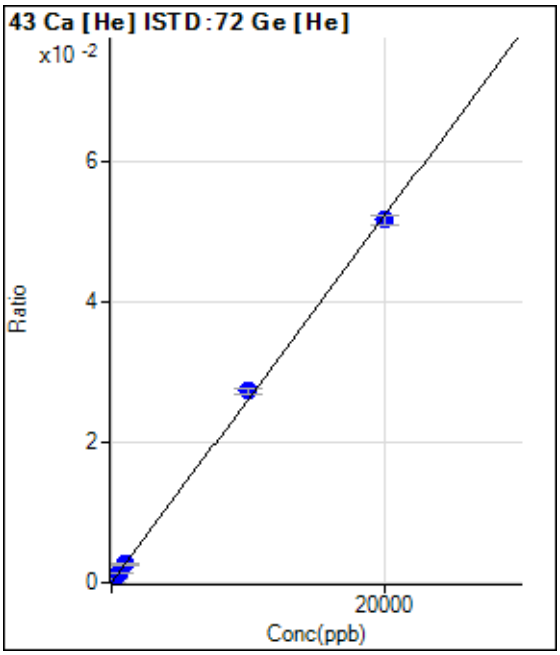


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50901.49	0.0498	P	3.8
2	☐	200.000	187.625	210221.43	0.2026	P	2.6
3	☐	500.000	486.373	452052.14	0.4459	P	2.2
4	☐	1000.000	1037.645	926048.66	0.8948	A	2.2
5	☐	10000.00	10397.09	8333147.17	8.5166	A	0.3
6	☐	20000.00	19800.03	15495603.52	16.1738	A	1.1

y = 8.1434E-004 * x + 0.0498
R = 0.9997
DL = 6.951
BEC = 61.19

Weight: <None>
Min Conc: <None>

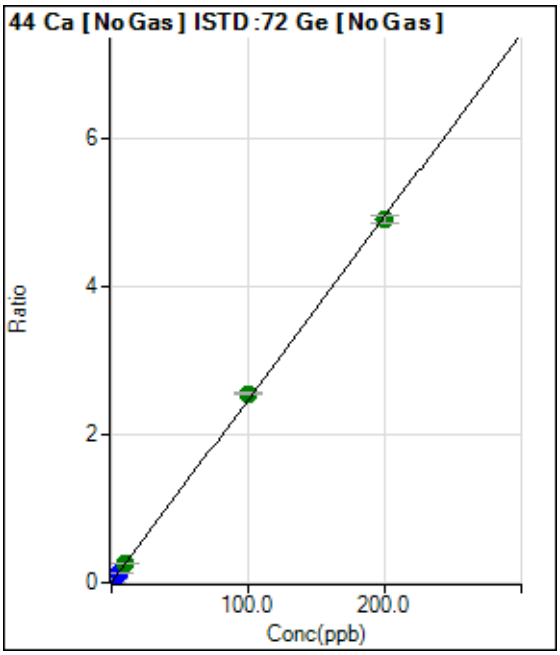
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	98.2
2	☐	200.000	194.796	536.69	0.0005	P	5.8
3	☐	500.000	479.013	1276.75	0.0013	P	3.6
4	☐	1000.000	993.670	2690.31	0.0026	P	5.4
5	☐	10000.00	10434.60	26622.73	0.0272	P	3.2
6	☐	20000.00	19783.59	49422.38	0.0516	P	2.4

y = 2.6069E-006 * x + 9.5864E-006
R = 0.9997
DL = 10.84
BEC = 3.677

Weight: <None>
Min Conc: <None>

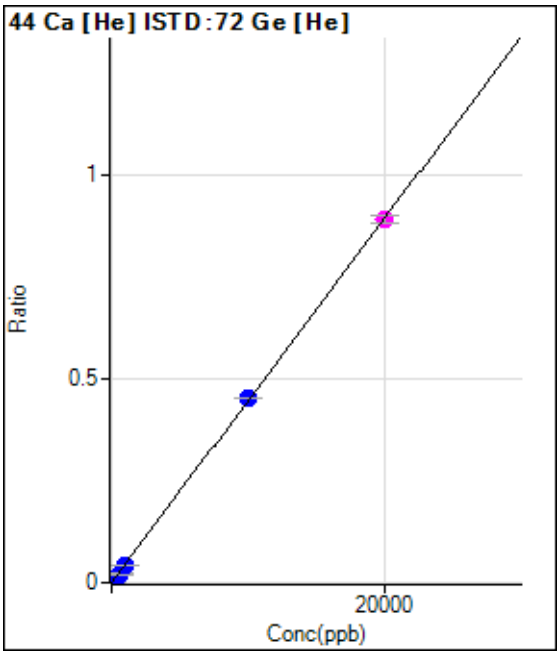


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13843.93	0.0029	P	4.2
2	☐	2.000	1.984	248377.13	0.0518	P	0.8
3	☐	5.000	4.924	591361.71	0.1244	P	3.7
4	☐	10.000	10.558	1266149.93	0.2634	A	1.8
5	☐	100.000	103.436	11937736.49	2.5551	A	0.4
6	☐	200.000	198.256	22331442.16	4.8947	A	2.2

y = 0.0247 * x + 0.0029
R = 0.9998
DL = 0.01497
BEC = 0.1175

Weight: <None>
Min Conc: <None>

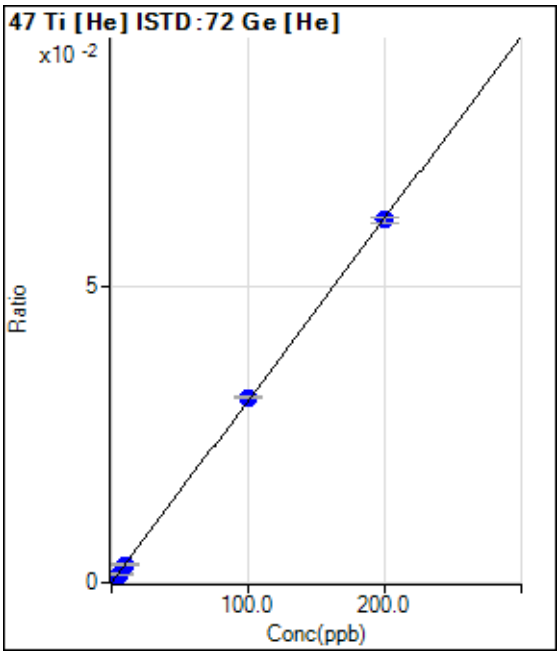
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	250.01	0.0002	P	20.5
2	☐	200.000	183.931	8779.62	0.0085	P	0.9
3	☐	500.000	463.868	21250.04	0.0210	P	3.6
4	☐	1000.000	984.920	45779.64	0.0442	P	1.8
5	☐	10000.00	10156.97	444086.84	0.4539	P	0.1
6	☐	20000.00	19923.33	852654.99	0.8900	M	2.0

y = 4.4661E-005 * x + 2.4547E-004
R = 1.0000
DL = 3.383
BEC = 5.496

Weight: <None>
Min Conc: <None>

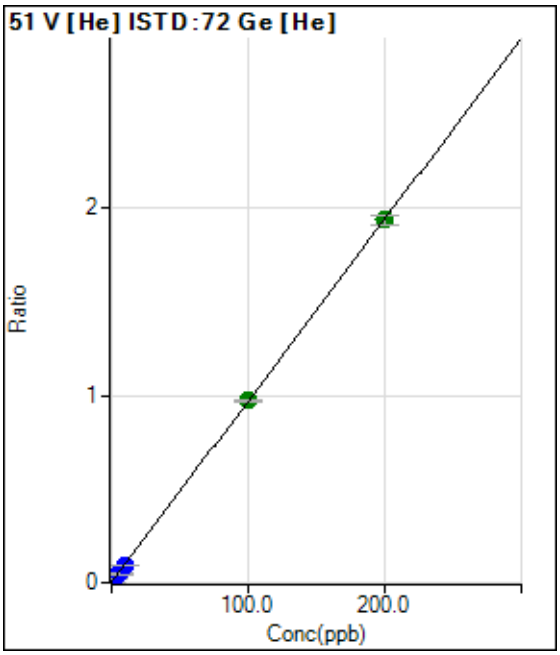


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	1.735	553.36	0.0005	P	12.2
3	☐	5.000	4.732	1473.44	0.0015	P	7.0
4	☐	10.000	10.005	3177.09	0.0031	P	4.5
5	☐	100.000	101.596	30494.19	0.0312	P	1.1
6	☐	200.000	199.211	58548.21	0.0611	P	1.9

y = 3.0677E-004 * x + 0.0000E+000
R = 1.0000
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

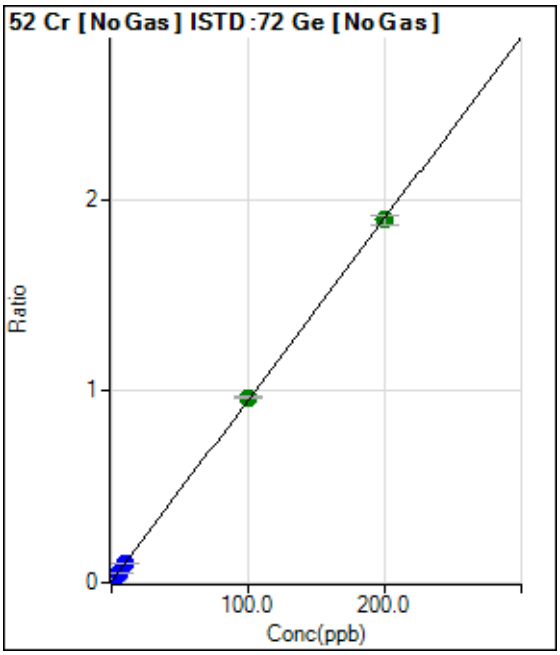
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1677.89	0.0016	P	8.4
2	☐	2.000	1.795	19759.81	0.0190	P	0.1
3	☐	5.000	4.632	47187.52	0.0465	P	1.7
4	☐	10.000	9.454	96508.19	0.0933	P	3.5
5	☐	100.000	100.322	952975.38	0.9740	A	0.9
6	☐	200.000	199.878	1857484.51	1.9389	A	2.3

y = 0.0097 * x + 0.0016
R = 1.0000
DL = 0.04276
BEC = 0.1697

Weight: <None>
Min Conc: <None>

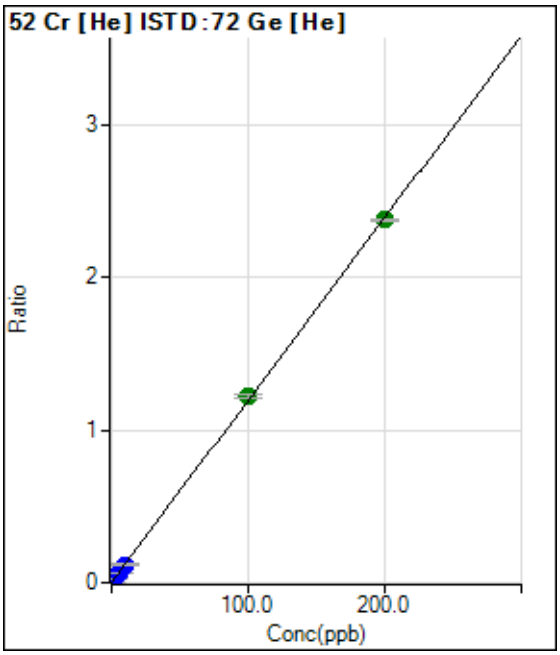


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26198.61	0.0055	P	0.7
2	☐	2.000	1.954	115010.55	0.0240	P	1.0
3	☐	5.000	4.908	247302.30	0.0520	P	1.0
4	☐	10.000	10.344	497667.30	0.1035	P	0.4
5	☐	100.000	101.537	4521960.56	0.9678	A	0.4
6	☐	200.000	199.217	8639162.58	1.8937	A	2.9

y = 0.0095 * x + 0.0055
R = 1.0000
DL = 0.01234
BEC = 0.5785

Weight: <None>
Min Conc: <None>

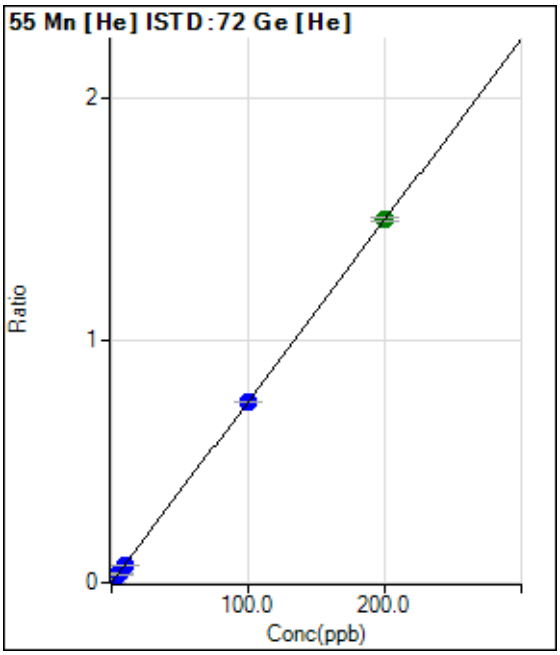
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1380.09	0.0014	P	13.6
2	☐	2.000	1.826	23998.00	0.0231	P	4.9
3	☐	5.000	4.753	58850.12	0.0581	P	3.5
4	☐	10.000	9.724	121405.45	0.1174	P	4.4
5	☐	100.000	102.078	1192781.02	1.2191	A	1.8
6	☐	200.000	198.983	2275546.32	2.3751	A	0.3

y = 0.0119 * x + 0.0014
R = 0.9999
DL = 0.04633
BEC = 0.1135

Weight: <None>
Min Conc: <None>

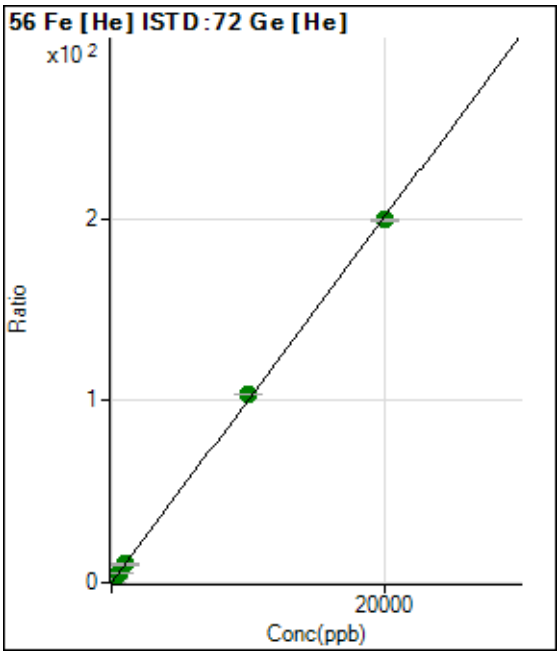


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0004	P	23.0
2	☐	2.000	1.858	14794.97	0.0143	P	5.2
3	☐	5.000	4.781	36619.29	0.0361	P	3.5
4	☐	10.000	9.681	75297.43	0.0728	P	3.8
5	☐	100.000	99.639	729539.73	0.7456	P	0.2
6	☐	200.000	200.204	1434931.17	1.4978	A	1.1

y = 0.0075 * x + 3.7202E-004
R = 1.0000
DL = 0.03432
BEC = 0.04974

Weight: <None>
Min Conc: <None>

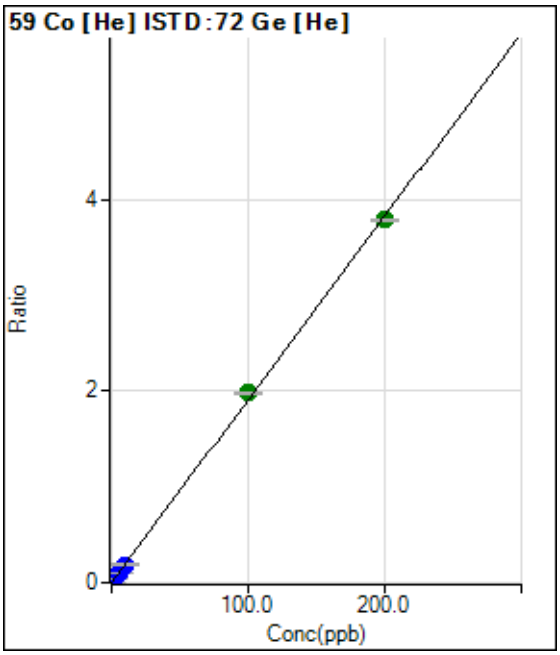
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9513.47	0.0093	P	0.7
2	☐	200.000	199.997	2092011.95	2.0165	A	2.9
3	☐	500.000	486.104	4955363.68	4.8879	A	2.2
4	☐	1000.000	1001.318	10407721.93	10.0586	A	3.1
5	☐	10000.00	10301.43	101167861.8	103.395	A	0.0
6	☐	20000.00	19849.56	190867950.4	199.221	A	0.7

y = 0.0100 * x + 0.0093
R = 0.9998
DL = 0.01986
BEC = 0.9274

Weight: <None>
Min Conc: <None>

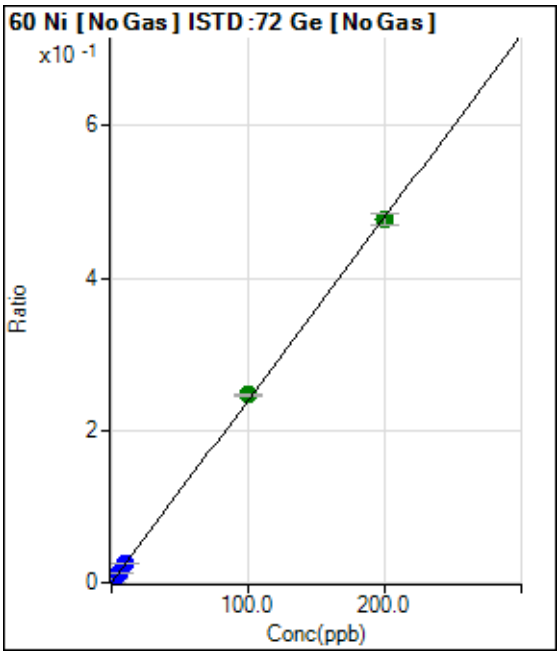


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	133.33	0.0001	P	33.2
2	☐	2.000	1.894	37742.52	0.0364	P	2.5
3	☐	5.000	4.793	93130.31	0.0918	P	0.4
4	☐	10.000	9.907	196348.17	0.1897	P	1.6
5	☐	100.000	103.786	1943237.63	1.9860	A	0.7
6	☐	200.000	198.118	3632254.01	3.7910	A	0.3

y = 0.0191 * x + 1.3093E-004
R = 0.9997
DL = 0.006815
BEC = 0.006843

Weight: <None>
Min Conc: <None>

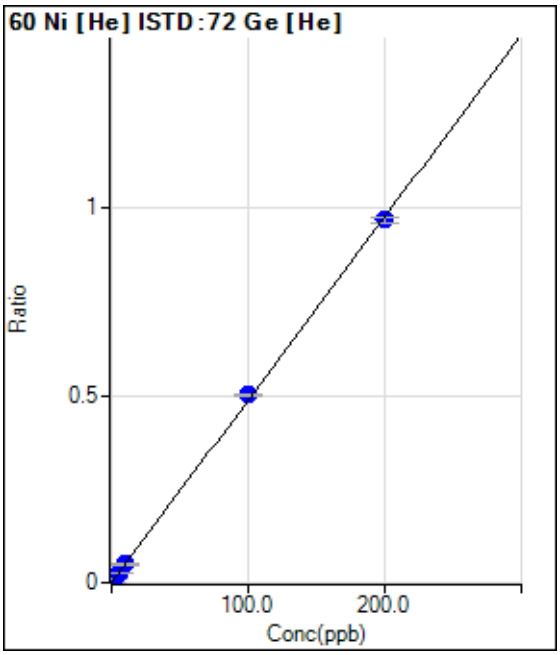
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.03	0.0001	P	18.4
2	☐	2.000	2.006	23660.83	0.0049	P	1.8
3	☐	5.000	4.976	57361.27	0.0121	P	0.2
4	☐	10.000	10.354	119992.16	0.0250	P	0.7
5	☐	100.000	102.643	1150769.51	0.2463	A	1.7
6	☐	200.000	198.661	2174187.72	0.4766	A	3.0

y = 0.0024 * x + 1.2758E-004
R = 0.9999
DL = 0.02935
BEC = 0.0532

Weight: <None>
Min Conc: <None>

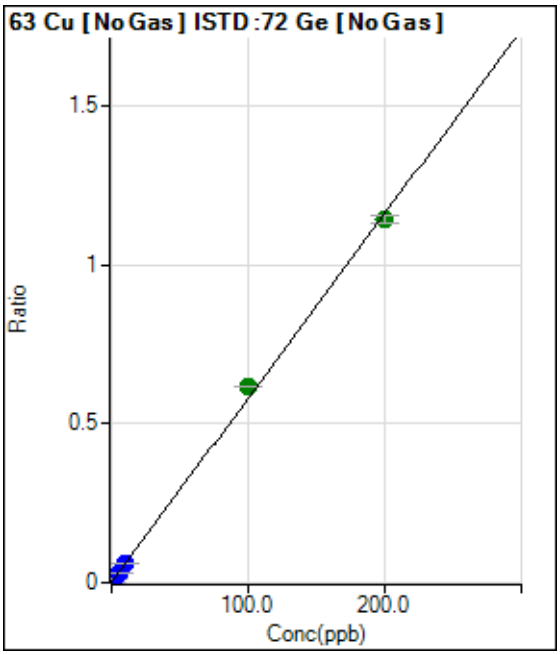


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0002	P	28.5
2	☐	2.000	1.932	9983.84	0.0096	P	3.9
3	☐	5.000	4.939	24642.70	0.0243	P	1.7
4	☐	10.000	10.090	51156.59	0.0494	P	3.5
5	☐	100.000	102.726	490892.13	0.5017	P	1.4
6	☐	200.000	198.635	929330.64	0.9699	P	1.3

y = 0.0049 * x + 1.8482E-004
R = 0.9999
DL = 0.03231
BEC = 0.03786

Weight: <None>
Min Conc: <None>

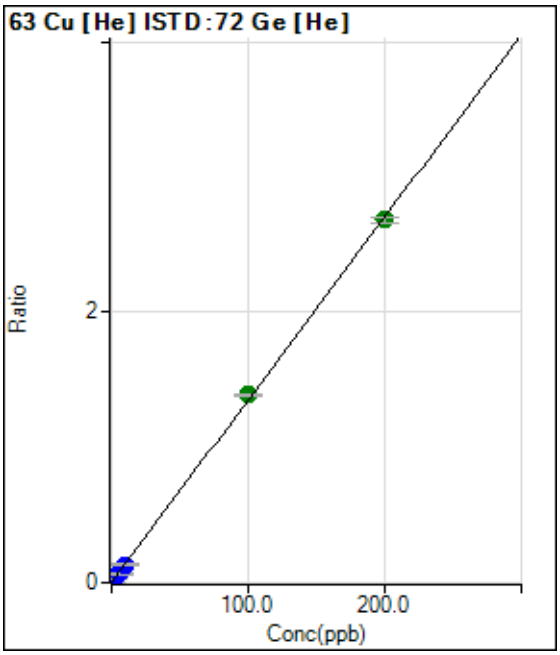
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4917.67	0.0010	P	4.4
2	☐	2.000	1.985	60042.88	0.0125	P	2.1
3	☐	5.000	4.957	141470.30	0.0298	P	3.2
4	☐	10.000	10.402	294754.58	0.0613	P	1.2
5	☐	100.000	106.376	2885403.81	0.6176	A	0.7
6	☐	200.000	196.793	5208479.19	1.1416	A	2.2

