LONGHORN ARMY AMMUNITION PLANT KARNACK, TEXAS

ADMINISTRATIVE RECORD

Volume 24

2018

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Longhorn Army Ammunition Plant

1976 – 2018

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

VOLUME 24

2018

A. Title: Report (cont'd) – Draft Quarterly Evaluation Report 4th Quarter (October - December) 2017, Groundwater Treatment Plant, Longhorn Army Ammunition Plant, Karnack, Texas
Author(s): Bhate Environmental Associates, Inc.
Recipient: U. S. Army Corps of Engineers
Date: May 1, 2018
Bate Stamp: 00872043 – 00873892

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WorkOrder: HS17120868

LHAAP 18/24

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

19-Feb-2018

10450 Stancliff Rd. Suite 210
Houston, TX 77099
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December 28, 2017

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

Work Order: **HS17120868**

Laboratory Results for: **LHAAP 18/24**

Dear Marcia,

ALS Environmental received 10 sample(s) on Dec 14, 2017 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,

Sonia West

Generated By: Jumoke.Lawal
Sonia West
Project Manager

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Work Order: HS17120868

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120868-01	MW10-121117	Groundwater		11-Dec-2017 09:30	14-Dec-2017 11:30	☐
HS17120868-02	MW17-121117	Groundwater		11-Dec-2017 10:30	14-Dec-2017 11:30	☐
HS17120868-03	MW18-121117	Groundwater		11-Dec-2017 11:30	14-Dec-2017 11:30	☐
HS17120868-04	MW19-121217	Groundwater		12-Dec-2017 08:10	14-Dec-2017 11:30	☐
HS17120868-05	MW8-121217	Groundwater		12-Dec-2017 09:15	14-Dec-2017 11:30	☐
HS17120868-06	18CPTMW10SW-121217	Groundwater		12-Dec-2017 10:20	14-Dec-2017 11:30	☐
HS17120868-07	18CPTMW10DW-121217	Groundwater		12-Dec-2017 11:20	14-Dec-2017 11:30	☐
HS17120868-08	18CPTMW12SW-121217	Groundwater		12-Dec-2017 13:30	14-Dec-2017 11:30	☐
HS17120868-09	18CPTMW12DW-121217	Groundwater		12-Dec-2017 14:25	14-Dec-2017 11:30	☐
HS17120868-10	Trip Blank -ALS-112117-1	Water		12-Dec-2017 00:00	14-Dec-2017 11:30	☐

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Work Order: HS17120868

CASE NARRATIVE

Work Order Comments

- The analyses for Perchlorate were subcontracted to ALS Environmental in Salt Lake City, UT.

GCMS Volatiles by Method SW8260

Batch ID: R307910,R307922

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

Metals by Method SW6020

Batch ID: 123627

Sample ID: 18CPTMW10DW-121217 (HS17120868-07MS)

- Aluminum failed for MS/MSD due to matrix interference, confirmed by PDS.

- The MS and/or MSD recovery was outside of the control; however, the result in the parent sample is greater than 4x the spike amount.
  Sodium and Potassium.

Sample ID: 18CPTMW10DW-121217 (HS17120868-07MSD)

- Calcium failed for MSD, but passed for MS.

Sample ID: 18CPTMW10DW-121217 (HS17120868-07PDS)

- Aluminum failed due to matrix interference, confirmed by MS/MSD.
  Calcium failed for PDS, but passed for MS.

- The PDS recovery was outside method control limits, however the result in the parent sample is greater than 4x the spike amount.
  Potassium

Metals by Method SW7470

Batch ID: 123589

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW10-121117
Collection Date: 11-Dec-2017 09:30

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:30
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 19:30
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 19:30
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:30
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 19:30
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 19:30
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 19:30
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW10-121117
Collection Date: 11-Dec-2017 09:30

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 19:30
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 19:30
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 19:30
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:30
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:30
Surr: 1,2-Dichloroethane-d4	*95.3*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 19:30*
Surr: 4-Bromofluorobenzene	*98.5*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 19:30*
Surr: Dibromofluoromethane	*100.0*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 19:30*
Surr: Toluene-d8	*97.1*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 19:30*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW17-121117
Collection Date: 11-Dec-2017 10:30

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-02
Matrix:Groundwater

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	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW18-121117
Collection Date: 11-Dec-2017 11:30

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:54
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 19:54
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 19:54
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:54
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 19:54
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 19:54
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 19:54
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW18-121117
Collection Date: 11-Dec-2017 11:30

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
cis-1,2-Dichloroethene	**1.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	22-Dec-2017 19:54
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 19:54
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 19:54
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 19:54
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:54
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Trichloroethene	**4.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	22-Dec-2017 19:54
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:54
Surr: 1,2-Dichloroethane-d4	*92.1*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 19:54*
Surr: 4-Bromofluorobenzene	*98.2*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 19:54*
Surr: Dibromofluoromethane	*99.9*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 19:54*
Surr: Toluene-d8	*97.3*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 19:54*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW19-121217
Collection Date: 12-Dec-2017 08:10

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:19
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 20:19
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 20:19
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:19
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 20:19
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 20:19
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 20:19
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW19-121217
Collection Date: 12-Dec-2017 08:10

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
cis-1,2-Dichloroethene	**3.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	22-Dec-2017 20:19
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 20:19
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 20:19
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 20:19
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:19
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Trichloroethene	**3.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	22-Dec-2017 20:19
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:19
Surr: 1,2-Dichloroethane-d4	*93.0*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 20:19*
Surr: 4-Bromofluorobenzene	*97.7*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 20:19*
Surr: Dibromofluoromethane	*99.6*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 20:19*
Surr: Toluene-d8	*96.6*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 20:19*

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW19-121217
Collection Date: 12-Dec-2017 08:10

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 20-Dec-2017		Analyst: RPM
Aluminum	**0.0492**		**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	21-Dec-2017 12:39
Antimony	**0.000432**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:39
Arsenic	**0.00739**		**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:39
Barium	**0.414**		**0.00190**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:39
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:39
Cadmium	**0.000731**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:39
Calcium	**31.9**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	21-Dec-2017 12:39
Chromium	**0.00260**	J	**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:39
Cobalt	**0.0184**		**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 12:39
Copper	**0.00165**	J	**0.00100**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:39
Iron	**29.2**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:39
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	21-Dec-2017 12:39
Magnesium	**16.9**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:39
Manganese	**1.96**		**0.00700**	**0.0100**	**0.0500**	**mg/L**	10	21-Dec-2017 15:30
Nickel	**0.0478**		**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	21-Dec-2017 12:39
Potassium	**2.79**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:39
Selenium	0.00100	U	0.00110	0.00100	0.00200	mg/L	1	21-Dec-2017 12:39
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:39
Sodium	**282**		**0.140**	**1.00**	**3.00**	**mg/L**	10	21-Dec-2017 15:30
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:39
Vanadium	**0.00152**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 12:39
Zinc	**0.0121**		**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:39
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 20-Dec-2017		Analyst: JC
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	20-Dec-2017 14:09
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW8-121217
Collection Date: 12-Dec-2017 09:15

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,2-Dichloroethane	**4.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	22-Dec-2017 20:43
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:43
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 20:43
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 20:43
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:43
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 20:43
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 20:43
Benzene	**0.38**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	22-Dec-2017 20:43
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 20:43
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW8-121217
Collection Date: 12-Dec-2017 09:15

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
cis-1,2-Dichloroethene	**5.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	22-Dec-2017 20:43
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 20:43
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 20:43
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 20:43
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 20:43
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Trichloroethene	**270**		**1.0**	**2.5**	**5.0**	**ug/L**	5	23-Dec-2017 22:44
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 20:43
Surr: 1,2-Dichloroethane-d4	*94.6*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 20:43*
Surr: 1,2-Dichloroethane-d4	*94.2*			**0**	*81-118*	*%REC*	*5*	*23-Dec-2017 22:44*
Surr: 4-Bromofluorobenzene	*97.4*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 20:43*
Surr: 4-Bromofluorobenzene	*97.2*			**0**	*85-114*	*%REC*	*5*	*23-Dec-2017 22:44*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 20:43*
Surr: Dibromofluoromethane	*98.6*			**0**	*80-119*	*%REC*	*5*	*23-Dec-2017 22:44*
Surr: Toluene-d8	*94.7*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 20:43*
Surr: Toluene-d8	*95.8*			**0**	*89-112*	*%REC*	*5*	*23-Dec-2017 22:44*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW10SW-121217
Collection Date: 12-Dec-2017 10:20

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:07
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 21:07
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 21:07
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:07
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 21:07
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 21:07
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 21:07
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW10SW-121217
Collection Date: 12-Dec-2017 10:20

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 21:07
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 21:07
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 21:07
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:07
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Trichloroethene	**2.6**		**0.20**	**0.50**	**1.0**	**ug/L**	1	23-Dec-2017 19:24
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:07
Surr: 1,2-Dichloroethane-d4	*93.2*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 21:07*
Surr: 1,2-Dichloroethane-d4	*94.2*			**0**	*81-118*	*%REC*	*1*	*23-Dec-2017 19:24*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 21:07*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*23-Dec-2017 19:24*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 21:07*
Surr: Dibromofluoromethane	*99.7*			**0**	*80-119*	*%REC*	*1*	*23-Dec-2017 19:24*
Surr: Toluene-d8	*97.2*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 21:07*
Surr: Toluene-d8	*96.8*			**0**	*89-112*	*%REC*	*1*	*23-Dec-2017 19:24*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW10DW-121217
Collection Date: 12-Dec-2017 11:20

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:32
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 21:32
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 21:32
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:32
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 21:32
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 21:32
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 21:32
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW10DW-121217
Collection Date: 12-Dec-2017 11:20

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 21:32
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 21:32
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 21:32
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:32
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Trichloroethene	**2.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	23-Dec-2017 19:49
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:32
Surr: 1,2-Dichloroethane-d4	*92.1*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 21:32*
Surr: 1,2-Dichloroethane-d4	*94.0*			**0**	*81-118*	*%REC*	*1*	*23-Dec-2017 19:49*
Surr: 4-Bromofluorobenzene	*98.8*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 21:32*
Surr: 4-Bromofluorobenzene	*98.0*			**0**	*85-114*	*%REC*	*1*	*23-Dec-2017 19:49*
Surr: Dibromofluoromethane	*99.1*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 21:32*
Surr: Dibromofluoromethane	*99.5*			**0**	*80-119*	*%REC*	*1*	*23-Dec-2017 19:49*
Surr: Toluene-d8	*96.2*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 21:32*
Surr: Toluene-d8	*96.8*			**0**	*89-112*	*%REC*	*1*	*23-Dec-2017 19:49*

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW10DW-121217
Collection Date: 12-Dec-2017 11:20

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 20-Dec-2017		Analyst: RPM
Aluminum	**0.0111**		**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	21-Dec-2017 12:41
Antimony	**0.000501**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:41
Arsenic	**0.00139**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:41
Barium	**0.0743**		**0.00190**	**0.00250**	**0.00400**	**mg/L**	1	21-Dec-2017 12:41
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:41
Cadmium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:41
Calcium	**3.70**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	21-Dec-2017 12:41
Chromium	0.00100	U	0.000400	0.00100	0.00400	mg/L	1	21-Dec-2017 12:41
Cobalt	0.00100	U	0.000200	0.00100	0.00500	mg/L	1	21-Dec-2017 12:41
Copper	**0.00100**	J	**0.00100**	**0.00200**	**0.00200**	**mg/L**	1	21-Dec-2017 12:41
Iron	**0.211**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:41
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	21-Dec-2017 12:41
Magnesium	**3.37**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:41
Manganese	**0.00517**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 12:41
Nickel	**0.00124**	J	**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	21-Dec-2017 12:41
Potassium	**76.2**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:41
Selenium	0.00100	U	0.00110	0.00100	0.00200	mg/L	1	21-Dec-2017 12:41
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:41
Sodium	**155**		**0.0140**	**0.100**	**0.300**	**mg/L**	1	21-Dec-2017 12:41
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:41
Vanadium	**0.000734**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 12:41
Zinc	**0.00305**	J	**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:41
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 20-Dec-2017		Analyst: JC
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	20-Dec-2017 14:14
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW12SW-121217
Collection Date: 12-Dec-2017 13:30

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:57
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 21:57
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 21:57
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:57
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 21:57
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 21:57
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 21:57
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW12SW-121217
Collection Date: 12-Dec-2017 13:30

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 21:57
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 21:57
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 21:57
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 21:57
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 21:57
Surr: 1,2-Dichloroethane-d4	*92.3*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 21:57*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 21:57*
Surr: Dibromofluoromethane	*98.3*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 21:57*
Surr: Toluene-d8	*96.6*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 21:57*

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW12SW-121217
Collection Date: 12-Dec-2017 13:30

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 20-Dec-2017		Analyst: RPM
Aluminum	**0.00841**	J	**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	21-Dec-2017 12:51
Antimony	**0.00117**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:51
Arsenic	**0.00205**		**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:51
Barium	**0.775**		**0.00190**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:51
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:51
Cadmium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:51
Calcium	**50.6**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	21-Dec-2017 12:51
Chromium	**0.00260**	J	**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:51
Cobalt	**0.0133**		**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 12:51
Copper	**0.00106**	J	**0.00100**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:51
Iron	**3.38**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:51
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	21-Dec-2017 12:51
Magnesium	**33.1**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:51
Manganese	**1.11**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 12:51
Nickel	**0.00958**		**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	21-Dec-2017 12:51
Potassium	**33.8**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:51
Selenium	**0.00140**	J	**0.00110**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:51
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:51
Sodium	**216**		**0.140**	**1.00**	**3.00**	**mg/L**	10	21-Dec-2017 15:32
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:51
Vanadium	**0.000804**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 12:51
Zinc	**0.0171**		**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:51
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 20-Dec-2017		Analyst: JC
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	20-Dec-2017 14:16
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW12DW-121217
Collection Date: 12-Dec-2017 14:25

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 22:21
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 22:21
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 22:21
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 22:21
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 22:21
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 22:21
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 22:21
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW12DW-121217
Collection Date: 12-Dec-2017 14:25

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 22:21
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 22:21
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 22:21
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 22:21
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 22:21
Surr: 1,2-Dichloroethane-d4	*92.8*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 22:21*
Surr: 4-Bromofluorobenzene	*98.8*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 22:21*
Surr: Dibromofluoromethane	*99.2*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 22:21*
Surr: Toluene-d8	*97.8*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 22:21*

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW12DW-121217
Collection Date: 12-Dec-2017 14:25

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 20-Dec-2017		Analyst: RPM
Aluminum	**0.00889**	J	**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	21-Dec-2017 12:53
Antimony	**0.000508**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:53
Arsenic	**0.00332**		**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:53
Barium	**0.119**		**0.00190**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:53
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:53
Cadmium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:53
Calcium	**6.62**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	21-Dec-2017 12:53
Chromium	**0.0108**		**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:53
Cobalt	0.00100	U	0.000200	0.00100	0.00500	mg/L	1	21-Dec-2017 12:53
Copper	**0.00103**	J	**0.00100**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 12:53
Iron	**1.42**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:53
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	21-Dec-2017 12:53
Magnesium	**3.74**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:53
Manganese	**0.0497**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 12:53
Nickel	**0.00111**	J	**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	21-Dec-2017 12:53
Potassium	**80.1**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 12:53
Selenium	0.00100	U	0.00110	0.00100	0.00200	mg/L	1	21-Dec-2017 12:53
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:53
Sodium	**152**		**0.0140**	**0.100**	**0.300**	**mg/L**	1	21-Dec-2017 12:53
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 12:53
Vanadium	**0.000864**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 12:53
Zinc	**0.00254**	J	**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 12:53
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 20-Dec-2017		Analyst: JC
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	20-Dec-2017 14:18
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	28-Dec-2017 10:59

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: Trip Blank -ALS-112117-1
Collection Date: 12-Dec-2017 00:00

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:05
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	22-Dec-2017 19:05
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	22-Dec-2017 19:05
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:05
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	22-Dec-2017 19:05
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	22-Dec-2017 19:05
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	22-Dec-2017 19:05
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: Trip Blank -ALS-112117-1
Collection Date: 12-Dec-2017 00:00

ANALYTICAL REPORT
WorkOrder:HS17120868
Lab ID:HS17120868-10
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: PC
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	22-Dec-2017 19:05
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	22-Dec-2017 19:05
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	22-Dec-2017 19:05
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	22-Dec-2017 19:05
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	22-Dec-2017 19:05
Surr: 1,2-Dichloroethane-d4	*94.3*			**0**	*81-118*	*%REC*	*1*	*22-Dec-2017 19:05*
Surr: 4-Bromofluorobenzene	*98.7*			**0**	*85-114*	*%REC*	*1*	*22-Dec-2017 19:05*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*22-Dec-2017 19:05*
Surr: Toluene-d8	*96.9*			**0**	*89-112*	*%REC*	*1*	*22-Dec-2017 19:05*

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

ALS Group USA, Corp Date: 28-Dec-17

WEIGHT LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Batch ID: 123589 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17120868-04	1	10	10 (mL)	1
HS17120868-07	1	10	10 (mL)	1
HS17120868-08	1	10	10 (mL)	1
HS17120868-09	1	10	10 (mL)	1

Batch ID: 123627 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17120868-04	1	10	10 (mL)	1
HS17120868-07	1	10	10 (mL)	1
HS17120868-08	1	10	10 (mL)	1
HS17120868-09	1	10	10 (mL)	1

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 123589	**Test Name :** MERCURY BY SW7470A			**Matrix:** Groundwater		
HS17120868-04	MW19-121217	12 Dec 2017 08:10		20 Dec 2017 08:30	20 Dec 2017 14:09	1
HS17120868-07	18CPTMW10DW-121217	12 Dec 2017 11:20		20 Dec 2017 08:30	20 Dec 2017 14:14	1
HS17120868-08	18CPTMW12SW-121217	12 Dec 2017 13:30		20 Dec 2017 08:30	20 Dec 2017 14:16	1
HS17120868-09	18CPTMW12DW-121217	12 Dec 2017 14:25		20 Dec 2017 08:30	20 Dec 2017 14:18	1
Batch ID 123627	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Groundwater		
HS17120868-04	MW19-121217	12 Dec 2017 08:10		20 Dec 2017 12:57	21 Dec 2017 15:30	10
HS17120868-04	MW19-121217	12 Dec 2017 08:10		20 Dec 2017 12:57	21 Dec 2017 12:39	1
HS17120868-07	18CPTMW10DW-121217	12 Dec 2017 11:20		20 Dec 2017 12:57	21 Dec 2017 12:41	1
HS17120868-08	18CPTMW12SW-121217	12 Dec 2017 13:30		20 Dec 2017 12:57	21 Dec 2017 15:32	10
HS17120868-08	18CPTMW12SW-121217	12 Dec 2017 13:30		20 Dec 2017 12:57	21 Dec 2017 12:51	1
HS17120868-09	18CPTMW12DW-121217	12 Dec 2017 14:25		20 Dec 2017 12:57	21 Dec 2017 12:53	1
Batch ID R307910	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17120868-10	Trip Blank -ALS-112117-1	12 Dec 2017 00:00			22 Dec 2017 19:05	1
Batch ID R307910	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Groundwater		
HS17120868-01	MW10-121117	11 Dec 2017 09:30			22 Dec 2017 19:30	1
HS17120868-03	MW18-121117	11 Dec 2017 11:30			22 Dec 2017 19:54	1
HS17120868-04	MW19-121217	12 Dec 2017 08:10			22 Dec 2017 20:19	1
HS17120868-05	MW8-121217	12 Dec 2017 09:15			22 Dec 2017 20:43	1
HS17120868-06	18CPTMW10SW-121217	12 Dec 2017 10:20			22 Dec 2017 21:07	1
HS17120868-07	18CPTMW10DW-121217	12 Dec 2017 11:20			22 Dec 2017 21:32	1
HS17120868-08	18CPTMW12SW-121217	12 Dec 2017 13:30			22 Dec 2017 21:57	1
HS17120868-09	18CPTMW12DW-121217	12 Dec 2017 14:25			22 Dec 2017 22:21	1
Batch ID R307922	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Groundwater		
HS17120868-05	MW8-121217	12 Dec 2017 09:15			23 Dec 2017 22:44	5
HS17120868-06	18CPTMW10SW-121217	12 Dec 2017 10:20			23 Dec 2017 19:24	1
HS17120868-07	18CPTMW10DW-121217	12 Dec 2017 11:20			23 Dec 2017 19:49	1
Batch ID R308041	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)			**Matrix:** Groundwater		
HS17120868-01	MW10-121117	11 Dec 2017 09:30			28 Dec 2017 10:59	1
HS17120868-02	MW17-121117	11 Dec 2017 10:30			28 Dec 2017 10:59	1
HS17120868-03	MW18-121117	11 Dec 2017 11:30			28 Dec 2017 10:59	1
HS17120868-04	MW19-121217	12 Dec 2017 08:10			28 Dec 2017 10:59	1
HS17120868-05	MW8-121217	12 Dec 2017 09:15			28 Dec 2017 10:59	1
HS17120868-06	18CPTMW10SW-121217	12 Dec 2017 10:20			28 Dec 2017 10:59	1
HS17120868-07	18CPTMW10DW-121217	12 Dec 2017 11:20			28 Dec 2017 10:59	1
HS17120868-08	18CPTMW12SW-121217	12 Dec 2017 13:30			28 Dec 2017 10:59	1
HS17120868-09	18CPTMW12DW-121217	12 Dec 2017 14:25			28 Dec 2017 10:59	1

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: 123589 **Instrument: HG03** **Method: SW7470**

MBLK Sample ID: **MBLK-123589** Units: **mg/L** Analysis Date: **20-Dec-2017 13:39**
Client ID: Run ID: **HG03_307667** SeqNo: **4361576** PrepDate: **20-Dec-2017** 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-123589** Units: **mg/L** Analysis Date: **20-Dec-2017 13:45**
Client ID: Run ID: **HG03_307667** SeqNo: **4361577** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00478	0.000200	0.005	0	95.6	80 - 120				

MS Sample ID: **HS17120868-04MS** Units: **mg/L** Analysis Date: **20-Dec-2017 14:11**
Client ID: **MW19-121217** Run ID: **HG03_307667** SeqNo: **4361590** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00454	0.000200	0.005	-0.000014	91.1	75 - 125				

MSD Sample ID: **HS17120868-04MSD** Units: **mg/L** Analysis Date: **20-Dec-2017 14:13**
Client ID: **MW19-121217** Run ID: **HG03_307667** SeqNo: **4361591** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00477	0.000200	0.005	-0.000014	95.7	75 - 125	0.00454	4.94	20	

The following samples were analyzed in this batch: HS17120868-04 HS17120868-07 HS17120868-08 HS17120868-09

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-123627** Units: **mg/L** Analysis Date: **21-Dec-2017 12:35**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363490** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.002791	0.0100								J
Antimony	0.000429	0.00200								J
Arsenic	0.00100	0.00200								U
Barium	0.00100	0.00400								U
Beryllium	0.00100	0.00200								U
Cadmium	0.00100	0.00200								U
Calcium	0.03601	0.500								J
Chromium	0.00100	0.00400								U
Cobalt	0.00100	0.00500								U
Copper	0.00100	0.00200								U
Iron	0.100	0.200								U
Lead	0.00100	0.00200								U
Magnesium	0.01393	0.200								J
Manganese	0.00100	0.00500								U
Nickel	0.000729	0.00200								J
Selenium	0.00100	0.00200								U
Silver	0.00100	0.00200								U
Sodium	0.05917	0.200								J
Thallium	0.00100	0.00200								U
Vanadium	0.000721	0.00500								J
Zinc	0.00100	0.00400								U

MBLK Sample ID: **MBLK-123627** Units: **mg/L** Analysis Date: **21-Dec-2017 15:28**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363790** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Potassium	0.04949	0.200								J

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

LCS Sample ID: **LCS-123627** Units: **mg/L** Analysis Date: **21-Dec-2017 12:37**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363491** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.08341	0.0100	0.1	0	83.4	80 - 120				
Antimony	0.05244	0.00200	0.05	0	105	80 - 120				
Arsenic	0.04608	0.00200	0.05	0	92.2	80 - 120				
Barium	0.04649	0.00400	0.05	0	93.0	80 - 120				
Beryllium	0.04601	0.00200	0.05	0	92.0	80 - 120				
Cadmium	0.04692	0.00200	0.05	0	93.8	80 - 120				
Calcium	4.341	0.500	5	0	86.8	80 - 120				
Chromium	0.04583	0.00400	0.05	0	91.7	80 - 120				
Cobalt	0.04481	0.00500	0.05	0	89.6	80 - 120				
Copper	0.04697	0.00200	0.05	0	93.9	80 - 120				
Iron	4.4	0.200	5	0	88.0	80 - 120				
Lead	0.05248	0.00200	0.05	0	105	80 - 120				
Magnesium	4.48	0.200	5	0	89.6	80 - 120				
Manganese	0.04571	0.00500	0.05	0	91.4	80 - 120				
Nickel	0.04603	0.00200	0.05	0	92.1	80 - 120				
Potassium	4.425	0.200	5	0	88.5	80 - 120				
Selenium	0.04568	0.00200	0.05	0	91.4	80 - 120				
Silver	0.0456	0.00200	0.05	0	91.2	80 - 120				
Sodium	4.589	0.300	5	0	91.8	80 - 120				
Thallium	0.0458	0.00200	0.05	0	91.6	80 - 120				
Vanadium	0.04561	0.00500	0.05	0	91.2	80 - 120				
Zinc	0.05152	0.00400	0.05	0	103	80 - 120				

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

MS Sample ID: **HS17120868-07MS** Units: **mg/L** Analysis Date: **21-Dec-2017 12:45**
Client ID: **18CPTMW10DW-121217** Run ID: **ICPMS05_307676** SeqNo: **4363495** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.08563	0.0100	0.1	0.01106	74.6	80 - 120				S
Antimony	0.05272	0.00200	0.05	0.000501	104	80 - 120				
Arsenic	0.04762	0.00200	0.05	0.00139	92.5	80 - 120				
Barium	0.1195	0.00400	0.05	0.07434	90.4	80 - 120				
Beryllium	0.05972	0.00200	0.05	0.000002	119	80 - 120				
Cadmium	0.0456	0.00200	0.05	-0.000006	91.2	80 - 120				
Calcium	7.91	0.500	5	3.698	84.3	80 - 120				
Chromium	0.04437	0.00400	0.05	0.000088	88.6	80 - 120				
Cobalt	0.04496	0.00500	0.05	0.000032	89.9	80 - 120				
Copper	0.04624	0.00200	0.05	0.001	90.5	80 - 120				
Iron	4.561	0.200	5	0.2111	87.0	80 - 120				
Lead	0.04476	0.00200	0.05	0.000034	89.5	80 - 120				
Magnesium	7.761	0.200	5	3.373	87.8	80 - 120				
Manganese	0.0482	0.00500	0.05	0.005167	86.1	80 - 120				
Nickel	0.04554	0.00200	0.05	0.001236	88.6	80 - 120				
Potassium	81.21	0.200	5	76.24	99.5	80 - 120				O
Selenium	0.04696	0.00200	0.05	0.000893	92.1	80 - 120				
Silver	0.04277	0.00200	0.05	0.000001	85.5	80 - 120				
Sodium	166.8	0.300	5	154.6	243	80 - 120				SO
Thallium	0.04343	0.00200	0.05	0.000009	86.8	80 - 120				
Vanadium	0.04509	0.00500	0.05	0.000734	88.7	80 - 120				
Zinc	0.05157	0.00400	0.05	0.003049	97.0	80 - 120				

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

MSD Sample ID: **HS17120868-07MSD** Units: **mg/L** Analysis Date: **21-Dec-2017 12:47**
Client ID: **18CPTMW10DW-121217** Run ID: **ICPMS05_307676** SeqNo: **4363496** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.08567	0.0100	0.1	0.01106	74.6	80 - 120	0.08563	0.0432	20	S
Antimony	0.05179	0.00200	0.05	0.000501	103	80 - 120	0.05272	1.78	20	
Arsenic	0.04748	0.00200	0.05	0.00139	92.2	80 - 120	0.04762	0.28	20	
Barium	0.1148	0.00400	0.05	0.07434	80.8	80 - 120	0.1195	4.06	20	
Beryllium	0.05882	0.00200	0.05	0.000002	118	80 - 120	0.05972	1.52	20	
Cadmium	0.04446	0.00200	0.05	-0.000006	88.9	80 - 120	0.0456	2.53	20	
Calcium	7.663	0.500	5	3.698	79.3	80 - 120	7.91	3.17	20	S
Chromium	0.04327	0.00400	0.05	0.000088	86.4	80 - 120	0.04437	2.5	20	
Cobalt	0.04391	0.00500	0.05	0.000032	87.8	80 - 120	0.04496	2.36	20	
Copper	0.04438	0.00200	0.05	0.001	86.8	80 - 120	0.04624	4.1	20	
Iron	4.56	0.200	5	0.2111	87.0	80 - 120	4.561	0.0164	20	
Lead	0.0435	0.00200	0.05	0.000034	86.9	80 - 120	0.04476	2.87	20	
Magnesium	7.403	0.200	5	3.373	80.6	80 - 120	7.761	4.72	20	
Manganese	0.0477	0.00500	0.05	0.005167	85.1	80 - 120	0.0482	1.02	20	
Nickel	0.04462	0.00200	0.05	0.001236	86.8	80 - 120	0.04554	2.05	20	
Potassium	76.97	0.200	5	76.24	14.6	80 - 120	81.21	5.37	20	SO
Selenium	0.04557	0.00200	0.05	0.000893	89.4	80 - 120	0.04696	3	20	
Silver	0.04207	0.00200	0.05	0.000001	84.1	80 - 120	0.04277	1.66	20	
Sodium	153.6	0.300	5	154.6	-20.2	80 - 120	166.8	8.21	20	SO
Thallium	0.0418	0.00200	0.05	0.000009	83.6	80 - 120	0.04343	3.84	20	
Vanadium	0.04428	0.00500	0.05	0.000734	87.1	80 - 120	0.04509	1.8	20	
Zinc	0.04994	0.00400	0.05	0.003049	93.8	80 - 120	0.05157	3.23	20	

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

PDS Sample ID: **HS17120868-07PDS** Units: **mg/L** Analysis Date: **21-Dec-2017 12:49**
Client ID: **18CPTMW10DW-121217** Run ID: **ICPMS05_307676** SeqNo: **4363497** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.07661	0.0100	0.1	0.01106	65.6	75 - 125				S
Antimony	0.08385	0.00200	0.1	0.000501	83.3	75 - 125				
Arsenic	0.08422	0.00200	0.1	0.00139	82.8	75 - 125				
Barium	0.1537	0.00400	0.1	0.07434	79.4	75 - 125				
Beryllium	0.1014	0.00200	0.1	0.000002	101	75 - 125				
Cadmium	0.07904	0.00200	0.1	-0.000006	79.0	75 - 125				
Calcium	11.04	0.500	10	3.698	73.4	75 - 125				S
Chromium	0.07831	0.00400	0.1	0.000088	78.2	75 - 125				
Cobalt	0.0789	0.00500	0.1	0.000032	78.9	75 - 125				
Copper	0.07834	0.00200	0.1	0.001	77.3	75 - 125				
Iron	7.899	0.200	10	0.2111	76.9	75 - 125				
Lead	0.07625	0.00200	0.1	0.000034	76.2	75 - 125				
Magnesium	10.99	0.200	10	3.373	76.2	75 - 125				
Manganese	0.08203	0.00500	0.1	0.005167	76.9	75 - 125				
Nickel	0.07857	0.00200	0.1	0.001236	77.3	75 - 125				
Potassium	82.09	0.200	10	76.24	58.5	75 - 125				SO
Selenium	0.07849	0.00200	0.1	0.000893	77.6	75 - 125				
Sodium	163.2	0.300	10	154.6	85.3	75 - 125				O
Thallium	0.07639	0.00200	0.1	0.000009	76.4	75 - 125				
Vanadium	0.07956	0.00500	0.1	0.000734	78.8	75 - 125				
Zinc	0.08614	0.00400	0.1	0.003049	83.1	75 - 125				