y = 0.0058 * x + 0.0010
R = 0.9993
DL = 0.02351
BEC = 0.1775

Weight: <None>
Min Conc: <None>

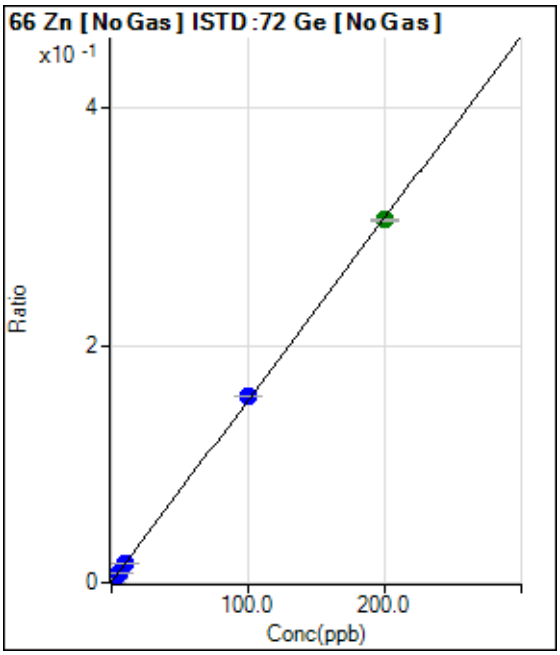


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1660.13	0.0016	P	6.6
2	☐	2.000	1.846	27568.24	0.0266	P	2.1
3	☐	5.000	4.702	66073.76	0.0652	P	3.4
4	☐	10.000	9.842	139295.63	0.1346	P	2.9
5	☐	100.000	102.809	1360873.73	1.3908	A	0.8
6	☐	200.000	198.613	2572697.20	2.6854	A	1.8

y = 0.0135 * x + 0.0016
R = 0.9999
DL = 0.02395
BEC = 0.1204

Weight: <None>
Min Conc: <None>

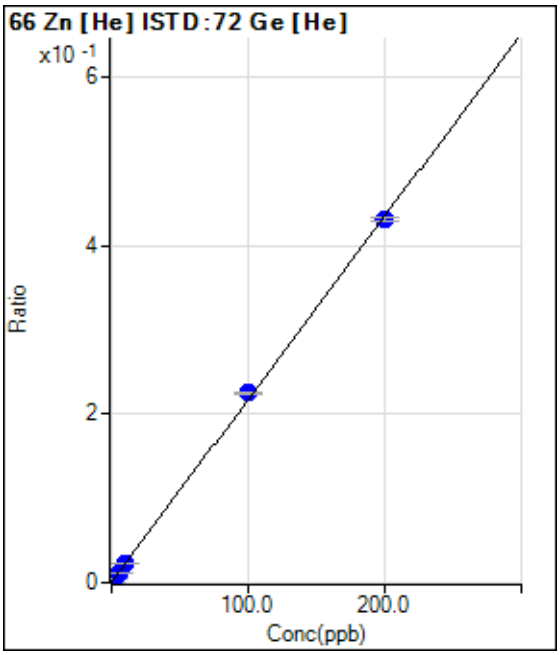
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2676.98	0.0006	P	5.5
2	☐	2.000	2.075	17922.13	0.0037	P	2.0
3	☐	5.000	4.858	38080.49	0.0080	P	2.9
4	☐	10.000	10.277	78409.30	0.0163	P	1.4
5	☐	100.000	101.908	732409.34	0.1568	P	0.3
6	☐	200.000	199.035	1394531.54	0.3056	A	0.6

y = 0.0015 * x + 5.6001E-004
R = 0.9999
DL = 0.06055
BEC = 0.3654

Weight: <None>
Min Conc: <None>

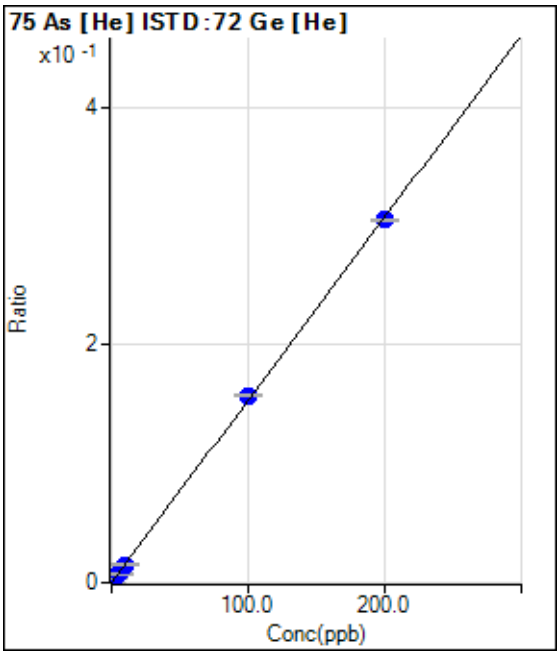


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	716.70	0.0007	P	4.6
2	☐	2.000	1.998	5227.75	0.0050	P	3.0
3	☐	5.000	4.974	11651.87	0.0115	P	5.0
4	☐	10.000	10.060	23320.41	0.0225	P	2.5
5	☐	100.000	103.590	220658.44	0.2255	P	0.6
6	☐	200.000	198.203	412770.49	0.4308	P	1.2

y = 0.0022 * x + 7.0192E-004
R = 0.9998
DL = 0.04427
BEC = 0.3234

Weight: <None>
Min Conc: <None>

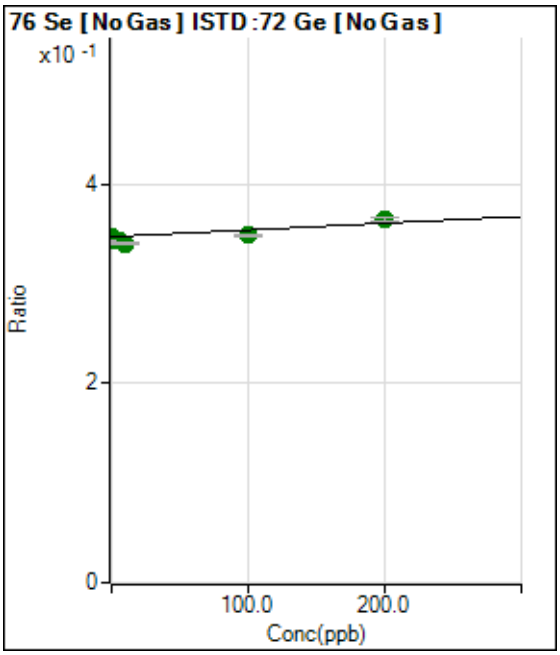
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	74.45	0.0001	P	38.5
2	☐	2.000	1.816	2967.01	0.0029	P	5.0
3	☐	5.000	4.743	7452.09	0.0074	P	2.8
4	☐	10.000	9.948	15873.82	0.0153	P	2.5
5	☐	100.000	102.549	154046.71	0.1574	P	0.8
6	☐	200.000	198.737	292258.97	0.3050	P	0.8

y = 0.0015 * x + 7.3459E-005
R = 0.9999
DL = 0.05527
BEC = 0.04787

Weight: <None>
Min Conc: <None>

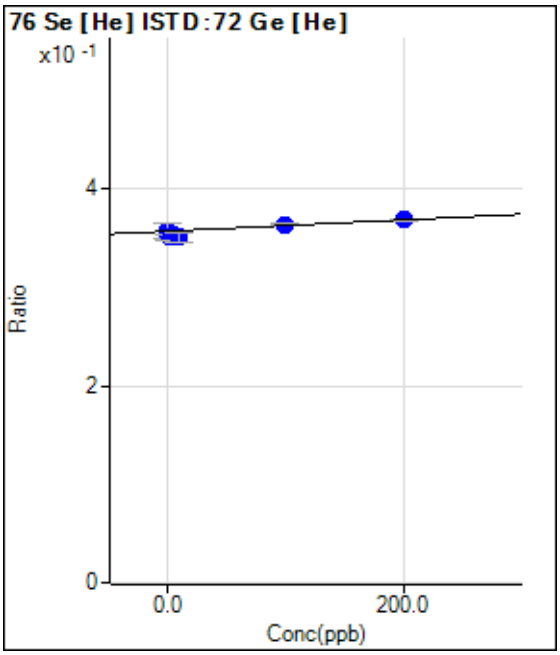


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1657476.95	0.3469	A	0.8
2	☐	2.000	-58.848	1643014.56	0.3429	A	1.1
3	☐	5.000	-58.065	1630983.05	0.3429	A	0.3
4	☐	10.000	-98.274	1635326.49	0.3402	A	1.0
5	☐	100.000	21.073	1627510.19	0.3483	A	0.6
6	☐	200.000	247.062	1659968.10	0.3638	A	1.1

y = 6.8330E-005 * x + 0.3469
R = 0.9305
DL = 122.3
BEC = 5077

Weight: <None>
Min Conc: <None>

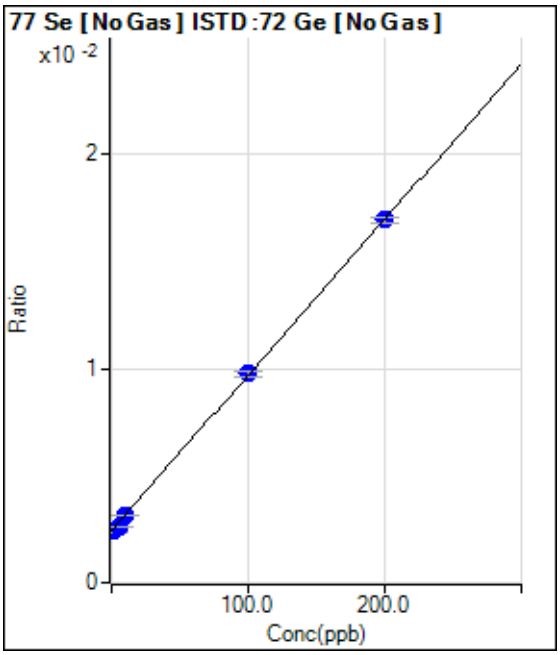
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	364956.52	0.3574	P	4.2
2	☐	2.000	-107.776	364410.49	0.3512	P	1.5
3	☐	5.000	-69.577	358241.18	0.3534	P	2.8
4	☐	10.000	-106.494	363463.09	0.3513	P	2.9
5	☐	100.000	121.375	356594.12	0.3644	P	0.8
6	☐	200.000	198.100	353416.23	0.3689	P	0.8

y = 5.7873E-005 * x + 0.3574
R = 0.9246
DL = 782.3
BEC = 6176

Weight: <None>
Min Conc: <None>

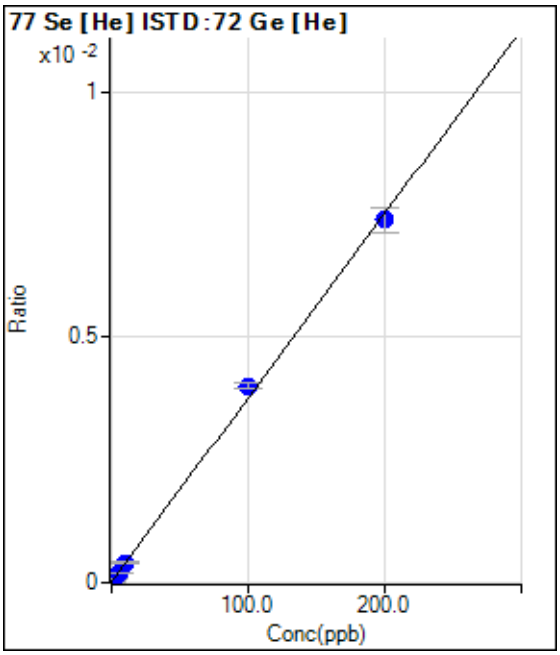


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11651.94	0.0024	P	3.7
2	☐	2.000	-0.531	11501.80	0.0024	P	3.7
3	☐	5.000	2.311	12395.89	0.0026	P	2.4
4	☐	10.000	9.841	15158.79	0.0032	P	2.0
5	☐	100.000	100.744	45557.36	0.0098	P	2.6
6	☐	200.000	199.728	77270.73	0.0169	P	1.4

y = 7.2583E-005 * x + 0.0024
R = 0.9999
DL = 3.698
BEC = 33.6

Weight: <None>
Min Conc: <None>

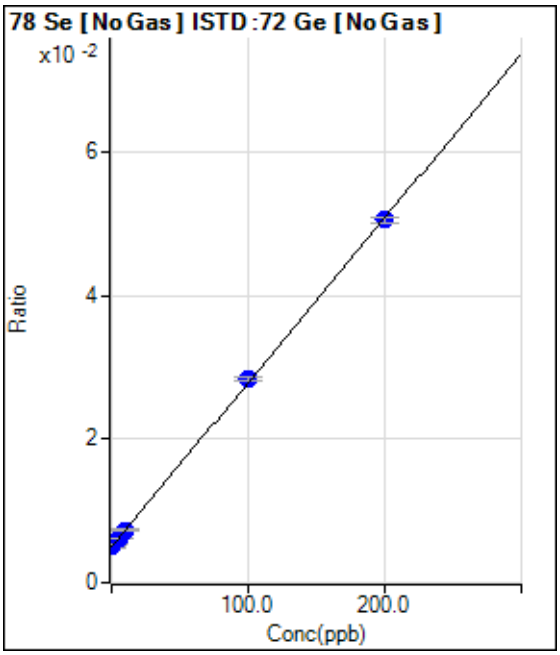
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	93.0
2	☐	2.000	1.872	90.00	0.0001	P	27.5
3	☐	5.000	4.827	200.01	0.0002	P	13.3
4	☐	10.000	10.469	423.35	0.0004	P	11.4
5	☐	100.000	106.502	3923.99	0.0040	P	2.3
6	☐	200.000	196.731	7082.00	0.0074	P	6.8

y = 3.7505E-005 * x + 1.6209E-005
R = 0.9992
DL = 1.206
BEC = 0.4322

Weight: <None>
Min Conc: <None>

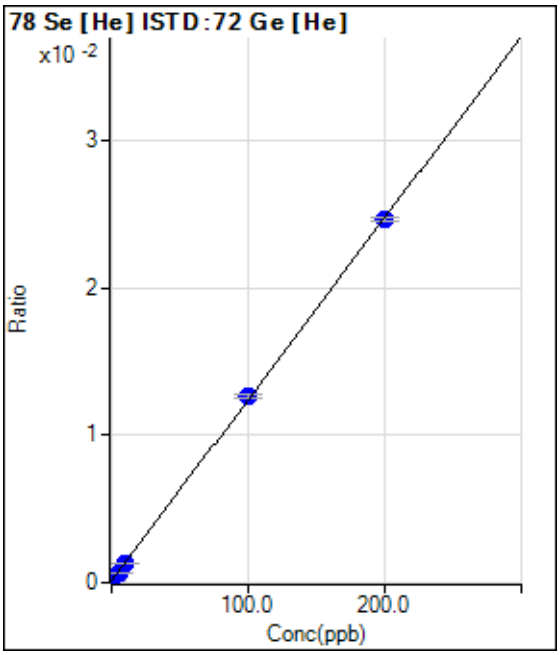


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23888.15	0.0050	P	3.6
2	☐	2.000	2.456	26660.04	0.0056	P	2.3
3	☐	5.000	4.806	29024.88	0.0061	P	1.5
4	☐	10.000	10.283	35383.38	0.0074	P	1.5
5	☐	100.000	102.046	132732.97	0.0284	P	1.7
6	☐	200.000	198.963	231047.26	0.0506	P	1.8

y = 2.2939E-004 * x + 0.0050
R = 0.9999
DL = 2.383
BEC = 21.8

Weight: <None>
Min Conc: <None>

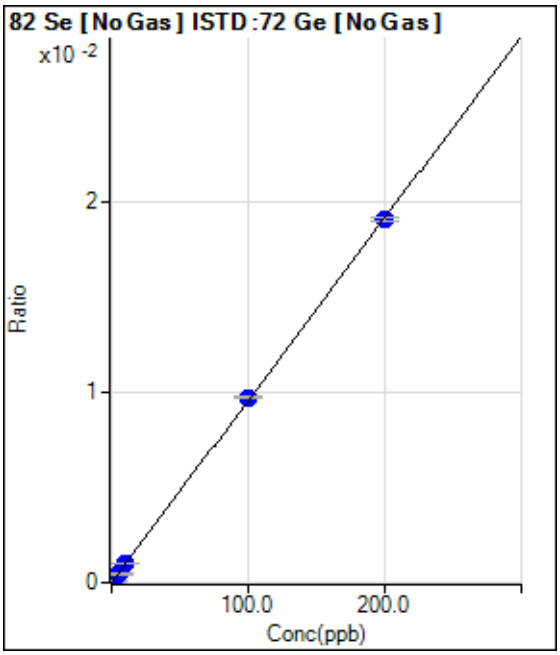
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0001	P	9.7
2	☐	2.000	2.008	374.68	0.0004	P	11.9
3	☐	5.000	4.486	675.35	0.0007	P	10.2
4	☐	10.000	9.820	1368.08	0.0013	P	6.6
5	☐	100.000	101.963	12389.71	0.0127	P	1.4
6	☐	200.000	199.040	23577.23	0.0246	P	1.0

y = 1.2307E-004 * x + 1.1440E-004
R = 0.9999
DL = 0.2718
BEC = 0.9296

Weight: <None>
Min Conc: <None>

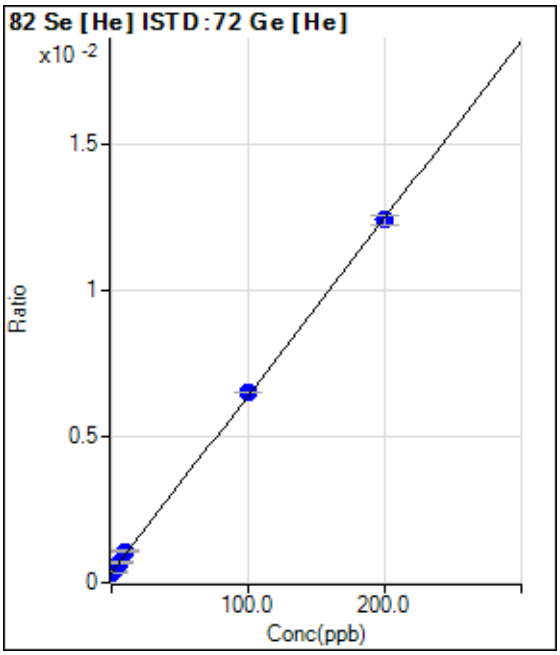


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.09	0.0000	P	936.1
2	☐	2.000	1.273	592.64	0.0001	P	29.9
3	☐	5.000	4.821	2204.41	0.0005	P	19.9
4	☐	10.000	10.342	4771.82	0.0010	P	2.1
5	☐	100.000	101.640	45501.24	0.0097	P	1.0
6	☐	200.000	199.175	87069.44	0.0191	P	0.9

y = 9.5799E-005 * x + 1.9538E-006
R = 0.9999
DL = 0.5727
BEC = 0.02039

Weight: <None>
Min Conc: <None>

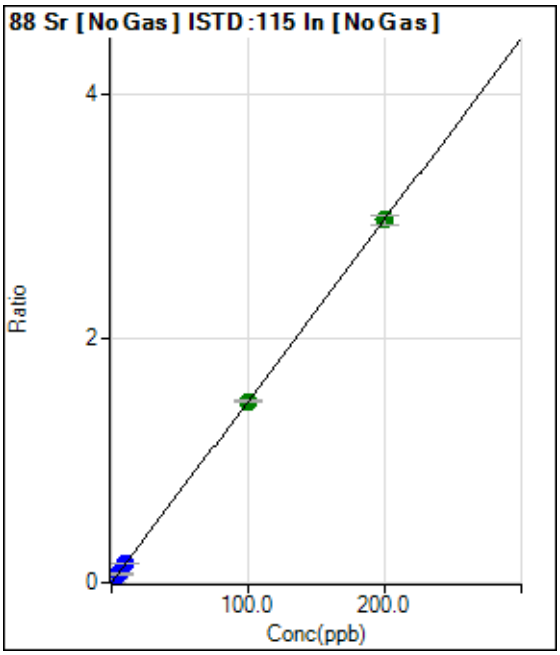
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.68	0.0003	P	18.1
2	☐	2.000	0.746	400.01	0.0004	P	15.8
3	☐	5.000	5.665	693.37	0.0007	P	12.2
4	☐	10.000	12.030	1106.74	0.0011	P	3.7
5	☐	100.000	101.695	6371.63	0.0065	P	0.2
6	☐	200.000	199.047	11898.85	0.0124	P	2.3

y = 6.0696E-005 * x + 3.3939E-004
R = 0.9999
DL = 3.039
BEC = 5.592

Weight: <None>
Min Conc: <None>

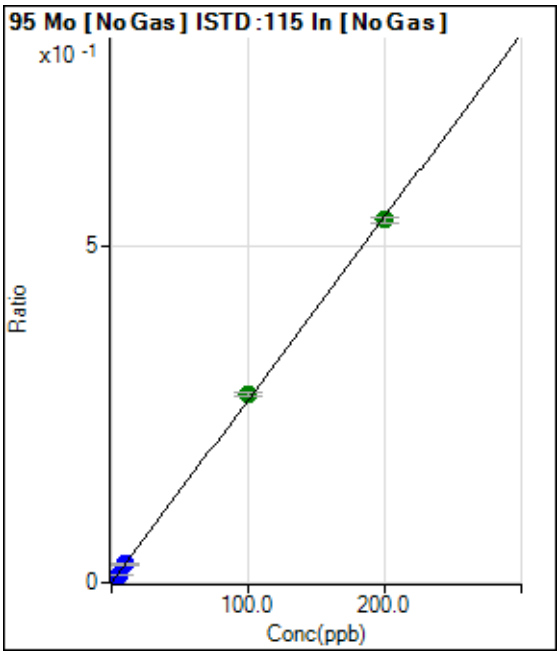


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2656.97	0.0005	P	10.4
2	☐	2.000	1.876	153014.09	0.0284	P	2.1
3	☐	5.000	4.761	380615.43	0.0712	P	1.7
4	☐	10.000	10.351	814635.67	0.1543	P	2.1
5	☐	100.000	100.108	7773150.51	1.4883	A	1.2
6	☐	200.000	199.936	15230622.69	2.9719	A	2.6

y = 0.0149 * x + 4.9016E-004
R = 1.0000
DL = 0.01031
BEC = 0.03298

Weight: <None>
Min Conc: <None>

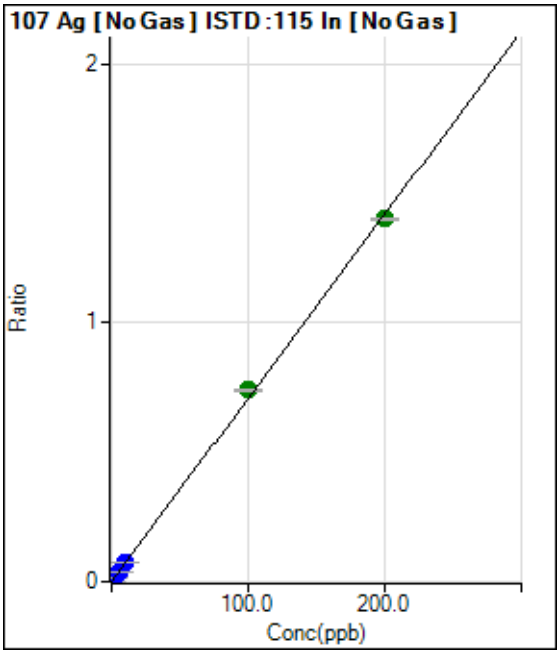
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.33	0.0000	P	28.5
2	☐	2.000	1.865	27422.19	0.0051	P	2.7
3	☐	5.000	4.670	67873.34	0.0127	P	1.7
4	☐	10.000	10.025	143829.63	0.0272	P	2.4
5	☐	100.000	103.235	1464485.29	0.2804	A	1.5
6	☐	200.000	198.391	2761975.38	0.5388	A	1.4

y = 0.0027 * x + 2.0901E-005
R = 0.9998
DL = 0.006578
BEC = 0.007696

Weight: <None>
Min Conc: <None>

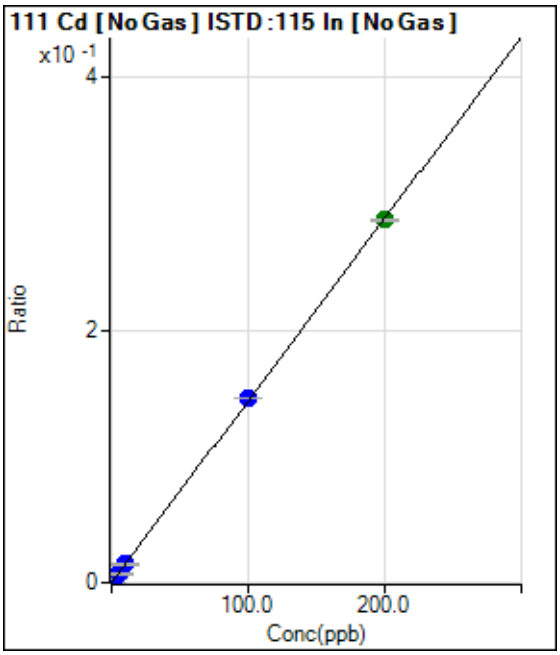


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	383.35	0.0001	P	29.7
2	☐	2.000	1.973	75801.18	0.0141	P	2.0
3	☐	5.000	4.882	185298.27	0.0347	P	1.4
4	☐	10.000	10.565	395690.07	0.0750	P	2.8
5	☐	100.000	104.496	3869775.67	0.7409	A	1.2
6	☐	200.000	197.727	7186666.77	1.4019	A	0.8

y = 0.0071 * x + 7.0521E-005
R = 0.9996
DL = 0.008874
BEC = 0.009947

Weight: <None>
Min Conc: <None>

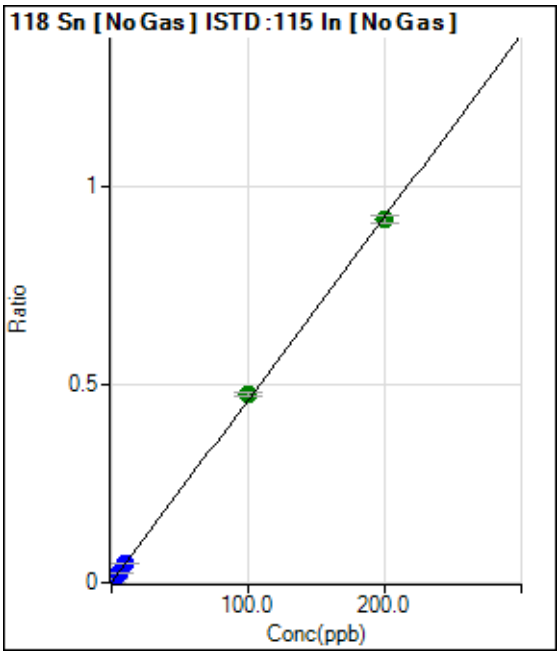
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	1.2
2	☐	2.000	1.979	15365.88	0.0028	P	0.6
3	☐	5.000	4.777	36734.93	0.0069	P	1.7
4	☐	10.000	10.063	76459.40	0.0145	P	1.8
5	☐	100.000	101.137	760190.04	0.1455	P	0.4
6	☐	200.000	199.434	1471286.96	0.2870	A	0.8

y = 0.0014 * x + 1.8435E-006
R = 1.0000
DL = 4.736E-05
BEC = 0.001281

Weight: <None>
Min Conc: <None>

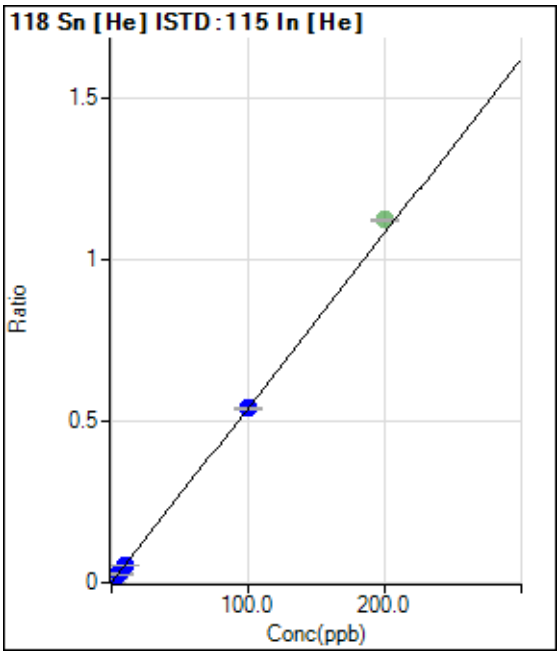


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3540.56	0.0007	P	6.9
2	☐	2.000	1.859	49811.81	0.0092	P	1.7
3	☐	5.000	4.868	123580.81	0.0231	P	2.2
4	☐	10.000	10.402	257067.11	0.0487	P	1.8
5	☐	100.000	102.833	2483419.75	0.4755	A	1.9
6	☐	200.000	198.568	4702685.24	0.9175	A	2.2

y = 0.0046 * x + 6.5267E-004
R = 0.9999
DL = 0.02907
BEC = 0.1414

Weight: <None>
Min Conc: <None>

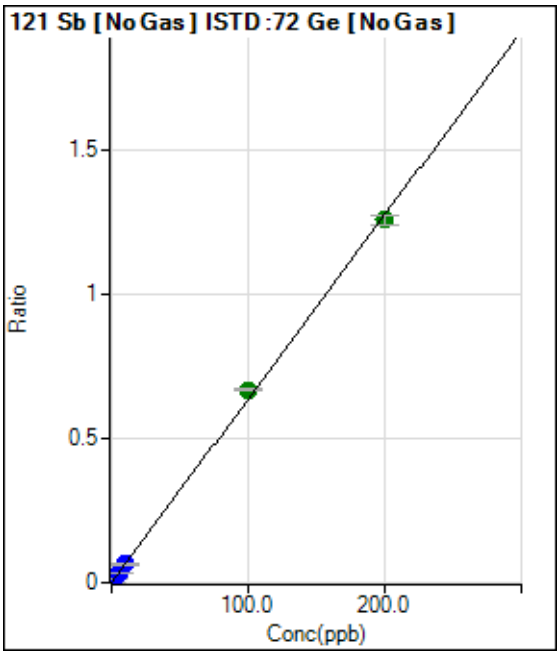
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1386.77	0.0007	P	9.9
2	☐	2.000	1.867	20452.95	0.0108	P	3.6
3	☐	5.000	4.844	49172.48	0.0269	P	1.4
4	☐	10.000	10.138	103863.63	0.0556	P	3.2
5	☐	100.000	99.997	970238.66	0.5418	P	1.0
6	☑	200.000		1982955.86	1.1247	A	0.7

y = 0.0054 * x + 7.3370E-004
R = 1.0000
DL = 0.04017
BEC = 0.1356

Weight: <None>
Min Conc: <None>

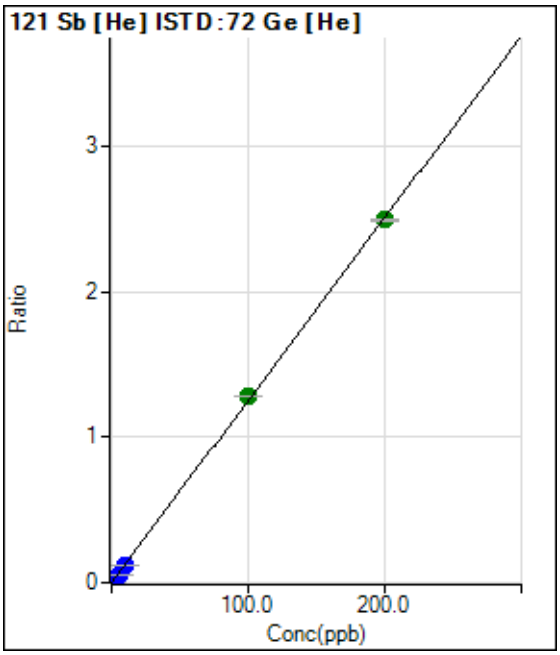


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	740.04	0.0002	P	27.7
2	☐	2.000	1.895	58688.67	0.0122	P	0.8
3	☐	5.000	4.810	146637.60	0.0308	P	3.3
4	☐	10.000	9.947	305849.84	0.0636	P	1.1
5	☐	100.000	105.058	3132742.35	0.6705	A	1.5
6	☐	200.000	197.479	5749340.33	1.2602	A	2.8

y = 0.0064 * x + 1.5531E-004
R = 0.9995
DL = 0.02026
BEC = 0.02434

Weight: <None>
Min Conc: <None>

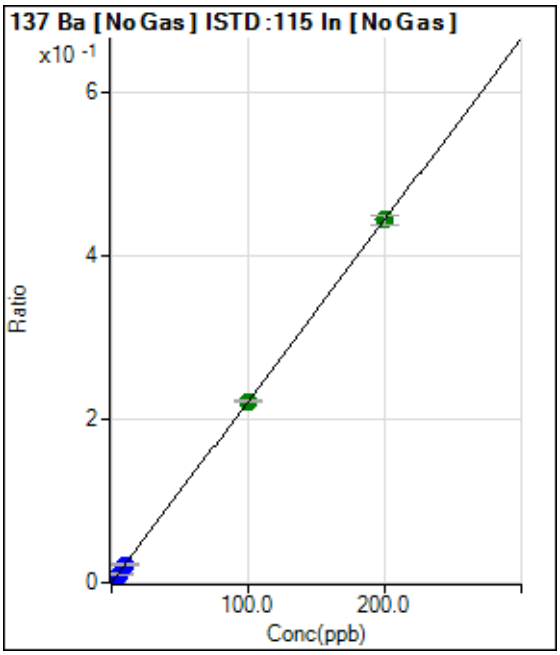
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	286.68	0.0003	P	25.4
2	☐	2.000	1.739	22903.70	0.0221	P	4.7
3	☐	5.000	4.474	57178.37	0.0564	P	2.0
4	☐	10.000	9.207	119790.36	0.1157	P	2.0
5	☐	100.000	101.919	1250912.35	1.2785	A	0.2
6	☐	200.000	199.096	2392575.69	2.4972	A	0.4

y = 0.0125 * x + 2.8008E-004
R = 0.9999
DL = 0.01703
BEC = 0.02233

Weight: <None>
Min Conc: <None>

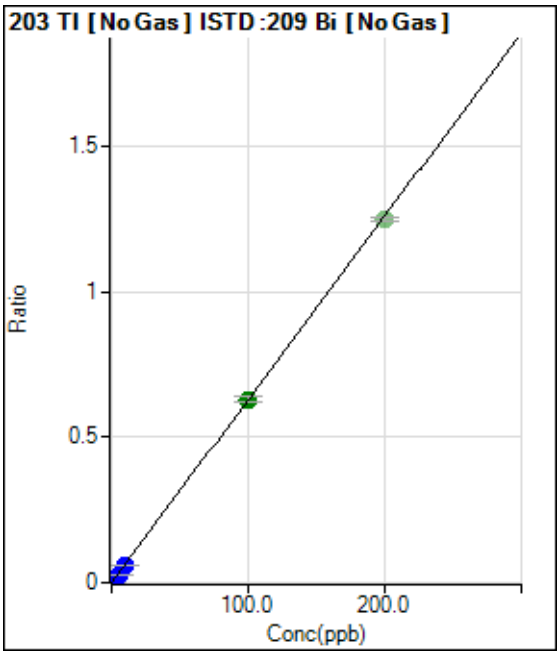


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	870.05	0.0002	P	4.9
2	☐	2.000	1.902	23651.96	0.0044	P	1.5
3	☐	5.000	4.683	56447.47	0.0106	P	2.7
4	☐	10.000	9.938	117398.10	0.0222	P	3.3
5	☐	100.000	99.963	1160962.90	0.2223	A	0.7
6	☐	200.000	200.031	2278887.99	0.4446	A	2.5

y = 0.0022 * x + 1.6033E-004
R = 1.0000
DL = 0.01064
BEC = 0.07216

Weight: <None>
Min Conc: <None>

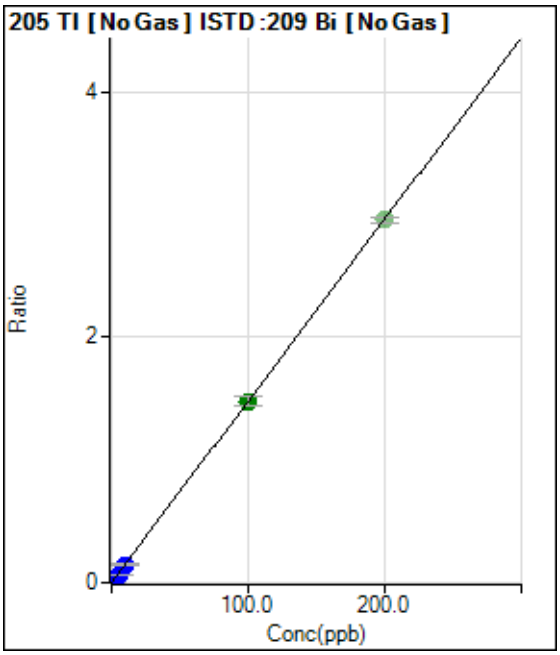
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	160.01	0.0000	P	18.7
2	☐	2.000	1.768	47009.65	0.0112	P	1.6
3	☐	5.000	4.508	116723.95	0.0284	P	2.3
4	☐	10.000	9.662	251669.02	0.0608	P	2.1
5	☐	100.000	100.063	2561347.31	0.6291	A	3.0
6	☑	200.000		4809090.45	1.2455	A	0.9

y = 0.0063 * x + 3.9147E-005
R = 1.0000
DL = 0.003502
BEC = 0.006227

Weight: <None>
Min Conc: <None>

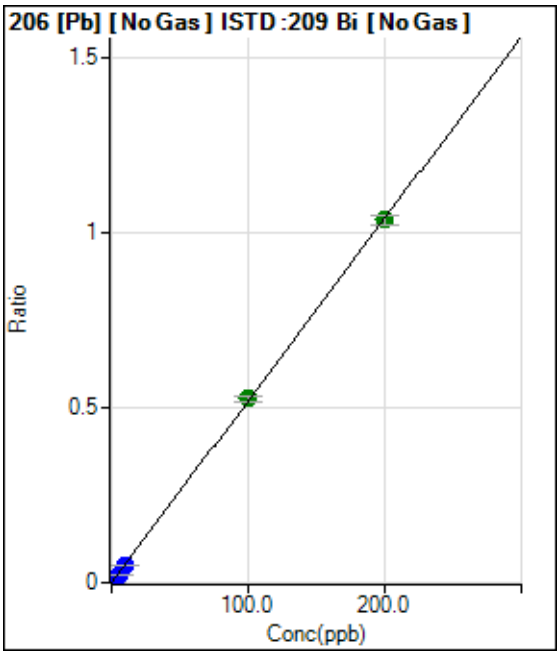


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230.01	0.0001	P	12.4
2	☐	2.000	1.778	111205.56	0.0264	P	1.9
3	☐	5.000	4.596	280151.20	0.0681	P	3.3
4	☐	10.000	9.857	604439.47	0.1460	P	4.5
5	☐	100.000	100.039	6030404.91	1.4814	A	4.4
6	☑	200.000		11422845.25	2.9586	A	1.8

y = 0.0148 * x + 5.6235E-005
R = 1.0000
DL = 0.001409
BEC = 0.003798

Weight: <None>
Min Conc: <None>

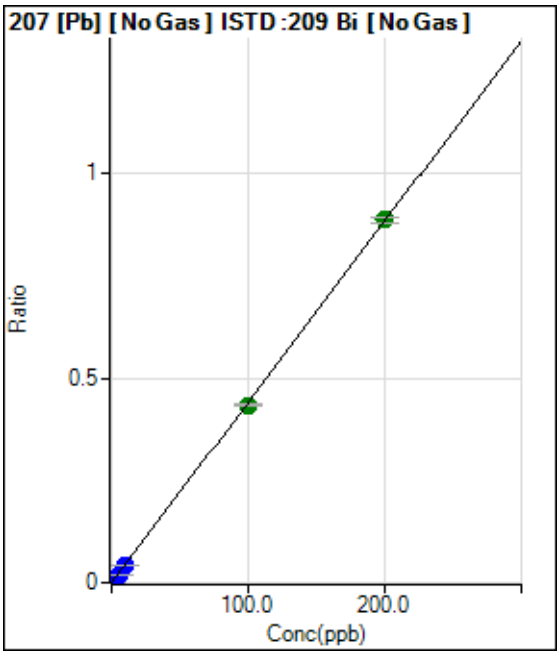
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	430.02	0.0001	P	13.4
2	☐	2.000	1.726	38203.07	0.0091	P	3.4
3	☐	5.000	4.489	96306.40	0.0234	P	0.6
4	☐	10.000	9.752	210056.24	0.0507	P	2.8
5	☐	100.000	101.301	2141551.90	0.5260	A	3.3
6	☐	200.000	199.378	3996514.00	1.0351	A	2.3

y = 0.0052 * x + 1.0512E-004
R = 1.0000
DL = 0.008158
BEC = 0.02025

Weight: <None>
Min Conc: <None>

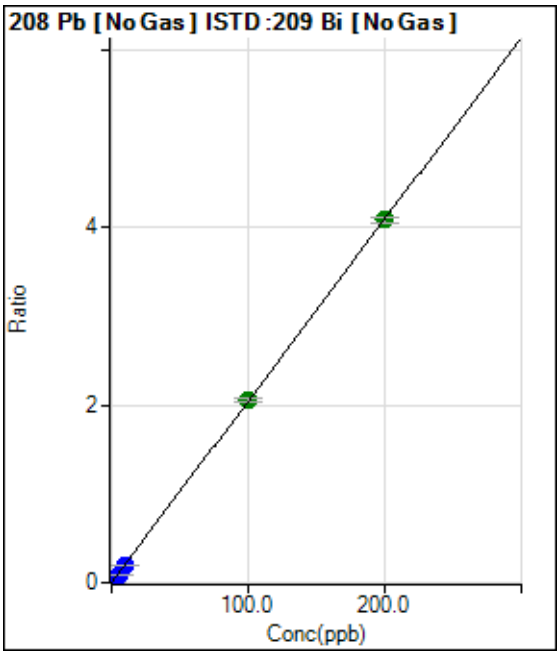


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	316.68	0.0001	P	29.2
2	☐	2.000	1.845	34682.50	0.0082	P	0.8
3	☐	5.000	4.612	84111.16	0.0204	P	2.1
4	☐	10.000	9.963	182534.94	0.0441	P	2.2
5	☐	100.000	98.312	1768578.31	0.4343	A	1.5
6	☐	200.000	200.857	3425457.45	0.8872	A	1.6

y = 0.0044 * x + 7.7588E-005
R = 1.0000
DL = 0.01538
BEC = 0.01757

Weight: <None>
Min Conc: <None>

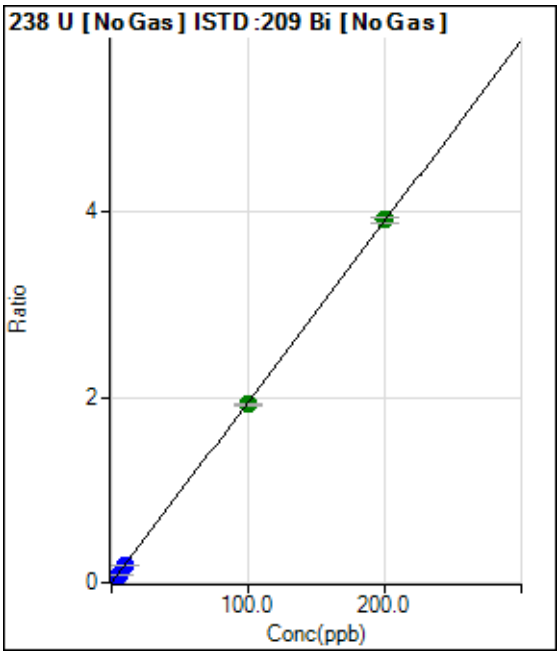
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1616.74	0.0004	P	5.8
2	☐	2.000	1.832	159496.17	0.0378	P	0.6
3	☐	5.000	4.631	391088.47	0.0951	P	1.1
4	☐	10.000	9.805	831719.00	0.2008	P	0.9
5	☐	100.000	100.458	8364492.74	2.0539	A	1.4
6	☐	200.000	199.792	15769861.12	4.0844	A	1.3

y = 0.0204 * x + 3.9547E-004
R = 1.0000
DL = 0.003344
BEC = 0.01935

Weight: <None>
Min Conc: <None>

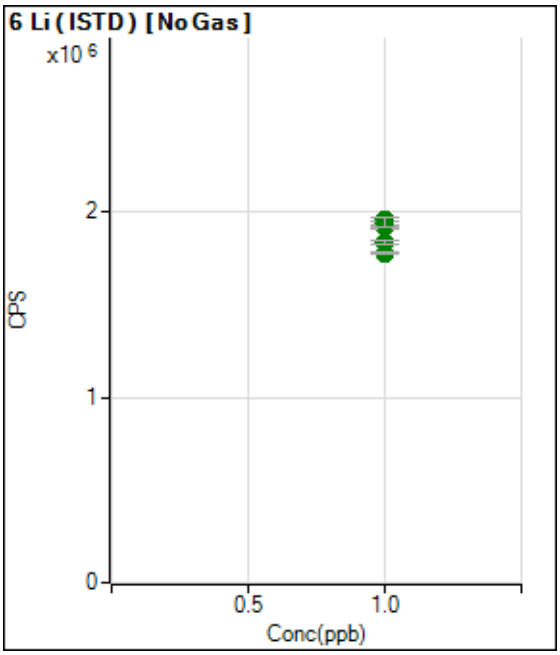


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	124.9
2	☐	2.000	1.778	146180.97	0.0347	P	0.3
3	☐	5.000	4.535	363732.10	0.0884	P	0.8
4	☐	10.000	9.568	772741.99	0.1866	P	1.1
5	☐	100.000	98.549	7828936.55	1.9215	A	1.6
6	☐	200.000	200.761	15116025.19	3.9144	A	1.3

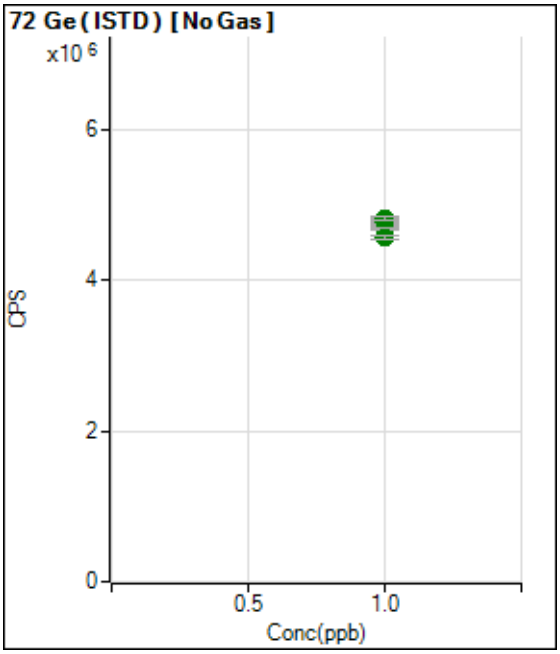
y = 0.0195 * x + 4.0573E-006
R = 1.0000
DL = 0.0007795
BEC = 0.0002081

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

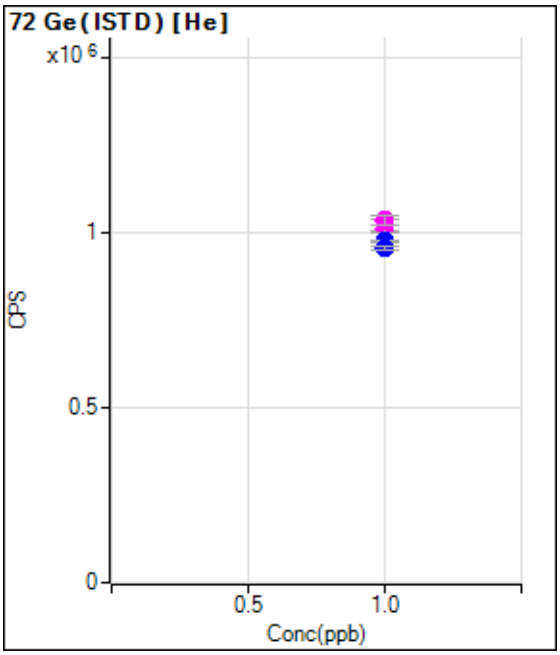


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1931903.02		A	0.2
2	☐	1.000		1959158.60		A	1.0
3	☐	1.000		1920390.32		A	1.3
4	☐	1.000		1946320.84		A	2.9
5	☐	1.000		1837610.32		A	1.3
6	☐	1.000		1778791.67		A	0.7