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

SD Sample ID: **HS17120868-07SD** Units: **mg/L** Analysis Date: **21-Dec-2017 12:43**
Client ID: **18CPTMW10DW-121217** Run ID: **ICPMS05_307676** SeqNo: **4363494** PrepDate: **20-Dec-2017** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.01814	0.0500					0.01106	0	10	J
Antimony	0.00500	0.0100					0.000501	0	10	U
Arsenic	0.00500	0.0100					0.00139	0	10	U
Barium	0.0736	0.0200					0.07434	0.986	10	
Beryllium	0.00500	0.0100					0.000002	0	10	U
Cadmium	0.00500	0.0100					-0.000006	0	10	U
Calcium	3.568	2.50					3.698	3.49	10	
Chromium	0.00500	0.0200					0.000088	0	10	U
Cobalt	0.00500	0.0250					0.000032	0	10	U
Copper	0.00500	0.0100					0.001	0	10	U
Iron	0.217	1.00					0.2111	0	10	J
Lead	0.00500	0.0100					0.000034	0	10	U
Magnesium	3.494	1.00					3.373	3.59	10	
Manganese	0.005238	0.0250					0.005167	0	10	J
Nickel	0.003927	0.0100					0.001236	0	10	J
Potassium	78.31	1.00					76.24	2.72	10	
Selenium	0.00500	0.0100					0.000893	0	10	U
Silver	0.00500	0.0100					0.000001	0	10	U
Sodium	162.9	1.50					154.6	5.38	10	
Thallium	0.00500	0.0100					0.000009	0	10	U
Vanadium	0.003562	0.0250					0.000734	0	10	J
Zinc	0.00500	0.0200					0.003049	0	10	U

The following samples were analyzed in this batch: HS17120868-04 HS17120868-07 HS17120868-08 HS17120868-09

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307910 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171222** Units: **ug/L** Analysis Date: **22-Dec-2017 14:00**
Client ID: Run ID: **VOA2_307910** SeqNo: **4367086** PrepDate: DF: **1**

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

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307910 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171222** Units: **ug/L** Analysis Date: **22-Dec-2017 14:00**
Client ID: Run ID: **VOA2_307910** SeqNo: **4367086** 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	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	0.50	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*46.49*	*1.0*	*50*	*0*	*93.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.9*	*1.0*	*50*	*0*	*95.8*	*85 - 114*				
Surr: Dibromofluoromethane	*49.79*	*1.0*	*50*	*0*	*99.6*	*80 - 119*				
Surr: Toluene-d8	*48.45*	*1.0*	*50*	*0*	*96.9*	*89 - 112*				

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307910 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171222** Units: **ug/L** Analysis Date: **22-Dec-2017 13:11**
Client ID: Run ID: **VOA2_307910** SeqNo: **4367084** 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	49.73	1.0	50	0	99.5	78 - 124				
1,1,1-Trichloroethane	48.37	1.0	50	0	96.7	74 - 131				
1,1,2,2-Tetrachloroethane	42.66	1.0	50	0	85.3	71 - 121				
1,1,2-Trichloroethane	47.47	1.0	50	0	94.9	80 - 119				
1,1-Dichloroethane	49.48	1.0	50	0	99.0	77 - 125				
1,1-Dichloroethene	50.83	1.0	50	0	102	71 - 131				
1,1-Dichloropropene	47.14	1.0	50	0	94.3	79 - 125				
1,2,3-Trichlorobenzene	50.41	1.0	50	0	101	69 - 129				
1,2,3-Trichloropropane	46.46	1.0	50	0	92.9	73 - 122				
1,2,4-Trichlorobenzene	51.75	1.0	50	0	103	69 - 130				
1,2,4-Trimethylbenzene	41.53	1.0	50	0	83.1	76 - 124				
1,2-Dibromo-3-chloropropane	45.58	1.0	50	0	91.2	62 - 128				
1,2-Dibromoethane	50.49	1.0	50	0	101	77 - 121				
1,2-Dichlorobenzene	44.41	1.0	50	0	88.8	80 - 119				
1,2-Dichloroethane	51.03	1.0	50	0	102	73 - 128				
1,2-Dichloropropane	48.43	1.0	50	0	96.9	78 - 122				
1,3,5-Trimethylbenzene	41.37	1.0	50	0	82.7	75 - 124				
1,3-Dichlorobenzene	44.3	1.0	50	0	88.6	80 - 119				
1,3-Dichloropropane	47.27	1.0	50	0	94.5	80 - 119				
1,4-Dichlorobenzene	44.03	1.0	50	0	88.1	79 - 118				
2,2-Dichloropropane	50.18	1.0	50	0	100	60 - 139				
2-Butanone	97.17	2.0	100	0	97.2	56 - 143				
2-Chlorotoluene	41.79	1.0	50	0	83.6	79 - 122				
2-Hexanone	94.14	2.0	100	0	94.1	57 - 139				
4-Chlorotoluene	42.11	1.0	50	0	84.2	78 - 122				
4-Isopropyltoluene	41.45	1.0	50	0	82.9	77 - 127				
4-Methyl-2-pentanone	93.71	2.0	100	0	93.7	67 - 130				
Acetone	101.7	2.0	100	0	102	39 - 160				
Benzene	49.08	1.0	50	0	98.2	79 - 120				
Bromobenzene	43.84	1.0	50	0	87.7	80 - 120				
Bromochloromethane	51.77	1.0	50	0	104	78 - 123				
Bromodichloromethane	50.23	1.0	50	0	100	79 - 125				
Bromoform	52.12	1.0	50	0	104	66 - 130				
Bromomethane	55.89	1.0	50	0	112	53 - 141				

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307910 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171222** Units: **ug/L** Analysis Date: **22-Dec-2017 13:11**
Client ID: Run ID: **VOA2_307910** SeqNo: **4367084** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	102.6	2.0	100	0	103	64 - 133				
Carbon tetrachloride	41.62	1.0	50	0	83.2	72 - 136				
Chlorobenzene	47.14	1.0	50	0	94.3	80 - 120				
Chloroethane	45.55	1.0	50	0	91.1	82 - 118				
Chloroform	48.15	1.0	50	0	96.3	79 - 124				
Chloromethane	54.08	1.0	50	0	108	50 - 139				
cis-1,2-Dichloroethene	49.75	1.0	50	0	99.5	78 - 123				
cis-1,3-Dichloropropene	53.96	1.0	50	0	108	75 - 124				
Dibromochloromethane	50.45	1.0	50	0	101	74 - 126				
Dibromomethane	51.65	1.0	50	0	103	79 - 123				
Dichlorodifluoromethane	56.7	1.0	50	0	113	32 - 152				
Ethylbenzene	45.78	1.0	50	0	91.6	79 - 121				
Hexachlorobutadiene	42.22	1.0	50	0	84.4	66 - 134				
Isopropylbenzene	45.36	1.0	50	0	90.7	72 - 131				
m,p-Xylene	92.01	2.0	100	0	92.0	80 - 121				
Methylene chloride	47.47	2.0	50	0	94.9	74 - 124				
Naphthalene	48.92	1.0	50	0	97.8	61 - 128				
n-Butylbenzene	43.2	1.0	50	0	86.4	75 - 128				
n-Propylbenzene	41.51	1.0	50	0	83.0	76 - 126				
o-Xylene	46.99	1.0	50	0	94.0	78 - 122				
sec-Butylbenzene	40.75	1.0	50	0	81.5	77 - 126				
Styrene	48.7	1.0	50	0	97.4	78 - 128				
tert-Butylbenzene	41.18	1.0	50	0	82.4	78 - 124				
Tetrachloroethene	48.72	1.0	50	0	97.4	74 - 129				
Toluene	46.56	1.0	50	0	93.1	80 - 121				
trans-1,2-Dichloroethene	54.47	1.0	50	0	109	75 - 124				
trans-1,3-Dichloropropene	55.08	1.0	50	0	110	73 - 127				
Trichloroethene	47.89	1.0	50	0	95.8	79 - 123				
Trichlorofluoromethane	50.17	1.0	50	0	100	65 - 141				
Vinyl chloride	52.86	1.0	50	0	106	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.78*	*1.0*	*50*	*0*	*95.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.81*	*1.0*	*50*	*0*	*99.6*	*85 - 114*				
Surr: Dibromofluoromethane	*48.01*	*1.0*	*50*	*0*	*96.0*	*80 - 119*				
Surr: Toluene-d8	*46.98*	*1.0*	*50*	*0*	*94.0*	*89 - 112*				

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307910 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17120851-01MS** Units: **ug/L** Analysis Date: **22-Dec-2017 17:03**
Client ID: Run ID: **VOA2_307910** SeqNo: **4367093** 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	48.38	1.0	50	0	96.8	78 - 124				
1,1,1-Trichloroethane	49.37	1.0	50	0	98.7	74 - 131				
1,1,2,2-Tetrachloroethane	41.14	1.0	50	0	82.3	71 - 121				
1,1,2-Trichloroethane	45.84	1.0	50	0	91.7	80 - 119				
1,1-Dichloroethane	47.93	1.0	50	0	95.9	77 - 125				
1,1-Dichloroethene	51.37	1.0	50	0	103	71 - 131				
1,1-Dichloropropene	51.06	1.0	50	0	102	79 - 125				
1,2,3-Trichlorobenzene	43.33	1.0	50	0	86.7	69 - 129				
1,2,3-Trichloropropane	42.79	1.0	50	0	85.6	73 - 122				
1,2,4-Trichlorobenzene	44.74	1.0	50	0	89.5	69 - 130				
1,2,4-Trimethylbenzene	39.01	1.0	50	0	78.0	76 - 124				
1,2-Dibromo-3-chloropropane	43.56	1.0	50	0	87.1	62 - 128				
1,2-Dibromoethane	48.1	1.0	50	0	96.2	77 - 121				
1,2-Dichlorobenzene	41.24	1.0	50	0	82.5	80 - 119				
1,2-Dichloroethane	51.41	1.0	50	0	103	73 - 128				
1,2-Dichloropropane	47.88	1.0	50	0	95.8	78 - 122				
1,3,5-Trimethylbenzene	38.59	1.0	50	0	77.2	75 - 124				
1,3-Dichlorobenzene	41.46	1.0	50	0	82.9	80 - 119				
1,3-Dichloropropane	45.55	1.0	50	0	91.1	80 - 119				
1,4-Dichlorobenzene	40.99	1.0	50	0	82.0	79 - 118				
2,2-Dichloropropane	51.72	1.0	50	0	103	60 - 139				
2-Butanone	89.78	2.0	100	0	89.8	56 - 143				
2-Chlorotoluene	40.09	1.0	50	0	80.2	79 - 122				
2-Hexanone	91.45	2.0	100	0	91.4	57 - 139				
4-Chlorotoluene	40.35	1.0	50	0	80.7	78 - 122				
4-Isopropyltoluene	38.61	1.0	50	0	77.2	77 - 127				
4-Methyl-2-pentanone	91.61	2.0	100	0	91.6	67 - 130				
Acetone	89.71	2.0	100	0	89.7	39 - 160				
Benzene	48.79	1.0	50	0.5596	96.5	79 - 120				
Bromobenzene	42.52	1.0	50	0	85.0	80 - 120				
Bromochloromethane	48.59	1.0	50	0	97.2	78 - 123				
Bromodichloromethane	48.61	1.0	50	0	97.2	79 - 125				
Bromoform	50.21	1.0	50	0	100	66 - 130				
Bromomethane	50.04	1.0	50	0	100	53 - 141				

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307910 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17120851-01MS** Units: **ug/L** Analysis Date: **22-Dec-2017 17:03**
Client ID: Run ID: **VOA2_307910** SeqNo: **4367093** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	101.1	2.0	100	0	101	64 - 133				
Carbon tetrachloride	46.2	1.0	50	0	92.4	72 - 136				
Chlorobenzene	46.6	1.0	50	0	93.2	80 - 120				
Chloroethane	42.76	1.0	50	0	85.5	82 - 118				
Chloroform	46.87	1.0	50	0	93.7	79 - 124				
Chloromethane	43.47	1.0	50	0	86.9	50 - 139				
cis-1,2-Dichloroethene	107	1.0	50	63.51	87.0	78 - 123				
cis-1,3-Dichloropropene	53.36	1.0	50	0	107	75 - 124				
Dibromochloromethane	48.69	1.0	50	0	97.4	74 - 126				
Dibromomethane	50.22	1.0	50	0	100	79 - 123				
Dichlorodifluoromethane	31.72	1.0	50	0	63.4	32 - 152				
Ethylbenzene	45.96	1.0	50	0	91.9	79 - 121				
Hexachlorobutadiene	45.86	1.0	50	0	91.7	66 - 134				
Isopropylbenzene	44.73	1.0	50	0	89.5	72 - 131				
m,p-Xylene	91.37	2.0	100	0	91.4	80 - 121				
Methylene chloride	44.8	2.0	50	0	89.6	74 - 124				
Naphthalene	44.25	1.0	50	0	88.5	61 - 128				
n-Butylbenzene	40.65	1.0	50	0	81.3	75 - 128				
n-Propylbenzene	40.39	1.0	50	0	80.8	76 - 126				
o-Xylene	46.09	1.0	50	0	92.2	78 - 122				
sec-Butylbenzene	39.47	1.0	50	0	78.9	77 - 126				
Styrene	47.48	1.0	50	0	95.0	78 - 128				
tert-Butylbenzene	39.43	1.0	50	0	78.9	78 - 124				
Tetrachloroethene	71.79	1.0	50	19.97	104	74 - 129				
Toluene	46.71	1.0	50	0	93.4	80 - 121				
trans-1,2-Dichloroethene	54.44	1.0	50	0	109	75 - 124				
trans-1,3-Dichloropropene	52.62	1.0	50	0	105	73 - 127				
Trichloroethene	77.56	1.0	50	29.32	96.5	79 - 123				
Trichlorofluoromethane	51.54	1.0	50	0	103	65 - 141				
Vinyl chloride	78.76	1.0	50	31.51	94.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.87*	*1.0*	*50*	*0*	*95.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.98*	*1.0*	*50*	*0*	*102*	*85 - 114*				
Surr: Dibromofluoromethane	*47.86*	*1.0*	*50*	*0*	*95.7*	*80 - 119*				
Surr: Toluene-d8	*46.94*	*1.0*	*50*	*0*	*93.9*	*89 - 112*				

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307910 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17120851-01MSD** Units: **ug/L** Analysis Date: **22-Dec-2017 17:27**
Client ID: Run ID: **VOA2_307910** SeqNo: **4367094** 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	48.25	1.0	50	0	96.5	78 - 124	48.38	0.274	20	
1,1,1-Trichloroethane	49.73	1.0	50	0	99.5	74 - 131	49.37	0.736	20	
1,1,2,2-Tetrachloroethane	41.43	1.0	50	0	82.9	71 - 121	41.14	0.696	20	
1,1,2-Trichloroethane	46.37	1.0	50	0	92.7	80 - 119	45.84	1.16	20	
1,1-Dichloroethane	47.89	1.0	50	0	95.8	77 - 125	47.93	0.0831	20	
1,1-Dichloroethene	53.34	1.0	50	0	107	71 - 131	51.37	3.77	20	
1,1-Dichloropropene	52.33	1.0	50	0	105	79 - 125	51.06	2.44	20	
1,2,3-Trichlorobenzene	47.87	1.0	50	0	95.7	69 - 129	43.33	9.96	20	
1,2,3-Trichloropropane	44.02	1.0	50	0	88.0	73 - 122	42.79	2.83	20	
1,2,4-Trichlorobenzene	47.41	1.0	50	0	94.8	69 - 130	44.74	5.79	20	
1,2,4-Trimethylbenzene	40.64	1.0	50	0	81.3	76 - 124	39.01	4.11	20	
1,2-Dibromo-3-chloropropane	44.09	1.0	50	0	88.2	62 - 128	43.56	1.21	20	
1,2-Dibromoethane	47.99	1.0	50	0	96.0	77 - 121	48.1	0.224	20	
1,2-Dichlorobenzene	43.06	1.0	50	0	86.1	80 - 119	41.24	4.33	20	
1,2-Dichloroethane	51.47	1.0	50	0	103	73 - 128	51.41	0.121	20	
1,2-Dichloropropane	46.77	1.0	50	0	93.5	78 - 122	47.88	2.35	20	
1,3,5-Trimethylbenzene	40.38	1.0	50	0	80.8	75 - 124	38.59	4.52	20	
1,3-Dichlorobenzene	42.69	1.0	50	0	85.4	80 - 119	41.46	2.91	20	
1,3-Dichloropropane	45.5	1.0	50	0	91.0	80 - 119	45.55	0.112	20	
1,4-Dichlorobenzene	42.34	1.0	50	0	84.7	79 - 118	40.99	3.24	20	
2,2-Dichloropropane	50.37	1.0	50	0	101	60 - 139	51.72	2.65	20	
2-Butanone	92.12	2.0	100	0	92.1	56 - 143	89.78	2.57	20	
2-Chlorotoluene	41.33	1.0	50	0	82.7	79 - 122	40.09	3.05	20	
2-Hexanone	94.72	2.0	100	0	94.7	57 - 139	91.45	3.52	20	
4-Chlorotoluene	41.41	1.0	50	0	82.8	78 - 122	40.35	2.6	20	
4-Isopropyltoluene	41.01	1.0	50	0	82.0	77 - 127	38.61	6.02	20	
4-Methyl-2-pentanone	93.7	2.0	100	0	93.7	67 - 130	91.61	2.25	20	
Acetone	96.88	2.0	100	0	96.9	39 - 160	89.71	7.69	20	
Benzene	47.73	1.0	50	0.5596	94.4	79 - 120	48.79	2.19	20	
Bromobenzene	42.91	1.0	50	0	85.8	80 - 120	42.52	0.908	20	
Bromochloromethane	48.84	1.0	50	0	97.7	78 - 123	48.59	0.52	20	
Bromodichloromethane	47.94	1.0	50	0	95.9	79 - 125	48.61	1.39	20	
Bromoform	50.49	1.0	50	0	101	66 - 130	50.21	0.562	20	
Bromomethane	50.71	1.0	50	0	101	53 - 141	50.04	1.33	20	

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307910 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17120851-01MSD** Units: **ug/L** Analysis Date: **22-Dec-2017 17:27**
Client ID: Run ID: **VOA2_307910** SeqNo: **4367094** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	100.8	2.0	100	0	101	64 - 133	101.1	0.246	20	
Carbon tetrachloride	43.3	1.0	50	0	86.6	72 - 136	46.2	6.47	20	
Chlorobenzene	46.26	1.0	50	0	92.5	80 - 120	46.6	0.736	20	
Chloroethane	45.28	1.0	50	0	90.6	82 - 118	42.76	5.73	20	
Chloroform	46.63	1.0	50	0	93.3	79 - 124	46.87	0.5	20	
Chloromethane	42.65	1.0	50	0	85.3	50 - 139	43.47	1.92	20	
cis-1,2-Dichloroethene	107.2	1.0	50	63.51	87.3	78 - 123	107	0.127	20	
cis-1,3-Dichloropropene	51.99	1.0	50	0	104	75 - 124	53.36	2.6	20	
Dibromochloromethane	48.67	1.0	50	0	97.3	74 - 126	48.69	0.044	20	
Dibromomethane	50.3	1.0	50	0	101	79 - 123	50.22	0.159	20	
Dichlorodifluoromethane	30.94	1.0	50	0	61.9	32 - 152	31.72	2.49	20	
Ethylbenzene	46.53	1.0	50	0	93.1	79 - 121	45.96	1.22	20	
Hexachlorobutadiene	46.27	1.0	50	0	92.5	66 - 134	45.86	0.893	20	
Isopropylbenzene	46.3	1.0	50	0	92.6	72 - 131	44.73	3.46	20	
m,p-Xylene	92.68	2.0	100	0	92.7	80 - 121	91.37	1.43	20	
Methylene chloride	44.71	2.0	50	0	89.4	74 - 124	44.8	0.196	20	
Naphthalene	47.03	1.0	50	0	94.1	61 - 128	44.25	6.09	20	
n-Butylbenzene	42.81	1.0	50	0	85.6	75 - 128	40.65	5.18	20	
n-Propylbenzene	41.8	1.0	50	0	83.6	76 - 126	40.39	3.43	20	
o-Xylene	47.06	1.0	50	0	94.1	78 - 122	46.09	2.08	20	
sec-Butylbenzene	41.19	1.0	50	0	82.4	77 - 126	39.47	4.26	20	
Styrene	47.61	1.0	50	0	95.2	78 - 128	47.48	0.265	20	
tert-Butylbenzene	40.84	1.0	50	0	81.7	78 - 124	39.43	3.49	20	
Tetrachloroethene	71.01	1.0	50	19.97	102	74 - 129	71.79	1.09	20	
Toluene	46.64	1.0	50	0	93.3	80 - 121	46.71	0.147	20	
trans-1,2-Dichloroethene	53.23	1.0	50	0	106	75 - 124	54.44	2.26	20	
trans-1,3-Dichloropropene	51.82	1.0	50	0	104	73 - 127	52.62	1.53	20	
Trichloroethene	75.06	1.0	50	29.32	91.5	79 - 123	77.56	3.28	20	
Trichlorofluoromethane	51.49	1.0	50	0	103	65 - 141	51.54	0.0901	20	
Vinyl chloride	77.77	1.0	50	31.51	92.5	58 - 137	78.76	1.27	20	
Surr: 1,2-Dichloroethane-d4	*48.71*	*1.0*	*50*	*0*	*97.4*	*81 - 118*	*47.87*	*1.74*	*20*	
Surr: 4-Bromofluorobenzene	*50.61*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.98*	*0.714*	*20*	
Surr: Dibromofluoromethane	*47.33*	*1.0*	*50*	*0*	*94.7*	*80 - 119*	*47.86*	*1.11*	*20*	
Surr: Toluene-d8	*47.09*	*1.0*	*50*	*0*	*94.2*	*89 - 112*	*46.94*	*0.315*	*20*	

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307910 **Instrument: VOA2** **Method: SW8260**

The following samples were analyzed in this batch:

HS17120868-01	HS17120868-03	HS17120868-04	HS17120868-05
HS17120868-06	HS17120868-07	HS17120868-08	HS17120868-09
HS17120868-10			

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307922 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171223** Units: **ug/L** Analysis Date: **23-Dec-2017 14:27**
Client ID: Run ID: **VOA2_307922** SeqNo: **4367399** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Trichloroethene	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.61*	*1.0*	*50*	*0*	*91.2*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.84*	*1.0*	*50*	*0*	*97.7*	*85 - 114*				
Surr: Dibromofluoromethane	*50.45*	*1.0*	*50*	*0*	*101*	*80 - 119*				
Surr: Toluene-d8	*48.83*	*1.0*	*50*	*0*	*97.7*	*89 - 112*				

LCS Sample ID: **VLCSW-171223** Units: **ug/L** Analysis Date: **23-Dec-2017 13:38**
Client ID: Run ID: **VOA2_307922** SeqNo: **4367397** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Trichloroethene	45.99	1.0	50	0	92.0	79 - 123				
Surr: 1,2-Dichloroethane-d4	*47.73*	*1.0*	*50*	*0*	*95.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.3*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*48.08*	*1.0*	*50*	*0*	*96.2*	*80 - 119*				
Surr: Toluene-d8	*46.8*	*1.0*	*50*	*0*	*93.6*	*89 - 112*				

MS Sample ID: **HS17120869-01MS** Units: **ug/L** Analysis Date: **23-Dec-2017 16:05**
Client ID: Run ID: **VOA2_307922** SeqNo: **4367403** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Trichloroethene	48.48	1.0	50	0	97.0	79 - 123				
Surr: 1,2-Dichloroethane-d4	*46.77*	*1.0*	*50*	*0*	*93.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.37*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*47.93*	*1.0*	*50*	*0*	*95.9*	*80 - 119*				
Surr: Toluene-d8	*47.32*	*1.0*	*50*	*0*	*94.6*	*89 - 112*				

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

QC BATCH REPORT

Batch ID: R307922 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17120869-01MSD** Units: **ug/L** Analysis Date: **23-Dec-2017 16:30**
Client ID: Run ID: **VOA2_307922** SeqNo: **4367404** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Trichloroethene	48.14	1.0	50	0	96.3	79 - 123	48.48	0.707	20	
Surr: 1,2-Dichloroethane-d4	*47.49*	*1.0*	*50*	*0*	*95.0*	*81 - 118*	*46.77*	*1.54*	*20*	
Surr: 4-Bromofluorobenzene	*50.63*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.37*	*0.499*	*20*	
Surr: Dibromofluoromethane	*47.81*	*1.0*	*50*	*0*	*95.6*	*80 - 119*	*47.93*	*0.248*	*20*	
Surr: Toluene-d8	*47.18*	*1.0*	*50*	*0*	*94.4*	*89 - 112*	*47.32*	*0.277*	*20*	

The following samples were analyzed in this batch: HS17120868-05 HS17120868-06 HS17120868-07

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

ALS Group USA, Corp Date: 28-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: **HS17120868**

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	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

ALS Group USA, Corp Date: 28-Dec-17

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17120868
Date/Time Received: **14-Dec-2017 11:30**
Received by: **JRM**

Checklist completed by: *Nilesh D. Ranchod* eSignature — 15-Dec-2017 Date
Reviewed by: *Sonia West* eSignature — 19-Dec-2017 Date

Matrices: **Groundwater**
Carrier name: **UPS**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
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/2.5c uc/c	11	
Cooler(s)/Kit(s):	25756		
Date/Time sample(s) sent to storage:	12/14/2017 18:00		
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:

00872093

bhate
ENVIRONMENTAL CONSTRUCTION & LEASE

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Page: 1 of 1

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 18/24

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	Perchlorate	Total Metals	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
MW10_121117		11DEC2017	0930	-			WG	4	X	X					
MW17_121117		11DEC2017	1030	-			WG	1		X					
MW18_121117		11DEC2017	1130	-			WG	4	X	X					
MW19_121217		12DEC2017	0810				WG	5	X	X	X				
MW8_121217		12DEC2017	0915				WG	4	X	X					
18CPTMW10SW_121217		12DEC2017	1020	-			WG	4	X	X					
18CPTMW10DW_121217		12DEC2017	1120	-			WG	5	X	X	X				
18CPTMW12SW_121217		12DEC2017	1330	-			WG	5	X	X	X				
18CPTMW12DW_121217		12DEC2017	1425	-			WG	5	X	X	X				
TRIPBLANK		12DEC2017		-			W	2	X						
				-											

Sample Analysis Requested (5) | Quality Assurance Samples (6)

HS17120868

Bhate Environmental Associates, Inc.
LHAAP 18 24

COMMENTS: _____

Custody Transfers Prior to Receipt by Laboratory

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1. ~~Scott Beesinger~~	12/14/17	1515	1. JM	12/14/17	11:30
2.			2.		
3.			3.		