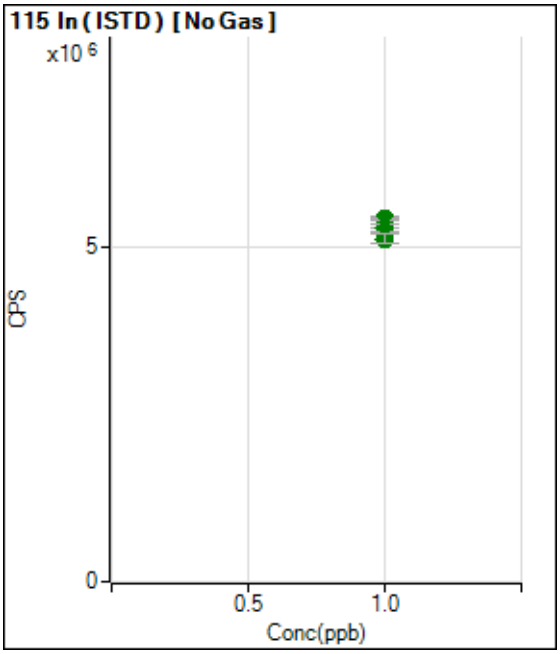


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4777859.93		A	1.5
2	☐	1.000		4791501.60		A	1.1
3	☐	1.000		4756165.76		A	2.1
4	☐	1.000		4807388.78		A	1.0
5	☐	1.000		4672169.10		A	0.3
6	☐	1.000		4562996.18		A	1.1

Calibration for 017_ICV.d

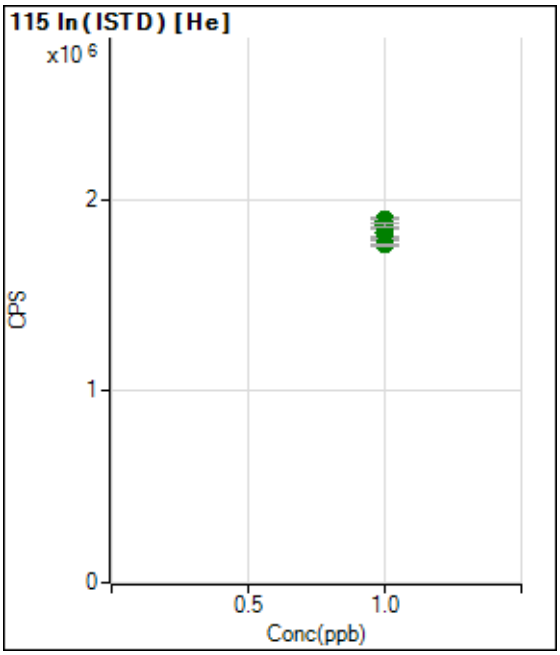


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1022076.81		M	3.5
2	☐	1.000		1037940.24		M	2.5
3	☐	1.000		1014123.40		M	2.2
4	☐	1.000		1035316.96		M	2.8
5	☐	1.000		978457.46		P	0.4
6	☐	1.000		958114.46		P	1.0

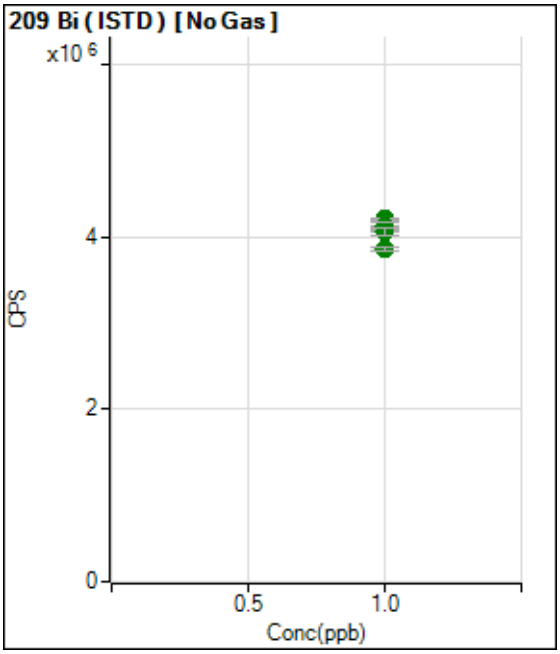


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5424891.18		A	1.2
2	☐	1.000		5393097.55		A	1.4
3	☐	1.000		5343674.78		A	2.1
4	☐	1.000		5280395.15		A	2.5
5	☐	1.000		5223121.00		A	0.6
6	☐	1.000		5127191.81		A	2.8

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1891723.37		A	1.5
2	☐	1.000		1887682.67		A	1.0
3	☐	1.000		1825149.96		A	2.4
4	☐	1.000		1868665.01		A	1.0
5	☐	1.000		1790609.77		A	0.8
6	☐	1.000		1763055.13		A	0.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4087764.11		A	0.8
2	☐	1.000		4215442.85		A	0.7
3	☐	1.000		4113981.92		A	1.2
4	☐	1.000		4142021.19		A	1.9
5	☐	1.000		4073413.69		A	2.3
6	☐	1.000		3861350.46		A	1.1

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	010CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:35:20-05:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	7	1	No Gas	109231	0.00
Be	9	1	No Gas	57	50.05
V	51	2	He	1678	0.30
Cr	52	2	He	1380	0.77
Fe	56	2	He	9513	0.04
Se	78	2	He	117	5.56
Sn	118	2	He	1387	0.62
As	75	2	He	74	48.24
Ca	44	2	He	250	7.33
Na	23	2	He	84887	0.00
Mg	24	2	He	573	2.66
K	39	2	He	50901	0.01
Mn	55	2	He	380	5.92
Co	59	2	He	133	23.42
Ni	60	2	He	190	16.62
Cu	63	2	He	1660	0.25
Zn	66	2	He	717	0.22
Al	27	2	He	347	2.54
B	11	1	No Gas	20054	0.01
Al	27	1	No Gas	30908	0.01
Si	28	1	No Gas	509788	0.00
P	31	1	No Gas	37133	0.00
Ag	107	1	No Gas	383	8.06
Cd	111	1	No Gas	10	0.00
Sr	88	1	No Gas	2657	0.35
Mo	95	1	No Gas	113	25.03
Sn	118	1	No Gas	3541	0.19
Sb	121	1	No Gas	740	3.56
Ba	137	1	No Gas	870	0.69
Tl	205	1	No Gas	230	5.67
Tl	203	1	No Gas	160	11.72
Pb	208	1	No Gas	1617	0.38
U	238	1	No Gas	17	749.40
Ca	43	2	He	10	1000.00
Sb	121	2	He	287	9.13
Cu	63	1	No Gas	4918	0.12

QC ISTD Table

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	No Gas	1931903	0.19
Ge	72	2	He	1022077	3.45
Ge	72	1	No Gas	4777860	1.48

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
In	115	1	No Gas	5424891	1.23
Bi	209	1	No Gas	4087764	0.79

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	011CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:37:12-05:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	12576	0.02
V	51	2	He	19760	0.01
Cr	52	2	He	23998	0.01
Fe	56	2	He	2092012	0.00
Se	78	2	He	375	2.76
Sn	118	2	He	20453	0.02
As	75	2	He	2967	0.12
Ca	44	2	He	8780	0.02
Na	23	2	He	350481	0.00
Mg	24	2	He	144233	0.00
K	39	2	He	210221	0.00
Mn	55	2	He	14795	0.02
Co	59	2	He	37743	0.01
Ni	60	2	He	9984	0.05
Cu	63	2	He	27568	0.00
Zn	66	2	He	5228	0.05
Al	27	2	He	1233	0.76
B	11	1	No Gas	59768	0.00
Al	27	1	No Gas	119436	0.00
Si	28	1	No Gas	674372	0.00
P	31	1	No Gas	50853	0.00
Ag	107	1	No Gas	75801	0.00
Cd	111	1	No Gas	15366	0.01
Sr	88	1	No Gas	153014	0.00
Mo	95	1	No Gas	27422	0.01
Sn	118	1	No Gas	49812	0.00
Sb	121	1	No Gas	58689	0.00
Ba	137	1	No Gas	23652	0.00
Tl	205	1	No Gas	111206	0.00
Tl	203	1	No Gas	47010	0.00
Pb	208	1	No Gas	159496	0.00
U	238	1	No Gas	146181	0.00
Ca	43	2	He	537	0.87
Sb	121	2	He	22904	0.01
Cu	63	1	No Gas	60043	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1959159	0.98	1931903	101.41	70	120	

Calibration Standard Report

Ge	72	2	He	1037940	2.50	1022077	101.55	70	120	
Ge	72	1	No Gas	4791502	1.06	4777860	100.29	70	120	
In	115	1	No Gas	5393098	1.36	5424891	99.41	70	120	
Bi	209	1	No Gas	4215443	0.66	4087764	103.12	70	120	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	012CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:39:05-05:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	31644	0.00
V	51	2	He	47188	0.00
Cr	52	2	He	58850	0.00
Fe	56	2	He	4955364	0.00
Se	78	2	He	675	1.35
Sn	118	2	He	49172	0.00
As	75	2	He	7452	0.01
Ca	44	2	He	21250	0.01
Na	23	2	He	757136	0.00
Mg	24	2	He	356135	0.00
K	39	2	He	452052	0.00
Mn	55	2	He	36619	0.00
Co	59	2	He	93130	0.00
Ni	60	2	He	24643	0.01
Cu	63	2	He	66074	0.00
Zn	66	2	He	11652	0.03
Al	27	2	He	2180	0.14
B	11	1	No Gas	120267	0.00
Al	27	1	No Gas	245673	0.01
Si	28	1	No Gas	934355	0.00
P	31	1	No Gas	74305	0.00
Ag	107	1	No Gas	185298	0.00
Cd	111	1	No Gas	36735	0.00
Sr	88	1	No Gas	380615	0.00
Mo	95	1	No Gas	67873	0.00
Sn	118	1	No Gas	123581	0.00
Sb	121	1	No Gas	146638	0.00
Ba	137	1	No Gas	56447	0.00
Tl	205	1	No Gas	280151	0.00
Tl	203	1	No Gas	116724	0.00
Pb	208	1	No Gas	391088	0.00
U	238	1	No Gas	363732	0.00
Ca	43	2	He	1277	0.45
Sb	121	2	He	57178	0.00
Cu	63	1	No Gas	141470	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1920390	1.29	1931903	99.40	70	120	

Calibration Standard Report

Ge	72	2	He	1014123	2.17	1022077	99.22	70	120	
Ge	72	1	No Gas	4756166	2.11	4777860	99.55	70	120	
In	115	1	No Gas	5343675	2.10	5424891	98.50	70	120	
Bi	209	1	No Gas	4113982	1.17	4087764	100.64	70	120	

Calibration Standard Report

Sample Table

Sample Name	10/50/100
Data File Name	013CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:40:57-05:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	67270	0.00
V	51	2	He	96508	0.00
Cr	52	2	He	121405	0.00
Fe	56	2	He	10407722	0.00
Se	78	2	He	1368	0.29
Sn	118	2	He	103864	0.00
As	75	2	He	15874	0.01
Ca	44	2	He	45780	0.00
Na	23	2	He	1487931	0.00
Mg	24	2	He	744026	0.00
K	39	2	He	926049	0.00
Mn	55	2	He	75297	0.00
Co	59	2	He	196348	0.00
Ni	60	2	He	51157	0.00
Cu	63	2	He	139296	0.00
Zn	66	2	He	23320	0.00
Al	27	2	He	4107	0.22
B	11	1	No Gas	232750	0.00
Al	27	1	No Gas	374200	0.00
Si	28	1	No Gas	1384915	0.00
P	31	1	No Gas	117297	0.00
Ag	107	1	No Gas	395690	0.00
Cd	111	1	No Gas	76459	0.00
Sr	88	1	No Gas	814636	0.00
Mo	95	1	No Gas	143830	0.00
Sn	118	1	No Gas	257067	0.00
Sb	121	1	No Gas	305850	0.00
Ba	137	1	No Gas	117398	0.00
Tl	205	1	No Gas	604439	0.00
Tl	203	1	No Gas	251669	0.00
Pb	208	1	No Gas	831719	0.00
U	238	1	No Gas	772742	0.00
Ca	43	2	He	2690	0.17
Sb	121	2	He	119790	0.00
Cu	63	1	No Gas	294755	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1946321	2.93	1931903	100.75	70	120	

Calibration Standard Report

Ge	72	2	He	1035317	2.84	1022077	101.30	70	120	
Ge	72	1	No Gas	4807389	0.97	4777860	100.62	70	120	
In	115	1	No Gas	5280395	2.48	5424891	97.34	70	120	
Bi	209	1	No Gas	4142021	1.95	4087764	101.33	70	120	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	014CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:42:48-05:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	664472	0.00
V	51	2	He	952975	0.00
Cr	52	2	He	1192781	0.00
Fe	56	2	He	101167862	0.00
Se	78	2	He	12390	0.01
Sn	118	2	He	970239	0.00
As	75	2	He	154047	0.00
Ca	44	2	He	444087	0.00
Na	23	2	He	13683541	0.00
Mg	24	2	He	7162780	0.00
K	39	2	He	8333147	0.00
Mn	55	2	He	729540	0.00
Co	59	2	He	1943238	0.00
Ni	60	2	He	490892	0.00
Cu	63	2	He	1360874	0.00
Zn	66	2	He	220658	0.00
Al	27	2	He	32345	0.01
B	11	1	No Gas	2127571	0.00
Al	27	1	No Gas	3098462	0.00
Si	28	1	No Gas	8677056	0.00
P	31	1	No Gas	820899	0.00
Ag	107	1	No Gas	3869776	0.00
Cd	111	1	No Gas	760190	0.00
Sr	88	1	No Gas	7773151	0.00
Mo	95	1	No Gas	1464485	0.00
Sn	118	1	No Gas	2483420	0.00
Sb	121	1	No Gas	3132742	0.00
Ba	137	1	No Gas	1160963	0.00
Tl	205	1	No Gas	6030405	0.00
Tl	203	1	No Gas	2561347	0.00
Pb	208	1	No Gas	8364493	0.00
U	238	1	No Gas	7828937	0.00
Ca	43	2	He	26623	0.01
Sb	121	2	He	1250912	0.00
Cu	63	1	No Gas	2885404	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1837610	1.32	1931903	95.12	70	120	

Calibration Standard Report

Ge	72	2	He	978457	0.42	1022077	95.73	70	120	
Ge	72	1	No Gas	4672169	0.26	4777860	97.79	70	120	
In	115	1	No Gas	5223121	0.56	5424891	96.28	70	120	
Bi	209	1	No Gas	4073414	2.34	4087764	99.65	70	120	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	015CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:44:32-05:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	No Gas	1261258	0.00
V	51	2	He	1857485	0.00
Cr	52	2	He	2275546	0.00
Fe	56	2	He	190867950	0.00
Se	78	2	He	23577	0.00
Sn	118	2	He	1982956	0.00
As	75	2	He	292259	0.00
Ca	44	2	He	852655	0.00
Na	23	2	He	25398863	0.00
Mg	24	2	He	13495781	0.00
K	39	2	He	15495604	0.00
Mn	55	2	He	1434931	0.00
Co	59	2	He	3632254	0.00
Ni	60	2	He	929331	0.00
Cu	63	2	He	2572697	0.00
Zn	66	2	He	412770	0.00
Al	27	2	He	60180	0.00
B	11	1	No Gas	4000420	0.00
Al	27	1	No Gas	5717279	0.00
Si	28	1	No Gas	15307536	0.00
P	31	1	No Gas	1509891	0.00
Ag	107	1	No Gas	7186667	0.00
Cd	111	1	No Gas	1471287	0.00
Sr	88	1	No Gas	15230623	0.00
Mo	95	1	No Gas	2761975	0.00
Sn	118	1	No Gas	4702685	0.00
Sb	121	1	No Gas	5749340	0.00
Ba	137	1	No Gas	2278888	0.00
Tl	205	1	No Gas	11422845	0.00
Tl	203	1	No Gas	4809090	0.00
Pb	208	1	No Gas	15769861	0.00
U	238	1	No Gas	15116025	0.00
Ca	43	2	He	49422	0.01
Sb	121	2	He	2392576	0.00
Cu	63	1	No Gas	5208479	0.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1778792	0.71	1931903	92.07	70	120	

Calibration Standard Report

Ge	72	2	He	958114	0.96	1022077	93.74	70	120	
Ge	72	1	No Gas	4562996	1.06	4777860	95.50	70	120	
In	115	1	No Gas	5127192	2.82	5424891	94.51	70	120	
Bi	209	1	No Gas	3861350	1.07	4087764	94.46	70	120	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	017_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:48:19-05:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Li	7	1	No Gas	97.234	2.404	2761234	0.95	100	97.2	90	110	
Be	9	1	No Gas	101.402	1.419	659678	0.55	100	101.4	90	110	
V	51	2	He	95.795	2.279	967516	1.10	100	95.8	90	110	
Cr	52	2	He	95.907	2.028	1191571	1.19	100	95.9	90	110	
Fe	56	2	He	9538.264	3.878	99552745	0.82	10000	95.4	90	110	
Se	78	2	He	96.104	3.893	12418	0.98	100	96.1	90	110	
Sn	118	2	He	89.197	1.274	929706	1.70	100	89.2	90	110	ICV Main CR1 Failed
As	75	2	He	98.463	3.938	157196	0.89	100	98.5	90	110	
Ca	44	2	He	9499.807	3.842	441447	0.98	10000	95.0	90	110	
Na	23	2	He	9463.405	3.735	13225703	0.64	10000	94.6	90	110	
Mg	24	2	He	9455.799	3.168	6981281	0.96	10000	94.6	90	110	
K	39	2	He	9609.781	4.126	8189096	1.05	10000	96.1	90	110	
Mn	55	2	He	93.427	4.058	727007	1.40	100	93.4	90	110	
Co	59	2	He	97.453	2.941	1939622	0.99	100	97.5	90	110	
Ni	60	2	He	94.963	3.428	482357	1.05	100	95.0	90	110	
Cu	63	2	He	97.835	1.267	1377136	2.01	100	97.8	90	110	
Zn	66	2	He	96.275	2.027	218088	1.50	100	96.3	90	110	
Al	27	2	He	94.484	3.891	31352	1.89	100	94.5	90	110	
B	11	1	No Gas	517.923	1.179	2148693	1.72	500	103.6	90	110	
Al	27	1	No Gas	99.886	1.480	3037787	1.48	100	99.9	90	110	
Si	28	1	No Gas	557.025	1.017	9288094	1.24	500	111.4	90	110	ICV Main CR1 Failed
P	31	1	No Gas	497.392	1.052	810857	0.76	500	99.5	90	110	
Ag	107	1	No Gas	101.747	2.734	3824905	1.76	100	101.7	90	110	
Cd	111	1	No Gas	97.500	1.197	743993	1.15	100	97.5	90	110	
Sr	88	1	No Gas	95.426	2.291	7521873	1.19	100	95.4	90	110	
Mo	95	1	No Gas	100.948	0.538	1453941	0.86	100	100.9	90	110	
Sn	118	1	No Gas	97.520	2.194	2391278	2.53	100	97.5	90	110	
Sb	121	1	No Gas	102.183	1.310	3114877	1.22	100	102.2	90	110	
Ba	137	1	No Gas	96.799	2.087	1141264	1.18	100	96.8	90	110	
Tl	205	1	No Gas	100.482	1.860	6070468	0.43	100	100.5	90	110	
Tl	203	1	No Gas	102.186	2.516	2603067	0.71	100	102.2	90	110	
Pb	208	1	No Gas	98.916	1.035	8258255	1.18	100	98.9	90	110	
U	238	1	No Gas	93.381	2.490	7433768	1.41	100	93.4	90	110	
Ca	43	2	He	9446.180	3.095	25621	0.42	10000	94.5	90	110	
Sb	121	2	He	95.016	2.807	1239673	0.44	100	95.0	90	110	
Ti	47	2	He	93.298	4.251	29763	2.16	100	93.3	90	110	
Cu	63	1	No Gas	104.994	0.433	2911410	0.19	100	105.0	90	110	

QC ISTD Table

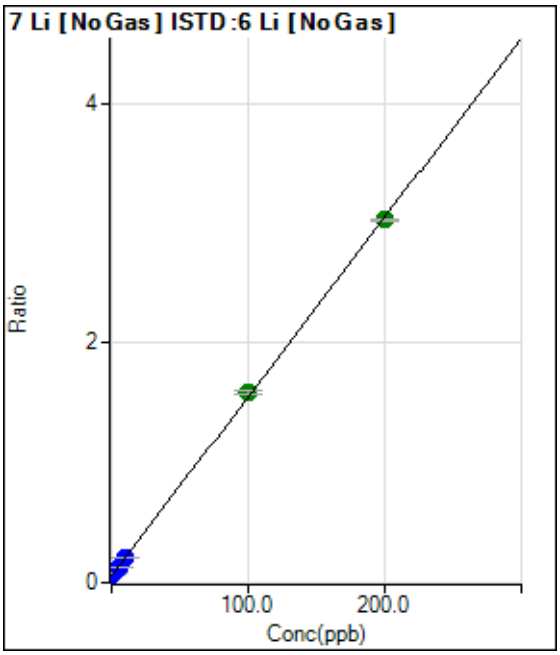
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1827978	1.80	1931903	94.62	70	120	
Ge	72	2	He	1040677	3.02	1022077	101.82	70	120	
Ge	72	1	No Gas	4776247	0.28	4777860	99.97	70	120	
In	115	1	No Gas	5302960	1.39	5424891	97.75	70	120	
Bi	209	1	No Gas	4083889	1.84	4087764	99.91	70	120	

Calibration for 017_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\041420A.b\
Analysis File: 041420A.batch.bin
DA Date-Time: 4/14/2020 8:58:31 PM
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	010CALB.d	CAL BLK	4/14/2020 8:35:20 AM
2	011CALS.d	2/10/200	4/14/2020 8:37:12 AM
3	012CALS.d	5/25/500	4/14/2020 8:39:05 AM
4	013CALS.d	10/50/100	4/14/2020 8:40:57 AM
5	014CALS.d	100/500/10K	4/14/2020 8:42:48 AM
6	015CALS.d	200/1000/20K	4/14/2020 8:44:32 AM