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stancliff Rd, Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

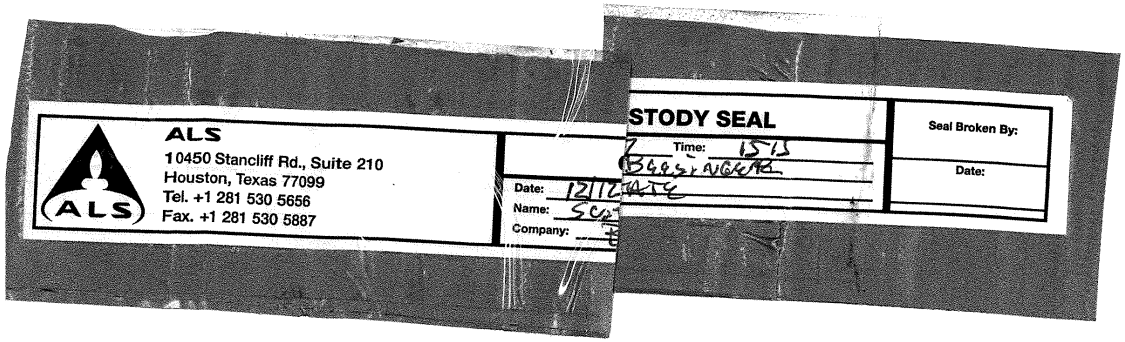
3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

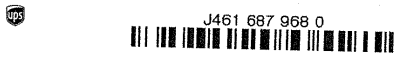
4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

Cooler 25756 IR11
Temp 2.2 0F0 J


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
Date: 12/12
Name:
Company:
STODY SEAL
Time: 15:13
Seal Broken By:
Date:


J461 687 968 0

J461 687 968 0

Volatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17120868

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171222	96	96	94	100	0
02	VBLKW-171222	93	100	97	96	0
03	HS17120851-01	96	96	94	102	0
04	HS17120851-01	97	95	94	101	0
05	HS17120868-10	94	101	97	99	0
06	HS17120868-01	95	100	97	98	0
07	HS17120868-03	92	100	97	98	0
08	HS17120868-04	93	100	97	98	0
09	HS17120868-05	94	101	95	97	0
10	HS17120868-06	93	100	97	98	0
11	HS17120868-07	92	99	96	99	0
12	HS17120868-08	92	98	97	97	0
13	HS17120868-09	93	99	98	99	0
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28						

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171223	95	96	94	101	0
02	VBLKW-171223	91	101	98	98	0
03	HS17120869-01	94	96	95	101	0
04	HS17120869-01	95	96	94	101	0
05	HS17120868-06	94	100	97	98	0
06	HS17120868-07	94	99	97	98	0
07	HS17120868-05	94	98	96	97	0
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28						

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	50.00	49.06	98	80-120
1,1,1,2-Tetrachloroetha	50.00	49.68	99	80-120
tert-Butylbenzene	50.00	45.55	91	80-120
Naphthalene	50.00	51.79	104	80-120
sec-Butylbenzene	50.00	46.50	93	80-120
1,1,2,2-Tetrachloroetha	50.00	45.44	91	80-120
1,1,2-Trichloroethane	50.00	48.61	97	80-120
1,1-Dichloropropene	50.00	51.30	103	80-120
1,1-Dichloroethane	50.00	48.08	96	80-120
1,1-Dichloroethene	50.00	50.33	101	80-120
1,2,4-Trichlorobenzene	50.00	55.22	110	80-120
1,2-Dibromo-3-Chloropro	50.00	47.98	96	80-120
1,2-Dibromoethane	50.00	49.92	100	80-120
1,2-Dichlorobenzene	50.00	47.36	95	80-120
1,2-Dichloroethane	50.00	51.46	103	80-120
1,2-Dichloropropane	50.00	47.58	95	80-120
1,3-Dichlorobenzene	50.00	47.02	94	80-120
1,4-Dichlorobenzene	50.00	46.92	94	80-120
2-Butanone	100.00	98.74	99	80-120
2-Hexanone	100.00	94.99	95	80-120
4-Methyl-2-Pentanone	100.00	93.96	94	80-120
Acetone	100.00	101.52	102	80-120
Benzene	50.00	47.98	96	80-120
Bromodichloromethane	50.00	49.79	100	80-120
Bromoform	50.00	53.45	107	80-120
Bromomethane	50.00	54.60	109	80-120
Carbon Disulfide	100.00	101.83	102	80-120
Carbon Tetrachloride	50.00	42.60	85	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Chlorobenzene	50.00	46.60	93	80-120
Chloroethane	50.00	42.06	84	80-120
Chloroform	50.00	48.98	98	80-120
Chloromethane	50.00	54.85	110	80-120
cis-1,2-Dichloroethene	50.00	49.49	99	80-120
cis-1,3-Dichloropropene	50.00	52.66	105	80-120
Dibromochloromethane	50.00	50.66	101	80-120
Dichlorodifluoromethane	50.00	53.81	108	80-120
Ethylbenzene	50.00	46.15	92	80-120
Isopropylbenzene	50.00	46.76	94	80-120
Methylene Chloride	50.00	48.55	97	80-120
Tetrachloroethene	50.00	50.78	102	80-120
Toluene	50.00	45.96	92	80-120
trans-1,2-Dichloroethen	50.00	52.97	106	80-120
trans-1,3-Dichloroprope	50.00	54.38	109	80-120
Trichloroethene	50.00	48.10	96	80-120
Trichlorofluoromethane	50.00	52.99	106	80-120
Vinyl Chloride	50.00	51.74	103	80-120
m,p-Xylenes	100.00	91.61	92	80-120
o-Xylene	50.00	46.64	93	80-120
Xylenes (total)	150.00	138.25	92	80-120
1,2,3-Trichloropropane	50.00	48.85	98	80-120
1,2,3-Trichlorobenzene	50.00	54.84	110	80-120
1,2,4-Trimethylbenzene	50.00	44.39	89	80-120
1,3,5-Trimethylbenzene	50.00	44.90	90	80-120
2,2-Dichloropropane	50.00	49.36	99	80-120
1,3-Dichloropropane	50.00	47.05	94	80-120
2-Chlorotoluene	50.00	44.48	89	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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
4-Chlorotoluene	50.00	44.61	89	80-120
p-Isopropyltoluene	50.00	46.35	93	80-120
Bromochloromethane	50.00	52.80	106	80-120
Bromobenzene	50.00	46.42	93	80-120
Dibromomethane	50.00	51.22	102	80-120
Hexachlorobutadiene	50.00	49.83	100	80-120
n-Propylbenzene	50.00	45.14	90	80-120
n-Butylbenzene	50.00	48.19	96	80-120
Styrene	50.00	48.08	96	80-120

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

* Values outside of QC limits

COMMENTS: _____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Lab File ID: D121901 BFB Injection Date: 12/19/17

Instrument ID: VOA2 BFB Injection Time: 0921

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.1
75	30.0 - 60.0% of mass 95	43.0
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	83.4
175	5.0 - 9.0% of mass 174	6.7 (8.0)1
176	95.0 - 101.0% of mass 174	80.0 (95.9)1
177	5.0 - 9.0% of mass 176	5.8 (7.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD00.5	VSTD00.5	D121903	12/19/17	1010
02	VSTD001	VSTD001	D121904	12/19/17	1034
03	VSTD002	VSTD002	D121905	12/19/17	1059
04	VSTD005	VSTD005	D121906	12/19/17	1123
05	VSTD010	VSTD010	D121907	12/19/17	1147
06	VSTD020	VSTD020	D121908	12/19/17	1214
07	VSTD050	VSTD050	D121909	12/19/17	1239
08	VSTD100	VSTD100	D121910	12/19/17	1303
09	VSTD200	VSTD200	D121911	12/19/17	1327
10	VSTD-ICV	VSTD-ICV	D121913	12/19/17	1416
11					
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FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF0.5: D121903 RF1: D121904 RF2: D121905
RF5: D121906 RF10: D121907 RF20: D121908

COMPOUND	RF0.5	RF1	RF2	RF5	RF10	RF20
1,1,1-Trichloroethane	0.804	0.803	0.745	0.714	0.797	0.794
1,1,1,2-Tetrachloroethane	0.414	0.439	0.395	0.373	0.404	0.406
tert-Butylbenzene	3.220	3.180	2.800	2.512	2.689	2.709
Naphthalene	1123	3453	8523	34239	75559	161007
sec-Butylbenzene	4.297	4.084	3.646	3.220	3.596	3.673
1,1,2,2-Tetrachloroethane	1.431	1.401	1.274	1.150	1.186	1.090
1,1,2-Trichloroethane	0.354	0.348	0.305	0.289	0.300	0.299
1,1-Dichloropropene	2906	4681	7445	15499	28773	61975
1,1-Dichloroethane	1.067	1.147	1.054	0.993	1.054	1.040
1,1-Dichloroethene	0.347	0.438	0.420	0.379	0.435	0.435
1,2,4-Trichlorobenzene	0.741	0.962	0.873	0.877	0.991	1.106
1,2-Dibromo-3-Chloropropane	130	527	1073	2812	5460	11302
1,2-Dibromoethane	0.400	0.401	0.383	0.365	0.383	0.384
1,2-Dichlorobenzene	2.062	2.084	1.842	1.715	1.791	1.780
1,2-Dichloroethane	2076	3910	7652	19328	11455	73153
1,2-Dichloropropane	0.387	0.431	0.432	0.405	0.415	0.380
1,3-Dichlorobenzene	2.189	2.106	1.936	1.751	1.807	1.846
1,4-Dichlorobenzene	2.070	2.116	1.792	1.663	1.737	1.705
2-Butanone	0.276	0.300	0.260	0.271	0.264	0.247
2-Hexanone	0.322	0.328	0.307	0.274	0.293	0.277
4-Methyl-2-Pentanone	0.516	0.532	0.464	0.436	0.460	0.427
Acetone	2564	3611	4810	8024	15119	33367
Benzene	1.437	1.580	1.320	1.264	1.338	1.249
Bromodichloromethane	0.500	0.504	0.449	0.430	0.470	0.468
Bromoform	0.284	0.260	0.286	0.279	0.295	0.305
Bromomethane	1436	2542	4860	11772	19732	37890
Carbon Disulfide	1.039	0.948	0.859	0.833	0.960	0.977
Carbon Tetrachloride	0.626	0.510	0.521	0.436	0.486	0.452
Chlorobenzene	1.171	1.198	1.074	0.999	1.027	1.014
Chloroethane	0.355	0.450	0.438	0.496	0.423	0.409
Chloroform	0.988	0.952	0.930	0.874	0.930	0.895
Chloromethane	3374	5969	10010	22250	43035	90594
cis-1,2-Dichloroethene	0.668	0.561	0.587	0.540	0.564	0.544
cis-1,3-Dichloropropene	0.494	0.537	0.508	0.501	0.555	0.555
Dibromochloromethane	0.437	0.446	0.415	0.403	0.432	0.447
Dichlorodifluoromethane	0.376	0.410	0.356	0.382	0.460	0.479
Ethylbenzene	0.652	0.647	0.572	0.512	0.543	0.558
Isopropylbenzene	1.988	1.980	1.718	1.614	1.751	1.742
Methylene Chloride	0.664	0.606	0.547	0.518	0.532	0.512
Tetrachloroethene	2878	3904	5759	12517	22413	46886
Toluene	1.769	1.891	1.653	1.549	1.594	1.597
trans-1,2-Dichloroethene	0.349	0.427	0.475	0.423	0.462	0.461
trans-1,3-Dichloropropene	0.403	0.453	0.399	0.410	0.474	0.476
Trichloroethene	0.443	0.405	0.340	0.332	0.365	0.377

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712086

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF0.5: D121903 RF1: D121904 RF2: D121905
RF5: D121906 RF10: D121907 RF20: D121908

COMPOUND	RF0.5	RF1	RF2	RF5	RF10	RF20
Trichlorofluoromethane	0.537	0.608	0.565	0.540	0.679	0.679
Vinyl Chloride	0.611	0.630	0.621	0.558	0.626	0.642
m,p-Xylenes	0.813	0.786	0.693	0.640	0.682	0.677
o-Xylene	0.843	0.831	0.707	0.668	0.679	0.700
Xylenes (total)	0.738	0.726	0.617	0.588	0.634	0.617
1,2,3-Trichloropropane	1.343	1.424	1.273	1.151	1.188	1.148
1,2,3-Trichlorobenzene	0.609	0.748	0.797	0.818	0.896	0.940
1,2,4-Trimethylbenzene	4.242	4.007	3.451	3.125	3.218	3.243
1,3,5-Trimethylbenzene	4.026	3.821	3.404	3.059	3.223	3.167
2,2-Dichloropropane	0.729	0.794	0.715	0.676	0.750	0.734
1,3-Dichloropropane	0.710	0.742	0.619	0.586	0.593	0.601
2-Chlorotoluene	3.397	3.467	3.108	2.685	2.712	2.746
4-Chlorotoluene	3.737	3.682	3.298	2.962	3.019	2.968
p-Isopropyltoluene	3.778	3.456	3.033	2.864	3.057	3.110
Bromochloromethane	0.269	0.253	0.255	0.262	0.283	0.284
Bromobenzene	1.383	1.191	1.158	1.049	1.064	1.061
Dibromomethane	0.196	0.197	0.196	0.197	0.217	0.212
Hexachlorobutadiene	963	1399	2593	6524	13741	30591
n-Propylbenzene	4.960	4.944	4.499	3.983	4.179	4.225
n-Butylbenzene	2.497	2.531	2.124	2.093	2.307	2.450
Styrene	1.220	1.281	1.151	1.057	1.155	1.152
1,2-Dichloroethane-d4	0.632	0.541	0.571	0.505	0.571	0.546
Dibromofluoromethane	0.512	0.501	0.479	0.440	0.446	0.431
Toluene-d8	1.673	1.539	1.340	1.195	1.287	1.242
4-Bromofluorobenzene		0.618	0.516	0.462	0.490	0.466

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712086

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF50: D121909 RF100: D121910 RF200: D121911

COMPOUND	RF50	RF100	RF200
1,1,1-Trichloroethane	0.792	0.774	0.734
1,1,1,2-Tetrachloroethane	0.397	0.392	0.371
tert-Butylbenzene	2.592	2.464	2.320
Naphthalene	395649	794606	1461418
sec-Butylbenzene	3.438	3.291	3.100
1,1,2,2-Tetrachloroethane	1.084	1.085	1.034
1,1,2-Trichloroethane	0.294	0.288	0.275
1,1-Dichloropropene	151900	286474	583601
1,1-Dichloroethane	1.050	1.026	0.963
1,1-Dichloroethene	0.437	0.431	0.391
1,2,4-Trichlorobenzene	1.106	1.128	1.079
1,2-Dibromo-3-Chloropropane	30643	61519	121157
1,2-Dibromoethane	0.380	0.383	0.368
1,2-Dichlorobenzene	1.732	1.646	1.522
1,2-Dichloroethane	175492	337824	662291
1,2-Dichloropropane	0.375	0.370	0.351
1,3-Dichlorobenzene	1.790	1.745	1.661
1,4-Dichlorobenzene	1.708	1.694	1.614
2-Butanone	0.265	0.280	0.264
2-Hexanone	0.278	0.285	0.272
4-Methyl-2-Pentanone	0.426	0.426	0.395
Acetone	83806	155352	314789
Benzene	1.267	1.235	1.150
Bromodichloromethane	0.463	0.467	0.439
Bromoform	0.317	0.328	0.316
Bromomethane	88179	161998	315966
Carbon Disulfide	0.984	0.960	0.922
Carbon Tetrachloride	0.409	0.428	0.406
Chlorobenzene	0.976	0.938	0.869
Chloroethane	0.368	0.365	0.335
Chloroform	0.914	0.895	0.826
Chloromethane	201934	389398	800291
cis-1,2-Dichloroethene	0.568	0.561	0.526
cis-1,3-Dichloropropene	0.564	0.563	0.535
Dibromochloromethane	0.441	0.440	0.424
Dichlorodifluoromethane	0.470	0.466	0.448
Ethylbenzene	0.520	0.491	0.465
Isopropylbenzene	1.628	1.532	1.391
Methylene Chloride	0.524	0.525	0.496
Tetrachloroethene	108668	206898	413430
Toluene	1.481	1.409	1.316
trans-1,2-Dichloroethene	0.491	0.474	0.453
trans-1,3-Dichloropropene	0.486	0.504	0.488
Trichloroethene	0.364	0.360	0.348

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712086

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF50: D121909 RF100: D121910 RF200: D121911

COMPOUND	RF50	RF100	RF200
Trichlorofluoromethane	0.669	0.651	0.620
Vinyl Chloride	0.619	0.623	0.585
m,p-Xylenes	0.631	0.594	0.550
o-Xylene	0.678	0.644	0.596
Xylenes (total)	0.583	0.556	0.514
1,2,3-Trichloropropane	1.159	1.174	0.858
1,2,3-Trichlorobenzene	0.914	0.982	0.934
1,2,4-Trimethylbenzene	3.063	2.910	2.715
1,3,5-Trimethylbenzene	3.000	2.851	2.639
2,2-Dichloropropane	0.741	0.730	0.686
1,3-Dichloropropane	0.578	0.577	0.545
2-Chlorotoluene	2.590	2.489	2.369
4-Chlorotoluene	2.875	2.736	2.555
p-Isopropyltoluene	2.916	2.821	2.664
Bromochloromethane	0.279	0.286	0.263
Bromobenzene	1.056	1.030	0.989
Dibromomethane	0.207	0.211	0.202
Hexachlorobutadiene	68105	134255	266365
n-Propylbenzene	3.932	3.780	3.543
n-Butylbenzene	2.286	2.203	2.095
Styrene	1.107	1.044	0.953
1,2-Dichloroethane-d4	0.554	0.564	0.522
Dibromofluoromethane	0.432	0.424	0.390
Toluene-d8	1.163	1.108	
4-Bromofluorobenzene	0.450	0.440	0.409

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712086

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
1,1,1-Trichloroethane	AVRG		0.77276924	4.350	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.39899030	5.212	15.000
tert-Butylbenzene	AVRG		2.72069995	11.280	15.000
Naphthalene	LINR	-1.06e-002	0.39396060	0.9979078	0.9900000
sec-Butylbenzene	AVRG		3.59394331	10.964	15.000
1,1,2,2-Tetrachloroethane	AVRG		1.19275495	12.147	15.000
1,1,2-Trichloroethane	AVRG		0.30586501	8.839	15.000
1,1-Dichloropropene	LINR	-1.87e-002	2.61428031	0.9997801	0.9900000
1,1-Dichloroethane	AVRG		1.04387562	4.895	15.000
1,1-Dichloroethene	AVRG		0.41266966	7.912	15.000
1,2,4-Trichlorobenzene	AVRG		0.98501350	13.569	15.000
1,2-Dibromo-3-Chloropropane	LINR	1.077e-002	4.80773795	0.9997728	0.9900000
1,2-Dibromoethane	AVRG		0.38308597	3.220	15.000
1,2-Dichlorobenzene	AVRG		1.79719079	10.110	15.000
1,2-Dichloroethane	LINR	-2.e-003	2.26967717	0.9977457	0.9900000
1,2-Dichloropropane	AVRG		0.39381920	7.224	15.000
1,3-Dichlorobenzene	AVRG		1.87027266	9.388	15.000
1,4-Dichlorobenzene	AVRG		1.78884060	10.034	15.000
2-Butanone	AVRG		0.26980121	5.521	15.000
2-Hexanone	AVRG		0.29295978	7.283	15.000
4-Methyl-2-Pentanone	AVRG		0.45362315	9.861	15.000
Acetone	LINR	-4.69e-002	6.17516382	0.9992633	0.9900000
Benzene	AVRG		1.31556367	9.655	15.000
Bromodichloromethane	AVRG		0.46564182	5.335	15.000
Bromoform	AVRG		0.29659331	7.335	15.000
Bromomethane	LINR	-5.e-002	3.06715228	0.9980188	0.9900000
Carbon Disulfide	AVRG		0.94240963	6.753	15.000
Carbon Tetrachloride	AVRG		0.47493257	14.801	15.000
Chlorobenzene	AVRG		1.02970292	10.206	15.000
Chloroethane	AVRG		0.40453032	13.046	15.000
Chloroform	AVRG		0.91157626	5.113	15.000
Chloromethane	LINR	-1.91e-002	1.21864727	0.9997769	0.9900000
cis-1,2-Dichloroethene	AVRG		0.56884012	7.235	15.000
cis-1,3-Dichloropropene	AVRG		0.53474402	5.103	15.000
Dibromochloromethane	AVRG		0.43168732	3.484	15.000
Dichlorodifluoromethane	AVRG		0.42743627	10.958	15.000
Ethylbenzene	AVRG		0.55113746	11.724	15.000
Isopropylbenzene	AVRG		1.70498371	11.397	15.000
Methylene Chloride	AVRG		0.54727576	9.818	15.000
Tetrachloroethene	LINR	-3.42e-002	3.35406776	0.9995193	0.9900000
Toluene	AVRG		1.58456836	11.098	15.000
trans-1,2-Dichloroethene	AVRG		0.44636929	9.521	15.000
trans-1,3-Dichloropropene	AVRG		0.45502367	8.923	15.000
Trichloroethene	AVRG		0.37033768	9.361	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712086

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Trichlorofluoromethane	AVRG		0.61649749	9.352	15.000
Vinyl Chloride	AVRG		0.61283948	4.188	15.000
m,p-Xylenes	AVRG		0.67400585	12.531	15.000
o-Xylene	AVRG		0.70513462	11.580	15.000
Xylenes (total)	AVRG		0.61936012	11.870	15.000
1,2,3-Trichloropropane	AVRG		1.19108795	13.263	15.000
1,2,3-Trichlorobenzene	AVRG		0.84874055	13.882	15.000
1,2,4-Trimethylbenzene	AVRG		3.33043722	14.988	15.000
1,3,5-Trimethylbenzene	AVRG		3.24331762	13.740	15.000
2,2-Dichloropropane	AVRG		0.72842815	4.762	15.000
1,3-Dichloropropane	AVRG		0.61691019	10.615	15.000
2-Chlorotoluene	AVRG		2.84031752	13.816	15.000
4-Chlorotoluene	AVRG		3.09264178	13.064	15.000
p-Isopropyltoluene	AVRG		3.07768873	11.169	15.000
Bromochloromethane	AVRG		0.27070416	4.764	15.000
Bromobenzene	AVRG		1.10912501	10.843	15.000
Dibromomethane	AVRG		0.20408606	3.962	15.000
Hexachlorobutadiene	LINR	-8.76e-003	2.20054899	0.9998445	0.9900000
n-Propylbenzene	AVRG		4.22741997	11.650	15.000
n-Butylbenzene	AVRG		2.28734751	7.553	15.000
Styrene	AVRG		1.12463170	8.714	15.000
1,2-Dichloroethane-d4	AVRG		0.55637893	6.497	15.000
Dibromofluoromethane	AVRG		0.45048639	8.752	15.000
Toluene-d8	AVRG		1.31829540	14.782	15.000
4-Bromofluorobenzene	AVRG		0.48140050	13.223	15.000

FORM VI VOA

MSVOA02 -Logbook

Batch: 30538
Date: 01-19-2018
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	01-19-2018 12:03 pm	1.00	50 mL	50 mL	D011901.D	Liquid	Y	NA
	Auto find/purged									
2	CCV	CCV	01-19-2018 12:28 pm	1.00	50 mL	50 mL	D011902.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCB	SAMP	01-19-2018 12:52 pm	1.00	50 mL	50 mL	D011903.D	Liquid	Y	NA
	CCB									
4	VLCSW-180119	LCS	01-19-2018 01:17 pm	1.00	50 mL	50 mL	D011904.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
5	VLCSDW-180119	LCSD	01-19-2018 01:42 pm	1.00	50 mL	50 mL	D011905.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
6	BLK	SAMP	01-19-2018 02:06 pm	1.00	50 mL	50 mL	D011906.D	Liquid	Y	NA
	Cleanup blk									
7	VBLKW-180119	MBLK	01-19-2018 02:31 pm	1.00	50 mL	50 mL	D011907.D	Liquid	Y	NA
8	HS18010632-25	SAMP	01-19-2018 02:55 pm	1.00	50 mL	50 mL	D011908.D	Liquid	Y	<2
9	HS18010632-28	SAMP	01-19-2018 03:20 pm	1.00	50 mL	50 mL	D011909.D	Liquid	Y	<2
10	HS18010632-29	SAMP	01-19-2018 03:44 pm	1.00	50 mL	50 mL	D011910.D	Liquid	Y	<2
11	HS18010648-01	SAMP	01-19-2018 04:10 pm	1.00	50 mL	50 mL	D011911.D	Liquid	Y	<2
12	HS18010648-02	SAMP	01-19-2018 04:33 pm	1.00	50 mL	50 mL	D011912.D	Liquid	Y	<2
13	HS18010648-03	SAMP	01-19-2018 04:58 pm	1.00	50 mL	50 mL	D011913.D	Liquid	Y	<2
14	HS18010472-02	SAMP	01-19-2018 05:22 pm	1.00	50 mL	50 mL	D011914.D	Liquid	Y	<2
15	HS18010472-03	SAMP	01-19-2018 05:47 pm	1.00	50 mL	50 mL	D011915.D	Liquid	Y	<2
16	HS18010472-04	SAMP	01-19-2018 06:11 pm	1.00	50 mL	50 mL	D011916.D	Liquid	Y	<2
17	HS18010472-02MS	MS	01-19-2018 06:36 pm	1.00	50 mL	50 mL	D011917.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
18	HS18010472-02MSD	MSD	01-19-2018 07:00 pm	1.00	50 mL	50 mL	D011918.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
19	HS18010502-14	SAMP	01-19-2018 07:25 pm	1.00	50 mL	50 mL	D011919.D	Liquid	Y	<2
20	HS18010704-12	SAMP	01-19-2018 07:49 pm	1.00	50 mL	50 mL	D011920.D	Liquid	Y	<2
21	HS18010648-01	SAMP	01-19-2018 08:14 pm	1.00	50 mL	50 mL	D011921.D	Liquid	Y	<2
22	HS18010396-01	SAMP	01-19-2018 08:38 pm	1.00	50 mL	50 mL	D011922.D	Liquid	Y	<2
23	HS18010642-02	SAMP	01-19-2018 09:03 pm	1.00	50 mL	50 mL	D011923.D	Liquid	Y	<2
24	HS18010642-04	SAMP	01-19-2018 09:27 pm	1.00	50 mL	50 mL	D011924.D	Liquid	Y	<2
25	HS18010642-06	SAMP	01-19-2018 09:52 pm	1.00	50 mL	50 mL	D011925.D	Liquid	Y	<2
26	HS18010642-09	SAMP	01-19-2018 10:16 pm	1.00	50 mL	50 mL	D011926.D	Liquid	Y	<2
27	HS18010642-10	SAMP	01-19-2018 10:41 pm	1.00	50 mL	50 mL	D011927.D	Liquid	Y	<2
28	HS18010642-13	SAMP	01-19-2018 11:06 pm	1.00	50 mL	50 mL	D011928.D	Liquid	Y	<2
29	HS18010642-15	SAMP	01-19-2018 11:30 pm	1.00	50 mL	50 mL	D011929.D	Liquid	Y	<2

MSVOA02 -Logbook

Chemical	Value
SURR ID	30603-01-03
IS ID	30603-01-04
LCS/MS ID	30603-02-01
CAL STD ID	30603-02-01
BFB ID	30603-01-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

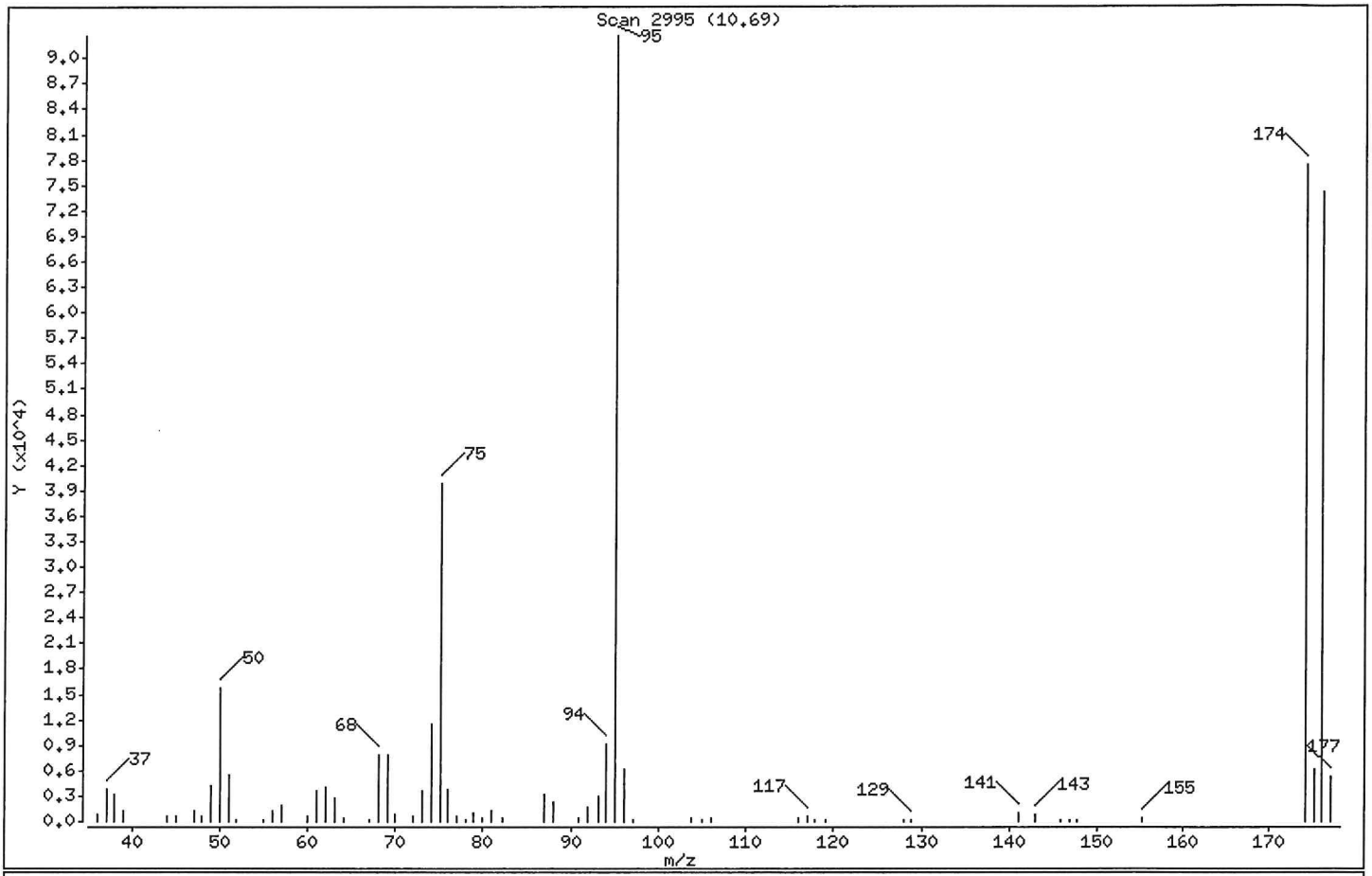
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.10
75	30.00 - 60.00% of mass 95	42.98
96	5.00 - 9.00% of mass 95	6.70
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	83.41
175	5.00 - 9.00% of mass 174	6.69 (8.02)
176	95.00 - 101.00% of mass 174	80.00 (95.92)
177	5.00 - 9.00% of mass 176	5.80 (7.25)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: D121901.D
Spectrum: Scan 2995 (10.69)
Location of Maximum: 95.10
Number of points: 63

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	848	61.10	3681	80.00	392	117.00	535
37.10	3899	62.10	4118	81.00	1369	117.90	289
38.10	3186	63.00	2763	82.10	505	119.00	178
39.10	1261	64.10	359	87.00	3297	128.00	213
44.00	703	67.00	160	88.00	2355	128.80	224
45.10	701	68.10	7863	90.80	345	141.00	1018
47.10	1299	69.10	7818	92.00	1652	143.00	802
48.00	615	70.00	864	93.10	3058	145.80	176
49.00	4200	72.00	664	94.10	9230	146.90	167
50.10	15838	73.00	3522	95.10	92608	147.80	292
51.10	5508	74.00	11471	96.00	6202	155.10	321
52.00	204	75.10	39800	97.10	186	174.00	77240
55.10	193	76.00	3881	103.80	420	175.00	6192
56.10	1190	77.00	562	104.90	165	176.00	74088
57.00	1938	78.00	270	106.00	442	177.00	5369
60.00	615	78.90	1147	116.00	390		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

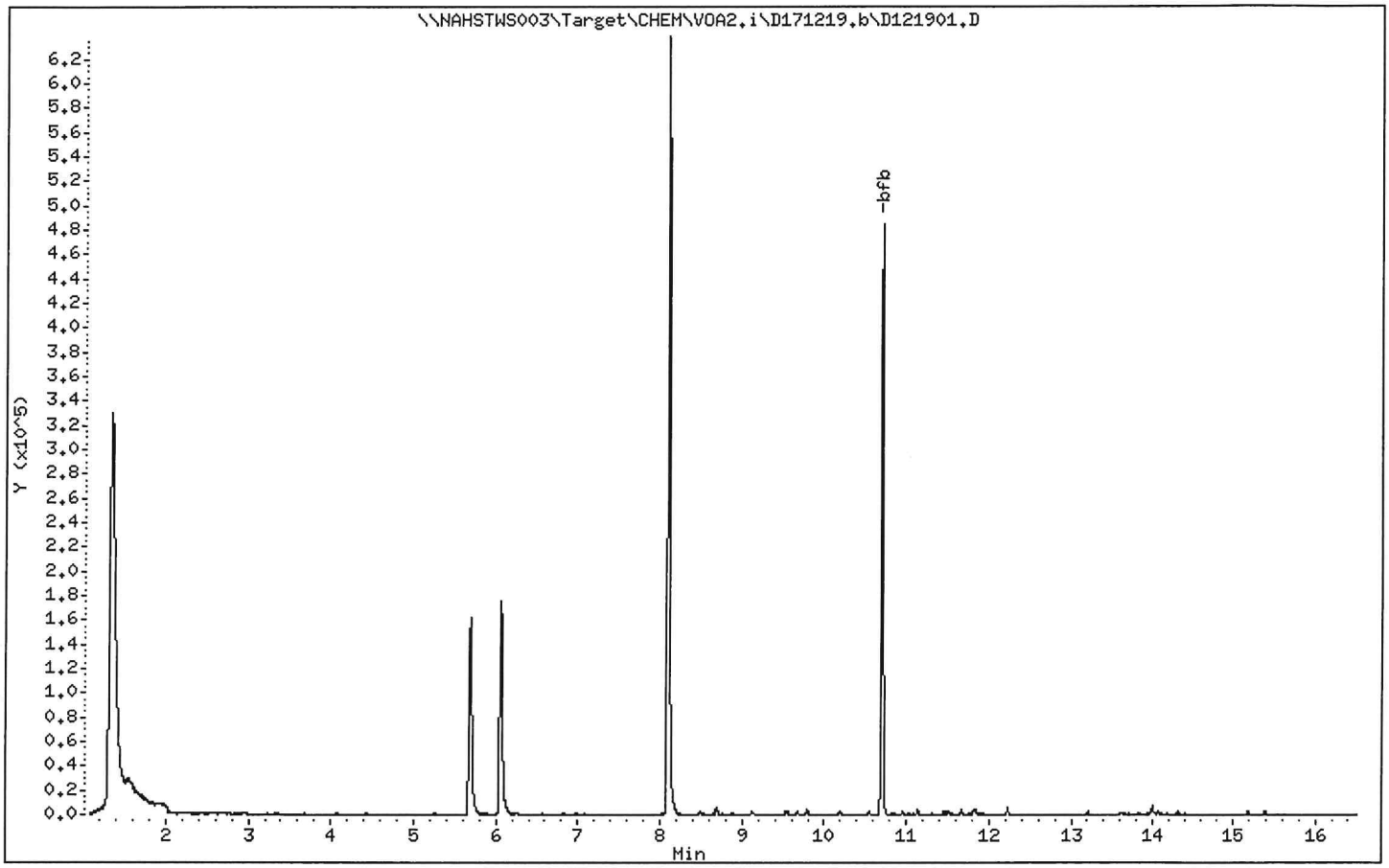
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 17:23

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Lab Smp Id: VSTD00.5 Client Smp ID: VSTD00.5
Inj Date : 19-DEC-2017 10:10
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD00.5;VSTD00.5;1;1;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:27 Cal File: D121911.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.657	5.657	(0.979)	2140	0.50000	0.52(aM)
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	266257	50.0000	
$	30 Dibromofluoromethane	113	5.693	5.693	(0.985)	1363	0.50000	0.56(aM)
*	36 1,4-Difluorobenzene	114	6.569	6.569	(1.000)	394668	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	1684	0.50000	0.56(aM)
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	354076	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.850)	5924	0.50000	0.63(Ta)
$	69 4-Bromofluorobenzene	95	10.698	10.698	(1.123)	2922	0.50000	0.85(a)
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	145249	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.878	10.878	(0.919)	2079	0.50000	0.60(aM)
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	1254	0.50000	0.57(aM)
	32 1,1-Dichloropropene	75	5.850	5.850	(0.891)	2906	0.50000	0.02(aM)
	22 1,1-Dichloroethane	63	4.281	4.281	(0.741)	2841	0.50000	0.51(aM)
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	924	0.50000	0.42(aM)
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	1076	0.50000	0.37(aM)
	89 1,2-Dibromo-3-Chloropropane	75	13.015	13.015	(1.099)	130	0.50000	0.75(aM)
	57 1,2-Dibromoethane	107	9.072	9.072	(0.952)	1418	0.50000	0.52(aM)
	88 1,2-Dichlorobenzene	146	12.229	12.229	(1.033)	2995	0.50000	0.57(aM)
	33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	2076	0.50000	0.49(aM)
	42 1,2-Dichloropropane	63	7.066	7.066	(1.076)	1527	0.50000	0.49(aM)
	83 1,3-Dichlorobenzene	146	11.764	11.764	(0.994)	3180	0.50000	0.58(aM)

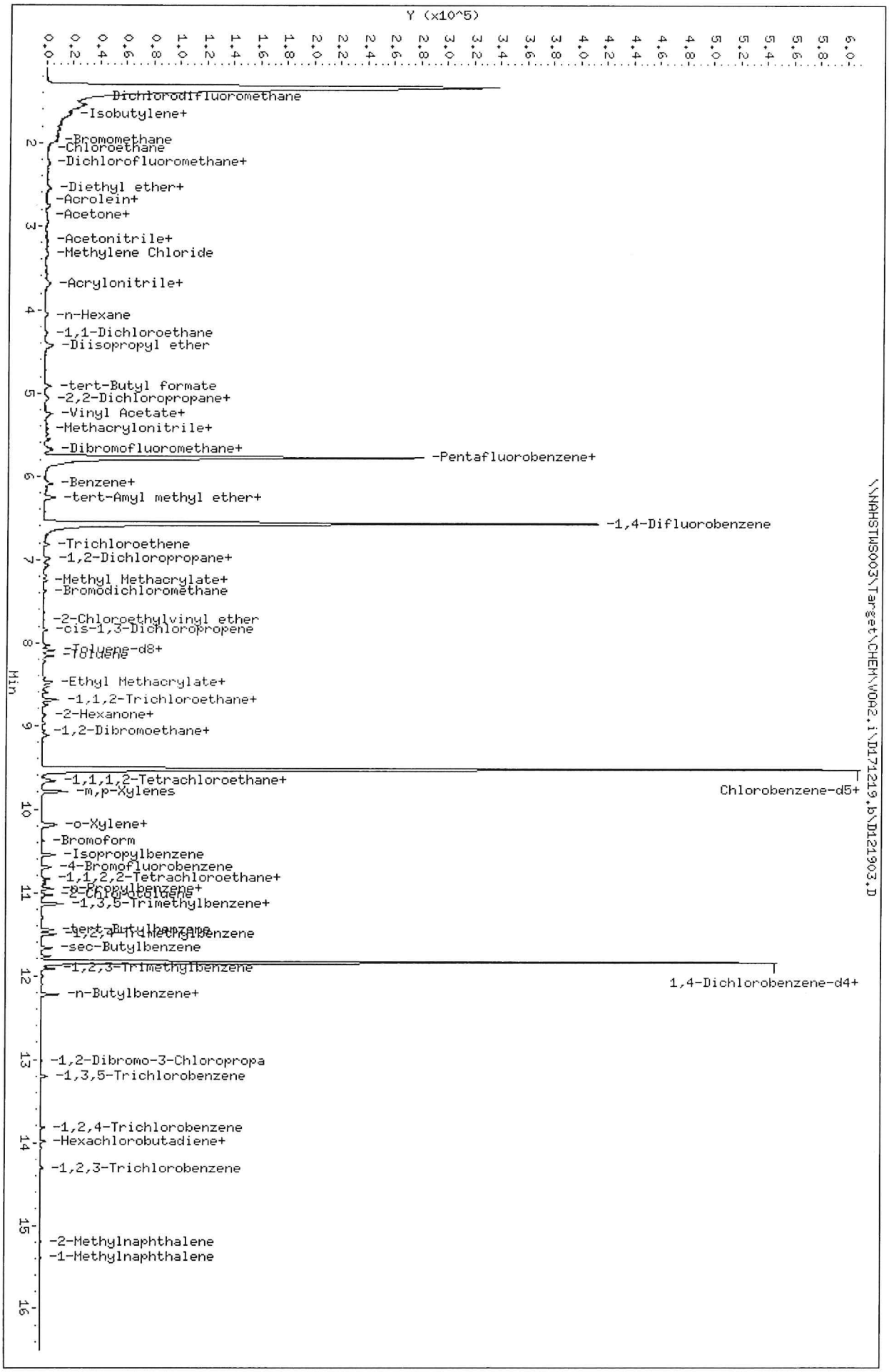
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 17:23

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	11.863	11.863	(1.002)	3007	0.50000	0.57(a)
24	2-Butanone	43	5.169	5.169	(0.895)	1469	1.00000	1.02(aM)
52	2-Hexanone	43	8.873	8.873	(0.932)	2281	1.00000	1.09(aM)
45	4-Methyl-2-Pentanone	43	8.032	8.032	(0.843)	3651	1.00000	1.13(aM)
10	Acetone	43	2.865	2.865	(0.496)	2564	1.00000	0.62(aM)
37	Benzene	78	6.087	6.087	(0.927)	5673	0.50000	0.54(aM)
39	Bromodichloromethane	83	7.377	7.377	(1.123)	1975	0.50000	0.53(aM)
66	Bromoform	173	10.374	10.374	(1.089)	1005	0.50000	0.47(aM)
6	Bromomethane	94	1.964	1.964	(0.340)	1436	0.50000	(aM)
19	Carbon Disulfide	76	2.952	2.952	(0.511)	5535	1.00000	1.10(aM)
34	Carbon Tetrachloride	117	5.821	5.821	(0.886)	2469	0.50000	0.65(aM)
59	Chlorobenzene	112	9.556	9.556	(1.003)	4146	0.50000	0.56(Ta)
7	Chloroethane	64	2.028	2.028	(0.351)	945	0.50000	0.43(aM)
28	Chloroform	83	5.497	5.497	(0.951)	2630	0.50000	0.54(aM)
3	Chloromethane	50	1.595	1.595	(0.276)	3374	0.50000	(aM)
27	cis-1,2-Dichloroethene	96	5.076	5.076	(0.878)	1778	0.50000	0.58(aM)
46	cis-1,3-Dichloropropene	75	7.846	7.846	(1.194)	1950	0.50000	0.46(aM)
55	Dibromochloromethane	129	8.972	8.972	(0.942)	1549	0.50000	0.50(aM)
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	1000	0.50000	0.43(aM)
61	Ethylbenzene	106	9.668	9.668	(1.015)	2309	0.50000	0.59(aM)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	7040	0.50000	0.58(aM)
17	Methylene Chloride	84	3.334	3.334	(0.577)	1769	0.50000	0.60(aM)
56	Tetrachloroethene	164	8.693	8.693	(0.913)	2878	0.50000	(aM)
50	Toluene	91	8.160	8.160	(0.857)	6264	0.50000	0.55(Ta)
20	trans-1,2-Dichloroethene	96	3.677	3.677	(0.636)	930	0.50000	0.39(aM)
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.282)	1589	0.50000	0.44(aM)
38	Trichloroethene	130	6.816	6.816	(1.038)	1748	0.50000	0.59(aM)
8	Trichlorofluoromethane	101	2.237	2.237	(0.387)	1431	0.50000	0.43(aM)
5	Vinyl Chloride	62	1.681	1.681	(0.291)	1626	0.50000	0.49(aM)
62	m,p-Xylenes	106	9.790	9.790	(1.028)	5758	1.00000	1.20(aM)
63	o-Xylene	106	10.185	10.185	(1.069)	2985	0.50000	0.59(aM)
M 95	Xylenes (total)	106				8743	1.50000	(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	1951	0.50000	0.56(aM)
93	1,2,3-Trichlorobenzene	182	14.312	14.312	(1.209)	885	0.50000	0.35(aM)
79	1,2,4-Trimethylbenzene	105	11.504	11.504	(0.972)	6162	0.50000	0.63(a)
75	1,3,5-Trimethylbenzene	105	11.138	11.138	(0.941)	5847	0.50000	0.62(a)
26	2,2-Dichloropropane	77	5.048	5.048	(0.873)	1940	0.50000	0.50(aM)
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	2515	0.50000	0.57(aM)
76	2-Chlorotoluene	91	11.026	11.026	(0.931)	4934	0.50000	0.59(aM)
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	5428	0.50000	0.60(aM)
82	p-Isopropyltoluene	119	11.822	11.822	(0.999)	5487	0.50000	0.61(aM)
29	Bromochloromethane	128	5.368	5.368	(0.929)	717	0.50000	0.49(aM)
74	Bromobenzene	156	10.833	10.833	(0.915)	2009	0.50000	0.62(aM)
44	Dibromomethane	93	7.191	7.191	(1.095)	773	0.50000	0.47(aM)
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	963	0.50000	0.29(aM)
73	n-Propylbenzene	91	10.958	10.958	(0.926)	7204	0.50000	0.58(Ta)
87	n-Butylbenzene	91	12.226	12.226	(1.033)	3627	0.50000	0.54(aM)
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	6241	0.50000	0.59(aM)
92	Naphthalene	128	14.068	14.068	(1.188)	1123	0.50000	(aM)
78	tert-Butylbenzene	119	11.453	11.453	(0.967)	4677	0.50000	0.59(Ta)
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	1467	0.50000	0.51(aM)
64	Styrene	104	10.201	10.201	(1.071)	4321	0.50000	0.54(aM)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 17:23

QC Flag Legend

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


Y (x10^5)
Min
Dichlorodifluoromethane
-Isobutylene+
-Bromomethane
-Chloroethane
-Dichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Acetonitrile+
-Methylene Chloride
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2,2-Dichloropropane+
-Vinyl Acetate+
-Methacrylonitrile+
-Dibromofluoromethane+
-Pentafluorobenzene+
-Benzene+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-1,2-Dichloropropane+
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-Toluene-d8+
-Toluene
-Ethyl Methacrylate+
-1,1,2-Trichloroethane+
-2-Hexanone+
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-n-Propylbenzene+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-tert-Butylbenzene
-1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,2,3-Trimethylbenzene
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\WOA2.i\D171219.b\D121903.D
Data File: \\NAHSTWS003\Target\CHEM\WOA2.i\D171219.b\D121903.D
Date : 19-DEC-2017 10:10
Client ID: WSTD00.5
Sample Info: WSTD00.5;WSTD00.5;1;1;
Purge Volume: 5.0
Column phase: DB624
Instrument: WOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 17:23

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 19-DEC-2017 10:34
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD001;VSTD001;1;2;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 10:10 Cal File: D121903.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.979)	4089	1.00000	1.03(a)
*	1 Pentafluorobenzene	168	5.776	5.776	(1.000)	254673	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.985)	2553	1.00000	1.11(aM)
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	370301	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.049)	2757	1.00000	0.97(Ta)
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	335559	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	10331	1.00000	1.16(Ta)
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	4145	1.00000	1.28(a)
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	139780	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.875	10.875	(0.919)	3917	1.00000	1.17(aM)
	53 1,1,2-Trichloroethane	83	8.603	8.603	(0.903)	2335	1.00000	1.13(aM)
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	4681	1.00000	0.71(aM)
	22 1,1-Dichloroethane	63	4.284	4.284	(0.742)	5842	1.00000	1.09(aM)
	11 1,1-Dichloroethene	96	2.763	2.763	(0.478)	2233	1.00000	1.06(aM)
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	2691	1.00000	0.97(Ta)
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	527	1.00000	1.44(aM)
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	2693	1.00000	1.04(Ta)
	88 1,2-Dichlorobenzene	146	12.229	12.229	(1.033)	5826	1.00000	1.15(aM)
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	3910	1.00000	1.09(aM)
	42 1,2-Dichloropropane	63	7.073	7.073	(1.076)	3194	1.00000	1.09(aM)
	83 1,3-Dichlorobenzene	146	11.770	11.770	(0.994)	5888	1.00000	1.12(aM)

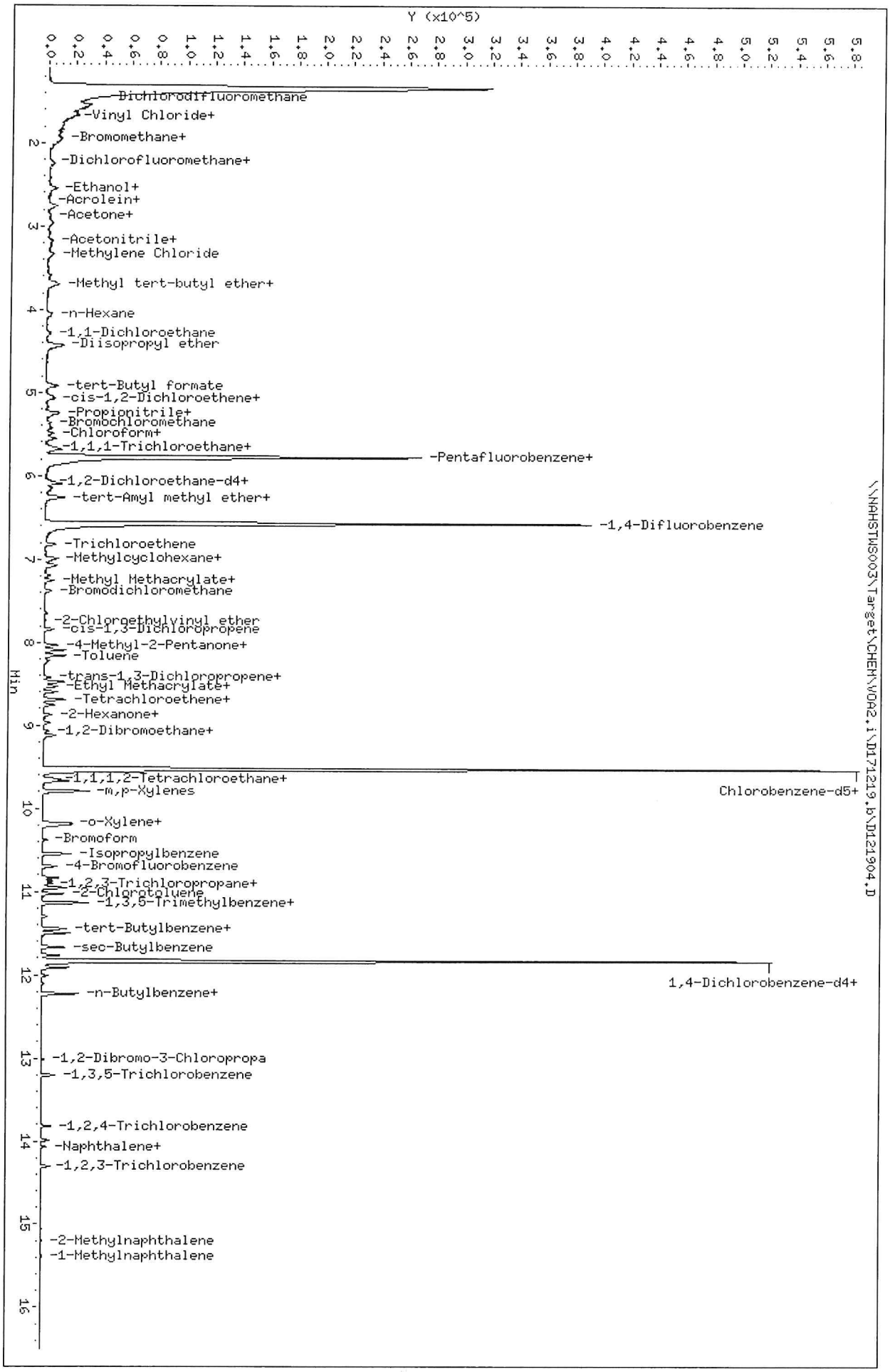
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 17:23

	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	11.860	11.860	(1.002)	5915	1.00000	1.18 (aM)
	24 2-Butanone	43	5.166	5.166	(0.894)	3060	2.00000	2.22 (aM)
	52 2-Hexanone	43	8.873	8.873	(0.932)	4407	2.00000	2.24 (Ta)
	45 4-Methyl-2-Pentanone	43	8.032	8.032	(0.843)	7137	2.00000	2.34 (a)
	10 Acetone	43	2.866	2.866	(0.496)	3611	2.00000	2.03 (aM)
	37 Benzene	78	6.094	6.094	(0.927)	11705	1.00000	1.20 (aM)
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	3729	1.00000	1.08 (aM)
	66 Bromoform	173	10.371	10.371	(1.089)	1745	1.00000	0.87 (aM)
	6 Bromomethane	94	1.938	1.938	(0.336)	2542	1.00000	(aM)
	19 Carbon Disulfide	76	2.962	2.962	(0.513)	9653	2.00000	2.01 (aM)
	34 Carbon Tetrachloride	117	5.824	5.824	(0.886)	3778	1.00000	1.07 (TaM)
	59 Chlorobenzene	112	9.556	9.556	(1.003)	8040	1.00000	1.16 (a)
	7 Chloroethane	64	2.031	2.031	(0.352)	2295	1.00000	1.11 (aM)
	28 Chloroform	83	5.494	5.494	(0.951)	4849	1.00000	1.04 (Ta)
	3 Chloromethane	50	1.595	1.595	(0.276)	5969	1.00000	0.47 (aM)
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	2859	1.00000	0.98 (Ta)
	46 cis-1,3-Dichloropropene	75	7.843	7.843	(1.193)	3975	1.00000	1.00 (aM)
	55 Dibromochloromethane	129	8.969	8.969	(0.942)	2995	1.00000	1.03 (aM)
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.251)	2091	1.00000	0.96 (aM)
	61 Ethylbenzene	106	9.675	9.675	(1.016)	4343	1.00000	1.17 (aMH)
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	13289	1.00000	1.16 (a)
	17 Methylene Chloride	84	3.328	3.328	(0.576)	3087	1.00000	1.10 (aM)
	56 Tetrachloroethene	164	8.687	8.687	(0.912)	3904	1.00000	0.24 (a)
	50 Toluene	91	8.160	8.160	(0.857)	12691	1.00000	1.19 (Ta)
	20 trans-1,2-Dichloroethene	96	3.665	3.665	(0.634)	2177	1.00000	0.95 (aM)
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	3358	1.00000	0.99 (aM)
	38 Trichloroethene	130	6.819	6.819	(1.038)	2998	1.00000	1.09 (aM)
	8 Trichlorofluoromethane	101	2.259	2.259	(0.391)	3095	1.00000	0.98 (aM)
	5 Vinyl Chloride	62	1.678	1.678	(0.291)	3210	1.00000	1.02 (Ta)
	62 m,p-Xylenes	106	9.794	9.794	(1.028)	10553	2.00000	2.33 (a)
	63 o-Xylene	106	10.176	10.176	(1.068)	5578	1.00000	1.17 (a)
M	95 Xylenes (total)	106				16131	3.00000	(a)
	71 1,2,3-Trichloropropane	75	10.907	10.907	(0.921)	3980	1.00000	1.19 (Ta)
	93 1,2,3-Trichlorobenzene	182	14.305	14.305	(1.208)	2091	1.00000	0.88 (aM)
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	11202	1.00000	1.20 (a)
	75 1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	10681	1.00000	1.17 (a)
	26 2,2-Dichloropropane	77	5.044	5.044	(0.873)	4044	1.00000	1.08 (aM)
	54 1,3-Dichloropropane	76	8.757	8.757	(0.919)	4979	1.00000	1.20 (aM)
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	9692	1.00000	1.22 (Ta)
	77 4-Chlorotoluene	91	11.141	11.141	(0.941)	10294	1.00000	1.19 (a)
	82 p-Isopropyltoluene	119	11.819	11.819	(0.998)	9663	1.00000	1.12 (a)
	29 Bromochloromethane	128	5.372	5.372	(0.930)	1289	1.00000	0.93 (aM)
	74 Bromobenzene	156	10.837	10.837	(0.915)	3330	1.00000	1.07 (a)
	44 Dibromomethane	93	7.188	7.188	(1.094)	1461	1.00000	0.96 (aM)
	91 Hexachlorobutadiene	225	13.985	13.985	(1.181)	1399	1.00000	0.66 (aM)
	73 n-Propylbenzene	91	10.952	10.952	(0.925)	13821	1.00000	1.16 (Ta)
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	7076	1.00000	1.10 (a)
	81 sec-Butylbenzene	105	11.671	11.671	(0.986)	11416	1.00000	1.13 (a)
	92 Naphthalene	128	14.065	14.065	(1.188)	3453	1.00000	(a)
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	8889	1.00000	1.16 (a)
	60 1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	2945	1.00000	1.09 (a)
	64 Styrene	104	10.198	10.198	(1.071)	8599	1.00000	1.13 (a)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 17:23

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Date : 19-DEC-2017 10:34
Client ID: WSTD001
Sample Info: WSTD001;WSTD001;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 17:23

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 19-DEC-2017 10:59
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD002;VSTD002;1;3;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 10:34 Cal File: D121904.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
31	1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	7739	2.00000	1.92(a)
* 1	Pentafluorobenzene	168	5.779	5.779	(1.000)	259826	50.0000	
$ 30	Dibromofluoromethane	113	5.683	5.683	(0.983)	4981	2.00000	2.12(a)
* 36	1,4-Difluorobenzene	114	6.572	6.572	(1.000)	391700	50.0000	
$ 35	1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	5934	2.00000	2.05(Ta)
* 47	Chlorobenzene-d5	117	9.524	9.524	(1.000)	346408	50.0000	
$ 48	Toluene-d8	98	8.093	8.093	(0.850)	18565	2.00000	2.03(Ta)
$ 69	4-Bromofluorobenzene	95	10.695	10.695	(1.123)	7156	2.00000	2.14(a)
* 70	1,4-Dichlorobenzene-d4	152	11.835	11.835	(1.000)	146224	50.0000	
68	1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	7449	2.00000	2.13(aM)
53	1,1,2-Trichloroethane	83	8.603	8.603	(0.903)	4222	2.00000	1.99(a)
32	1,1-Dichloropropene	75	5.856	5.856	(0.891)	7445	2.00000	1.55(aM)
22	1,1-Dichloroethane	63	4.274	4.274	(0.740)	10955	2.00000	2.01(aM)
11	1,1-Dichloroethene	96	2.760	2.760	(0.478)	4364	2.00000	2.03(aM)
90	1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	5108	2.00000	1.77(Ta)
89	1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	1073	2.00000	2.30(aM)
57	1,2-Dibromoethane	107	9.065	9.065	(0.952)	5304	2.00000	1.99(Ta)
88	1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	10774	2.00000	2.04(a)
33	1,2-Dichloroethane	62	6.155	6.155	(0.937)	7652	2.00000	2.11(aM)
42	1,2-Dichloropropane	63	7.069	7.069	(1.076)	6767	2.00000	2.19(aM)
83	1,3-Dichlorobenzene	146	11.764	11.764	(0.994)	11327	2.00000	2.07(a)

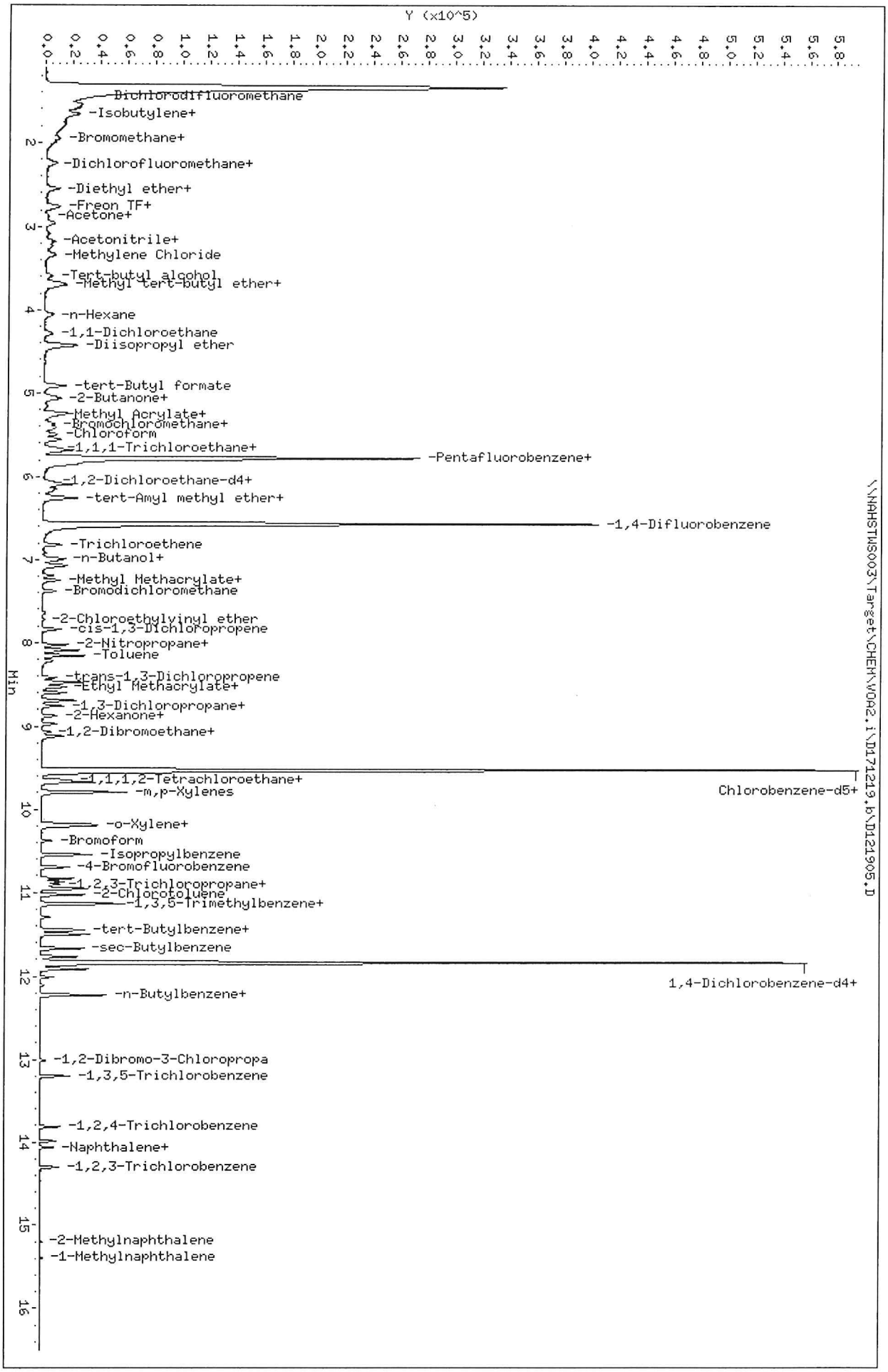
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 17:23