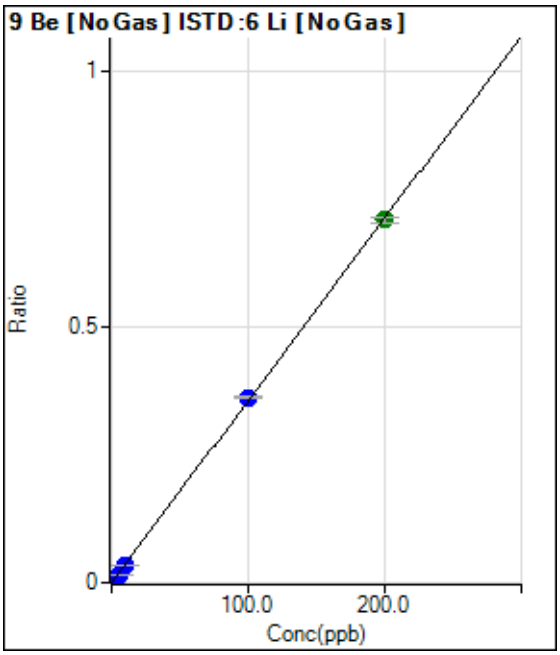
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	109231.13	0.0565	P	0.6
2	☐	2.000	1.816	163987.78	0.0837	P	0.9
3	☐	5.000	4.759	245262.11	0.1277	P	1.4
4	☐	10.000	10.055	402531.93	0.2069	P	3.0
5	☐	100.000	102.535	2921902.04	1.5902	A	1.1
6	☐	200.000	198.738	5388221.59	3.0292	A	0.6

y = 0.0150 * x + 0.0565
R = 0.9999
DL = 0.06565
BEC = 3.78

Weight: <None>
Min Conc: <None>

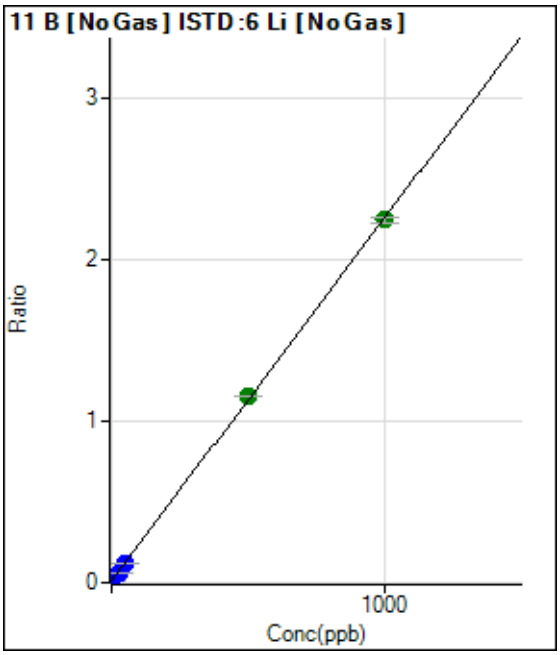


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	28.5
2	☐	2.000	1.796	12575.68	0.0064	P	3.1
3	☐	5.000	4.622	31643.86	0.0165	P	1.0
4	☐	10.000	9.707	67269.66	0.0346	P	2.2
5	☐	100.000	101.599	664472.44	0.3616	P	1.4
6	☐	200.000	199.227	1261257.87	0.7091	A	1.9

y = 0.0036 * x + 2.9339E-005
R = 0.9999
DL = 0.007052
BEC = 0.008243

Weight: <None>
Min Conc: <None>

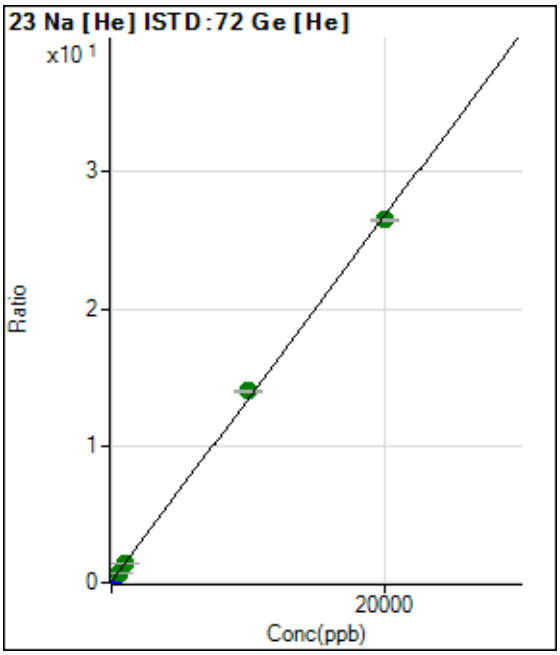
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20054.34	0.0104	P	2.0
2	☐	10.000	8.947	59768.24	0.0305	P	0.9
3	☐	25.000	23.228	120266.59	0.0626	P	1.9
4	☐	50.000	48.574	232750.40	0.1197	P	3.0
5	☐	500.000	510.064	2127570.75	1.1578	A	0.5
6	☐	1000.000	995.094	4000419.94	2.2490	A	1.9

y = 0.0022 * x + 0.0104
R = 0.9999
DL = 0.2734
BEC = 4.614

Weight: <None>
Min Conc: <None>

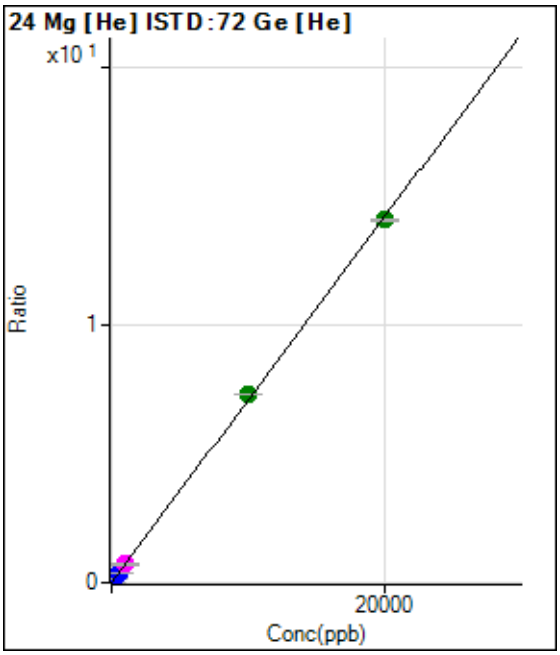


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	84887.26	0.0831	P	3.8
2	☐	200.000	190.729	350480.79	0.3378	P	1.8
3	☐	500.000	496.975	757136.21	0.7467	A	0.7
4	☐	1000.000	1014.355	1487931.49	1.4374	A	1.3
5	☐	10000.00	10411.95	13683541.46	13.9847	A	0.3
6	☐	20000.00	19793.47	25398862.95	26.5105	A	0.8

y = 0.0013 * x + 0.0831
R = 0.9997
DL = 7.183
BEC = 62.26

Weight: <None>
Min Conc: <None>

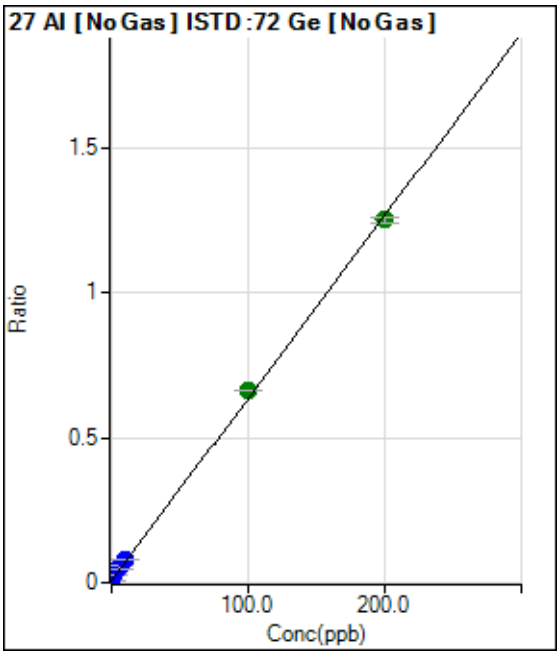
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.36	0.0006	P	12.0
2	☐	200.000	195.054	144233.04	0.1390	P	2.5
3	☐	500.000	494.148	356134.71	0.3513	P	3.0
4	☐	1000.000	1012.278	744026.09	0.7191	M	3.4
5	☐	10000.00	10312.41	7162779.89	7.3205	A	0.3
6	☐	20000.00	19843.37	13495781.05	14.0858	A	0.3

y = 7.0982E-004 * x + 5.5965E-004
R = 0.9998
DL = 0.2845
BEC = 0.7884

Weight: <None>
Min Conc: <None>

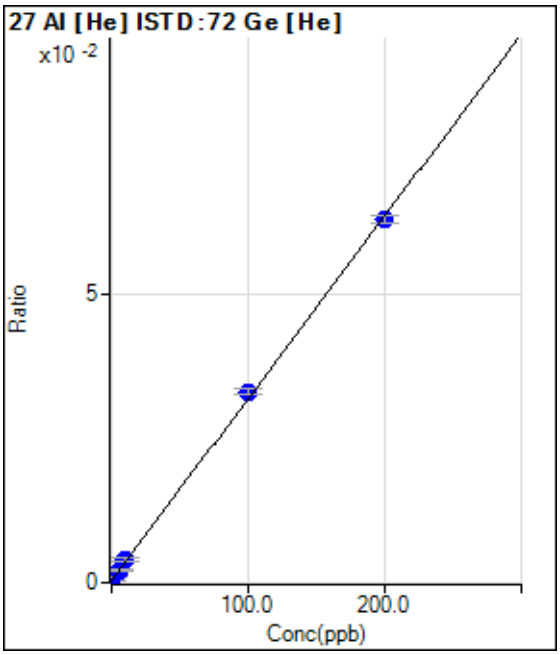


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30907.92	0.0065	P	3.7
2	☐	2.000	2.929	119436.31	0.0249	P	1.7
3	☐	5.000	7.144	245673.15	0.0515	P	21.4
4	☐	10.000	11.324	374199.75	0.0778	P	1.7
5	☐	100.000	104.195	3098462.25	0.6632	A	0.7
6	☐	200.000	197.773	5717278.67	1.2530	A	1.3

y = 0.0063 * x + 0.0065
R = 0.9997
DL = 0.1135
BEC = 1.027

Weight: <None>
Min Conc: <None>

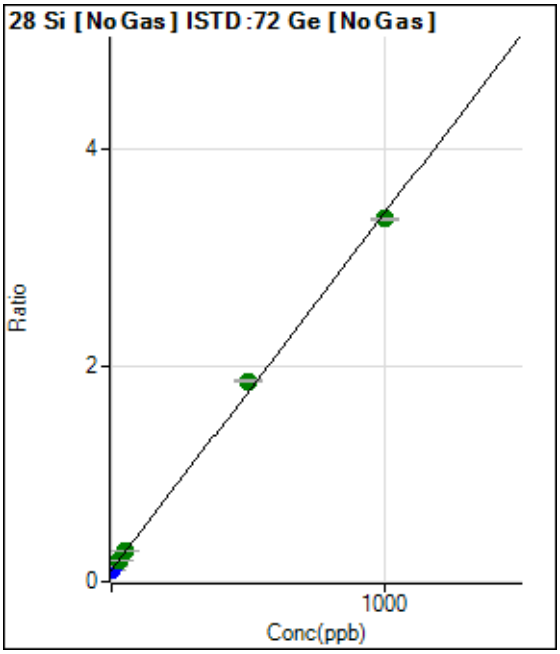
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.68	0.0003	P	10.6
2	☐	2.000	2.691	1233.41	0.0012	P	9.6
3	☐	5.000	5.742	2180.21	0.0022	P	4.9
4	☐	10.000	11.511	4107.33	0.0040	P	10.0
5	☐	100.000	103.706	32344.50	0.0331	P	3.3
6	☐	200.000	198.046	60180.00	0.0628	P	2.2

y = 3.1548E-004 * x + 3.3967E-004
R = 0.9998
DL = 0.3411
BEC = 1.077

Weight: <None>
Min Conc: <None>

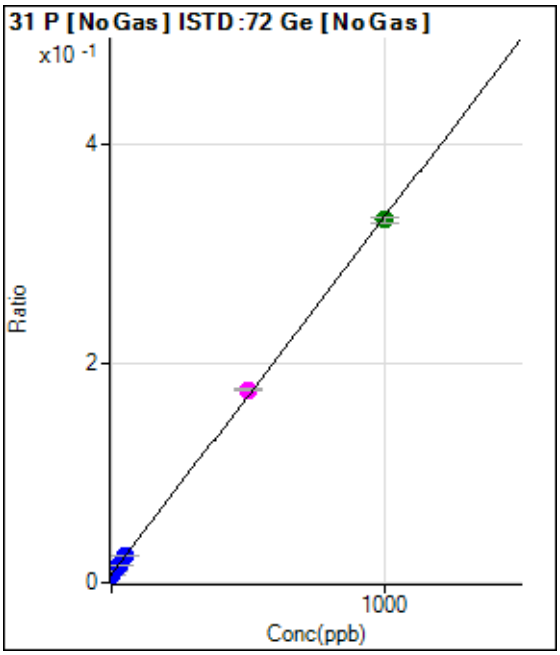


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	509787.55	0.1067	P	0.9
2	☐	10.000	10.319	674371.84	0.1408	P	1.2
3	☐	25.000	27.204	934355.17	0.1965	A	0.7
4	☐	50.000	54.973	1384914.67	0.2881	A	0.9
5	☐	500.000	530.530	8677055.70	1.8572	A	0.7
6	☐	1000.000	984.428	15307535.60	3.3548	A	0.5

y = 0.0033 * x + 0.1067
R = 0.9993
DL = 0.8524
BEC = 32.34

Weight: <None>
Min Conc: <None>

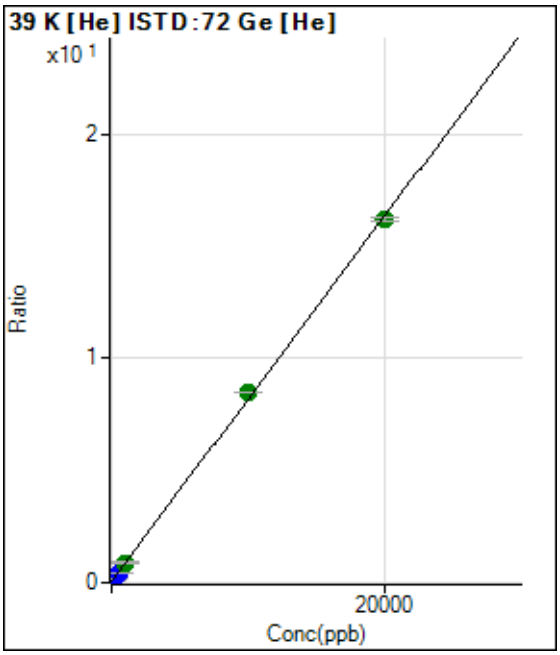
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	37133.34	0.0078	P	2.1
2	☐	10.000	8.722	50853.29	0.0106	P	1.0
3	☐	25.000	24.115	74305.22	0.0156	P	2.1
4	☐	50.000	51.046	117296.94	0.0244	P	1.6
5	☐	500.000	515.603	820899.05	0.1757	M	1.3
6	☐	1000.000	992.181	1509890.60	0.3309	A	1.9

y = 3.2570E-004 * x + 0.0078
R = 0.9998
DL = 1.491
BEC = 23.87

Weight: <None>
Min Conc: <None>

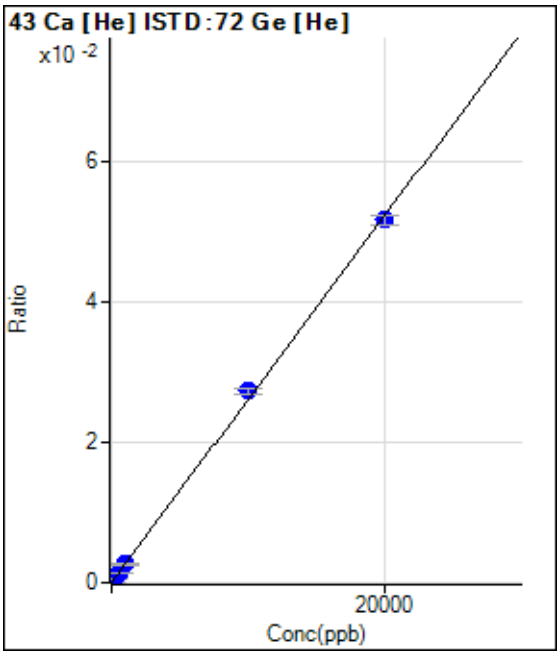


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	50901.49	0.0498	P	3.8
2	☐	200.000	187.625	210221.43	0.2026	P	2.6
3	☐	500.000	486.373	452052.14	0.4459	P	2.2
4	☐	1000.000	1037.645	926048.66	0.8948	A	2.2
5	☐	10000.00	10397.09	8333147.17	8.5166	A	0.3
6	☐	20000.00	19800.03	15495603.52	16.1738	A	1.1

y = 8.1434E-004 * x + 0.0498
R = 0.9997
DL = 6.951
BEC = 61.19

Weight: <None>
Min Conc: <None>

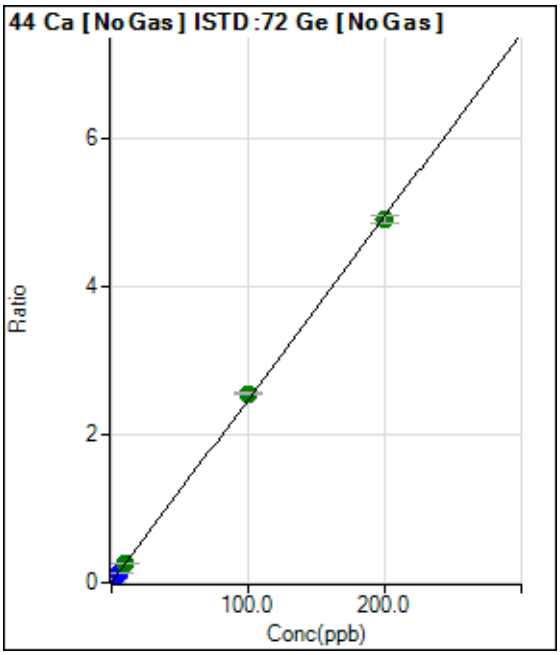
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	98.2
2	☐	200.000	194.796	536.69	0.0005	P	5.8
3	☐	500.000	479.013	1276.75	0.0013	P	3.6
4	☐	1000.000	993.670	2690.31	0.0026	P	5.4
5	☐	10000.00	10434.60	26622.73	0.0272	P	3.2
6	☐	20000.00	19783.59	49422.38	0.0516	P	2.4

y = 2.6069E-006 * x + 9.5864E-006
R = 0.9997
DL = 10.84
BEC = 3.677

Weight: <None>
Min Conc: <None>

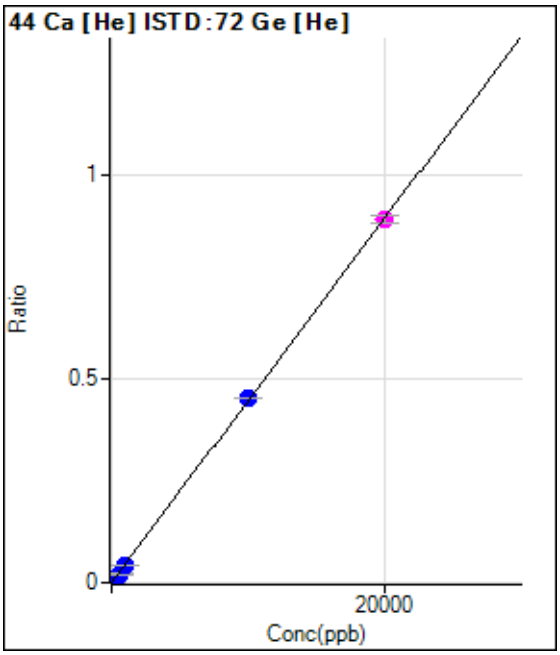


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13843.93	0.0029	P	4.2
2	☐	2.000	1.984	248377.13	0.0518	P	0.8
3	☐	5.000	4.924	591361.71	0.1244	P	3.7
4	☐	10.000	10.558	1266149.93	0.2634	A	1.8
5	☐	100.000	103.436	11937736.49	2.5551	A	0.4
6	☐	200.000	198.256	22331442.16	4.8947	A	2.2

y = 0.0247 * x + 0.0029
R = 0.9998
DL = 0.01497
BEC = 0.1175

Weight: <None>
Min Conc: <None>

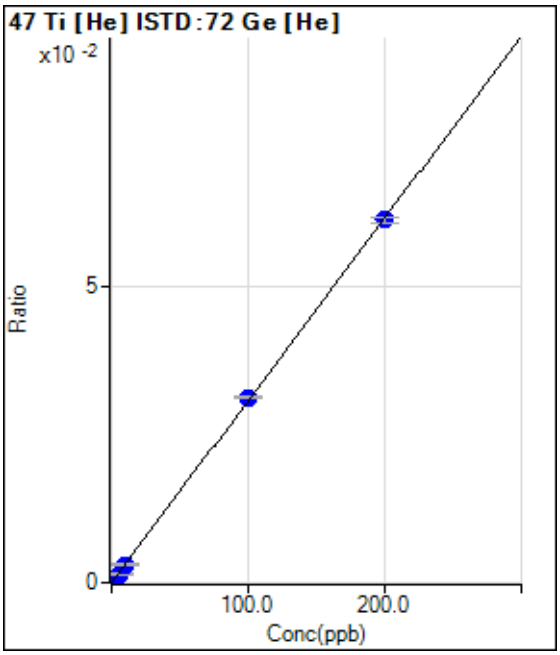
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	250.01	0.0002	P	20.5
2	☐	200.000	183.931	8779.62	0.0085	P	0.9
3	☐	500.000	463.868	21250.04	0.0210	P	3.6
4	☐	1000.000	984.920	45779.64	0.0442	P	1.8
5	☐	10000.00	10156.97	444086.84	0.4539	P	0.1
6	☐	20000.00	19923.33	852654.99	0.8900	M	2.0

y = 4.4661E-005 * x + 2.4547E-004
R = 1.0000
DL = 3.383
BEC = 5.496

Weight: <None>
Min Conc: <None>

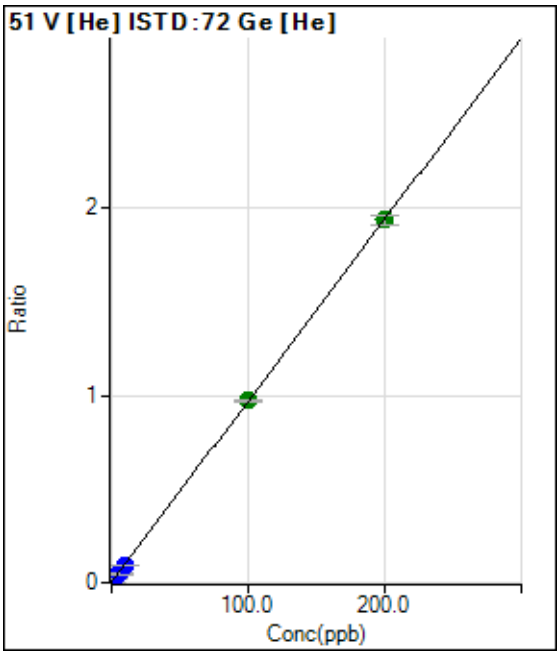


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	0.00	0.0000	P	
2	☐	2.000	1.735	553.36	0.0005	P	12.2
3	☐	5.000	4.732	1473.44	0.0015	P	7.0
4	☐	10.000	10.005	3177.09	0.0031	P	4.5
5	☐	100.000	101.596	30494.19	0.0312	P	1.1
6	☐	200.000	199.211	58548.21	0.0611	P	1.9

y = 3.0677E-004 * x + 0.0000E+000
R = 1.0000
DL = 0
BEC = 0

Weight: <None>
Min Conc: <None>

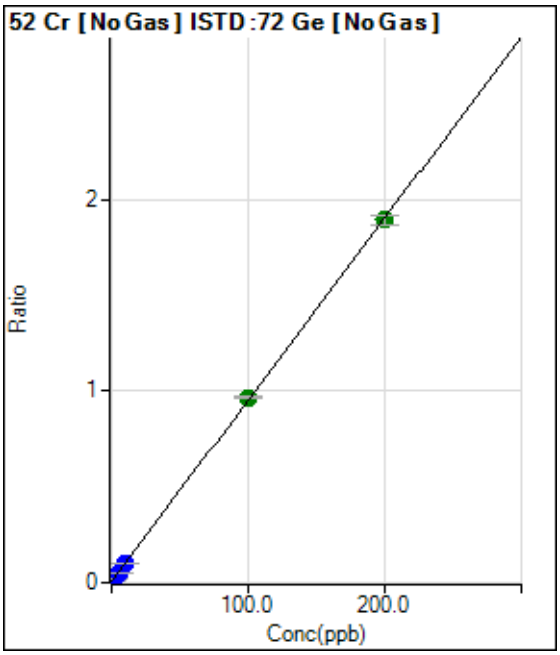
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1677.89	0.0016	P	8.4
2	☐	2.000	1.795	19759.81	0.0190	P	0.1
3	☐	5.000	4.632	47187.52	0.0465	P	1.7
4	☐	10.000	9.454	96508.19	0.0933	P	3.5
5	☐	100.000	100.322	952975.38	0.9740	A	0.9
6	☐	200.000	199.878	1857484.51	1.9389	A	2.3

y = 0.0097 * x + 0.0016
R = 1.0000
DL = 0.04276
BEC = 0.1697

Weight: <None>
Min Conc: <None>

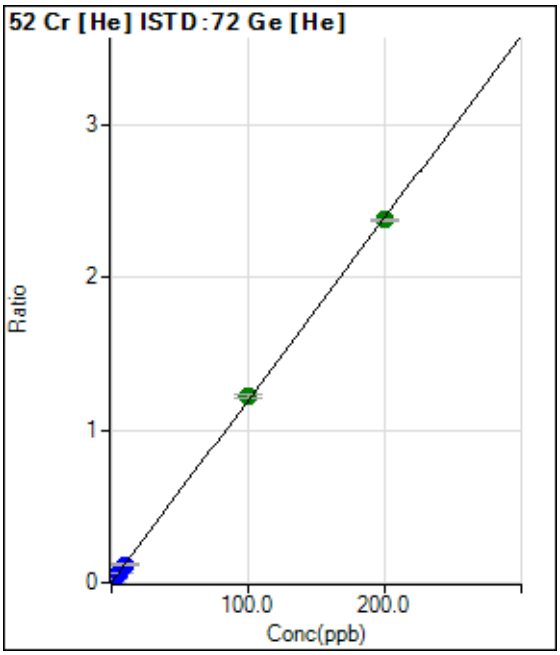


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	26198.61	0.0055	P	0.7
2	☐	2.000	1.954	115010.55	0.0240	P	1.0
3	☐	5.000	4.908	247302.30	0.0520	P	1.0
4	☐	10.000	10.344	497667.30	0.1035	P	0.4
5	☐	100.000	101.537	4521960.56	0.9678	A	0.4
6	☐	200.000	199.217	8639162.58	1.8937	A	2.9