	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	11.860	11.860	(1.002)	10483	2.00000	2.00(a)
	24 2-Butanone	43	5.170	5.170	(0.895)	5411	4.00000	3.85(aM)
	52 2-Hexanone	43	8.873	8.873	(0.932)	8511	4.00000	4.19(a)
	45 4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	12860	4.00000	4.09(a)
	10 Acetone	43	2.872	2.872	(0.497)	4810	4.00000	3.36(aM)
	37 Benzene	78	6.094	6.094	(0.927)	20675	2.00000	2.00(a)
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	7033	2.00000	1.92(Ta)
	66 Bromoform	173	10.378	10.378	(1.090)	3966	2.00000	1.93(aM)
	6 Bromomethane	94	1.951	1.951	(0.338)	4860	2.00000	0.36(aM)
	19 Carbon Disulfide	76	2.959	2.959	(0.512)	17850	4.00000	3.64(aM)
	34 Carbon Tetrachloride	117	5.837	5.837	(0.888)	8167	2.00000	2.19(TaM)
	59 Chlorobenzene	112	9.556	9.556	(1.003)	14887	2.00000	2.08(a)
	7 Chloroethane	64	2.038	2.038	(0.353)	4553	2.00000	2.16(aM)
	28 Chloroform	83	5.494	5.494	(0.951)	9662	2.00000	2.03(Ta)
	3 Chloromethane	50	1.605	1.605	(0.278)	10010	2.00000	1.39(aM)
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	6103	2.00000	2.06(aM)
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	7958	2.00000	1.89(aM)
	55 Dibromochloromethane	129	8.969	8.969	(0.942)	5749	2.00000	1.92(Ta)
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.250)	3705	2.00000	1.66(aM)
	61 Ethylbenzene	106	9.672	9.672	(1.015)	7922	2.00000	2.07(aMH)
	67 Isopropylbenzene	105	10.545	10.545	(1.107)	23813	2.00000	2.01(a)
	17 Methylene Chloride	84	3.341	3.341	(0.578)	5681	2.00000	1.99(aM)
	56 Tetrachloroethene	164	8.687	8.687	(0.912)	5759	2.00000	1.07(a)
	50 Toluene	91	8.157	8.157	(0.856)	22911	2.00000	2.08(a)
	20 trans-1,2-Dichloroethene	96	3.677	3.677	(0.636)	4940	2.00000	2.12(a)
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	6256	2.00000	1.75(aM)
	38 Trichloroethene	130	6.819	6.819	(1.038)	5320	2.00000	1.83(a)
	8 Trichlorofluoromethane	101	2.256	2.256	(0.390)	5870	2.00000	1.83(aM)
	5 Vinyl Chloride	62	1.682	1.682	(0.291)	6459	2.00000	2.02(aM)
	62 m,p-Xylenes	106	9.794	9.794	(1.028)	19203	4.00000	4.11(a)
	63 o-Xylene	106	10.176	10.176	(1.068)	9802	2.00000	2.00(a)
M	95 Xylenes (total)	106				29005	6.00000	(a)
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	7447	2.00000	2.13(a)
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	4663	2.00000	1.87(Ta)
	79 1,2,4-Trimethylbenzene	105	11.498	11.498	(0.972)	20183	2.00000	2.07(a)
	75 1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	19907	2.00000	2.09(a)
	26 2,2-Dichloropropane	77	5.054	5.054	(0.875)	7433	2.00000	1.96(aM)
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	8573	2.00000	2.00(a)
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	18179	2.00000	2.18(a)
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	19291	2.00000	2.13(a)
	82 p-Isopropyltoluene	119	11.818	11.818	(0.999)	17740	2.00000	1.97(a)
	29 Bromochloromethane	128	5.375	5.375	(0.930)	2655	2.00000	1.88(a)
	74 Bromobenzene	156	10.833	10.833	(0.915)	6776	2.00000	2.08(a)
	44 Dibromomethane	93	7.191	7.191	(1.094)	3077	2.00000	1.92(a)
	91 Hexachlorobutadiene	225	13.988	13.988	(1.182)	2593	2.00000	1.51(aM)
	73 n-Propylbenzene	91	10.955	10.955	(0.926)	26316	2.00000	2.12(a)
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	12425	2.00000	1.85(a)
	81 sec-Butylbenzene	105	11.664	11.664	(0.986)	21328	2.00000	2.02(a)
	92 Naphthalene	128	14.065	14.065	(1.188)	8523	2.00000	0.61(a)
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	16377	2.00000	2.05(a)
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	5468	2.00000	1.97(a)
	64 Styrene	104	10.198	10.198	(1.071)	15951	2.00000	2.04(a)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 17:23

QC Flag Legend

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


Y (x10^5)
Dichlorodifluoromethane
-Isobutylene+
-Bromomethane+
-Dichlorofluoromethane+
-Diethyl ether+
-Freon TF+
-Acetone+
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Methyl tert-butyl ether+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2-Butanone+
-Methyl Acrylate+
-Bromochloromethane+
-Chloroform
-1,1,1-Trichloroethane+
-Pentafluorobenzene+
-1,2-Dichloroethane-d4+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene
-trans-1,3-Dichloropropene
-Ethyl Methacrylate+
-1,3-Dichloropropane+
-2-Hexanone+
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-tert-Butylbenzene+
-sec-Butylbenzene
1,4-Dichlorobenzene-d4+
-n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Naphthalene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
Min
\\NAHSTWS003\Target\CHEM\VOA2,i\D171219,b\D121905,D
Data File: \\NAHSTWS003\Target\CHEM\VOA2,i\D171219,b\D121905,D
Date : 19-DEC-2017 10:59
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;3;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2,i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 17:23

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 19-DEC-2017 11:23
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD005;VSTD005;1;4;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 10:59 Cal File: D121905.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	19452	5.00000	4.61(a)
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	272617	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.984)	11996	5.00000	4.88(a)
*	36 1,4-Difluorobenzene	114	6.569	6.569	(1.000)	412491	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	13758	5.00000	4.53(a)
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	373656	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	44645	5.00000	4.53(a)
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	17276	5.00000	4.80(a)
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	161728	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.869	10.869	(0.918)	18597	5.00000	4.82(aM)
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	10807	5.00000	4.72(a)
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	15499	5.00000	3.97(a)
	22 1,1-Dichloroethane	63	4.287	4.287	(0.742)	27067	5.00000	4.75(Ta)
	11 1,1-Dichloroethene	96	2.747	2.747	(0.475)	10340	5.00000	4.59(a)
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.167)	14191	5.00000	4.45(a)
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.099)	2812	5.00000	4.71(a)
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	13628	5.00000	4.76(Ta)
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	27735	5.00000	4.77(a)
	33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	19328	5.00000	5.21(M)
	42 1,2-Dichloropropane	63	7.066	7.066	(1.076)	16698	5.00000	5.13(M)
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	28316	5.00000	4.68(a)

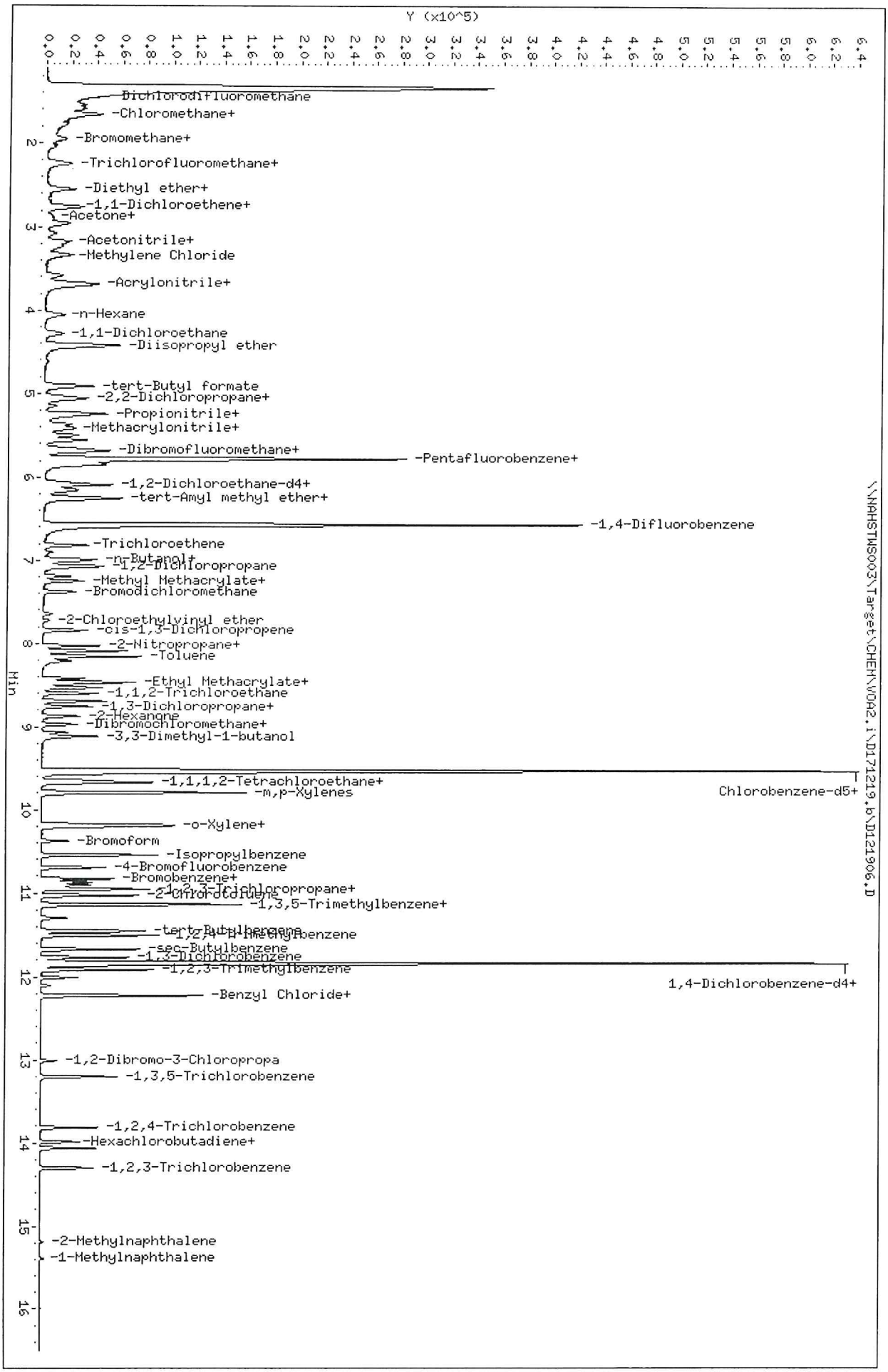
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 17:23

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	11.857	11.857	(1.002)	26891	5.00000	4.64(a)
24	2-Butanone	43	5.144	5.144	(0.890)	14793	10.0000	10.05(M)
52	2-Hexanone	43	8.869	8.869	(0.931)	20452	10.0000	9.34
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	32602	10.0000	9.61
10	Acetone	43	2.866	2.866	(0.496)	8024	10.0000	6.74(T)
37	Benzene	78	6.090	6.090	(0.927)	52138	5.00000	4.80(a)
39	Bromodichloromethane	83	7.380	7.380	(1.124)	17741	5.00000	4.61(Ta)
66	Bromoform	173	10.374	10.374	(1.089)	10411	5.00000	4.69(Ta)
6	Bromomethane	94	1.951	1.951	(0.338)	11772	5.00000	4.12(TaM)
19	Carbon Disulfide	76	2.959	2.959	(0.512)	45421	10.0000	8.83
34	Carbon Tetrachloride	117	5.831	5.831	(0.888)	18004	5.00000	4.59(aM)
59	Chlorobenzene	112	9.553	9.553	(1.003)	37334	5.00000	4.85(a)
7	Chloroethane	64	2.034	2.034	(0.352)	13535	5.00000	6.13(M)
28	Chloroform	83	5.494	5.494	(0.951)	23836	5.00000	4.79(a)
3	Chloromethane	50	1.598	1.598	(0.277)	22250	5.00000	4.01(Ta)
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	14731	5.00000	4.74(a)
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	20685	5.00000	4.68(a)
55	Dibromochloromethane	129	8.972	8.972	(0.942)	15049	5.00000	4.66(Ta)
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	10402	5.00000	4.46(TaM)
61	Ethylbenzene	106	9.668	9.668	(1.015)	19113	5.00000	4.64(aH)
67	Isopropylbenzene	105	10.551	10.551	(1.107)	60307	5.00000	4.73(a)
17	Methylene Chloride	84	3.340	3.340	(0.578)	14132	5.00000	4.73(a)
56	Tetrachloroethene	164	8.686	8.686	(0.912)	12517	5.00000	3.90(a)
50	Toluene	91	8.157	8.157	(0.856)	57868	5.00000	4.88(a)
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.635)	11542	5.00000	4.74(a)
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.282)	16929	5.00000	4.50(a)
38	Trichloroethene	130	6.812	6.812	(1.037)	13693	5.00000	4.48(a)
8	Trichlorofluoromethane	101	2.249	2.249	(0.389)	14728	5.00000	4.38(Ta)
5	Vinyl Chloride	62	1.678	1.678	(0.290)	15224	5.00000	4.55(a)
62	m,p-Xylenes	106	9.790	9.790	(1.028)	47823	10.0000	9.49
63	o-Xylene	106	10.179	10.179	(1.068)	24981	5.00000	4.74(a)
M 95	Xylenes (total)	106				72804	15.0000	(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	18621	5.00000	4.83(a)
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	13224	5.00000	4.81(a)
79	1,2,4-Trimethylbenzene	105	11.497	11.497	(0.971)	50539	5.00000	4.69(a)
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.940)	49475	5.00000	4.71(a)
26	2,2-Dichloropropane	77	5.048	5.048	(0.873)	18442	5.00000	4.64(a)
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	21911	5.00000	4.75(a)
76	2-Chlorotoluene	91	11.026	11.026	(0.931)	43425	5.00000	4.72(a)
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	47906	5.00000	4.78(a)
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	46314	5.00000	4.65(a)
29	Bromochloromethane	128	5.368	5.368	(0.929)	7151	5.00000	4.84(a)
74	Bromobenzene	156	10.833	10.833	(0.915)	16961	5.00000	4.72(a)
44	Dibromomethane	93	7.194	7.194	(1.095)	8132	5.00000	4.82(a)
91	Hexachlorobutadiene	225	13.994	13.994	(1.182)	6524	5.00000	4.00(a)
73	n-Propylbenzene	91	10.955	10.955	(0.925)	64421	5.00000	4.71(a)
87	n-Butylbenzene	91	12.223	12.223	(1.033)	33851	5.00000	4.57(a)
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	52080	5.00000	4.48(a)
92	Naphthalene	128	14.065	14.065	(1.188)	34239	5.00000	3.64(a)
78	tert-Butylbenzene	119	11.453	11.453	(0.967)	40621	5.00000	4.61(a)
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	13932	5.00000	4.67(a)
64	Styrene	104	10.198	10.198	(1.070)	39508	5.00000	4.70(a)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 17:23

QC Flag Legend

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


Y (x10^5)
Min
Dichlorodifluoromethane
-Chloromethane+
-Bromomethane+
-Trichlorofluoromethane+
-Diethyl ether+
-1,1-Dichloroethene+
-Acetone+
-Acetonitrile+
-Methylene Chloride
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2,2-Dichloropropane+
-Propionitrile+
-Methacrylonitrile+
-Dibromofluoromethane+
-Pentafluorobenzene+
-1,2-Dichloroethane-d4+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene
-Ethyl Methacrylate+
-1,1,2-Trichloroethane
-1,3-Dichloropropane+
-2-Hexanone
-Dibromochloromethane+
-3,3-Dimethyl-1-butanol
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-tert-Butylbenzene
-1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,2,3-Trimethylbenzene
1,4-Dichlorobenzene-d4+
-Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Date : 19-DEC-2017 11:23
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;4;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 17:23

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Lab Smp Id: VSTD010 Client Smp ID: VSTD010
Inj Date : 19-DEC-2017 11:47
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD010;VSTD010;1;5;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 11:23 Cal File: D121906.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	37895	10.0000	10.30
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	237830	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.984)	21200	10.0000	9.89
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	352105	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.049)	27168	10.0000	10.26
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	328049	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	84452	10.0000	9.76
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	32136	10.0000	10.17
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	144718	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	34314	10.0000	9.93
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.903)	19720	10.0000	9.82
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	28773	10.0000	9.74
	22 1,1-Dichloroethane	63	4.281	4.281	(0.741)	50157	10.0000	10.10
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	20686	10.0000	10.53
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	28692	10.0000	10.06
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	5460	10.0000	9.60
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	25156	10.0000	10.00
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	51831	10.0000	9.96
	33 1,2-Dichloroethane	62	6.569	6.569	(1.000)	11455	10.0000	3.59(a)
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	29213	10.0000	10.53(M)
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	52296	10.0000	9.66

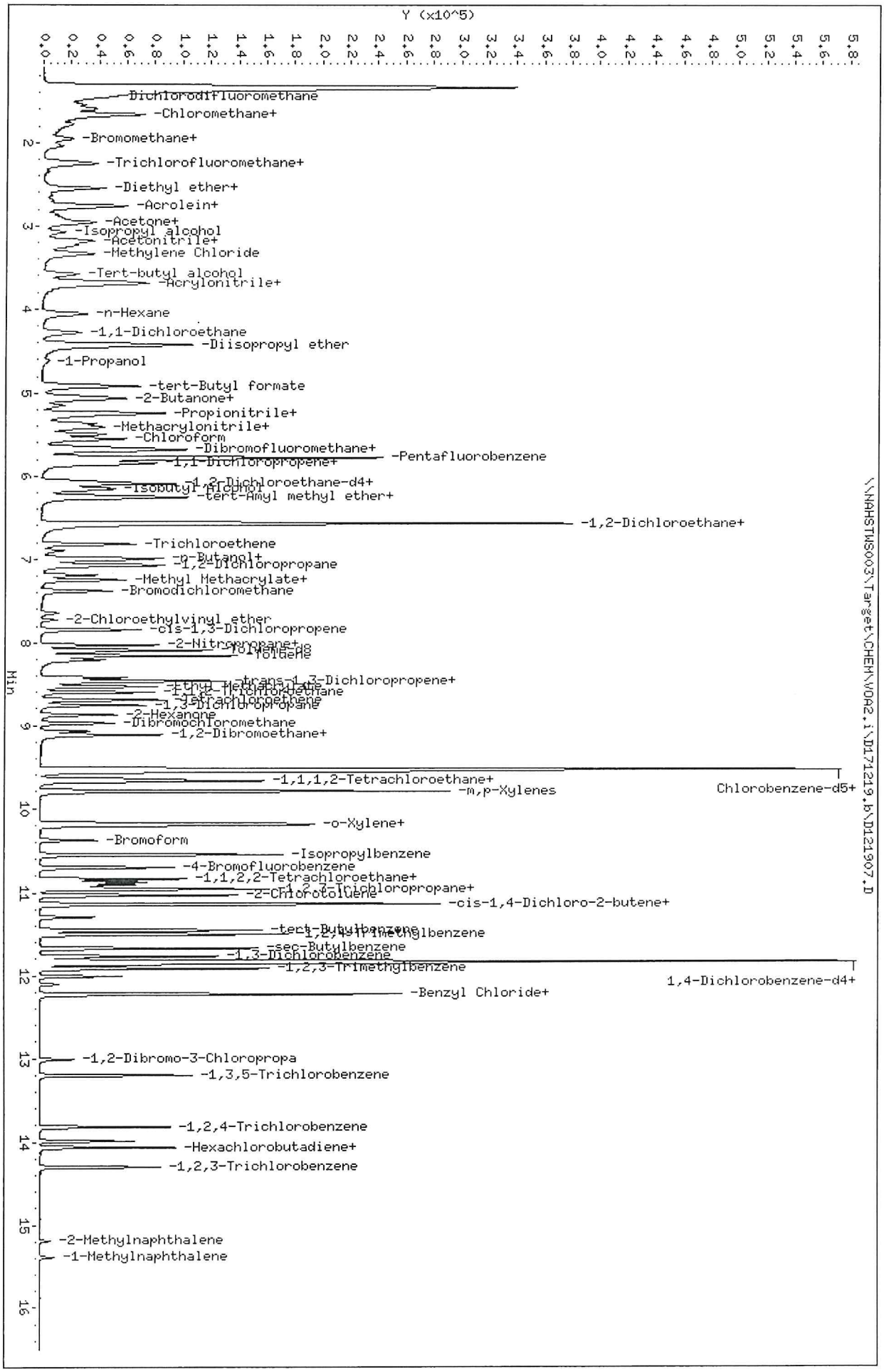
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 17:23

	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	11.860	11.860	(1.002)	50273	10.0000	9.70
	24 2-Butanone	43	5.147	5.147	(0.891)	25131	20.0000	19.58
	52 2-Hexanone	43	8.869	8.869	(0.931)	38430	20.0000	19.99
	45 4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	60355	20.0000	20.27
	10 Acetone	43	2.862	2.862	(0.495)	15119	20.0000	17.28
	37 Benzene	78	6.094	6.094	(0.927)	94240	10.0000	10.17
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	33081	10.0000	10.08
	66 Bromoform	173	10.374	10.374	(1.089)	19346	10.0000	9.94(T)
	6 Bromomethane	94	1.948	1.948	(0.337)	19732	10.0000	10.22(M)
	19 Carbon Disulfide	76	2.952	2.952	(0.511)	91292	20.0000	20.36
	34 Carbon Tetrachloride	117	5.837	5.837	(0.888)	34246	10.0000	10.23(M)
	59 Chlorobenzene	112	9.553	9.553	(1.003)	67378	10.0000	9.97
	7 Chloroethane	64	2.034	2.034	(0.352)	20139	10.0000	10.46(M)
	28 Chloroform	83	5.494	5.494	(0.951)	44244	10.0000	10.20
	3 Chloromethane	50	1.595	1.595	(0.276)	43035	10.0000	10.06(T)
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	26852	10.0000	9.92
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	39110	10.0000	10.38
	55 Dibromochloromethane	129	8.972	8.972	(0.942)	28378	10.0000	10.01
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.250)	21870	10.0000	10.75(T)
	61 Ethylbenzene	106	9.668	9.668	(1.015)	35642	10.0000	9.85(H)
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	114863	10.0000	10.26
	17 Methylene Chloride	84	3.331	3.331	(0.576)	25318	10.0000	9.72
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	22413	10.0000	9.74
	50 Toluene	91	8.157	8.157	(0.856)	104621	10.0000	10.06
	20 trans-1,2-Dichloroethene	96	3.665	3.665	(0.634)	21988	10.0000	10.35
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	33383	10.0000	10.41
	38 Trichloroethene	130	6.816	6.816	(1.037)	25682	10.0000	9.84
	8 Trichlorofluoromethane	101	2.249	2.249	(0.389)	32301	10.0000	11.01
	5 Vinyl Chloride	62	1.681	1.681	(0.291)	29755	10.0000	10.20
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	89427	20.0000	20.22
	63 o-Xylene	106	10.182	10.182	(1.069)	44528	10.0000	9.62
M	95 Xylenes (total)	106				133955	30.0000	(a)
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	34398	10.0000	9.97
	93 1,2,3-Trichlorobenzene	182	14.299	14.299	(1.208)	25930	10.0000	10.55
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	93133	10.0000	9.66
	75 1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	93296	10.0000	9.93
	26 2,2-Dichloropropane	77	5.044	5.044	(0.873)	35680	10.0000	10.29
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	38920	10.0000	9.61
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	78484	10.0000	9.54
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	87380	10.0000	9.76
	82 p-Isopropyltoluene	119	11.818	11.818	(0.999)	88488	10.0000	9.93
	29 Bromochloromethane	128	5.362	5.362	(0.928)	13447	10.0000	10.44
	74 Bromobenzene	156	10.833	10.833	(0.915)	30785	10.0000	9.58
	44 Dibromomethane	93	7.191	7.191	(1.094)	15302	10.0000	10.64
	91 Hexachlorobutadiene	225	13.988	13.988	(1.182)	13741	10.0000	10.00
	73 n-Propylbenzene	91	10.952	10.952	(0.925)	120968	10.0000	9.88
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	66777	10.0000	10.08
	81 sec-Butylbenzene	105	11.668	11.668	(0.986)	104072	10.0000	10.00
	92 Naphthalene	128	14.065	14.065	(1.188)	75559	10.0000	9.75
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	77835	10.0000	9.88
	60 1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	26535	10.0000	10.13
	64 Styrene	104	10.198	10.198	(1.071)	75784	10.0000	10.27

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 17:23

QC Flag Legend

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


Y (x10^5)
Min
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Date : 19-DEC-2017 11:47
Client ID: VSTD010
Sample Info: VSTD010;VSTD010;1;5;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Dichlorodifluoromethane
-Chloromethane+
-Bromomethane+
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2-Butanone+
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol
-tert-Amyl methyl ether+
-1,2-Dichloroethane+
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-cis-1,4-Dichloro-2-butene+
-tert-Butylbenzene
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,2,3-Trimethylbenzene
1,4-Dichlorobenzene-d4+
-Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 17:23

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 19-DEC-2017 12:14
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 11:47 Cal File: D121907.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	78591	20.0000	20.54
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	247505	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	42633	20.0000	19.11
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	377533	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	54044	20.0000	19.62
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	340657	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	169178	20.0000	18.83
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	63474	20.0000	19.35
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	152059	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	66290	20.0000	18.27
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	40699	20.0000	19.53
	32 1,1-Dichloropropene	75	5.850	5.850	(0.890)	61975	20.0000	20.52
	22 1,1-Dichloroethane	63	4.274	4.274	(0.739)	102995	20.0000	19.93
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	43049	20.0000	21.07
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	67305	20.0000	22.46
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	11302	20.0000	18.40
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	52264	20.0000	20.02
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	108285	20.0000	19.81
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	73153	20.0000	21.88
	42 1,2-Dichloropropane	63	7.069	7.069	(1.076)	57317	20.0000	19.27(M)
	83 1,3-Dichlorobenzene	146	11.770	11.770	(0.995)	112309	20.0000	19.74

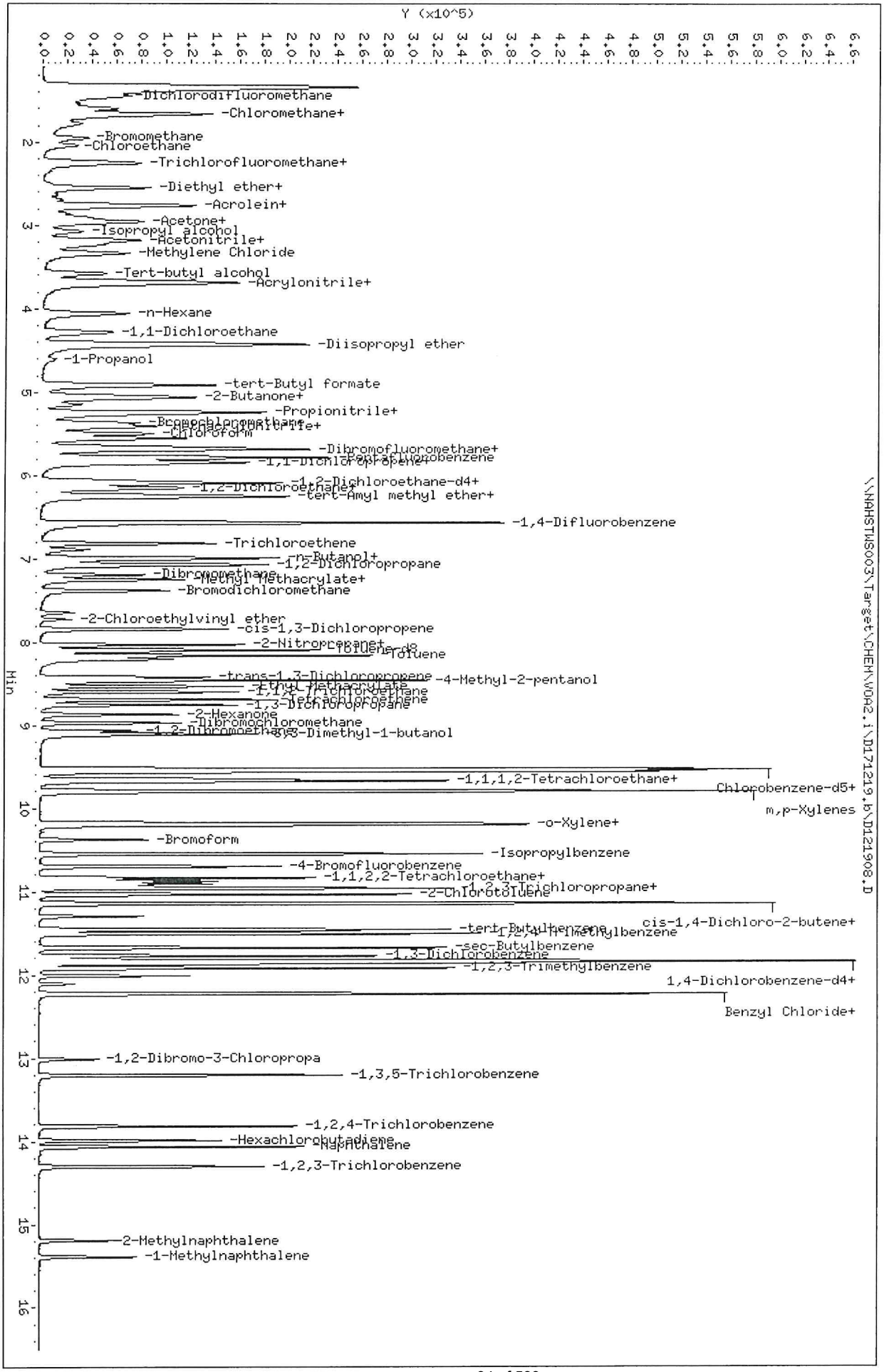
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 17:23

	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	11.860	11.860	(1.002)	103710	20.0000	19.06
24	2-Butanone	43	5.141	5.141	(0.889)	48984	40.0000	36.67
52	2-Hexanone	43	8.866	8.866	(0.931)	75537	40.0000	37.84
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	116500	40.0000	37.69
10	Acetone	43	2.856	2.856	(0.494)	33367	40.0000	39.27
37	Benzene	78	6.087	6.087	(0.926)	188661	20.0000	18.99
39	Bromodichloromethane	83	7.377	7.377	(1.123)	70757	20.0000	20.12
66	Bromoform	173	10.374	10.374	(1.089)	41520	20.0000	20.54
6	Bromomethane	94	1.941	1.941	(0.336)	37890	20.0000	20.97(M)
19	Carbon Disulfide	76	2.952	2.952	(0.511)	193500	40.0000	41.47
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	68216	20.0000	19.02(MH)
59	Chlorobenzene	112	9.553	9.553	(1.003)	138156	20.0000	19.69
7	Chloroethane	64	2.047	2.047	(0.354)	40521	20.0000	20.23(M)
28	Chloroform	83	5.494	5.494	(0.950)	88595	20.0000	19.63
3	Chloromethane	50	1.595	1.595	(0.276)	90594	20.0000	21.34
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	53810	20.0000	19.10
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	83791	20.0000	20.75
55	Dibromochloromethane	129	8.969	8.969	(0.941)	60863	20.0000	20.69
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	47446	20.0000	22.42
61	Ethylbenzene	106	9.675	9.675	(1.015)	75990	20.0000	20.23(H)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	237346	20.0000	20.43
17	Methylene Chloride	84	3.331	3.331	(0.576)	50656	20.0000	18.69
56	Tetrachloroethene	164	8.686	8.686	(0.912)	46886	20.0000	21.37
50	Toluene	91	8.157	8.157	(0.856)	217602	20.0000	20.15
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	45649	20.0000	20.65
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	71936	20.0000	20.93
38	Trichloroethene	130	6.822	6.822	(1.038)	56994	20.0000	20.38
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	67183	20.0000	22.01
5	Vinyl Chloride	62	1.681	1.681	(0.291)	63525	20.0000	20.94
62	m,p-Xylenes	106	9.790	9.790	(1.028)	184416	40.0000	40.15
63	o-Xylene	106	10.175	10.175	(1.068)	95335	20.0000	19.84
M 95	Xylenes (total)	106				279751	60.0000	(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	69837	20.0000	19.27
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	57198	20.0000	22.15
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	197269	20.0000	19.47
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	192655	20.0000	19.53
26	2,2-Dichloropropane	77	5.048	5.048	(0.873)	72639	20.0000	20.14
54	1,3-Dichloropropane	76	8.751	8.751	(0.918)	81872	20.0000	19.47
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	167050	20.0000	19.33
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	180539	20.0000	19.19
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	189137	20.0000	20.20
29	Bromochloromethane	128	5.365	5.365	(0.928)	28167	20.0000	21.01
74	Bromobenzene	156	10.833	10.833	(0.915)	64552	20.0000	19.13
44	Dibromomethane	93	7.191	7.191	(1.094)	32043	20.0000	20.79
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	30591	20.0000	21.69
73	n-Propylbenzene	91	10.955	10.955	(0.926)	257005	20.0000	19.99
87	n-Butylbenzene	91	12.223	12.223	(1.033)	149001	20.0000	21.41
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	223410	20.0000	20.44
92	Naphthalene	128	14.061	14.061	(1.188)	161007	20.0000	20.32
78	tert-Butylbenzene	119	11.453	11.453	(0.968)	164758	20.0000	19.91
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	55350	20.0000	20.36
64	Styrene	104	10.198	10.198	(1.070)	156998	20.0000	20.48

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 17:23

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.