y = 0.0095 * x + 0.0055
R = 1.0000
DL = 0.01234
BEC = 0.5785

Weight: <None>
Min Conc: <None>

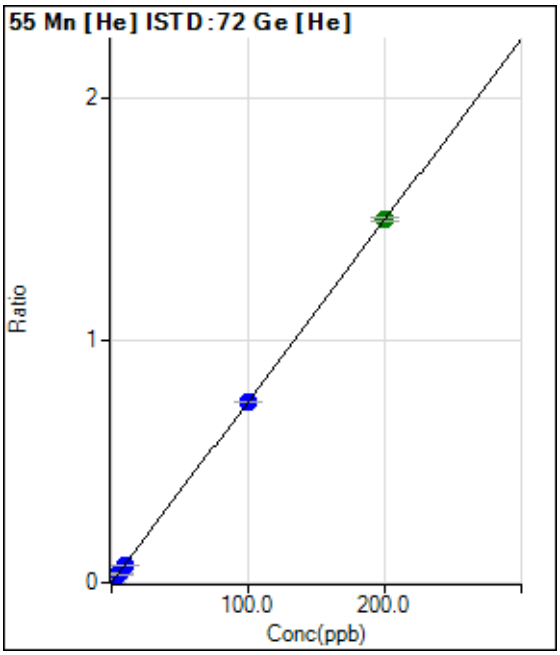
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1380.09	0.0014	P	13.6
2	☐	2.000	1.826	23998.00	0.0231	P	4.9
3	☐	5.000	4.753	58850.12	0.0581	P	3.5
4	☐	10.000	9.724	121405.45	0.1174	P	4.4
5	☐	100.000	102.078	1192781.02	1.2191	A	1.8
6	☐	200.000	198.983	2275546.32	2.3751	A	0.3

y = 0.0119 * x + 0.0014
R = 0.9999
DL = 0.04633
BEC = 0.1135

Weight: <None>
Min Conc: <None>

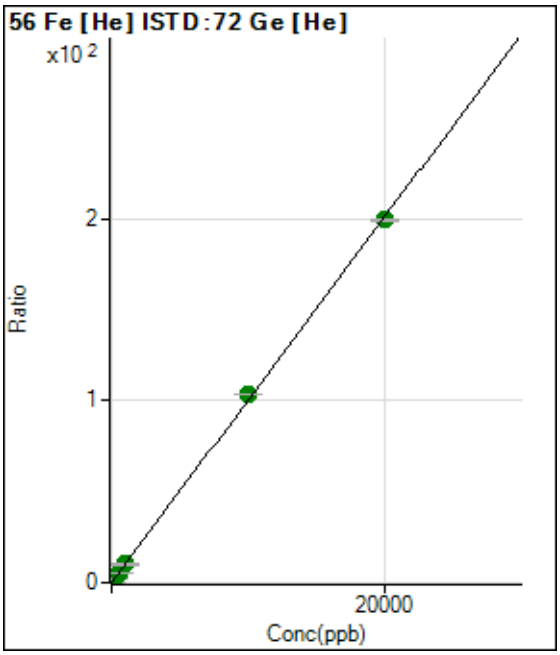


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	380.01	0.0004	P	23.0
2	☐	2.000	1.858	14794.97	0.0143	P	5.2
3	☐	5.000	4.781	36619.29	0.0361	P	3.5
4	☐	10.000	9.681	75297.43	0.0728	P	3.8
5	☐	100.000	99.639	729539.73	0.7456	P	0.2
6	☐	200.000	200.204	1434931.17	1.4978	A	1.1

y = 0.0075 * x + 3.7202E-004
R = 1.0000
DL = 0.03432
BEC = 0.04974

Weight: <None>
Min Conc: <None>

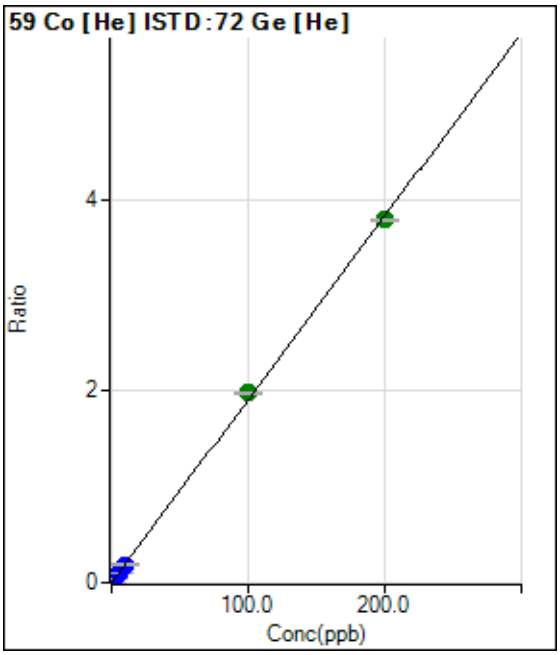
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	9513.47	0.0093	P	0.7
2	☐	200.000	199.997	2092011.95	2.0165	A	2.9
3	☐	500.000	486.104	4955363.68	4.8879	A	2.2
4	☐	1000.000	1001.318	10407721.93	10.0586	A	3.1
5	☐	10000.00	10301.43	101167861.8	103.395	A	0.0
6	☐	20000.00	19849.56	190867950.4	199.221	A	0.7

y = 0.0100 * x + 0.0093
R = 0.9998
DL = 0.01986
BEC = 0.9274

Weight: <None>
Min Conc: <None>

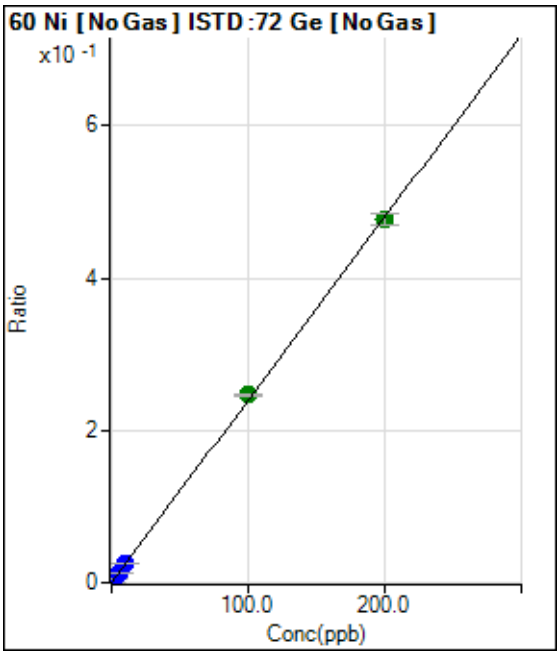


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	133.33	0.0001	P	33.2
2	☐	2.000	1.894	37742.52	0.0364	P	2.5
3	☐	5.000	4.793	93130.31	0.0918	P	0.4
4	☐	10.000	9.907	196348.17	0.1897	P	1.6
5	☐	100.000	103.786	1943237.63	1.9860	A	0.7
6	☐	200.000	198.118	3632254.01	3.7910	A	0.3

y = 0.0191 * x + 1.3093E-004
R = 0.9997
DL = 0.006815
BEC = 0.006843

Weight: <None>
Min Conc: <None>

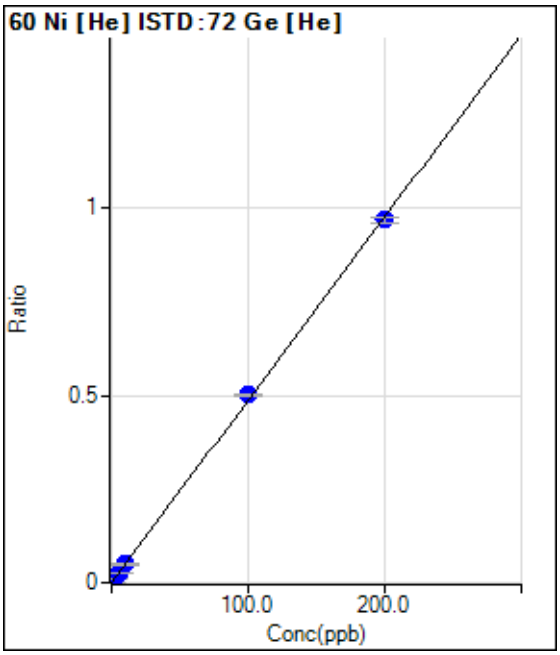
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	610.03	0.0001	P	18.4
2	☐	2.000	2.006	23660.83	0.0049	P	1.8
3	☐	5.000	4.976	57361.27	0.0121	P	0.2
4	☐	10.000	10.354	119992.16	0.0250	P	0.7
5	☐	100.000	102.643	1150769.51	0.2463	A	1.7
6	☐	200.000	198.661	2174187.72	0.4766	A	3.0

y = 0.0024 * x + 1.2758E-004
R = 0.9999
DL = 0.02935
BEC = 0.0532

Weight: <None>
Min Conc: <None>

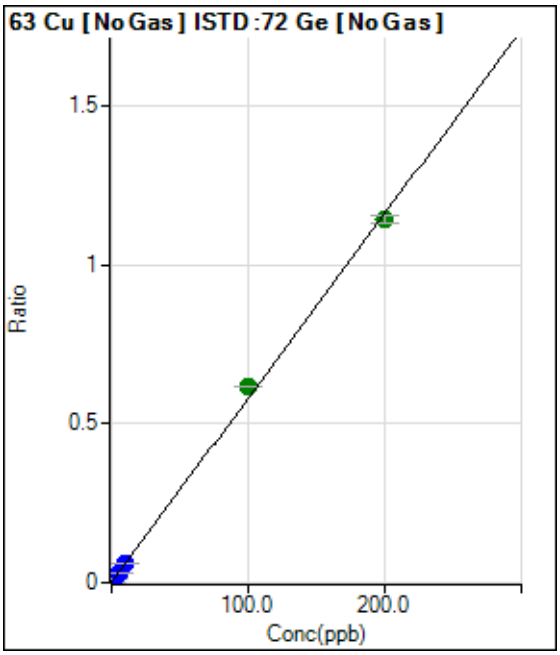


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	190.01	0.0002	P	28.5
2	☐	2.000	1.932	9983.84	0.0096	P	3.9
3	☐	5.000	4.939	24642.70	0.0243	P	1.7
4	☐	10.000	10.090	51156.59	0.0494	P	3.5
5	☐	100.000	102.726	490892.13	0.5017	P	1.4
6	☐	200.000	198.635	929330.64	0.9699	P	1.3

y = 0.0049 * x + 1.8482E-004
R = 0.9999
DL = 0.03231
BEC = 0.03786

Weight: <None>
Min Conc: <None>

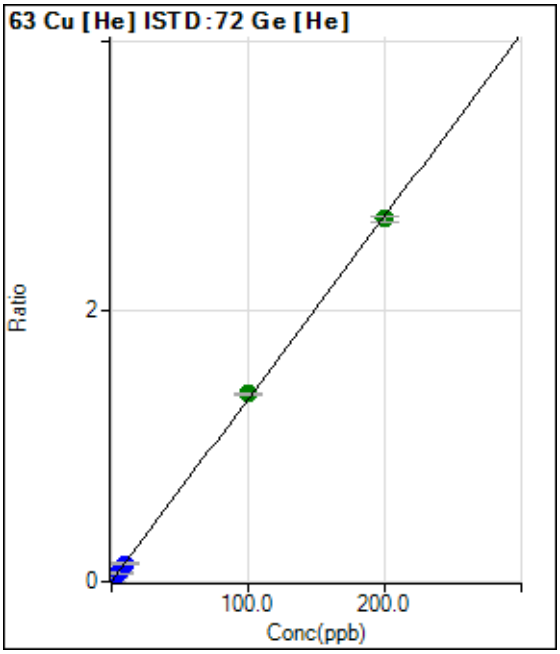
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4917.67	0.0010	P	4.4
2	☐	2.000	1.985	60042.88	0.0125	P	2.1
3	☐	5.000	4.957	141470.30	0.0298	P	3.2
4	☐	10.000	10.402	294754.58	0.0613	P	1.2
5	☐	100.000	106.376	2885403.81	0.6176	A	0.7
6	☐	200.000	196.793	5208479.19	1.1416	A	2.2

y = 0.0058 * x + 0.0010
R = 0.9993
DL = 0.02351
BEC = 0.1775

Weight: <None>
Min Conc: <None>

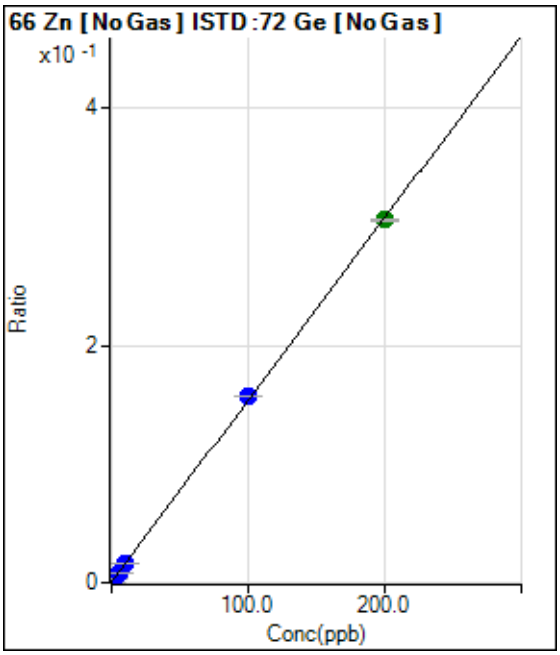


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1660.13	0.0016	P	6.6
2	☐	2.000	1.846	27568.24	0.0266	P	2.1
3	☐	5.000	4.702	66073.76	0.0652	P	3.4
4	☐	10.000	9.842	139295.63	0.1346	P	2.9
5	☐	100.000	102.809	1360873.73	1.3908	A	0.8
6	☐	200.000	198.613	2572697.20	2.6854	A	1.8

y = 0.0135 * x + 0.0016
R = 0.9999
DL = 0.02395
BEC = 0.1204

Weight: <None>
Min Conc: <None>

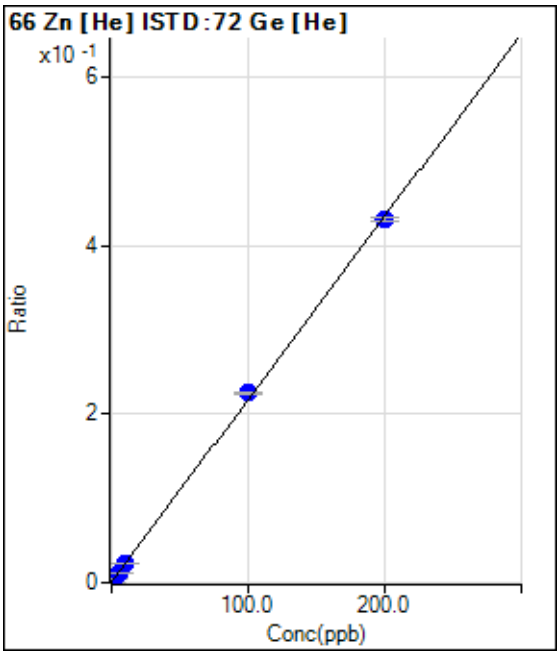
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2676.98	0.0006	P	5.5
2	☐	2.000	2.075	17922.13	0.0037	P	2.0
3	☐	5.000	4.858	38080.49	0.0080	P	2.9
4	☐	10.000	10.277	78409.30	0.0163	P	1.4
5	☐	100.000	101.908	732409.34	0.1568	P	0.3
6	☐	200.000	199.035	1394531.54	0.3056	A	0.6

y = 0.0015 * x + 5.6001E-004
R = 0.9999
DL = 0.06055
BEC = 0.3654

Weight: <None>
Min Conc: <None>

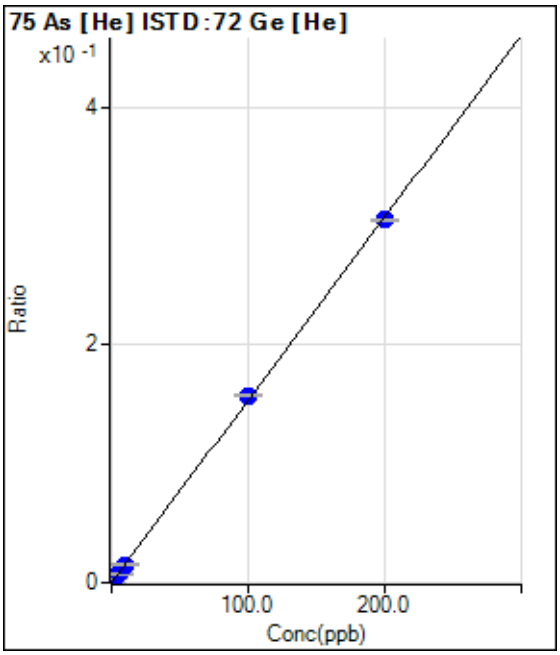


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	716.70	0.0007	P	4.6
2	☐	2.000	1.998	5227.75	0.0050	P	3.0
3	☐	5.000	4.974	11651.87	0.0115	P	5.0
4	☐	10.000	10.060	23320.41	0.0225	P	2.5
5	☐	100.000	103.590	220658.44	0.2255	P	0.6
6	☐	200.000	198.203	412770.49	0.4308	P	1.2

y = 0.0022 * x + 7.0192E-004
R = 0.9998
DL = 0.04427
BEC = 0.3234

Weight: <None>
Min Conc: <None>

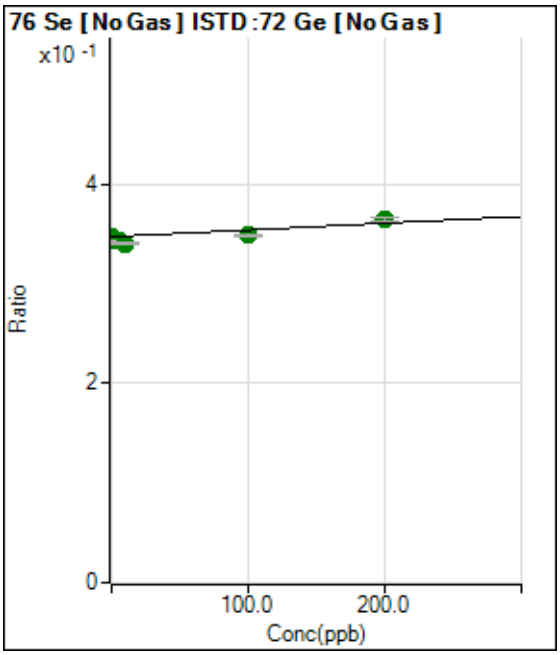
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	74.45	0.0001	P	38.5
2	☐	2.000	1.816	2967.01	0.0029	P	5.0
3	☐	5.000	4.743	7452.09	0.0074	P	2.8
4	☐	10.000	9.948	15873.82	0.0153	P	2.5
5	☐	100.000	102.549	154046.71	0.1574	P	0.8
6	☐	200.000	198.737	292258.97	0.3050	P	0.8

y = 0.0015 * x + 7.3459E-005
R = 0.9999
DL = 0.05527
BEC = 0.04787

Weight: <None>
Min Conc: <None>

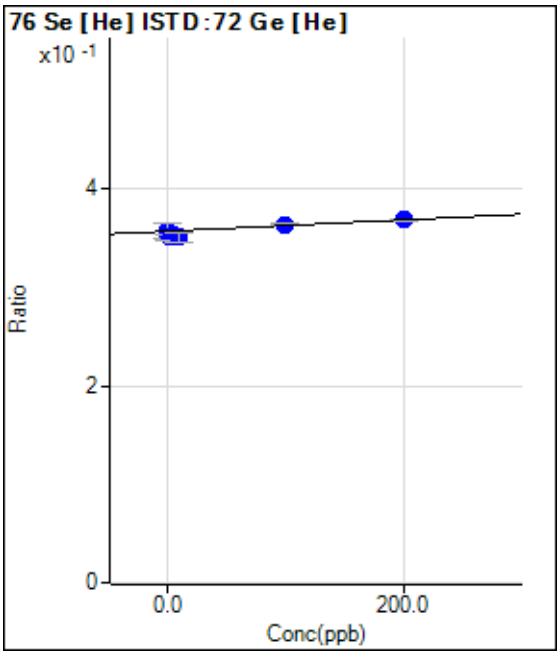


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1657476.95	0.3469	A	0.8
2	☐	2.000	-58.848	1643014.56	0.3429	A	1.1
3	☐	5.000	-58.065	1630983.05	0.3429	A	0.3
4	☐	10.000	-98.274	1635326.49	0.3402	A	1.0
5	☐	100.000	21.073	1627510.19	0.3483	A	0.6
6	☐	200.000	247.062	1659968.10	0.3638	A	1.1

y = 6.8330E-005 * x + 0.3469
R = 0.9305
DL = 122.3
BEC = 5077

Weight: <None>
Min Conc: <None>

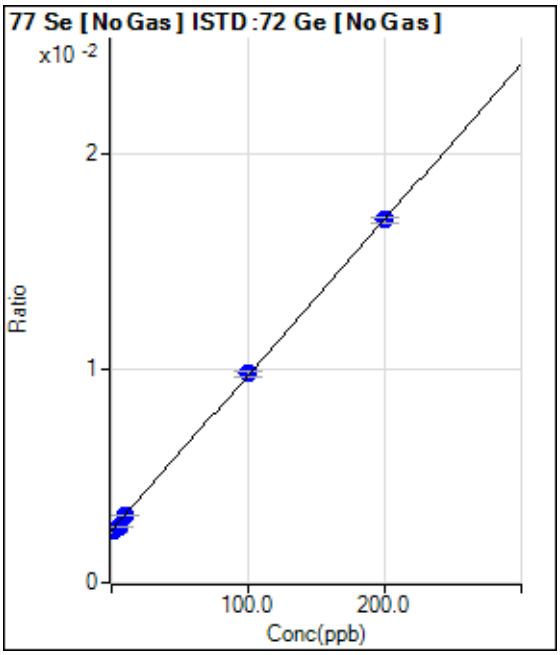
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	364956.52	0.3574	P	4.2
2	☐	2.000	-107.776	364410.49	0.3512	P	1.5
3	☐	5.000	-69.577	358241.18	0.3534	P	2.8
4	☐	10.000	-106.494	363463.09	0.3513	P	2.9
5	☐	100.000	121.375	356594.12	0.3644	P	0.8
6	☐	200.000	198.100	353416.23	0.3689	P	0.8

y = 5.7873E-005 * x + 0.3574
R = 0.9246
DL = 782.3
BEC = 6176

Weight: <None>
Min Conc: <None>

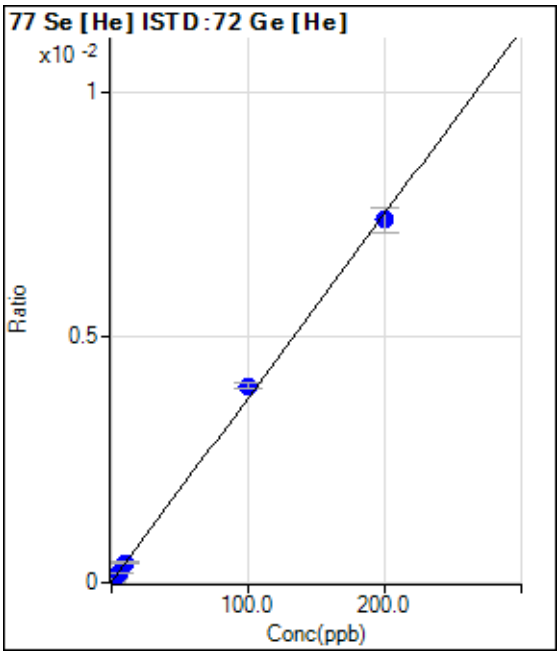


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11651.94	0.0024	P	3.7
2	☐	2.000	-0.531	11501.80	0.0024	P	3.7
3	☐	5.000	2.311	12395.89	0.0026	P	2.4
4	☐	10.000	9.841	15158.79	0.0032	P	2.0
5	☐	100.000	100.744	45557.36	0.0098	P	2.6
6	☐	200.000	199.728	77270.73	0.0169	P	1.4