Y (x10^5)
Min
-Dichlorodifluoromethane
-Chloromethane+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2-Butanone+
-Propionitrile+
-Bromochloromethane
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene
-4-Methyl-2-pentanol
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane
-2,3-Dimethyl-1-butanol
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
cis-1,4-Dichloro-2-butene+
-tert-Butylbenzene
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,2,3-Trimethylbenzene
1,4-Dichlorobenzene-d4+
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Date : 19-DEC-2017 12:14
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 17:23

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 19-DEC-2017 12:39
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	186795	50.0000	51.22
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	235952	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	101827	50.0000	47.89
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	375071	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	130826	50.0000	49.82
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	338284	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	393321	50.0000	44.09
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	152091	50.0000	46.69
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	148533	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.918)	161093	50.0000	45.46
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	99527	50.0000	48.09
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	151900	50.0000	52.00
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	247818	50.0000	50.30
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	103192	50.0000	52.98
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.167)	164262	50.0000	56.13
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	30643	50.0000	50.13
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	128740	50.0000	49.67
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	257317	50.0000	48.19
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	175492	50.0000	52.99
	42 1,2-Dichloropropane	63	7.069	7.069	(1.076)	140543	50.0000	47.57
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	265949	50.0000	47.86

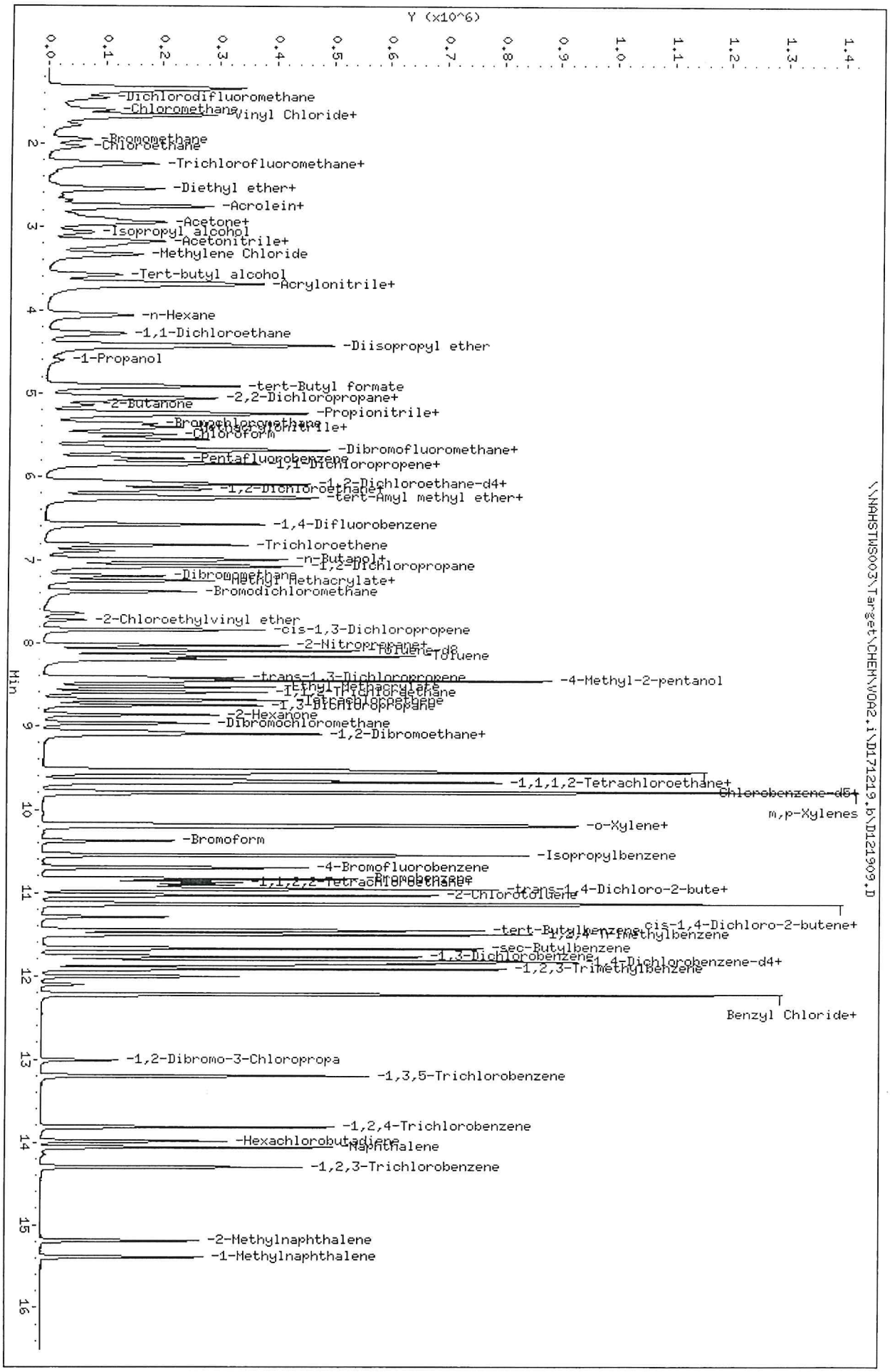
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 17:23

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
	84 1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	253757	50.0000	47.75
	24 2-Butanone	43	5.147	5.147	(0.890)	124936	100.000	98.12
	52 2-Hexanone	43	8.866	8.866	(0.931)	187852	100.000	94.77
	45 4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	288559	100.000	94.02
	10 Acetone	43	2.862	2.862	(0.495)	83806	100.000	107.31
	37 Benzene	78	6.097	6.097	(0.928)	475144	50.0000	48.14
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	173751	50.0000	49.74
	66 Bromoform	173	10.374	10.374	(1.089)	107385	50.0000	53.51
	6 Bromomethane	94	1.944	1.944	(0.336)	88179	50.0000	54.81
	19 Carbon Disulfide	76	2.952	2.952	(0.511)	464487	100.000	104.44
	34 Carbon Tetrachloride	117	5.830	5.830	(0.887)	153362	50.0000	43.04 (H)
	59 Chlorobenzene	112	9.556	9.556	(1.003)	330208	50.0000	47.39
	7 Chloroethane	64	2.041	2.041	(0.353)	86782	50.0000	45.45 (M)
	28 Chloroform	83	5.494	5.494	(0.950)	215735	50.0000	50.15
	3 Chloromethane	50	1.595	1.595	(0.276)	201934	50.0000	51.19
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	133957	50.0000	49.90
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	211359	50.0000	52.69
	55 Dibromochloromethane	129	8.969	8.969	(0.941)	149132	50.0000	51.06
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.250)	110936	50.0000	54.99
	61 Ethylbenzene	106	9.672	9.672	(1.015)	175926	50.0000	47.18 (H)
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	550664	50.0000	47.73
	17 Methylene Chloride	84	3.334	3.334	(0.577)	123761	50.0000	47.92
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	108668	50.0000	52.16
	50 Toluene	91	8.160	8.160	(0.857)	501085	50.0000	46.74
	20 trans-1,2-Dichloroethene	96	3.668	3.668	(0.634)	115924	50.0000	55.03
	51 trans-1,3-Dichloropropene	75	8.420	8.420	(1.281)	182394	50.0000	53.43
	38 Trichloroethene	130	6.819	6.819	(1.038)	136623	50.0000	49.17
	8 Trichlorofluoromethane	101	2.256	2.256	(0.390)	157909	50.0000	54.27
	5 Vinyl Chloride	62	1.681	1.681	(0.291)	146127	50.0000	50.52
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	427108	100.000	93.66
	63 o-Xylene	106	10.179	10.179	(1.068)	229237	50.0000	48.05
M	95 Xylenes (total)	106				656345	150.000	(a)
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	172192	50.0000	48.66
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	135765	50.0000	53.84
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	454906	50.0000	45.97
	75 1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	445617	50.0000	46.25
	26 2,2-Dichloropropane	77	5.041	5.041	(0.872)	174913	50.0000	50.88
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	195730	50.0000	46.89
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	384723	50.0000	45.59
	77 4-Chlorotoluene	91	11.141	11.141	(0.941)	427083	50.0000	46.48
	82 p-Isopropyltoluene	119	11.818	11.818	(0.998)	433050	50.0000	47.36
	29 Bromochloromethane	128	5.365	5.365	(0.928)	65939	50.0000	51.61
	74 Bromobenzene	156	10.833	10.833	(0.915)	156920	50.0000	47.62
	44 Dibromomethane	93	7.191	7.191	(1.094)	77818	50.0000	50.83
	91 Hexachlorobutadiene	225	13.991	13.991	(1.182)	68105	50.0000	50.01
	73 n-Propylbenzene	91	10.955	10.955	(0.925)	584086	50.0000	46.51
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	339560	50.0000	49.97
	81 sec-Butylbenzene	105	11.667	11.667	(0.986)	510740	50.0000	47.83
	92 Naphthalene	128	14.061	14.061	(1.188)	395649	50.0000	51.94
	78 tert-Butylbenzene	119	11.452	11.452	(0.967)	385055	50.0000	47.64
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	134297	50.0000	49.74
	64 Styrene	104	10.201	10.201	(1.071)	374411	50.0000	49.20

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 17:23

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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Date : 19-DEC-2017 12:39
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 17:23

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 19-DEC-2017 13:03
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:39 Cal File: D121909.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.657	5.657	(0.978)	359337	100.000	100.16
*	1 Pentafluorobenzene	168	5.786	5.786	(1.000)	232106	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	196966	100.000	94.18
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	367391	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	261877	100.000	101.39
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	334258	50.0000	
$	48 Toluene-d8	98	8.096	8.096	(0.850)	740602	100.000	84.03
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	294343	100.000	91.46
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	145669	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.875	10.875	(0.919)	316208	100.000	90.99
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.902)	192511	100.000	94.14
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	286474	100.000	100.99
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	476188	100.000	98.26
	11 1,1-Dichloroethene	96	2.750	2.750	(0.475)	200113	100.000	104.46
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	328605	100.000	114.50
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	61519	100.000	102.05
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	256307	100.000	100.08
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	479561	100.000	91.59
	33 1,2-Dichloroethane	62	6.148	6.148	(0.935)	337824	100.000	104.25
	42 1,2-Dichloropropane	63	7.069	7.069	(1.075)	271672	100.000	93.88
	83 1,3-Dichlorobenzene	146	11.770	11.770	(0.994)	508346	100.000	93.29

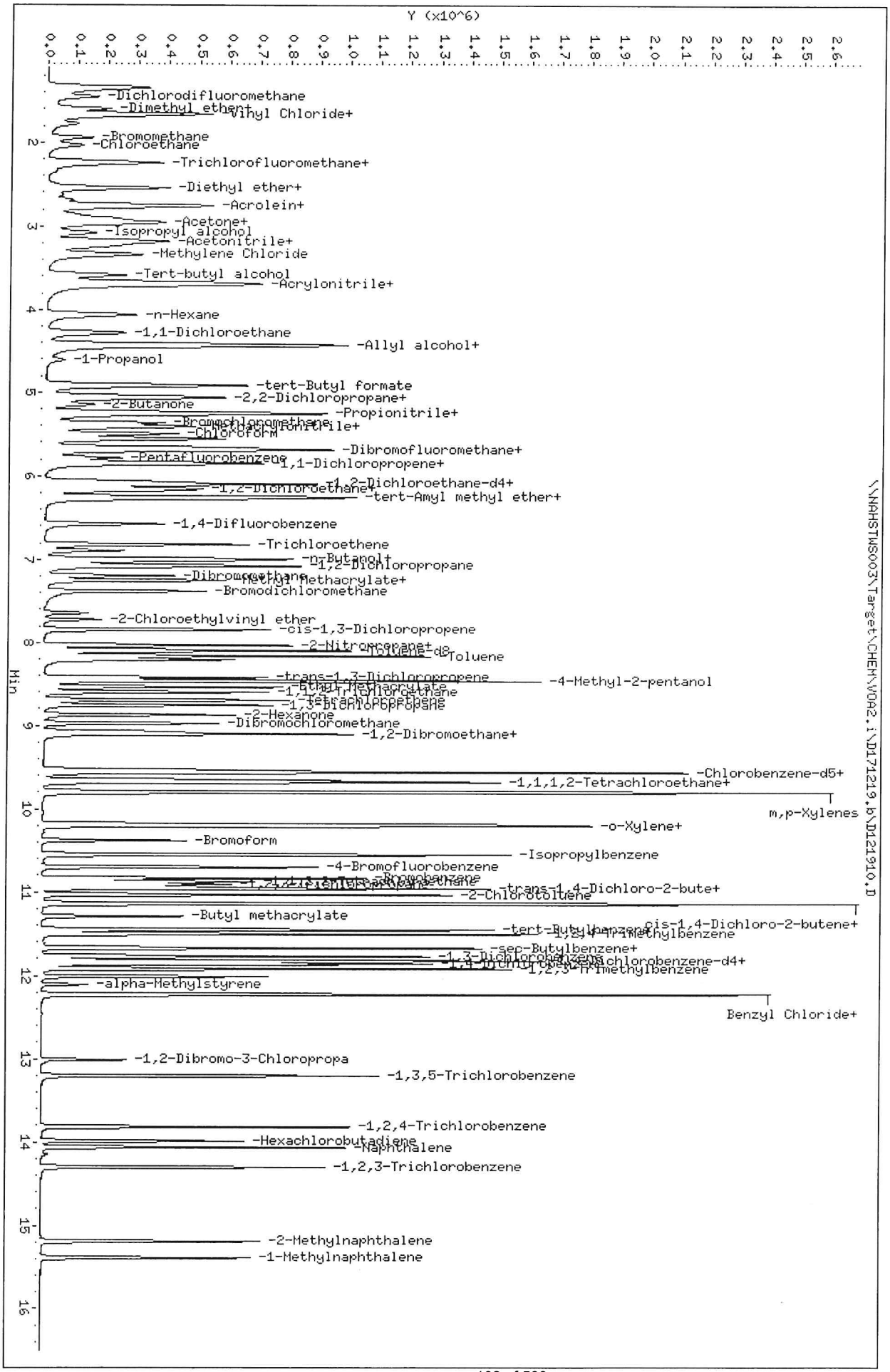
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 17:23

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
84	1,4-Dichlorobenzene	146	11.863	11.863	(1.002)	493502	100.000	94.69	
24	2-Butanone	43	5.150	5.150	(0.890)	260350	200.000	207.87	(A)
52	2-Hexanone	43	8.869	8.869	(0.931)	381694	200.000	194.89	
45	4-Methyl-2-Pentanone	43	8.032	8.032	(0.843)	569796	200.000	187.89	
10	Acetone	43	2.862	2.862	(0.495)	155352	200.000	204.30	(A)
37	Benzene	78	6.094	6.094	(0.927)	907206	100.000	93.85	
39	Bromodichloromethane	83	7.377	7.377	(1.122)	343436	100.000	100.37	
66	Bromoform	173	10.378	10.378	(1.089)	219356	100.000	110.63	
6	Bromomethane	94	1.938	1.938	(0.335)	161998	100.000	104.53	
19	Carbon Disulfide	76	2.955	2.955	(0.511)	891341	200.000	203.74	(A)
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	314365	100.000	90.08	(MH)
59	Chlorobenzene	112	9.556	9.556	(1.003)	627395	100.000	91.14	
7	Chloroethane	64	2.038	2.038	(0.352)	169642	100.000	90.33	
28	Chloroform	83	5.497	5.497	(0.950)	415480	100.000	98.18	
3	Chloromethane	50	1.595	1.595	(0.276)	389398	100.000	101.26	
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	260493	100.000	98.64	
46	cis-1,3-Dichloropropene	75	7.842	7.842	(1.193)	413879	100.000	105.33	
55	Dibromochloromethane	129	8.972	8.972	(0.942)	294218	100.000	101.95	
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	216165	100.000	108.94	
61	Ethylbenzene	106	9.675	9.675	(1.015)	328547	100.000	89.17	(H)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	1024383	100.000	89.87	
17	Methylene Chloride	84	3.334	3.334	(0.576)	243786	100.000	95.95	
56	Tetrachloroethene	164	8.693	8.693	(0.912)	206898	100.000	102.09	
50	Toluene	91	8.160	8.160	(0.857)	942268	100.000	88.95	
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.634)	220029	100.000	106.18	
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.281)	370545	100.000	110.82	
38	Trichloroethene	130	6.822	6.822	(1.038)	264221	100.000	97.09	
8	Trichlorofluoromethane	101	2.249	2.249	(0.389)	302337	100.000	105.64	
5	Vinyl Chloride	62	1.681	1.681	(0.291)	289377	100.000	101.71	
62	m,p-Xylenes	106	9.794	9.794	(1.028)	794645	200.000	176.35	
63	o-Xylene	106	10.182	10.182	(1.069)	430424	100.000	91.30	
M 95	Xylenes (total)	106				1225069	300.000		(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	342153	100.000	98.60	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	286124	100.000	115.71	
79	1,2,4-Trimethylbenzene	105	11.504	11.504	(0.972)	847846	100.000	87.38	
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	830511	100.000	87.89	
26	2,2-Dichloropropane	77	5.044	5.044	(0.872)	339030	100.000	100.26	
54	1,3-Dichloropropane	76	8.757	8.757	(0.919)	385871	100.000	93.56	
76	2-Chlorotoluene	91	11.032	11.032	(0.932)	725093	100.000	87.62	
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	797152	100.000	88.47	
82	p-Isopropyltoluene	119	11.822	11.822	(0.999)	821994	100.000	91.67	
29	Bromochloromethane	128	5.368	5.368	(0.928)	132951	100.000	105.79	
74	Bromobenzene	156	10.833	10.833	(0.915)	300219	100.000	92.90	
44	Dibromomethane	93	7.194	7.194	(1.094)	154979	100.000	103.34	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	134255	100.000	100.96	
73	n-Propylbenzene	91	10.958	10.958	(0.926)	1101290	100.000	89.41	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	641790	100.000	96.30	
81	sec-Butylbenzene	105	11.671	11.671	(0.986)	958811	100.000	91.57	
92	Naphthalene	128	14.065	14.065	(1.188)	794606	100.000	106.92	
78	tert-Butylbenzene	119	11.453	11.453	(0.967)	717972	100.000	90.57	
60	1,1,1,2-Tetrachloroethane	131	9.649	9.649	(1.013)	262051	100.000	98.24	
64	Styrene	104	10.201	10.201	(1.071)	698309	100.000	92.88	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 17:23

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.


Y (x10^6)
Min
-Dichlorodifluoromethane
-Dimethyl ether
-Vihyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Allyl alcohol+
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Bromochloromethane
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene
-4-Methyl-2-pentanol
-Ethyl methacrylate
-1,1,2-Trichloroethane
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene
-1,1,2,2-Tetrachloroethane
-trans-1,4-Dichloro-2-bute+
-2-Chlorotoluene
-Butyl methacrylate
-tert-Butylbenzene
-cis-1,4-Dichloro-2-butene+
-1,2,4-Trimethylbenzene
-sec-Butylbenzene+
-1,3-Dichlorobenzene
-4-Isopropyltoluene
-1,4-Dichlorobenzene
-chlorobenzene-d4+
-1,2,3-Trimethylbenzene
-alpha-Methylstyrene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Date : 19-DEC-2017 13:03
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 09-Feb-2018 17:23

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 19-DEC-2017 13:27
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD200;VSTD200;1;9;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:03 Cal File: D121910.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.661	5.661	(0.978)	716255	200.000	189.95
*	1 Pentafluorobenzene	168	5.786	5.786	(1.000)	243965	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	380348	200.000	173.03
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	381634	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	509778	200.000	187.78
*	47 Chlorobenzene-d5	117	9.531	9.531	(1.000)	346750	50.0000	
$	48 Toluene-d8	98	8.096	8.096	(0.850)	1426526	200.000	156.03
$	69 4-Bromofluorobenzene	95	10.702	10.702	(1.123)	567658	200.000	170.03
*	70 1,4-Dichlorobenzene-d4	152	11.841	11.841	(1.000)	146695	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.878	10.878	(0.919)	606455	200.000	173.30
	53 1,1,2-Trichloroethane	83	8.603	8.603	(0.903)	381912	200.000	180.04
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	583601	200.000	198.95
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	939835	200.000	184.52
	11 1,1-Dichloroethene	96	2.741	2.741	(0.474)	381816	200.000	189.62
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.167)	633301	200.000	219.14(A)
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.099)	121157	200.000	199.07
	57 1,2-Dibromoethane	107	9.075	9.075	(0.952)	509836	200.000	191.90
	88 1,2-Dichlorobenzene	146	12.229	12.229	(1.033)	893240	200.000	169.40
	33 1,2-Dichloroethane	62	6.148	6.148	(0.935)	662291	200.000	196.84
	42 1,2-Dichloropropane	63	7.073	7.073	(1.076)	535297	200.000	178.08
	83 1,3-Dichlorobenzene	146	11.774	11.774	(0.994)	974555	200.000	177.60

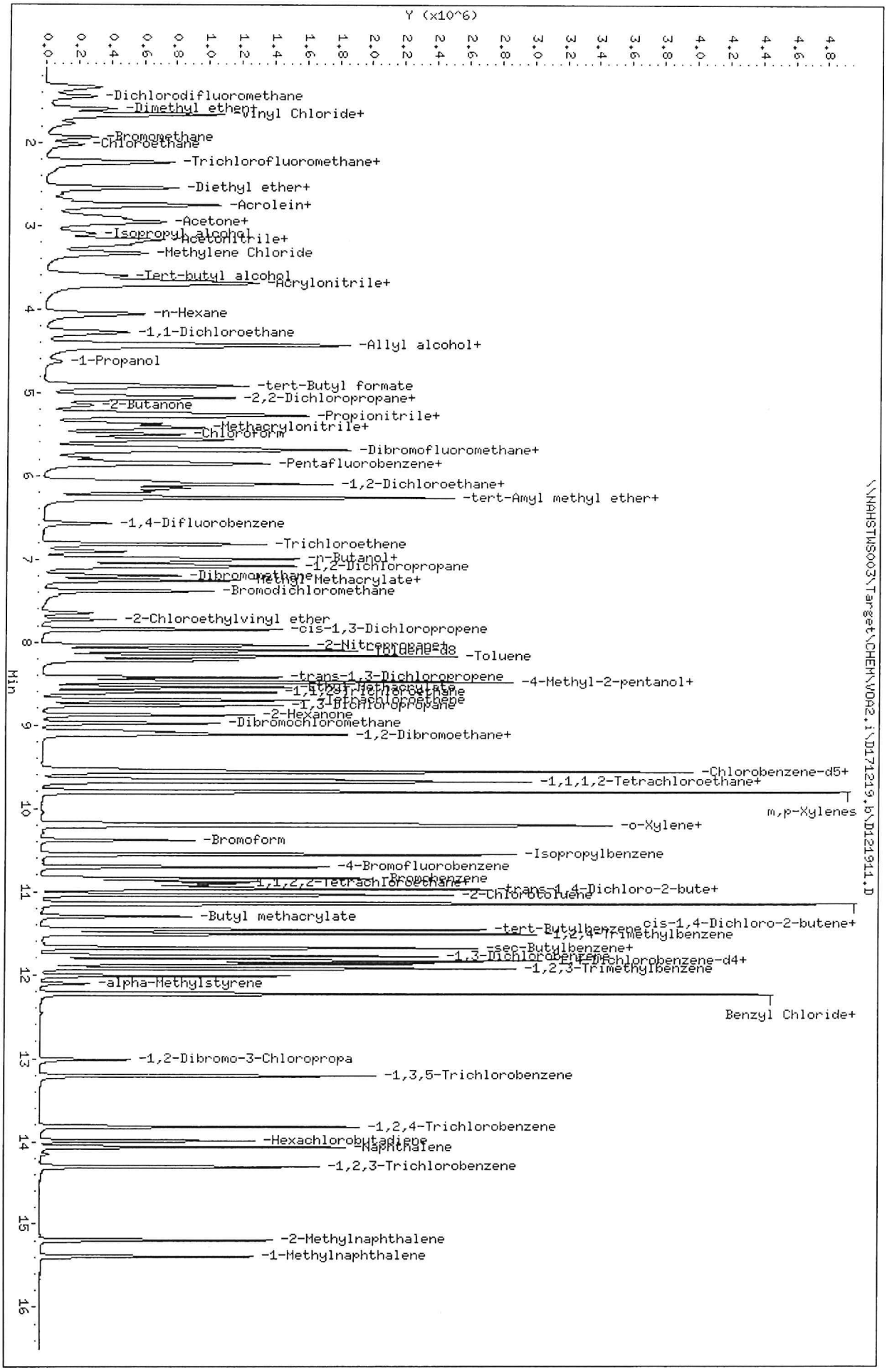
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 09-Feb-2018 17:23

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	11.867	11.867	(1.002)	947137	200.000	180.46
24	2-Butanone	43	5.150	5.150	(0.890)	514478	400.000	390.80(A)
52	2-Hexanone	43	8.876	8.876	(0.931)	755178	400.000	371.70(A)
45	4-Methyl-2-Pentanone	43	8.038	8.038	(0.843)	1095468	400.000	348.22(A)
10	Acetone	43	2.866	2.866	(0.495)	314789	400.000	396.04(A)
37	Benzene	78	6.100	6.100	(0.928)	1754958	200.000	174.77
39	Bromodichloromethane	83	7.381	7.381	(1.122)	670027	200.000	188.52
66	Bromoform	173	10.378	10.378	(1.089)	437607	200.000	212.75(A)
6	Bromomethane	94	1.935	1.935	(0.335)	315966	200.000	196.11(M)
19	Carbon Disulfide	76	2.956	2.956	(0.511)	1798818	400.000	391.19(A)
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	620089	200.000	171.05(M)
59	Chlorobenzene	112	9.559	9.559	(1.003)	1205848	200.000	168.86
7	Chloroethane	64	2.015	2.015	(0.348)	326706	200.000	165.51(M)
28	Chloroform	83	5.497	5.497	(0.950)	806092	200.000	181.23
3	Chloromethane	50	1.592	1.592	(0.275)	800291	200.000	198.92
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.876)	513279	200.000	184.92
46	cis-1,3-Dichloropropene	75	7.846	7.846	(1.193)	817440	200.000	200.27(A)
55	Dibromochloromethane	129	8.975	8.975	(0.942)	587599	200.000	196.27
2	Dichlorodifluoromethane	85	1.444	1.444	(0.250)	437112	200.000	209.58(A)
61	Ethylbenzene	106	9.678	9.678	(1.015)	645405	200.000	168.85(H)
67	Isopropylbenzene	105	10.551	10.551	(1.107)	1929664	200.000	163.19
17	Methylene Chloride	84	3.331	3.331	(0.576)	484417	200.000	181.40
56	Tetrachloroethene	164	8.693	8.693	(0.912)	413430	200.000	198.24
50	Toluene	91	8.167	8.167	(0.857)	1826045	200.000	166.17
20	trans-1,2-Dichloroethene	96	3.661	3.661	(0.633)	442346	200.000	203.10(A)
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.281)	745710	200.000	214.71(A)
38	Trichloroethene	130	6.822	6.822	(1.038)	531039	200.000	187.86
8	Trichlorofluoromethane	101	2.240	2.240	(0.387)	605156	200.000	201.17(A)
5	Vinyl Chloride	62	1.678	1.678	(0.290)	570730	200.000	190.86
62	m,p-Xylenes	106	9.800	9.800	(1.028)	1525807	400.000	326.42(A)
63	o-Xylene	106	10.185	10.185	(1.069)	826994	200.000	169.11
M 95	Xylenes (total)	106				2352801	600.000	(a)
71	1,2,3-Trichloropropane	75	10.907	10.907	(0.921)	503444	200.000	144.06
93	1,2,3-Trichlorobenzene	182	14.305	14.305	(1.208)	548103	200.000	220.11(A)
79	1,2,4-Trimethylbenzene	105	11.507	11.507	(0.972)	1593131	200.000	163.04
75	1,3,5-Trimethylbenzene	105	11.141	11.141	(0.941)	1548771	200.000	162.76
26	2,2-Dichloropropane	77	5.045	5.045	(0.872)	669571	200.000	188.38
54	1,3-Dichloropropane	76	8.760	8.760	(0.919)	755983	200.000	176.70
76	2-Chlorotoluene	91	11.039	11.039	(0.932)	1389990	200.000	166.80
77	4-Chlorotoluene	91	11.148	11.148	(0.941)	1499500	200.000	165.26
82	p-Isopropyltoluene	119	11.828	11.828	(0.999)	1563485	200.000	173.15
29	Bromochloromethane	128	5.375	5.375	(0.929)	256786	200.000	194.41
74	Bromobenzene	156	10.840	10.840	(0.915)	580164	200.000	178.28
44	Dibromomethane	93	7.195	7.195	(1.094)	308722	200.000	198.18
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	266365	200.000	199.34
73	n-Propylbenzene	91	10.965	10.965	(0.926)	2079135	200.000	167.63
87	n-Butylbenzene	91	12.226	12.226	(1.033)	1229106	200.000	183.15
81	sec-Butylbenzene	105	11.674	11.674	(0.986)	1819078	200.000	172.51
92	Naphthalene	128	14.065	14.065	(1.188)	1461418	200.000	195.70
78	tert-Butylbenzene	119	11.459	11.459	(0.968)	1361470	200.000	170.56
60	1,1,1,2-Tetrachloroethane	131	9.653	9.653	(1.013)	514128	200.000	185.80
64	Styrene	104	10.208	10.208	(1.071)	1321701	200.000	169.46

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 09-Feb-2018 17:23

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.