y = 7.2583E-005 * x + 0.0024
R = 0.9999
DL = 3.698
BEC = 33.6

Weight: <None>
Min Conc: <None>

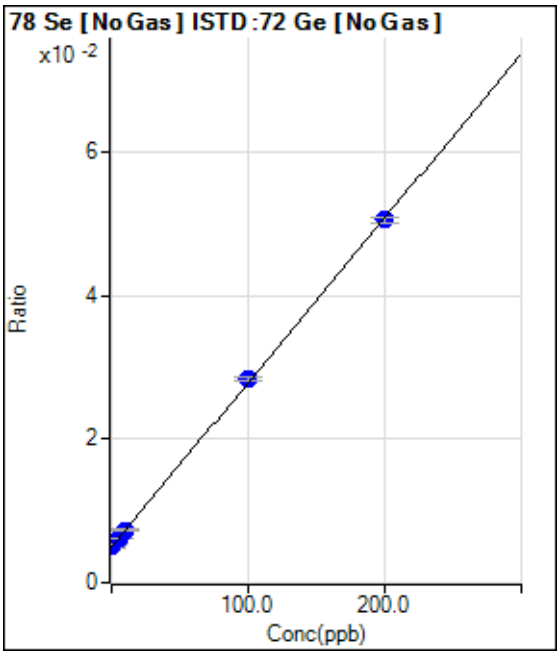
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	93.0
2	☐	2.000	1.872	90.00	0.0001	P	27.5
3	☐	5.000	4.827	200.01	0.0002	P	13.3
4	☐	10.000	10.469	423.35	0.0004	P	11.4
5	☐	100.000	106.502	3923.99	0.0040	P	2.3
6	☐	200.000	196.731	7082.00	0.0074	P	6.8

y = 3.7505E-005 * x + 1.6209E-005
R = 0.9992
DL = 1.206
BEC = 0.4322

Weight: <None>
Min Conc: <None>

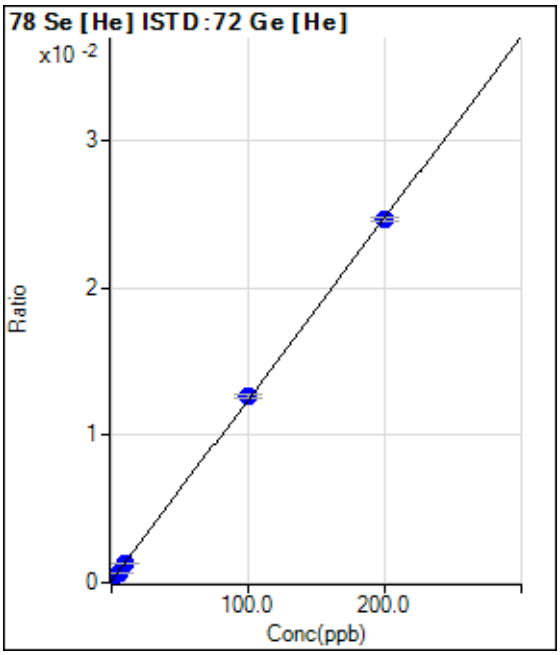


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	23888.15	0.0050	P	3.6
2	☐	2.000	2.456	26660.04	0.0056	P	2.3
3	☐	5.000	4.806	29024.88	0.0061	P	1.5
4	☐	10.000	10.283	35383.38	0.0074	P	1.5
5	☐	100.000	102.046	132732.97	0.0284	P	1.7
6	☐	200.000	198.963	231047.26	0.0506	P	1.8

y = 2.2939E-004 * x + 0.0050
R = 0.9999
DL = 2.383
BEC = 21.8

Weight: <None>
Min Conc: <None>

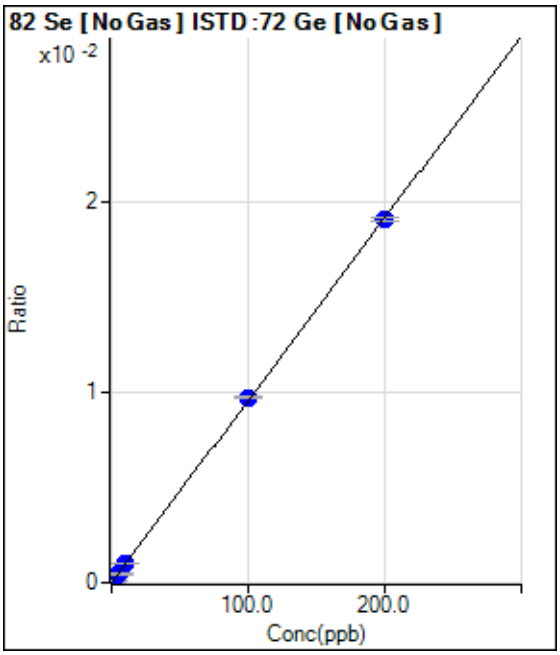
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0001	P	9.7
2	☐	2.000	2.008	374.68	0.0004	P	11.9
3	☐	5.000	4.486	675.35	0.0007	P	10.2
4	☐	10.000	9.820	1368.08	0.0013	P	6.6
5	☐	100.000	101.963	12389.71	0.0127	P	1.4
6	☐	200.000	199.040	23577.23	0.0246	P	1.0

y = 1.2307E-004 * x + 1.1440E-004
R = 0.9999
DL = 0.2718
BEC = 0.9296

Weight: <None>
Min Conc: <None>

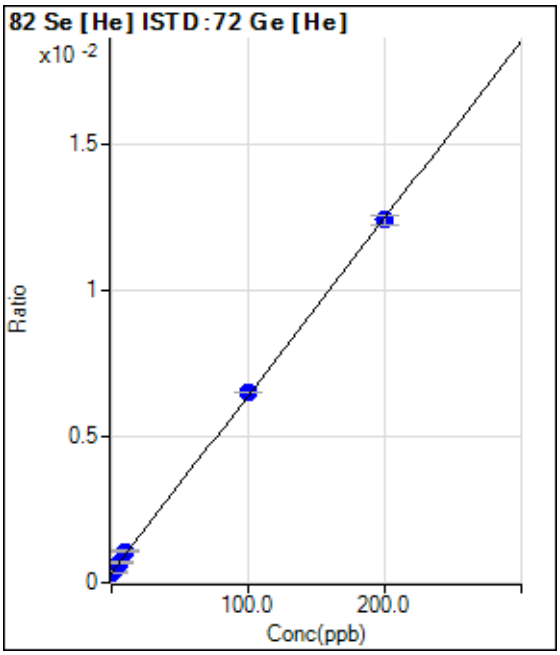


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.09	0.0000	P	936.1
2	☐	2.000	1.273	592.64	0.0001	P	29.9
3	☐	5.000	4.821	2204.41	0.0005	P	19.9
4	☐	10.000	10.342	4771.82	0.0010	P	2.1
5	☐	100.000	101.640	45501.24	0.0097	P	1.0
6	☐	200.000	199.175	87069.44	0.0191	P	0.9

y = 9.5799E-005 * x + 1.9538E-006
R = 0.9999
DL = 0.5727
BEC = 0.02039

Weight: <None>
Min Conc: <None>

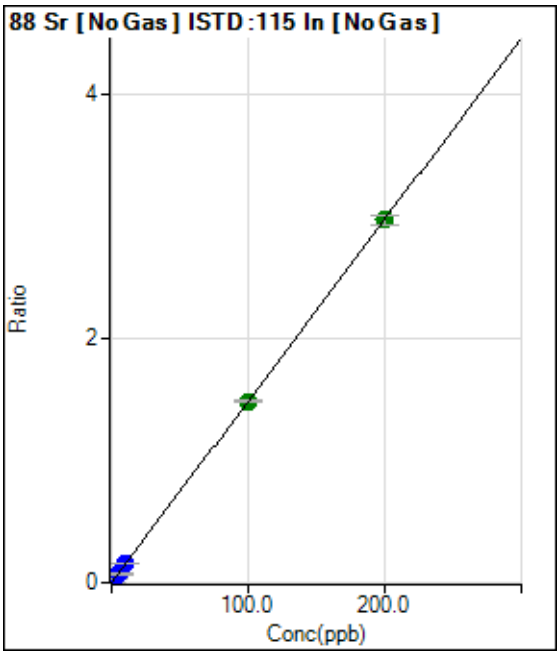
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	346.68	0.0003	P	18.1
2	☐	2.000	0.746	400.01	0.0004	P	15.8
3	☐	5.000	5.665	693.37	0.0007	P	12.2
4	☐	10.000	12.030	1106.74	0.0011	P	3.7
5	☐	100.000	101.695	6371.63	0.0065	P	0.2
6	☐	200.000	199.047	11898.85	0.0124	P	2.3

y = 6.0696E-005 * x + 3.3939E-004
R = 0.9999
DL = 3.039
BEC = 5.592

Weight: <None>
Min Conc: <None>

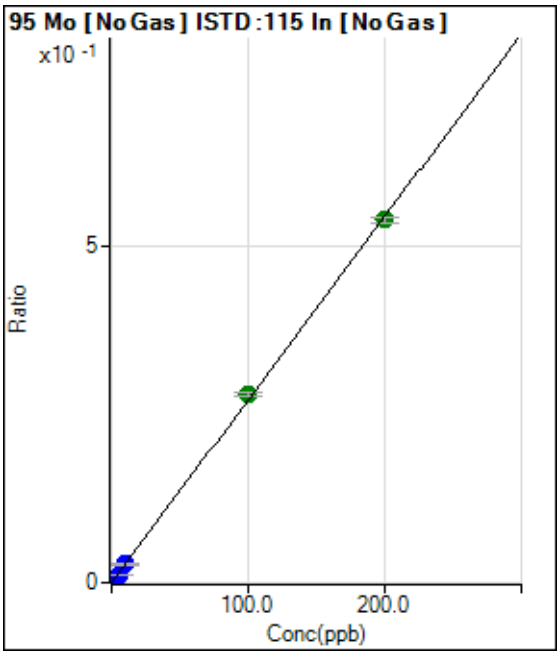


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2656.97	0.0005	P	10.4
2	☐	2.000	1.876	153014.09	0.0284	P	2.1
3	☐	5.000	4.761	380615.43	0.0712	P	1.7
4	☐	10.000	10.351	814635.67	0.1543	P	2.1
5	☐	100.000	100.108	7773150.51	1.4883	A	1.2
6	☐	200.000	199.936	15230622.69	2.9719	A	2.6

y = 0.0149 * x + 4.9016E-004
R = 1.0000
DL = 0.01031
BEC = 0.03298

Weight: <None>
Min Conc: <None>

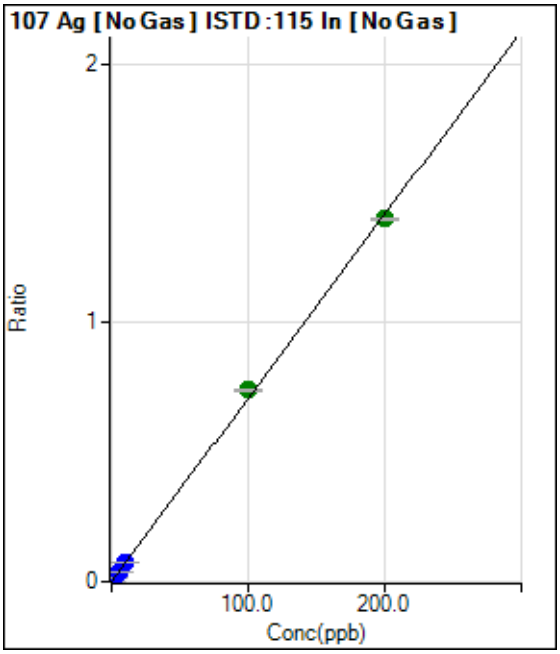
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	113.33	0.0000	P	28.5
2	☐	2.000	1.865	27422.19	0.0051	P	2.7
3	☐	5.000	4.670	67873.34	0.0127	P	1.7
4	☐	10.000	10.025	143829.63	0.0272	P	2.4
5	☐	100.000	103.235	1464485.29	0.2804	A	1.5
6	☐	200.000	198.391	2761975.38	0.5388	A	1.4

y = 0.0027 * x + 2.0901E-005
R = 0.9998
DL = 0.006578
BEC = 0.007696

Weight: <None>
Min Conc: <None>

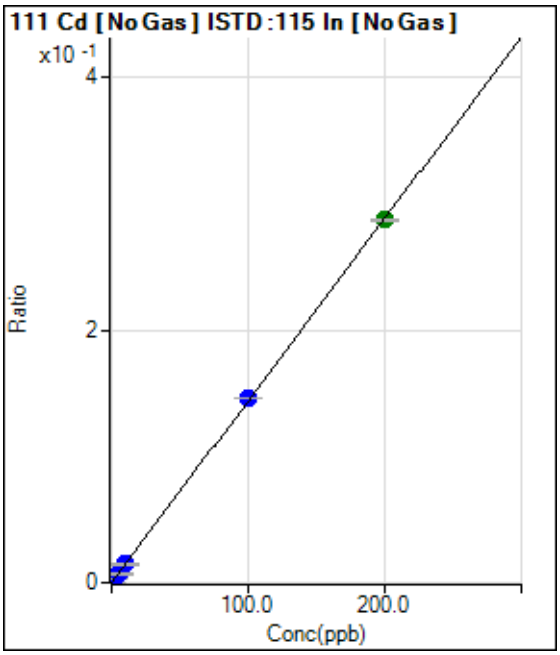


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	383.35	0.0001	P	29.7
2	☐	2.000	1.973	75801.18	0.0141	P	2.0
3	☐	5.000	4.882	185298.27	0.0347	P	1.4
4	☐	10.000	10.565	395690.07	0.0750	P	2.8
5	☐	100.000	104.496	3869775.67	0.7409	A	1.2
6	☐	200.000	197.727	7186666.77	1.4019	A	0.8

y = 0.0071 * x + 7.0521E-005
R = 0.9996
DL = 0.008874
BEC = 0.009947

Weight: <None>
Min Conc: <None>

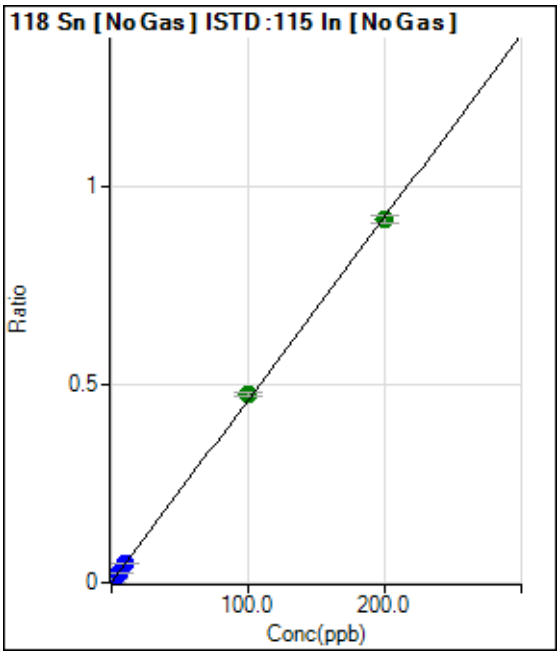
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	1.2
2	☐	2.000	1.979	15365.88	0.0028	P	0.6
3	☐	5.000	4.777	36734.93	0.0069	P	1.7
4	☐	10.000	10.063	76459.40	0.0145	P	1.8
5	☐	100.000	101.137	760190.04	0.1455	P	0.4
6	☐	200.000	199.434	1471286.96	0.2870	A	0.8

y = 0.0014 * x + 1.8435E-006
R = 1.0000
DL = 4.736E-05
BEC = 0.001281

Weight: <None>
Min Conc: <None>

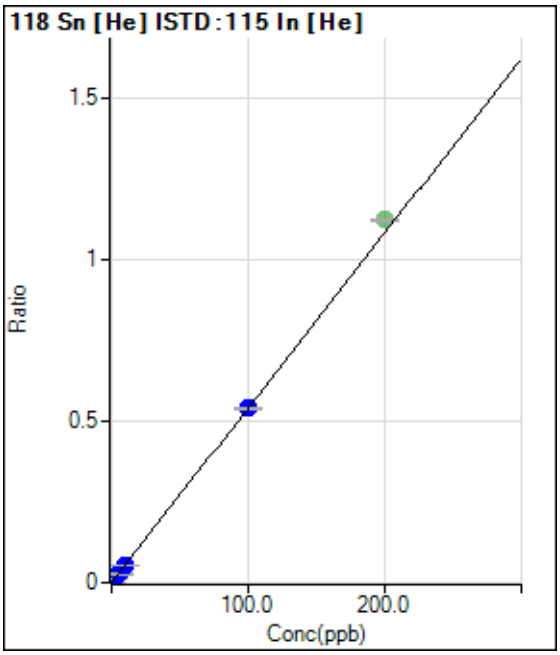


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3540.56	0.0007	P	6.9
2	☐	2.000	1.859	49811.81	0.0092	P	1.7
3	☐	5.000	4.868	123580.81	0.0231	P	2.2
4	☐	10.000	10.402	257067.11	0.0487	P	1.8
5	☐	100.000	102.833	2483419.75	0.4755	A	1.9
6	☐	200.000	198.568	4702685.24	0.9175	A	2.2

y = 0.0046 * x + 6.5267E-004
R = 0.9999
DL = 0.02907
BEC = 0.1414

Weight: <None>
Min Conc: <None>

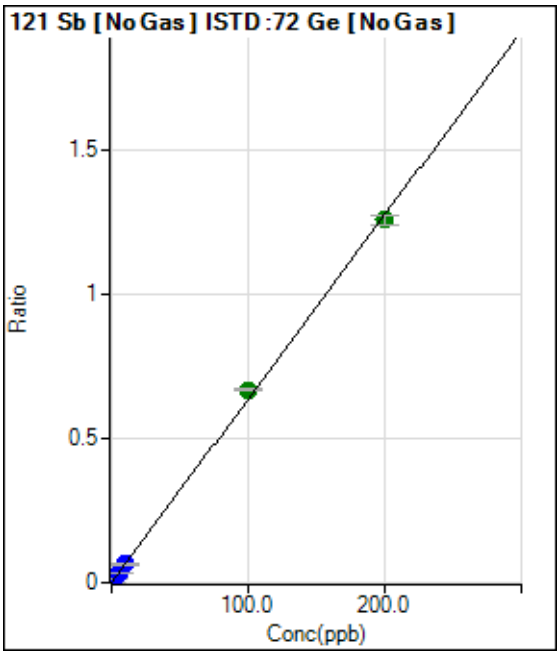
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1386.77	0.0007	P	9.9
2	☐	2.000	1.867	20452.95	0.0108	P	3.6
3	☐	5.000	4.844	49172.48	0.0269	P	1.4
4	☐	10.000	10.138	103863.63	0.0556	P	3.2
5	☐	100.000	99.997	970238.66	0.5418	P	1.0
6	☑	200.000		1982955.86	1.1247	A	0.7

y = 0.0054 * x + 7.3370E-004
R = 1.0000
DL = 0.04017
BEC = 0.1356

Weight: <None>
Min Conc: <None>

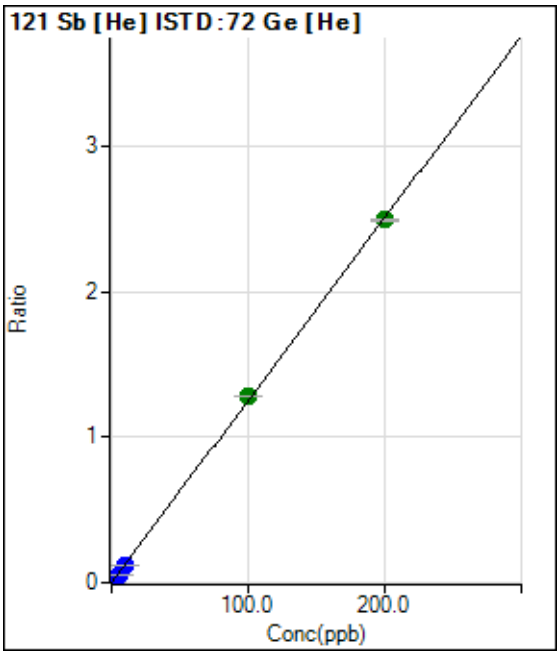


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	740.04	0.0002	P	27.7
2	☐	2.000	1.895	58688.67	0.0122	P	0.8
3	☐	5.000	4.810	146637.60	0.0308	P	3.3
4	☐	10.000	9.947	305849.84	0.0636	P	1.1
5	☐	100.000	105.058	3132742.35	0.6705	A	1.5
6	☐	200.000	197.479	5749340.33	1.2602	A	2.8

y = 0.0064 * x + 1.5531E-004
R = 0.9995
DL = 0.02026
BEC = 0.02434

Weight: <None>
Min Conc: <None>

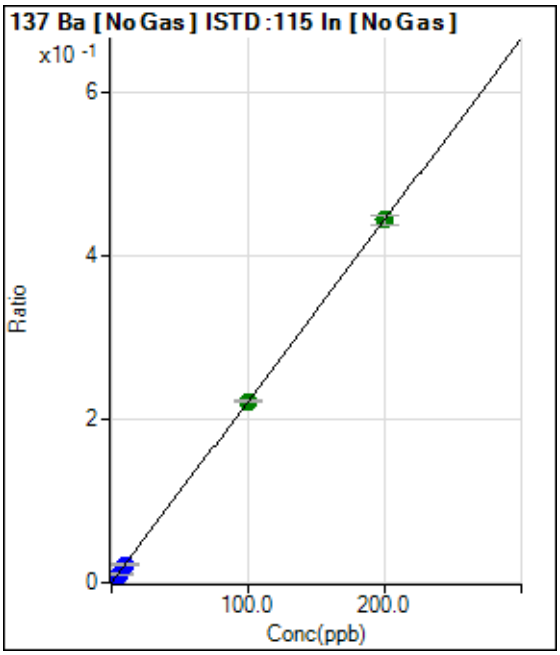
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	286.68	0.0003	P	25.4
2	☐	2.000	1.739	22903.70	0.0221	P	4.7
3	☐	5.000	4.474	57178.37	0.0564	P	2.0
4	☐	10.000	9.207	119790.36	0.1157	P	2.0
5	☐	100.000	101.919	1250912.35	1.2785	A	0.2
6	☐	200.000	199.096	2392575.69	2.4972	A	0.4

y = 0.0125 * x + 2.8008E-004
R = 0.9999
DL = 0.01703
BEC = 0.02233

Weight: <None>
Min Conc: <None>

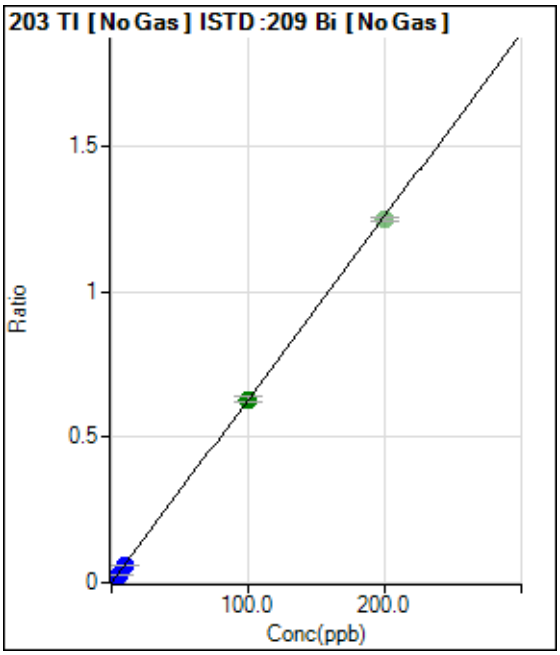


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	870.05	0.0002	P	4.9
2	☐	2.000	1.902	23651.96	0.0044	P	1.5
3	☐	5.000	4.683	56447.47	0.0106	P	2.7
4	☐	10.000	9.938	117398.10	0.0222	P	3.3
5	☐	100.000	99.963	1160962.90	0.2223	A	0.7
6	☐	200.000	200.031	2278887.99	0.4446	A	2.5

y = 0.0022 * x + 1.6033E-004
R = 1.0000
DL = 0.01064
BEC = 0.07216

Weight: <None>
Min Conc: <None>

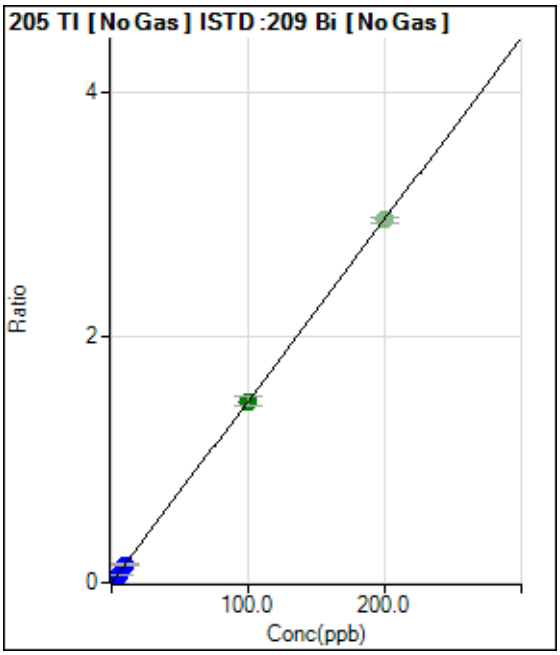
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	160.01	0.0000	P	18.7
2	☐	2.000	1.768	47009.65	0.0112	P	1.6
3	☐	5.000	4.508	116723.95	0.0284	P	2.3
4	☐	10.000	9.662	251669.02	0.0608	P	2.1
5	☐	100.000	100.063	2561347.31	0.6291	A	3.0
6	☑	200.000		4809090.45	1.2455	A	0.9

y = 0.0063 * x + 3.9147E-005
R = 1.0000
DL = 0.003502
BEC = 0.006227

Weight: <None>
Min Conc: <None>

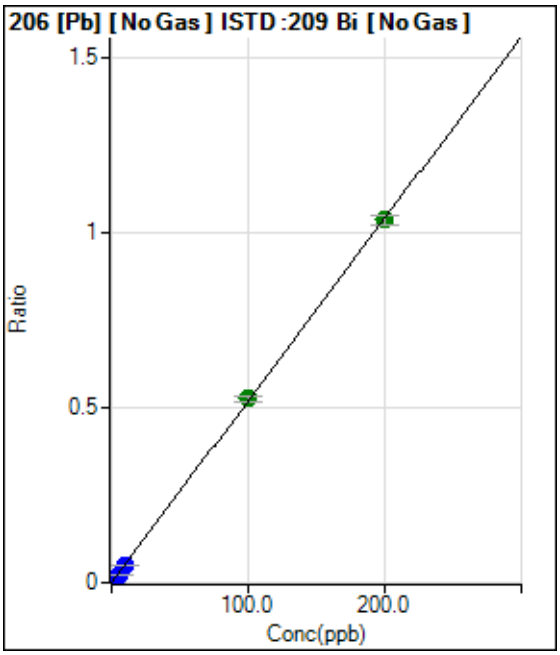


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230.01	0.0001	P	12.4
2	☐	2.000	1.778	111205.56	0.0264	P	1.9
3	☐	5.000	4.596	280151.20	0.0681	P	3.3
4	☐	10.000	9.857	604439.47	0.1460	P	4.5
5	☐	100.000	100.039	6030404.91	1.4814	A	4.4
6	☑	200.000		11422845.25	2.9586	A	1.8

y = 0.0148 * x + 5.6235E-005
R = 1.0000
DL = 0.001409
BEC = 0.003798

Weight: <None>
Min Conc: <None>

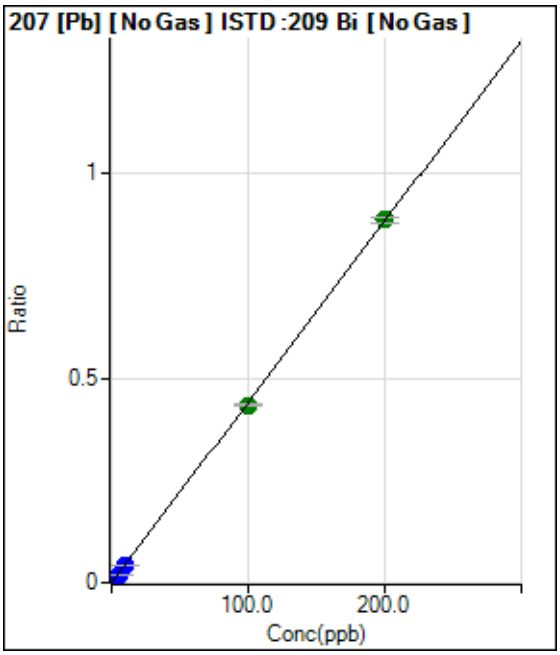
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	430.02	0.0001	P	13.4
2	☐	2.000	1.726	38203.07	0.0091	P	3.4
3	☐	5.000	4.489	96306.40	0.0234	P	0.6
4	☐	10.000	9.752	210056.24	0.0507	P	2.8
5	☐	100.000	101.301	2141551.90	0.5260	A	3.3
6	☐	200.000	199.378	3996514.00	1.0351	A	2.3

y = 0.0052 * x + 1.0512E-004
R = 1.0000
DL = 0.008158
BEC = 0.02025

Weight: <None>
Min Conc: <None>

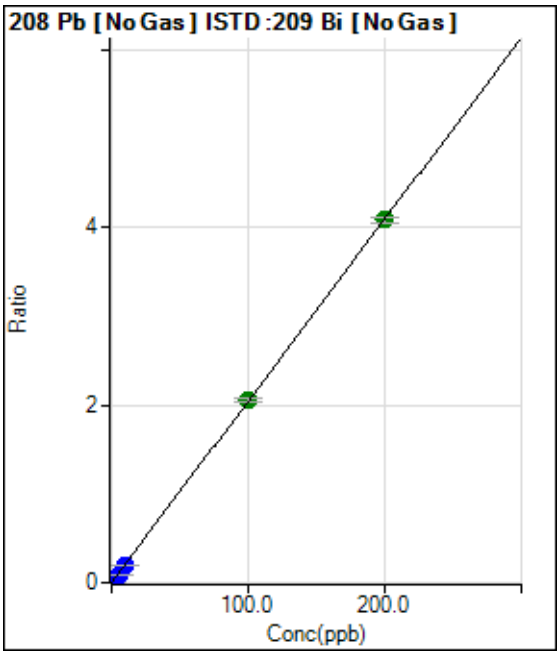


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	316.68	0.0001	P	29.2
2	☐	2.000	1.845	34682.50	0.0082	P	0.8
3	☐	5.000	4.612	84111.16	0.0204	P	2.1
4	☐	10.000	9.963	182534.94	0.0441	P	2.2
5	☐	100.000	98.312	1768578.31	0.4343	A	1.5
6	☐	200.000	200.857	3425457.45	0.8872	A	1.6

y = 0.0044 * x + 7.7588E-005
R = 1.0000
DL = 0.01538
BEC = 0.01757

Weight: <None>
Min Conc: <None>

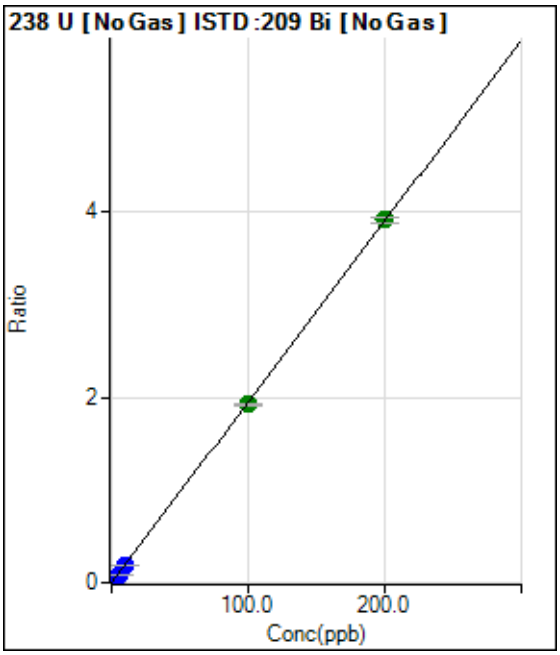
Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1616.74	0.0004	P	5.8
2	☐	2.000	1.832	159496.17	0.0378	P	0.6
3	☐	5.000	4.631	391088.47	0.0951	P	1.1
4	☐	10.000	9.805	831719.00	0.2008	P	0.9
5	☐	100.000	100.458	8364492.74	2.0539	A	1.4
6	☐	200.000	199.792	15769861.12	4.0844	A	1.3

y = 0.0204 * x + 3.9547E-004
R = 1.0000
DL = 0.003344
BEC = 0.01935

Weight: <None>
Min Conc: <None>

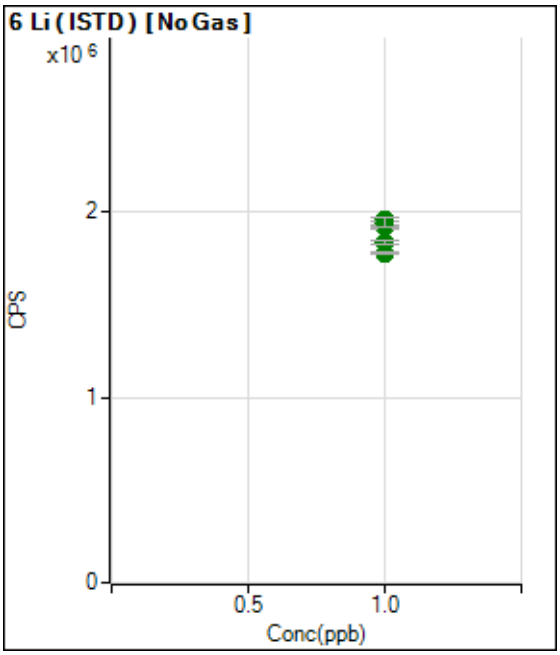


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	16.67	0.0000	P	124.9
2	☐	2.000	1.778	146180.97	0.0347	P	0.3
3	☐	5.000	4.535	363732.10	0.0884	P	0.8
4	☐	10.000	9.568	772741.99	0.1866	P	1.1
5	☐	100.000	98.549	7828936.55	1.9215	A	1.6
6	☐	200.000	200.761	15116025.19	3.9144	A	1.3

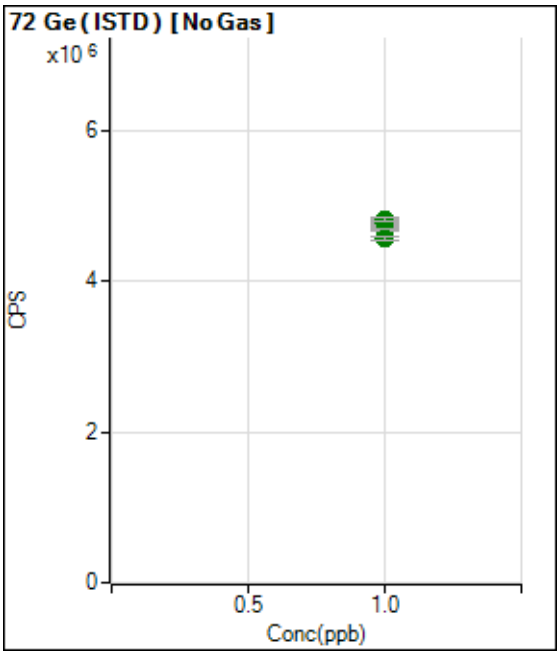
y = 0.0195 * x + 4.0573E-006
R = 1.0000
DL = 0.0007795
BEC = 0.0002081

Weight: <None>
Min Conc: <None>

Calibration for 017_ICV.d

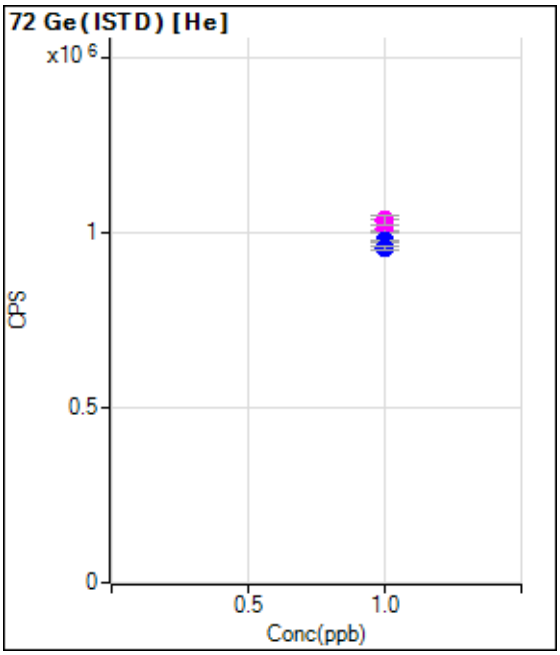


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1931903.02		A	0.2
2	☐	1.000		1959158.60		A	1.0
3	☐	1.000		1920390.32		A	1.3
4	☐	1.000		1946320.84		A	2.9
5	☐	1.000		1837610.32		A	1.3
6	☐	1.000		1778791.67		A	0.7

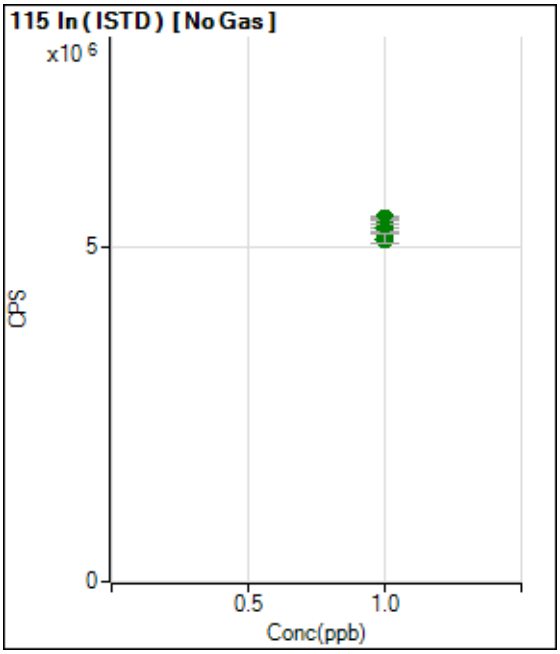


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4777859.93		A	1.5
2	☐	1.000		4791501.60		A	1.1
3	☐	1.000		4756165.76		A	2.1
4	☐	1.000		4807388.78		A	1.0
5	☐	1.000		4672169.10		A	0.3
6	☐	1.000		4562996.18		A	1.1

Calibration for 017_ICV.d

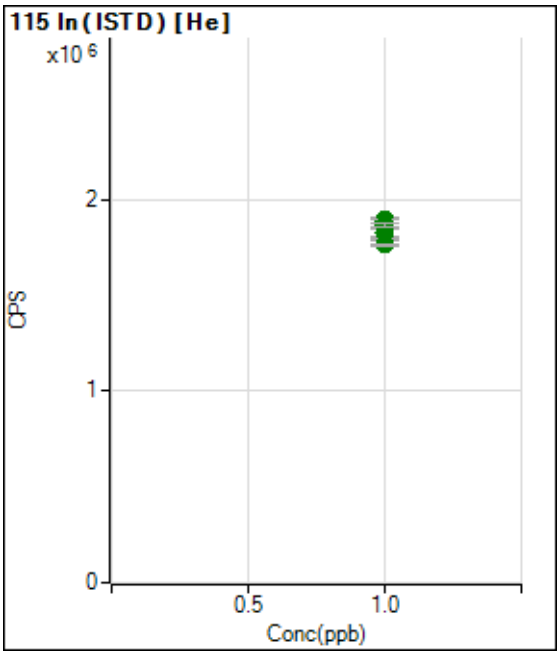


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1022076.81		M	3.5
2	☐	1.000		1037940.24		M	2.5
3	☐	1.000		1014123.40		M	2.2
4	☐	1.000		1035316.96		M	2.8
5	☐	1.000		978457.46		P	0.4
6	☐	1.000		958114.46		P	1.0

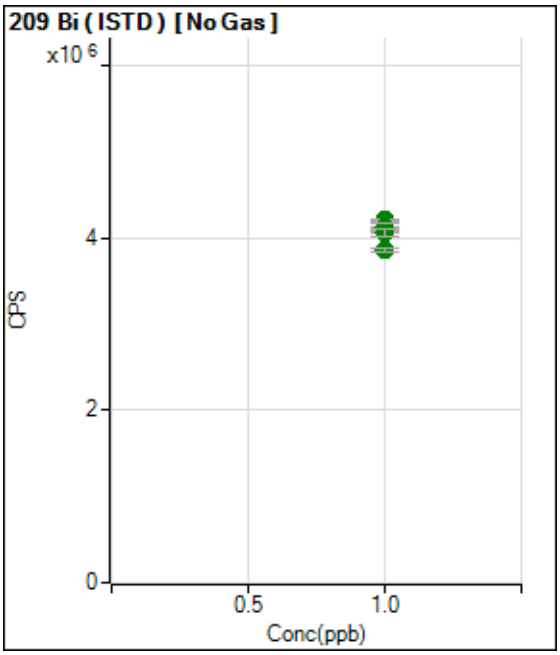


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		5424891.18		A	1.2
2	☐	1.000		5393097.55		A	1.4
3	☐	1.000		5343674.78		A	2.1
4	☐	1.000		5280395.15		A	2.5
5	☐	1.000		5223121.00		A	0.6
6	☐	1.000		5127191.81		A	2.8

Calibration for 017_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1891723.37		A	1.5
2	☐	1.000		1887682.67		A	1.0
3	☐	1.000		1825149.96		A	2.4
4	☐	1.000		1868665.01		A	1.0
5	☐	1.000		1790609.77		A	0.8
6	☐	1.000		1763055.13		A	0.5



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		4087764.11		A	0.8
2	☐	1.000		4215442.85		A	0.7
3	☐	1.000		4113981.92		A	1.2
4	☐	1.000		4142021.19		A	1.9
5	☐	1.000		4073413.69		A	2.3
6	☐	1.000		3861350.46		A	1.1

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	018LCV2.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:50:02-05:00
Sample Type	LLCCV2
Dilution	1
Comment	
ISTD Ref FileName	010CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	1.910	1.910	7.38	164597	0.00	2	
Be	9	1	No Gas	1.862	1.862	2.48	12874	0.01	2	
V	51	2	He	1.759	1.759	2.10	19769	0.01	2	
Cr	52	2	He	1.826	1.826	1.88	24469	0.01	2	
Fe	56	2	He	193.820	193.820	2.75	2066572	0.01	200	
Se	78	2	He	1.723	1.723	5.65	345	0.50	2	
Sn	118	2	He	1.963	1.963	1.85	22006	0.01	2	
As	75	2	He	1.945	1.945	3.83	3233	0.06	2	
Ca	44	2	He	190.362	190.362	7.13	9243	2.06	200	
Na	23	2	He	180.562	180.562	3.54	342746	0.05	200	
Mg	24	2	He	191.592	191.592	2.16	144378	0.13	200	
K	39	2	He	179.141	179.141	2.44	206927	0.09	200	
Mn	55	2	He	1.872	1.872	2.37	15195	0.01	2	
Co	59	2	He	1.837	1.837	1.88	37305	0.00	2	
Ni	60	2	He	1.849	1.849	2.76	9744	0.02	2	
Cu	63	2	He	1.847	1.847	3.35	28103	0.01	2	
Zn	66	2	He	2.061	2.061	3.90	5475	0.04	2	
Al	27	2	He	2.961	2.961	10.17	1347	0.22	2	NewName Main CR1 Failed
B	11	1	No Gas	16.512	16.512	4.12	91927	0.02	10	NewName Main CR1 Failed
Al	27	1	No Gas	2.935	2.935	3.33	119654	0.00	2	NewName Main CR1 Failed
Si	28	1	No Gas	11.159	11.159	5.80	687825	0.00	10	
P	31	1	No Gas	8.718	8.718	3.95	50863	0.02	10	
Ag	107	1	No Gas	1.956	1.956	2.24	75852	0.00	2	
Cd	111	1	No Gas	1.947	1.947	2.99	15249	0.01	2	
Sr	88	1	No Gas	1.886	1.886	3.72	155148	0.00	2	
Mo	95	1	No Gas	1.914	1.914	3.44	28394	0.01	2	
Sn	118	1	No Gas	2.054	2.054	1.85	55170	0.00	2	
Sb	121	1	No Gas	2.059	2.059	1.66	63706	0.00	2	
Ba	137	1	No Gas	1.932	1.932	3.96	24230	0.01	2	
Tl	205	1	No Gas	2.001	2.001	2.40	121648	0.00	2	
Tl	203	1	No Gas	1.956	1.956	2.30	50216	0.00	2	
Pb	208	1	No Gas	1.900	1.900	2.41	160987	0.00	2	
U	238	1	No Gas	1.798	1.798	1.42	143825	0.00	2	
Ca	43	2	He	164.004	164.004	21.18	463	35.40	200	
Sb	121	2	He	1.812	1.812	3.70	24313	0.01	2	
Ti	47	2	He	1.898	1.898	14.89	617	0.31	200	
Cu	63	1	No Gas	1.982	1.982	1.68	59989	0.00	2	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1934638	1.85	1931903	100.14	70	120	
Ge	72	2	He	1057538	1.76	1022077	103.47	70	120	
Ge	72	1	No Gas	4792966	1.37	4777860	100.32	70	120	
In	115	1	No Gas	5442325	2.11	5424891	100.32	70	120	
Bi	209	1	No Gas	4102822	1.40	4087764	100.37	70	120	

Sample Report

Sample Table

Sample Name	LLICV5
Data File Name	019LCV5.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\041420A.b
Acq Date Time	2020-04-14T08:51:55-05:00
Sample Type	LLCCV5
Dilution	1
Comment	
ISTD Ref FileName	010CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Li	7	1	No Gas	4.788	4.788	1.17	245416	0.00	5	
Be	9	1	No Gas	4.738	4.738	1.10	32347	0.01	5	
V	51	2	He	4.437	4.437	2.46	47121	0.01	5	
Cr	52	2	He	4.585	4.585	2.30	59158	0.01	5	
Fe	56	2	He	471.763	471.763	1.57	5007289	0.01	500	
Se	78	2	He	4.648	4.648	12.15	725	0.64	5	
Sn	118	2	He	4.688	4.688	0.36	51054	0.01	5	
As	75	2	He	4.665	4.665	3.43	7632	0.06	5	
Ca	44	2	He	471.210	471.210	1.89	22472	2.10	500	
Na	23	2	He	472.654	472.654	2.79	753809	0.06	500	
Mg	24	2	He	475.147	475.147	2.53	356519	0.13	500	
K	39	2	He	461.094	461.094	2.49	448872	0.10	500	
Mn	55	2	He	4.602	4.602	2.14	36716	0.01	5	
Co	59	2	He	4.706	4.706	1.10	95202	0.00	5	
Ni	60	2	He	4.702	4.702	2.29	24429	0.02	5	
Cu	63	2	He	4.652	4.652	2.48	68067	0.01	5	
Zn	66	2	He	4.799	4.799	0.93	11735	0.04	5	
Al	27	2	He	5.192	5.192	4.30	2087	0.25	5	
B	11	1	No Gas	27.403	27.403	0.65	137940	0.02	25	
Al	27	1	No Gas	6.005	6.005	0.77	214200	0.00	5	
Si	28	1	No Gas	26.215	26.215	4.49	933694	0.00	25	
P	31	1	No Gas	21.985	21.985	1.87	72181	0.03	25	
Ag	107	1	No Gas	4.889	4.889	3.84	188059	0.00	5	
Cd	111	1	No Gas	4.881	4.881	0.94	38049	0.01	5	
Sr	88	1	No Gas	4.671	4.671	2.41	378541	0.00	5	
Mo	95	1	No Gas	4.702	4.702	3.25	69264	0.01	5	
Sn	118	1	No Gas	4.946	4.946	0.85	127226	0.00	5	
Sb	121	1	No Gas	4.844	4.844	1.12	150130	0.00	5	
Ba	137	1	No Gas	4.754	4.754	4.95	58091	0.01	5	
Tl	205	1	No Gas	4.722	4.722	2.17	286107	0.00	5	
Tl	203	1	No Gas	4.710	4.710	2.30	120372	0.00	5	
Pb	208	1	No Gas	4.697	4.697	0.74	394422	0.00	5	
U	238	1	No Gas	4.560	4.560	1.25	363764	0.00	5	
Ca	43	2	He	501.658	501.658	4.48	1390	36.09	500	
Sb	121	2	He	4.367	4.367	2.48	58102	0.01	5	
Ti	47	2	He	4.513	4.513	8.49	1463	0.31	5	
Cu	63	1	No Gas	4.923	4.923	0.80	142882	0.00	5	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	No Gas	1915133	1.04	1931903	99.13	70	120	
Ge	72	2	He	1055730	2.28	1022077	103.29	70	120	