Y (x10^6)
Min
-Dichlorodifluoromethane
-Dimethyl ether
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Allyl alcohol+
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene
-4-Methyl-2-pentanol+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene
-1,1,2,2-Tetrachloroethane+
-trans-1,4-Dichloro-2-bute+
-2-Chlorotoluene
-Butyl methacrylate
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
-1,2,4-Trimethylbenzene
-sec-Butylbenzene+
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
-alpha-Methylstyrene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Date : 19-DEC-2017 13:27
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;9;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Report Date: 09-Feb-2018 17:23

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Lab Smp Id: VSTD-ICV Client Smp ID: VSTD-ICV
Inj Date : 19-DEC-2017 14:16
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD-ICV;VSTD-ICV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:23 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:27 Cal File: D121911.D
Als bottle: 13 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.661	(0.978)	179115	49.0617	49.06
*	1 Pentafluorobenzene	168	5.779	5.786	(1.000)	236216	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	101991	47.9227	47.92
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	371286	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.049)	130923	49.8088	49.80
*	47 Chlorobenzene-d5	117	9.527	9.531	(1.000)	338097	50.0000	
$	48 Toluene-d8	98	8.093	8.096	(0.849)	388288	43.5582	43.55
$	69 4-Bromofluorobenzene	95	10.695	10.702	(1.123)	150830	46.3351	46.33
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.841	(1.000)	149771	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.869	10.878	(0.918)	162360	45.4433	45.44
	53 1,1,2-Trichloroethane	83	8.597	8.603	(0.902)	100546	48.6143	48.61
	32 1,1-Dichloropropene	75	5.853	5.856	(0.890)	148378	51.3040	51.30
	22 1,1-Dichloroethane	63	4.281	4.281	(0.741)	237141	48.0860	48.08
	11 1,1-Dichloroethene	96	2.753	2.741	(0.476)	98125	50.3313	50.33
	90 1,2,4-Trichlorobenzene	180	13.818	13.821	(1.168)	162937	55.2230	55.22
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.012	(1.099)	29561	47.9848	47.98
	57 1,2-Dibromoethane	107	9.065	9.075	(0.952)	129329	49.9262	49.92
	88 1,2-Dichlorobenzene	146	12.223	12.229	(1.033)	254978	47.3643	47.36
	33 1,2-Dichloroethane	62	6.145	6.148	(0.935)	168706	51.4651	51.46
	42 1,2-Dichloropropane	63	7.066	7.073	(1.075)	139163	47.5870	47.58
	83 1,3-Dichlorobenzene	146	11.767	11.774	(0.994)	263425	47.0213	47.02

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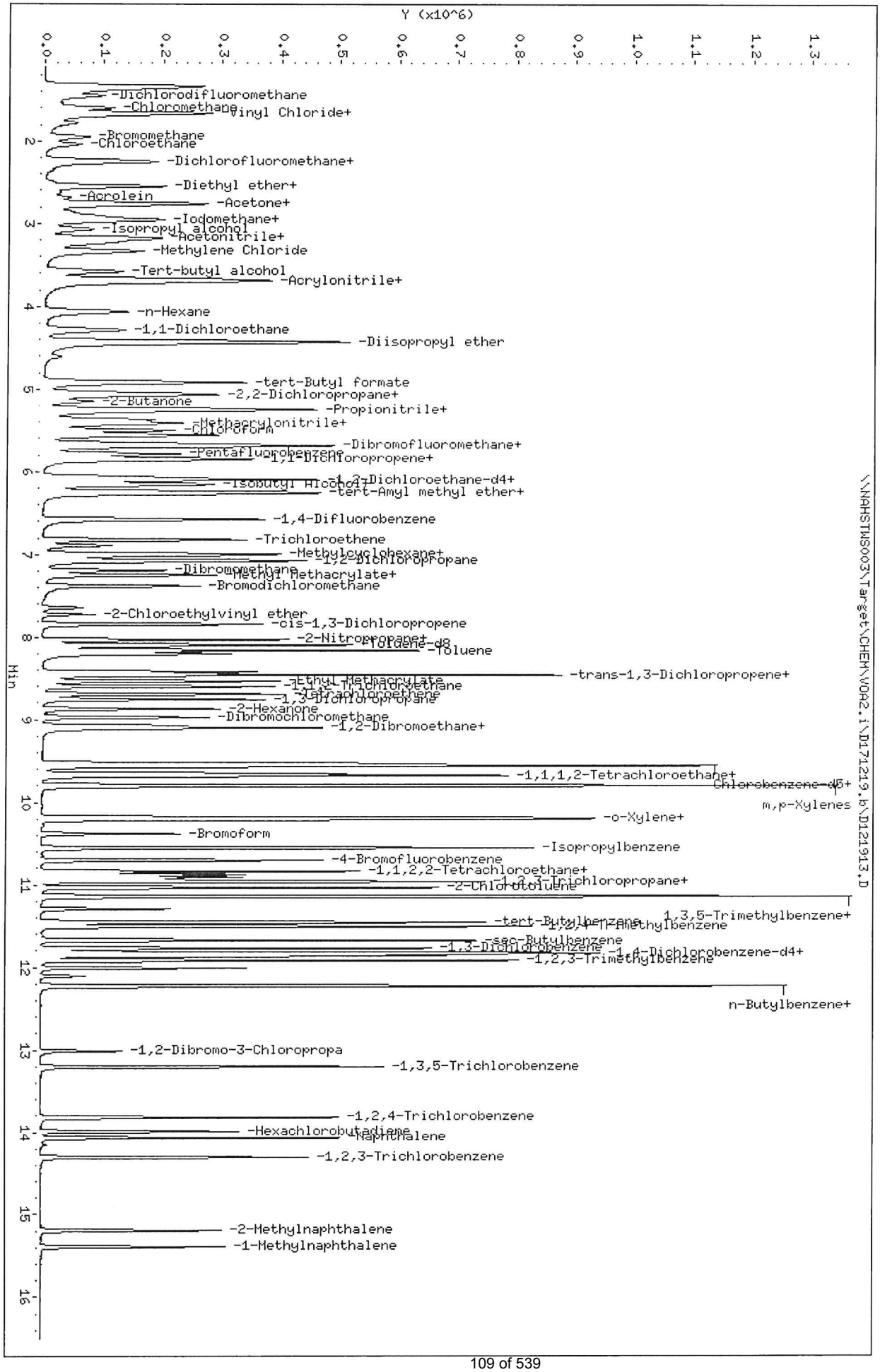
Report Date: 09-Feb-2018 17:23

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	84 1,4-Dichlorobenzene	146	11.860	11.867	(1.002)	251434	46.9240	46.92
	24 2-Butanone	43	5.144	5.150	(0.890)	125859	98.7418	98.74
	52 2-Hexanone	43	8.866	8.876	(0.931)	188174	94.9905	94.99
	45 4-Methyl-2-Pentanone	43	8.029	8.038	(0.843)	288228	93.9658	93.96
	10 Acetone	43	2.856	2.866	(0.494)	79464	101.521	101.52
	37 Benzene	78	6.094	6.100	(0.927)	468722	47.9805	47.98
	39 Bromodichloromethane	83	7.377	7.381	(1.122)	172162	49.7905	49.79
	66 Bromoform	173	10.374	10.378	(1.089)	107206	53.4548	53.45
	6 Bromomethane	94	1.945	1.935	(0.337)	87966	54.6082	54.60
	19 Carbon Disulfide	76	2.955	2.956	(0.511)	453389	101.834	101.83
	34 Carbon Tetrachloride	117	5.834	5.837	(0.887)	150248	42.6028	42.60
	59 Chlorobenzene	112	9.556	9.559	(1.003)	324514	46.6069	46.60
	7 Chloroethane	64	2.038	2.015	(0.353)	80390	42.0641	42.06
	28 Chloroform	83	5.494	5.497	(0.951)	210974	48.9888	48.98
	3 Chloromethane	50	1.598	1.592	(0.277)	216344	54.8507	54.85
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	133003	49.4916	49.49
	46 cis-1,3-Dichloropropene	75	7.839	7.846	(1.192)	209138	52.6682	52.66
	55 Dibromochloromethane	129	8.972	8.975	(0.942)	147898	50.6666	50.66
	2 Dichlorodifluoromethane	85	1.450	1.444	(0.251)	108668	53.8135	53.81
	61 Ethylbenzene	106	9.672	9.678	(1.015)	172020	46.1581	46.15
	67 Isopropylbenzene	105	10.548	10.551	(1.107)	539189	46.7681	46.76
	17 Methylene Chloride	84	3.331	3.331	(0.576)	125545	48.5572	48.55
	56 Tetrachloroethene	164	8.690	8.693	(0.912)	105833	50.7856	50.78
	50 Toluene	91	8.160	8.167	(0.857)	492502	45.9648	45.96
	20 trans-1,2-Dichloroethene	96	3.668	3.661	(0.635)	111703	52.9702	52.97
	51 trans-1,3-Dichloropropene	75	8.417	8.420	(1.280)	183760	54.3849	54.38
	38 Trichloroethene	130	6.816	6.822	(1.037)	132301	48.1090	48.10
	8 Trichlorofluoromethane	101	2.253	2.240	(0.390)	154364	52.9999	52.99
	5 Vinyl Chloride	62	1.681	1.678	(0.291)	149803	51.7410	51.74
	62 m,p-Xylenes	106	9.794	9.800	(1.028)	417543	91.6149	91.61
	63 o-Xylene	106	10.179	10.185	(1.068)	222400	46.6435	46.64
M	95 Xylenes (total)	106				639943	138.258	138.25
	71 1,2,3-Trichloropropane	75	10.904	10.907	(0.921)	174309	48.8560	48.85
	93 1,2,3-Trichlorobenzene	182	14.302	14.305	(1.209)	139440	54.8472	54.84
	79 1,2,4-Trimethylbenzene	105	11.501	11.507	(0.972)	442889	44.3952	44.39
	75 1,3,5-Trimethylbenzene	105	11.132	11.141	(0.941)	436227	44.9020	44.90
	26 2,2-Dichloropropane	77	5.044	5.045	(0.873)	169895	49.3690	49.36
	54 1,3-Dichloropropane	76	8.754	8.760	(0.919)	196311	47.0599	47.05
	76 2-Chlorotoluene	91	11.029	11.039	(0.932)	378502	44.4881	44.48
	77 4-Chlorotoluene	91	11.138	11.148	(0.941)	413336	44.6186	44.61
	82 p-Isopropyltoluene	119	11.818	11.828	(0.999)	427373	46.3580	46.35
	29 Bromochloromethane	128	5.365	5.375	(0.928)	67528	52.8019	52.80
	74 Bromobenzene	156	10.833	10.840	(0.915)	154221	46.4200	46.42
	44 Dibromomethane	93	7.191	7.195	(1.094)	77635	51.2278	51.22
	91 Hexachlorobutadiene	225	13.988	13.991	(1.182)	68432	49.8346	49.83
	73 n-Propylbenzene	91	10.955	10.965	(0.926)	571686	45.1465	45.14
	87 n-Butylbenzene	91	12.223	12.226	(1.033)	330221	48.1964	48.19
	81 sec-Butylbenzene	105	11.671	11.674	(0.986)	500608	46.5017	46.50
	92 Naphthalene	128	14.061	14.065	(1.188)	397816	51.7926	51.79
	78 tert-Butylbenzene	119	11.453	11.459	(0.968)	371229	45.5516	45.55
	60 1,1,1,2-Tetrachloroethane	131	9.649	9.653	(1.013)	134061	49.6900	49.68
	64 Styrene	104	10.201	10.208	(1.071)	365703	48.0891	48.08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-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Dichlorofluoromethane+
-Diethyl ether+
-Acrolein
-Acetone+
-Iodomethane+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
1,3,5-Trimethylbenzene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
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Date : 19-DEC-2017 14:16
Client ID: VSTD-ICV
Sample Info: VSTD-ICV;VSTD-ICV;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Lab File ID: D122202 BFB Injection Date: 12/22/17

Instrument ID: VOA2 BFB Injection Time: 1157

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.9
75	30.0 - 60.0% of mass 95	44.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.5
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	85.2
175	5.0 - 9.0% of mass 174	7.0 (8.2)1
176	95.0 - 101.0% of mass 174	81.1 (95.2)1
177	5.0 - 9.0% of mass 176	5.4 (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	D122203	12/22/17	1222
02	VLCSW-171222	VLCSW-171222	D122205	12/22/17	1311
03	VBLKW-171222	VBLKW-171222	D122207	12/22/17	1400
04	HS17120851-0	HS17120851-01M	D122214	12/22/17	1703
05	HS17120851-0	HS17120851-01M	D122215	12/22/17	1727
06	HS17120868-1	HS17120868-10	D122219	12/22/17	1905
07	HS17120868-0	HS17120868-01	D122220	12/22/17	1930
08	HS17120868-0	HS17120868-03	D122221	12/22/17	1954
09	HS17120868-0	HS17120868-04	D122222	12/22/17	2019
10	HS17120868-0	HS17120868-05	D122223	12/22/17	2043
11	HS17120868-0	HS17120868-06	D122224	12/22/17	2107
12	HS17120868-0	HS17120868-07	D122225	12/22/17	2132
13	HS17120868-0	HS17120868-08	D122226	12/22/17	2157
14	HS17120868-0	HS17120868-09	D122227	12/22/17	2221
15	CCV-END	CCV-END	D122230	12/22/17	2334
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FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Instrument ID: VOA2 Calibration Date: 12/22/17 Time: 1222

Lab File ID: D122203 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7291657	0.7291657	0.1	-5.67	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3787045	0.3787045	0.1	-5.09	20.00	AVRG
tert-Butylbenzene	2.7210000	2.1836581	2.1836581	0.1	-19.75	20.00	AVRG
Naphthalene	47.851598	50.000000	2.4560887	0.2	-4.30	20.00	LINR
sec-Butylbenzene	3.5940000	2.9024233	2.9024233	0.1	-19.24	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.9857038	0.9857038	0.3	-17.38	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2834336	0.2834336	0.1	-7.37	20.00	AVRG
1,1-Dichloropropene	48.893114	50.000000	0.3811889	0.1	-2.21	20.00	LINR
1,1-Dichloroethane	1.0440000	0.9891473	0.9891473	0.2	-5.25	20.00	AVRG
1,1-Dichloroethene	0.4120000	0.3970910	0.3970910	0.1	-3.62	20.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0075256	1.0075256	0.2	2.29	20.00	AVRG
1,2-Dibromo-3-Chloropropane	44.043553	50.000000	0.1809791	0.05	-11.91	20.00	LINR
1,2-Dibromoethane	0.3830000	0.3711417	0.3711417	0.1	-3.10	20.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5446907	1.5446907	0.4	-14.04	20.00	AVRG
1,2-Dichloroethane	51.313704	50.000000	0.4530492	0.1	2.63	20.00	LINR
1,2-Dichloropropane	0.3940000	0.3692454	0.3692454	0.1	-6.28	20.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6256332	1.6256332	0.6	-13.07	20.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.5355090	1.5355090	0.4	-14.17	20.00	AVRG
2-Butanone	0.2700000	0.2519759	0.2519759	0.1	-6.68	20.00	AVRG
2-Hexanone	0.2930000	0.2675178	0.2675178	0.1	-8.70	20.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4101670	0.4101670	0.1	-9.65	20.00	AVRG
Acetone	97.238995	100.00000	0.1612683	0.1	-2.76	20.00	LINR
Benzene	1.3160000	1.2578760	1.2578760	0.5	-4.42	20.00	AVRG
Bromodichloromethane	0.4660000	0.4529271	0.4529271	0.2	-2.80	20.00	AVRG
Bromoform	0.2970000	0.2982920	0.2982920	0.1	0.44	20.00	AVRG
Bromomethane	53.295603	50.000000	0.3638376	0.1	6.59	20.00	LINR
Carbon Disulfide	0.9420000	0.9118577	0.9118577	0.1	-3.20	20.00	AVRG
Carbon Tetrachloride	0.4750000	0.3913184	0.3913184	0.1	-17.62	20.00	AVRG
Chlorobenzene	1.0300000	0.9385693	0.9385693	0.5	-8.88	20.00	AVRG
Chloroethane	0.4040000	0.3407576	0.3407576	0.1	-15.65	20.00	AVRG
Chloroform	0.9120000	0.8495325	0.8495325	0.2	-6.85	20.00	AVRG
Chloromethane	50.329176	50.000000	0.8416687	0.1	0.66	20.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5436586	0.5436586	0.1	-4.45	20.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5634545	0.5634545	0.2	5.32	20.00	AVRG
Dibromochloromethane	0.4320000	0.4157659	0.4157659	0.1	-3.76	20.00	AVRG
Dichlorodifluoromethane	0.4270000	0.3972429	0.3972429	0.1	-6.97	20.00	AVRG
Ethylbenzene	0.5510000	0.4920234	0.4920234	0.1	-10.70	20.00	AVRG
Isopropylbenzene	1.7050000	1.5202518	1.5202518	0.1	-10.84	20.00	AVRG
Methylene Chloride	0.5470000	0.5074203	0.5074203	0.1	-7.24	20.00	AVRG
Tetrachloroethene	47.748987	50.000000	0.2949187	0.2	-4.50	20.00	LINR
Toluene	1.5840000	1.4334086	1.4334086	0.4	-9.51	20.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4688724	0.4688724	0.1	5.13	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712086

Instrument ID: VOA2 Calibration Date: 12/22/17 Time: 1222

Lab File ID: D122203 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4891321	0.4891321	0.1	7.50	20.00	AVRG
Trichloroethene	0.3700000	0.3554321	0.3554321	0.2	-3.94	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.5856349	0.5856349	0.1	-4.93	20.00	AVRG
Vinyl Chloride	0.6130000	0.5976105	0.5976105	0.1	-2.51	20.00	AVRG
m,p-Xylenes	0.6740000	0.5996055	0.5996055	0.1	-11.04	20.00	AVRG
o-Xylene	0.7050000	0.6415731	0.6415731	0.3	-9.00	20.00	AVRG
Xylenes (total)	0.6190000	0.5671435	0.5671435	0.1	-8.38	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0442645	1.0442645	0.1	-12.32	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8482830	0.8482830	0.1	-0.08	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.6851254	2.6851254	0.1	-19.36	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.6160984	2.6160984	0.1	-19.33	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.7097858	0.7097858	0.1	-2.50	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.5583476	0.5583476	0.1	-9.51	20.00	AVRG
2-Chlorotoluene	2.8400000	2.2837616	2.2837616	0.1	-19.58	20.00	AVRG
4-Chlorotoluene	3.0920000	2.5601132	2.5601132	0.1	-17.20	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.5110570	2.5110570	0.1	-18.42	20.00	AVRG
Bromochloromethane	0.2700000	0.2702070	0.2702070	0.1	0.08	20.00	AVRG
Bromobenzene	1.1090000	0.9359352	0.9359352	0.1	-15.60	20.00	AVRG
Dibromomethane	0.2040000	0.2054727	0.2054727	0.1	0.72	20.00	AVRG
Hexachlorobutadiene	43.537334	50.000000	0.3996773	0.1	-12.92	20.00	LINR
n-Propylbenzene	4.2270000	3.4236361	3.4236361	0.1	-19.00	20.00	AVRG
n-Butylbenzene	2.2870000	1.9296700	1.9296700	0.05	-15.62	20.00	AVRG
Styrene	1.1240000	1.0582154	1.0582154	0.3	-5.85	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5387717	0.5387717	0.1	-3.10	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4367618	0.4367618	0.1	-2.94	20.00	AVRG
Toluene-d8	1.3180000	1.2334793	1.2334793	0.1	-6.41	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4816877	0.4816877	0.1	0.14	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Instrument ID: VOA2 Calibration Date: 12/22/17 Time: 2334

Lab File ID: D122230 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.6993629	0.6993629	0.1	-9.53	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3851367	0.3851367	0.1	-3.47	50.00	AVRG
tert-Butylbenzene	2.7210000	2.1326054	2.1326054	0.1	-21.62	50.00	AVRG
Naphthalene	45.361503	50.000000	2.3296753	0.2	-9.28	50.00	LINR
sec-Butylbenzene	3.5940000	2.7425345	2.7425345	0.1	-23.69	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.9662498	0.9662498	0.3	-19.01	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2860148	0.2860148	0.1	-6.53	50.00	AVRG
1,1-Dichloropropene	48.330209	50.000000	0.3768825	0.1	-3.34	50.00	LINR
1,1-Dichloroethane	1.0440000	0.9925669	0.9925669	0.2	-4.93	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.3986307	0.3986307	0.1	-3.24	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	0.9571669	0.9571669	0.2	-2.82	50.00	AVRG
1,2-Dibromo-3-Chloropropane	43.546190	50.000000	0.1789100	0.05	-12.91	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3721536	0.3721536	0.1	-2.83	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5418253	1.5418253	0.4	-14.20	50.00	AVRG
1,2-Dichloroethane	52.145559	50.000000	0.4603794	0.1	4.29	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3818093	0.3818093	0.1	-3.09	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6158641	1.6158641	0.6	-13.59	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.5284683	1.5284683	0.4	-14.56	50.00	AVRG
2-Butanone	0.2700000	0.2398544	0.2398544	0.1	-11.16	50.00	AVRG
2-Hexanone	0.2930000	0.2584061	0.2584061	0.1	-11.81	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4013408	0.4013408	0.1	-11.60	50.00	AVRG
Acetone	93.195876	100.00000	0.1547209	0.1	-6.80	50.00	LINR
Benzene	1.3160000	1.2651379	1.2651379	0.5	-3.86	50.00	AVRG
Bromodichloromethane	0.4660000	0.4597988	0.4597988	0.2	-1.33	50.00	AVRG
Bromoform	0.2970000	0.3003684	0.3003684	0.1	1.13	50.00	AVRG
Bromomethane	53.721536	50.000000	0.3666150	0.1	7.44	50.00	LINR
Carbon Disulfide	0.9420000	0.9023017	0.9023017	0.1	-4.21	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.3680702	0.3680702	0.1	-22.51	50.00	AVRG
Chlorobenzene	1.0300000	0.9462433	0.9462433	0.5	-8.13	50.00	AVRG
Chloroethane	0.4040000	0.3510710	0.3510710	0.1	-13.10	50.00	AVRG
Chloroform	0.9120000	0.8546012	0.8546012	0.2	-6.29	50.00	AVRG
Chloromethane	47.726725	50.000000	0.7989582	0.1	-4.55	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5394825	0.5394825	0.1	-5.19	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5589895	0.5589895	0.2	4.48	50.00	AVRG
Dibromochloromethane	0.4320000	0.4275630	0.4275630	0.1	-1.03	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.3931203	0.3931203	0.1	-7.93	50.00	AVRG
Ethylbenzene	0.5510000	0.4905929	0.4905929	0.1	-10.96	50.00	AVRG
Isopropylbenzene	1.7050000	1.4748282	1.4748282	0.1	-13.50	50.00	AVRG
Methylene Chloride	0.5470000	0.5032369	0.5032369	0.1	-8.00	50.00	AVRG
Tetrachloroethene	45.940557	50.000000	0.2841351	0.2	-8.12	50.00	LINR
Toluene	1.5840000	1.4329169	1.4329169	0.4	-9.54	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4479229	0.4479229	0.1	0.43	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712086

Instrument ID: VOA2 Calibration Date: 12/22/17 Time: 2334

Lab File ID: D122230 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4756018	0.4756018	0.1	4.53	50.00	AVRG
Trichloroethene	0.3700000	0.3544670	0.3544670	0.2	-4.20	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.5534567	0.5534567	0.1	-10.15	50.00	AVRG
Vinyl Chloride	0.6130000	0.6123583	0.6123583	0.1	-0.10	50.00	AVRG
m,p-Xylenes	0.6740000	0.5874118	0.5874118	0.1	-12.85	50.00	AVRG
o-Xylene	0.7050000	0.6378209	0.6378209	0.3	-9.53	50.00	AVRG
Xylenes (total)	0.6190000	0.5530117	0.5530117	0.1	-10.66	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0262287	1.0262287	0.1	-13.83	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8119261	0.8119261	0.1	-4.37	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.6680229	2.6680229	0.1	-19.88	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.5700635	2.5700635	0.1	-20.75	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.6525048	0.6525048	0.1	-10.37	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5728036	0.5728036	0.1	-7.16	50.00	AVRG
2-Chlorotoluene	2.8400000	2.3052383	2.3052383	0.1	-18.83	50.00	AVRG
4-Chlorotoluene	3.0920000	2.5363382	2.5363382	0.1	-17.97	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.4014807	2.4014807	0.1	-21.98	50.00	AVRG
Bromochloromethane	0.2700000	0.2667621	0.2667621	0.1	-1.20	50.00	AVRG
Bromobenzene	1.1090000	0.9473809	0.9473809	0.1	-14.57	50.00	AVRG
Dibromomethane	0.2040000	0.2073747	0.2073747	0.1	1.65	50.00	AVRG
Hexachlorobutadiene	37.113159	50.000000	0.3412903	0.1	-25.77	50.00	LINR
n-Propylbenzene	4.2270000	3.3413898	3.3413898	0.1	-20.95	50.00	AVRG
n-Butylbenzene	2.2870000	1.7951599	1.7951599	0.05	-21.50	50.00	AVRG
Styrene	1.1240000	1.0588923	1.0588923	0.3	-5.79	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5269870	0.5269870	0.1	-5.22	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4234195	0.4234195	0.1	-5.91	50.00	AVRG
Toluene-d8	1.3180000	1.2392297	1.2392297	0.1	-5.98	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4879073	0.4879073	0.1	1.44	50.00	AVRG

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Lab File ID (Standard): D122203 Date Analyzed: 12/22/17

Instrument ID: VOA2 Time Analyzed: 1222

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

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	250260	5.78	376522	6.57	348018	9.53
	UPPER LIMIT	500520	6.28	753044	7.07	696036	10.03
	LOWER LIMIT	125130	5.28	188261	6.07	174009	9.03
	CLIENT SAMPLE NO.						
01	VLCSW-171222	246613	5.78	373780	6.57	342436	9.53
02	VBLKW-171222	271927	5.78	385980	6.57	349470	9.52
03	HS17120851-01	252821	5.78	378998	6.58	345611	9.53
04	HS17120851-01	250239	5.78	379574	6.57	342572	9.53
05	HS17120868-10	267490	5.78	377201	6.57	347923	9.52
06	HS17120868-01	269375	5.78	389889	6.57	348697	9.52
07	HS17120868-03	271657	5.78	381525	6.57	347743	9.52
08	HS17120868-04	273253	5.78	392669	6.57	361216	9.53
09	HS17120868-05	272853	5.78	393525	6.57	365420	9.52
10	HS17120868-06	275271	5.78	393934	6.57	359383	9.53
11	HS17120868-07	275037	5.78	388957	6.57	356519	9.52
12	HS17120868-08	273946	5.78	384230	6.57	353783	9.52
13	HS17120868-09	271675	5.78	384134	6.57	348703	9.53
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Lab File ID (Standard): D122203 Date Analyzed: 12/22/17

Instrument ID: VOA2 Time Analyzed: 1222

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	164240	11.83				
	UPPER LIMIT	328480	12.33				
	LOWER LIMIT	82120	11.33				
	CLIENT SAMPLE NO.						
01	VLCSW-171222	161067	11.83				
02	VBLKW-171222	153118	11.83				
03	HS17120851-01	162127	11.84				
04	HS17120851-01	161279	11.84				
05	HS17120868-10	158461	11.83				
06	HS17120868-01	157905	11.83				
07	HS17120868-03	153047	11.83				
08	HS17120868-04	161125	11.83				
09	HS17120868-05	164680	11.84				
10	HS17120868-06	160646	11.83				
11	HS17120868-07	163361	11.83				
12	HS17120868-08	157087	11.83				
13	HS17120868-09	154843	11.84				
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

MSVOA02 -Logbook

Batch: 30170
Date: 12-22-2017
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BLK	BLK	12-22-2017 11:33 am	1.00	50 mL	50 mL	D122201.D	Liquid	Y	NA
2	*Cleanup blk* BFB	TUNE	12-22-2017 11:57 am	1.00	50 mL	50 mL	D122202.D	Liquid	Y	NA
3	*Auto find/purged* CCV	CCV	12-22-2017 12:22 pm	1.00	50 mL	50 mL	D122203.D	Liquid	Y	NA
4	*10 uL,cal std/50 mL DI* CCB	SAMP	12-22-2017 12:46 pm	1.00	50 mL	50 mL	D122204.D	Liquid	Y	NA
5	*CCB* VLCSW-171222	LCS	12-22-2017 01:11 pm	1.00	50 mL	50 mL	D122205.D	Liquid	Y	NA
6	*10 uL,cal std/50 mL DI* BLK	SAMP	12-22-2017 01:35 pm	1.00	50 mL	50 mL	D122206.D	Liquid	Y	NA
7	*Cleanup blk* VBLKW-171222	MBLK	12-22-2017 02:00 pm	1.00	50 mL	50 mL	D122207.D	Liquid	Y	NA
8	HS17120788-08	SAMP	12-22-2017 02:25 pm	1.00	50 mL	50 mL	D122208.D	Liquid	Y	<2
9	HS17120788-09	SAMP	12-22-2017 02:52 pm	10.00	5 mL	50 mL	D122209.D	Liquid	Y	<2
10	HS17120788-09	SAMP	12-22-2017 03:19 pm	100.0(	500 µL	50 mL	D122210.D	Liquid	Y	<2
11	HS17120851-01	SAMP	12-22-2017 03:44 pm	1.00	50 mL	50 mL	D122211.D	Liquid	Y	<2
12	HS17120884-01	SAMP	12-22-2017 04:11 pm	10.00	5 mL	50 mL	D122212.D	Liquid	Y	<2
13	HS17120884-01	SAMP	12-22-2017 04:38 pm	100.0(	500 µL	50 mL	D122213.D	Liquid	Y	<2
14	HS17120851-01MS	MS	12-22-2017 05:03 pm	1.00	50 mL	50 mL	D122214.D	Liquid	Y	<2
15	*8 uL,cal std/40 mL sample* HS17120851-01MSD	MSD	12-22-2017 05:27 pm	1.00	50 mL	50 mL	D122215.D	Liquid	Y	<2
16	*8 uL,cal std/40 mL sample* BLK	SAMP	12-22-2017 05:52 pm	1.00	50 mL	50 mL	D122216.D	Liquid	Y	NA
17	*Cleanup blk* HS17120839-02	SAMP	12-22-2017 06:16 pm	1.00	50 mL	50 mL	D122217.D	Liquid	Y	<2
18	HS17120839-01	SAMP	12-22-2017 06:41 pm	1.00	50 mL	50 mL	D122218.D	Liquid	Y	<2
19	HS17120868-10	SAMP	12-22-2017 07:05 pm	1.00	50 mL	50 mL	D122219.D	Liquid	Y	<2
20	HS17120868-01	SAMP	12-22-2017 07:30 pm	1.00	50 mL	50 mL	D122220.D	Liquid	Y	<2
21	HS17120868-03	SAMP	12-22-2017 07:54 pm	1.00	50 mL	50 mL	D122221.D	Liquid	Y	<2
22	HS17120868-04	SAMP	12-22-2017 08:19 pm	1.00	50 mL	50 mL	D122222.D	Liquid	Y	<2
23	HS17120868-05	SAMP	12-22-2017 08:43 pm	1.00	50 mL	50 mL	D122223.D	Liquid	Y	<2
24	HS17120868-06	SAMP	12-22-2017 09:07 pm	1.00	50 mL	50 mL	D122224.D	Liquid	Y	<2
25	HS17120868-07	SAMP	12-22-2017 09:32 pm	1.00	50 mL	50 mL	D122225.D	Liquid	Y	<2
26	HS17120868-08	SAMP	12-22-2017 09:57 pm	1.00	50 mL	50 mL	D122226.D	Liquid	Y	<2
27	HS17120868-09	SAMP	12-22-2017 10:21 pm	1.00	50 mL	50 mL	D122227.D	Liquid	Y	<2
28	HS17120916-03	SAMP	12-22-2017 10:46 pm	1.00	50 mL	50 mL	D122228.D	Liquid	Y	<2
29	HS17120916-01	SAMP	12-22-2017 11:10 pm	1.00	50 mL	50 mL	D122229.D	Liquid	Y	<2
30	CCV-END	CCV	12-22-2017 11:34 pm	1.00	50 mL	50 mL	D122230.D	Liquid	Y	<2
31	BFB	TUNE	12-22-2017 11:59 pm	1.00	50 mL	50 mL	E122201.D	Liquid	Y	NA
32	*Auto find/purged* CCV	CCV	12-23-2017 12:24 am	1.00	50 mL	50 mL	E122202.D	Liquid	Y	NA
33	*10 uL,cal std/50 mL DI* CCV	CCV	12-23-2017 12:48 am	1.00	50 mL	50 mL	E122203.D	Liquid	Y	NA
34	*10 uL,cal std/50 mL DI* CCB	SAMP	12-23-2017 01:13 am	1.00	50 mL	50 mL	E122204.D	Liquid	Y	NA
	CCB									

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
35	VLCSW-171222	LCS	12-23-2017 01:37 am	1.00	50 mL	50 mL	E122205.D	Liquid	Y	NA
36	*10 uL,cal std/50 mL DI* BLK	SAMP	12-23-2017 02:02 am	1.00	50 mL	50 mL	E122206.D	Liquid	Y	NA
37	*Cleanup blk* VBLKW-171222	MBLK	12-23-2017 02:26 am	1.00	50 mL	50 mL	E122207.D	Liquid	Y	NA
38	HS17120716-05	SAMP	12-23-2017 02:51 am	1.00	50 mL	50 mL	E122208.D	Liquid	Y	<2
39	HS17120916-02	SAMP	12-23-2017 03:15 am	1.00	50 mL	50 mL	E122209.D	Liquid	Y	<2
40	HS17120749-04	SAMP	12-23-2017 03:40 am	1.00	50 mL	50 mL	E122210.D	Liquid	Y	<2
41	HS17120749-12	SAMP	12-23-2017 04:05 am	1.00	50 mL	50 mL	E122211.D	Liquid	Y	<2
42	HS17120749-04MS	MS	12-23-2017 04:29 am	1.00	50 mL	50 mL	E122212.D	Liquid	Y	<2
43	*8 uL,cal std/40 mL sample* HS17120749-04MSD	MSD	12-23-2017 04:54 am	1.00	50 mL	50 mL	E122213.D	Liquid	Y	<2
44	*8 uL,cal std/40 mL sample* HS17120749-06	SAMP	12-23-2017 05:21 am	5.00	10 mL	50 mL	E122214.D	Liquid	Y	<2
45	HS17120749-09	SAMP	12-23-2017 05:48 am	5.00	10 mL	50 mL	E122215.D	Liquid	Y	<2
46	HS17120752-03	SAMP	12-23-2017 06:13 am	1.00	50 mL	50 mL	E122216.D	Liquid	Y	<2
47	HS17120848-13	SAMP	12-23-2017 06:38 am	1.00	50 mL	50 mL	E122217.D	Liquid	Y	<2
48	HS17120921-04	SAMP	12-23-2017 07:02 am	1.00	50 mL	50 mL	E122218.D	Liquid	Y	<2
49	HS17120921-05	SAMP	12-23-2017 07:27 am	1.00	50 mL	50 mL	E122219.D	Liquid	Y	<2
50	HS17120921-06	SAMP	12-23-2017 07:51 am	1.00	50 mL	50 mL	E122220.D	Liquid	Y	<2
51	HS17120921-07	SAMP	12-23-2017 08:16 am	1.00	50 mL	50 mL	E122221.D	Liquid	Y	<2
52	HS17120769-09	SAMP	12-23-2017 08:41 am	1.00	50 mL	50 mL	E122222.D	Liquid	Y	<2
53	HS17120769-10	SAMP	12-23-2017 09:05 am	1.00	50 mL	50 mL	E122223.D	Liquid	Y	<2
54	HS17120749-02	SAMP	12-23-2017 09:30 am	1.00	50 mL	50 mL	E122224.D	Liquid	Y	<2
55	HS17120749-11	SAMP	12-23-2017 09:54 am	1.00	50 mL	50 mL	E122225.D	Liquid	Y	<2
56	HS17120752-01	SAMP	12-23-2017 10:19 am	1.00	50 mL	50 mL	E122226.D	Liquid	Y	<2
57	HS17120752-02	SAMP	12-23-2017 10:43 am	1.00	50 mL	50 mL	E122227.D	Liquid	Y	<2
58	HS17121112-01	SAMP	12-23-2017 11:08 am	1.00	50 mL	50 mL	E122228.D	Liquid	Y	<2
59	HS17121112-02	SAMP	12-23-2017 11:33 am	1.00	50 mL	50 mL	E122229.D	Liquid	Y	<2

Chemical	Value
SURR ID	29814-95-03
IS ID	29814-95-04
LCS/MS ID	29814-97-01
CAL STD ID	29814-97-01
BFB ID	29814-95-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122202.D

Date : 22-DEC-2017 11:57

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

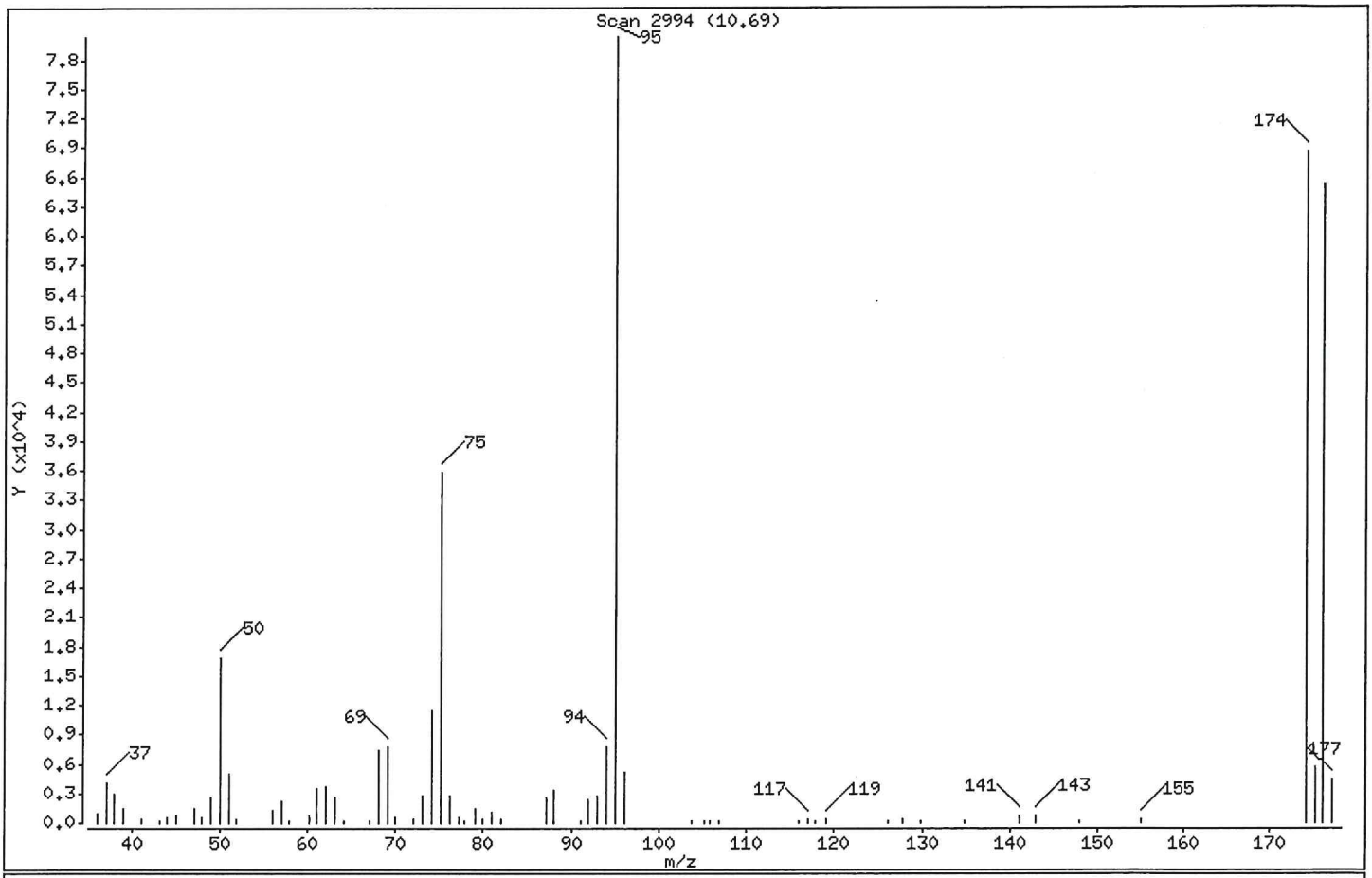
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

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	20.94
75	30.00 - 60.00% of mass 95	44.49
96	5.00 - 9.00% of mass 95	6.50
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	85.19
175	5.00 - 9.00% of mass 174	7.01 (8.23)
176	95.00 - 101.00% of mass 174	81.13 (95.24)
177	5.00 - 9.00% of mass 176	5.41 (6.66)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122202.D

Date : 22-DEC-2017 11:57

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: D122202.D
Spectrum: Scan 2994 (10.69)
Location of Maximum: 95.10
Number of points: 65

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	913	60.10	758	79.90	325	117.80	263
37.10	4068	61.10	3599	81.00	1068	119.10	328
38.10	2971	62.10	3651	81.90	285	126.10	158
39.10	1466	63.10	2565	87.10	2569	127.90	305
41.10	351	64.20	252	88.00	3339	129.90	179
43.10	252	67.00	166	91.10	273	134.90	184
44.10	477	68.10	7342	92.00	2374	141.00	762
45.10	711	69.10	7763	93.00	2735	142.90	730
47.10	1496	70.00	542	94.10	7729	147.90	210
48.00	522	72.10	326	95.10	80352	155.00	314
49.00	2516	73.10	2820	96.10	5226	174.00	68448
50.10	16824	74.10	11515	103.80	204	175.00	5635
51.10	4919	75.10	35752	105.20	236	176.00	65192
51.90	334	76.10	2823	105.90	255	177.00	4344
56.10	1246	77.10	555	106.90	193		
57.10	2128	77.80	228	115.90	222		
58.00	254	79.00	1507	117.00	427		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122202.D

Date : 22-DEC-2017 11:57

Client ID: BFB

Instrument: VOA2.i

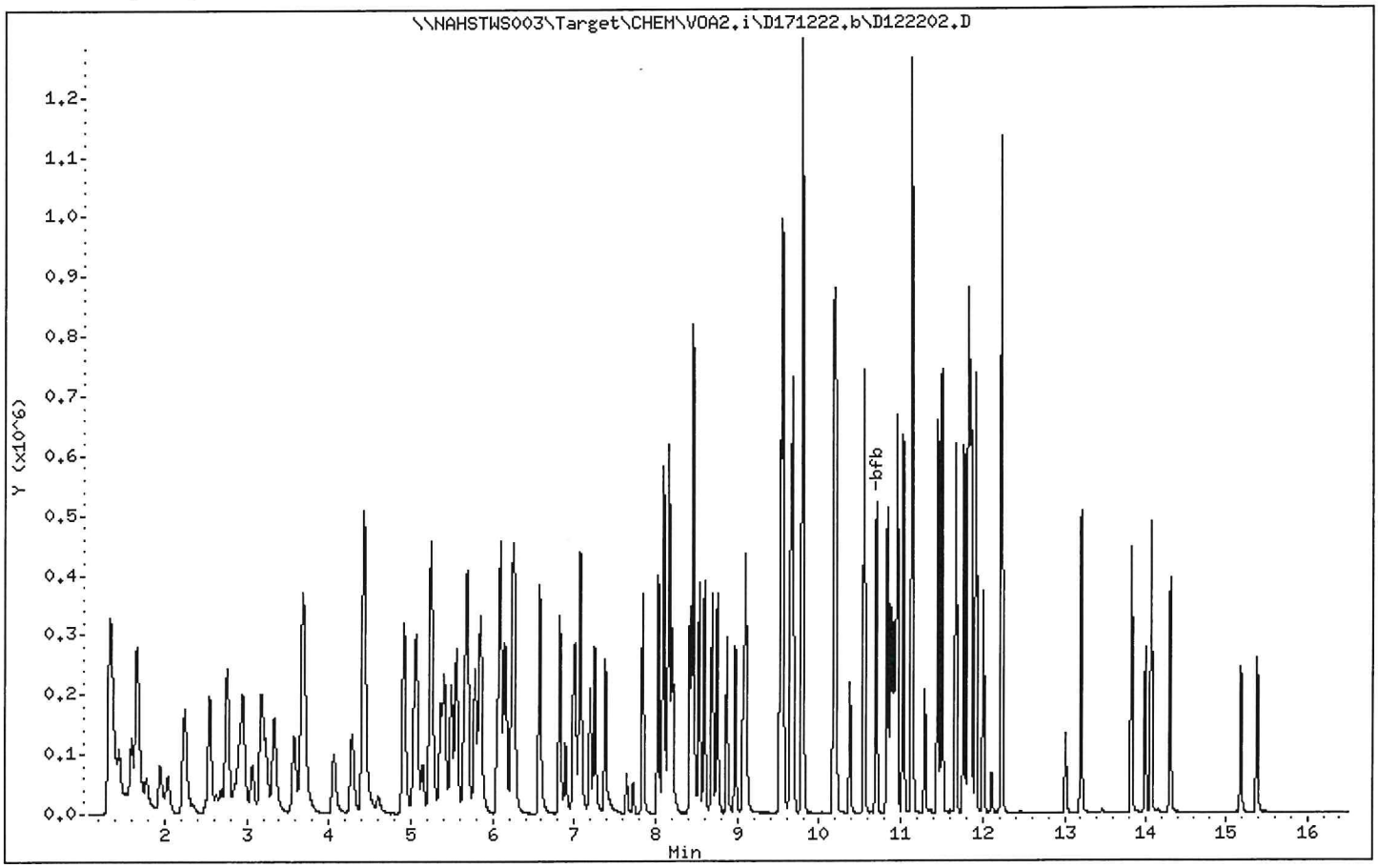
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122203.D
Report Date: 09-Feb-2018 17:46

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122203.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 22-DEC-2017 12:22
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.651	(0.977)	182481	50.0000	47.17
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	250260	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	109304	50.0000	48.47
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	376522	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	134833	50.0000	48.41
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	348018	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	429273	50.0000	46.78
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	167636	50.0000	50.02
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	164240	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	161892	50.0000	41.32
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.902)	98640	50.0000	46.33
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	143526	50.0000	48.89
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	247544	50.0000	47.37
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	99376	50.0000	48.11
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.168)	165476	50.0000	51.14
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	29724	50.0000	44.04
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	129164	50.0000	48.44
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	253700	50.0000	42.97
	33 1,2-Dichloroethane	62	6.148	6.148	(0.936)	170583	50.0000	51.31
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	139029	50.0000	46.88
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	266994	50.0000	43.45

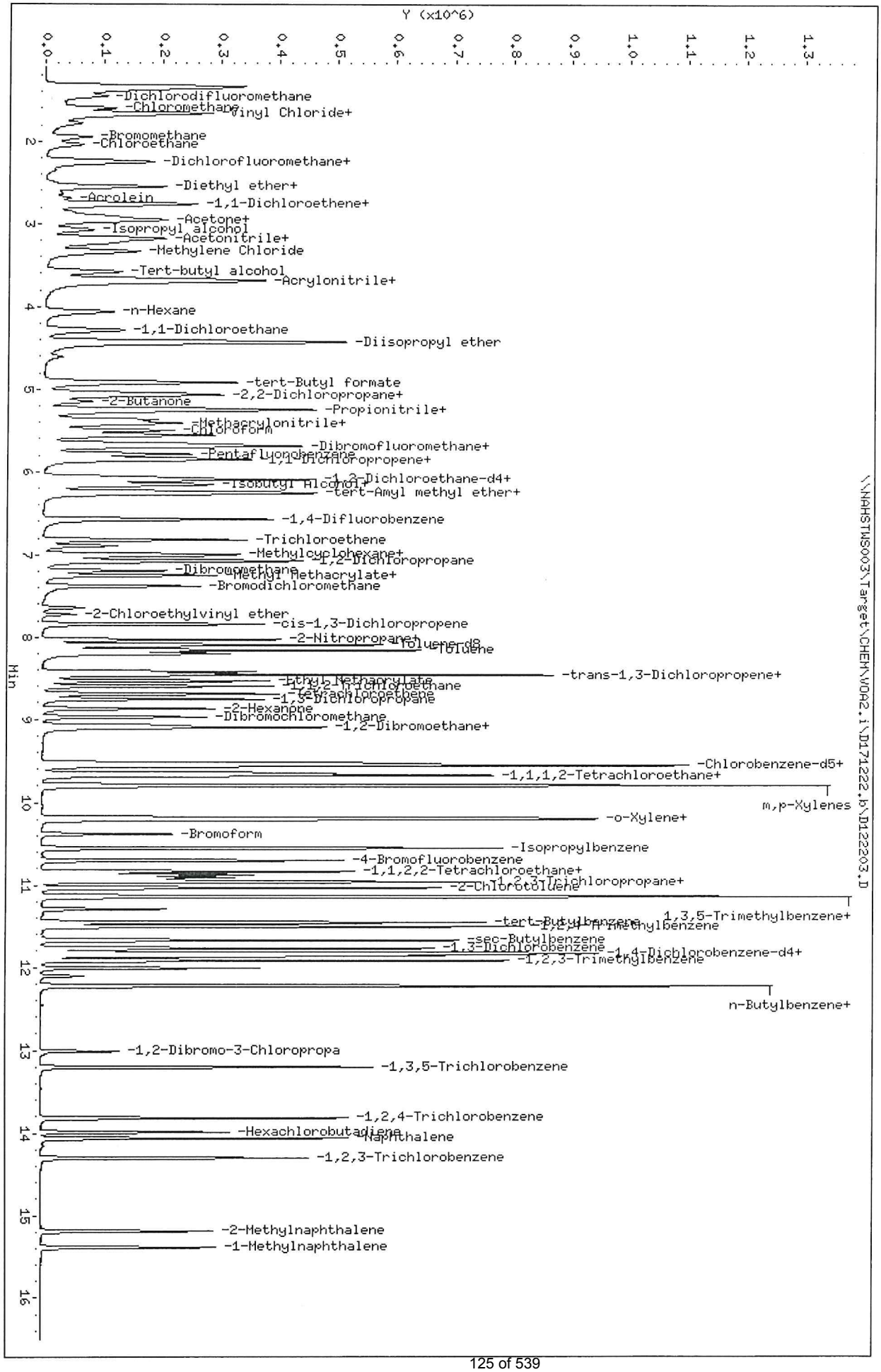
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122203.D
Report Date: 09-Feb-2018 17:46

	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	11.860	11.860	(1.002)	252192	50.0000	42.91	
24	2-Butanone	43	5.144	5.144	(0.890)	126119	100.000	93.39	
52	2-Hexanone	43	8.869	8.869	(0.931)	186202	100.000	91.31	
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	285491	100.000	90.42	
10	Acetone	43	2.859	2.859	(0.494)	80718	100.000	97.23	
37	Benzene	78	6.094	6.094	(0.927)	473618	50.0000	47.80	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	170537	50.0000	48.63	
66	Bromoform	173	10.378	10.378	(1.089)	103811	50.0000	50.28	
6	Bromomethane	94	1.948	1.948	(0.337)	91054	50.0000	53.29	
19	Carbon Disulfide	76	2.959	2.959	(0.512)	456403	100.000	96.75	
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	147340	50.0000	41.19	
59	Chlorobenzene	112	9.553	9.553	(1.003)	326639	50.0000	45.57	
7	Chloroethane	64	2.041	2.041	(0.353)	85278	50.0000	42.11	
28	Chloroform	83	5.497	5.497	(0.951)	212604	50.0000	46.59	
3	Chloromethane	50	1.601	1.601	(0.277)	210636	50.0000	50.32	
27	cis-1,2-Dichloroethene	96	5.073	5.073	(0.877)	136056	50.0000	47.78	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	212153	50.0000	52.68	
55	Dibromochloromethane	129	8.972	8.972	(0.942)	144694	50.0000	48.15	
2	Dichlorodifluoromethane	85	1.454	1.454	(0.251)	99414	50.0000	46.46	
61	Ethylbenzene	106	9.672	9.672	(1.015)	171233	50.0000	44.63	
67	Isopropylbenzene	105	10.548	10.548	(1.107)	529075	50.0000	44.58	
17	Methylene Chloride	84	3.331	3.331	(0.576)	126987	50.0000	46.35	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	102637	50.0000	47.74	
50	Toluene	91	8.157	8.157	(0.856)	498852	50.0000	45.23	
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	117340	50.0000	52.52	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	184169	50.0000	53.74	
38	Trichloroethene	130	6.819	6.819	(1.038)	133828	50.0000	47.98	
8	Trichlorofluoromethane	101	2.259	2.259	(0.391)	146561	50.0000	47.49	
5	Vinyl Chloride	62	1.685	1.685	(0.291)	149558	50.0000	48.75	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	417347	100.000	88.96	
63	o-Xylene	106	10.179	10.179	(1.068)	223279	50.0000	45.49	
M 95	Xylenes (total)	106				640626	150.000		(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	171510	50.0000	43.83	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	139322	50.0000	49.97	
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	441005	50.0000	40.31	
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	429668	50.0000	40.33	
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	177631	50.0000	48.72	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	194315	50.0000	45.25	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	375085	50.0000	40.20	
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	420473	50.0000	41.39	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	412416	50.0000	40.79	
29	Bromochloromethane	128	5.368	5.368	(0.928)	67622	50.0000	49.90	
74	Bromobenzene	156	10.833	10.833	(0.915)	153718	50.0000	42.19	
44	Dibromomethane	93	7.191	7.191	(1.094)	77365	50.0000	50.33	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	65643	50.0000	43.53	
73	n-Propylbenzene	91	10.955	10.955	(0.926)	562298	50.0000	40.49	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	316929	50.0000	42.18	
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	476694	50.0000	40.37	
92	Naphthalene	128	14.061	14.061	(1.188)	403388	50.0000	47.85	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	358644	50.0000	40.13	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	131796	50.0000	47.45	
64	Styrene	104	10.198	10.198	(1.070)	368278	50.0000	47.04	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122203.D
Report Date: 09-Feb-2018 17:46

QC Flag Legend

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


Y (x10^6)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Dichlorofluoromethane+
-Diethyl ether+
-Acrolein
-1,1-Dichloroethene+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1,1-Trichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
1,3,5-Trimethylbenzene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
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Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122203.D
Date : 22-DEC-2017 12:22
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122205.D
Report Date: 09-Feb-2018 17:46

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122205.D
Lab Smp Id: VLCSW-171222 Client Smp ID: VLCSW-171222
Inj Date : 22-DEC-2017 13:11
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171222;VLCSW-171222;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

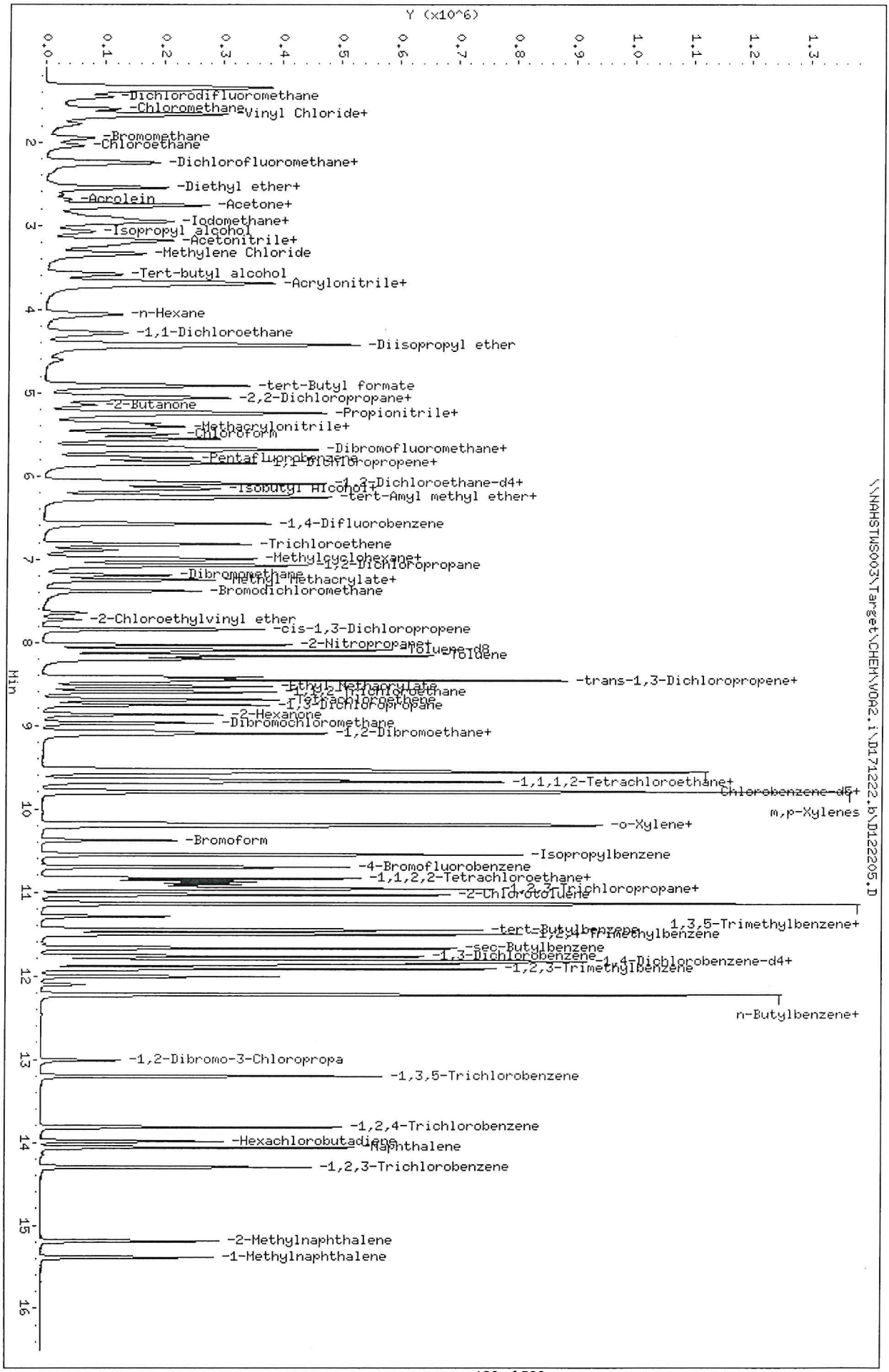
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.651	(0.978)	184359	48.3692	48.36
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	246613	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	106668	48.0072	48.00
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	373780	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	131117	47.7796	47.77
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	342436	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	424210	46.9849	46.98
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	164223	49.8102	49.81
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	161067	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	163894	42.6555	42.65
	53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	99430	47.4655	47.46
	32 1,1-Dichloropropene	75	5.853	5.856	(0.891)	137461	47.1377	47.13
	22 1,1-Dichloroethane	63	4.281	4.277	(0.741)	254765	49.4817	49.48
	11 1,1-Dichloroethene	96	2.756	2.753	(0.477)	103450	50.8255	50.82
	90 1,2,4-Trichlorobenzene	180	13.818	13.817	(1.168)	164202	51.7487	51.74
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	30180	45.5812	45.58
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	132463	50.4881	50.48
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	257116	44.4118	44.41
	33 1,2-Dichloroethane	62	6.145	6.148	(0.935)	168411	51.0314	51.03
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	142567	48.4257	48.42
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	266891	44.2988	44.29

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122205.D
Report Date: 09-Feb-2018 17:46

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	253750	44.0350	44.03
24	2-Butanone	43	5.147	5.144	(0.891)	129301	97.1655	97.16
52	2-Hexanone	43	8.866	8.869	(0.931)	188878	94.1378	94.13
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	291117	93.7050	93.70
10	Acetone	43	2.856	2.859	(0.494)	83116	101.714	101.71
37	Benzene	78	6.094	6.094	(0.927)	482638	49.0754	49.07
39	Bromodichloromethane	83	7.377	7.377	(1.123)	174834	50.2259	50.22
66	Bromoform	173	10.378	10.378	(1.089)	105867	52.1183	52.11
6	Bromomethane	94	1.945	1.948	(0.337)	93905	55.8937	55.89
19	Carbon Disulfide	76	2.955	2.959	(0.511)	476741	102.564	102.56
34	Carbon Tetrachloride	117	5.840	5.837	(0.889)	147758	41.6172	41.61
59	Chlorobenzene	112	9.553	9.553	(1.003)	332409	47.1359	47.13
7	Chloroethane	64	2.044	2.041	(0.354)	90893	45.5547	45.55
28	Chloroform	83	5.497	5.497	(0.951)	216507	48.1541	48.15
3	Chloromethane	50	1.598	1.601	(0.277)	222730	54.0757	54.07
27	cis-1,2-Dichloroethene	96	5.070	5.073	(0.877)	139572	49.7465	49.74
46	cis-1,3-Dichloropropene	75	7.843	7.839	(1.193)	215701	53.9585	53.95
55	Dibromochloromethane	129	8.969	8.972	(0.941)	149153	50.4491	50.44
2	Dichlorodifluoromethane	85	1.450	1.454	(0.251)	119544	56.7036	56.70
61	Ethylbenzene	106	9.672	9.672	(1.015)	172795	45.7785	45.77
67	Isopropylbenzene	105	10.548	10.548	(1.107)	529630	45.3569	45.35
17	Methylene Chloride	84	3.340	3.331	(0.578)	128131	47.4681	47.46
56	Tetrachloroethene	164	8.693	8.690	(0.912)	102968	48.7173	48.71
50	Toluene	91	8.157	8.157	(0.856)	505287	46.5605	46.56
20	trans-1,2-Dichloroethene	96	3.668	3.671	(0.635)	119911	54.4652	54.46
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	187367	55.0824	55.08
38	Trichloroethene	130	6.819	6.819	(1.038)	132580	47.8888	47.88
8	Trichlorofluoromethane	101	2.253	2.259	(0.390)	152546	50.1676	50.16
5	Vinyl Chloride	62	1.681	1.685	(0.291)	159780	52.8603	52.86
62	m,p-Xylenes	106	9.794	9.790	(1.028)	424713	92.0073	92.00
63	o-Xylene	106	10.179	10.179	(1.068)	226951	46.9949	46.99
M 95	Xylenes (total)	106				651664	139.002	139.00
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	178253	46.4576	46.45
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	137831	50.4122	50.41
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	445545	41.5292	41.52
75	1,3,5-Trimethylbenzene	105	11.132	11.135	(0.941)	432260	41.3732	41.37
26	2,2-Dichloropropane	77	5.044	5.041	(0.873)	180286	50.1798	50.17
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	199733	47.2736	47.27
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	382393	41.7933	41.79
77	4-Chlorotoluene	91	11.138	11.141	(0.941)	419523	42.1104	42.11
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	410902	41.4455	41.44
29	Bromochloromethane	128	5.368	5.368	(0.929)	69118	51.7667	51.76
74	Bromobenzene	156	10.830	10.833	(0.915)	156638	43.8410	43.84
44	Dibromomethane	93	7.194	7.191	(1.095)	78797	51.6476	51.64
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	62440	42.2156	42.21
73	n-Propylbenzene	91	10.955	10.955	(0.926)	565307	41.5119	41.51
87	n-Butylbenzene	91	12.223	12.223	(1.033)	318304	43.1990	43.19
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	471792	40.7514	40.75
92	Naphthalene	128	14.061	14.061	(1.188)	404322	48.9189	48.91
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	360936	41.1825	41.18
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	135881	49.7264	49.72
64	Styrene	104	10.201	10.198	(1.071)	375131	48.7038	48.70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-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Dichlorofluoromethane+
-Diethyl ether+
-Acrolein
-Acetone+
-Iodomethane+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
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-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane+
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-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-Chlorobenzene-d5+
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-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
1,3,5-Trimethylbenzene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
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-1,2,3-Trimethylbenzene
n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
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Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

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Report Date: 09-Feb-2018 17:46

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122207.D
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Operator : AP Inst ID: VOA2.i
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Comment :
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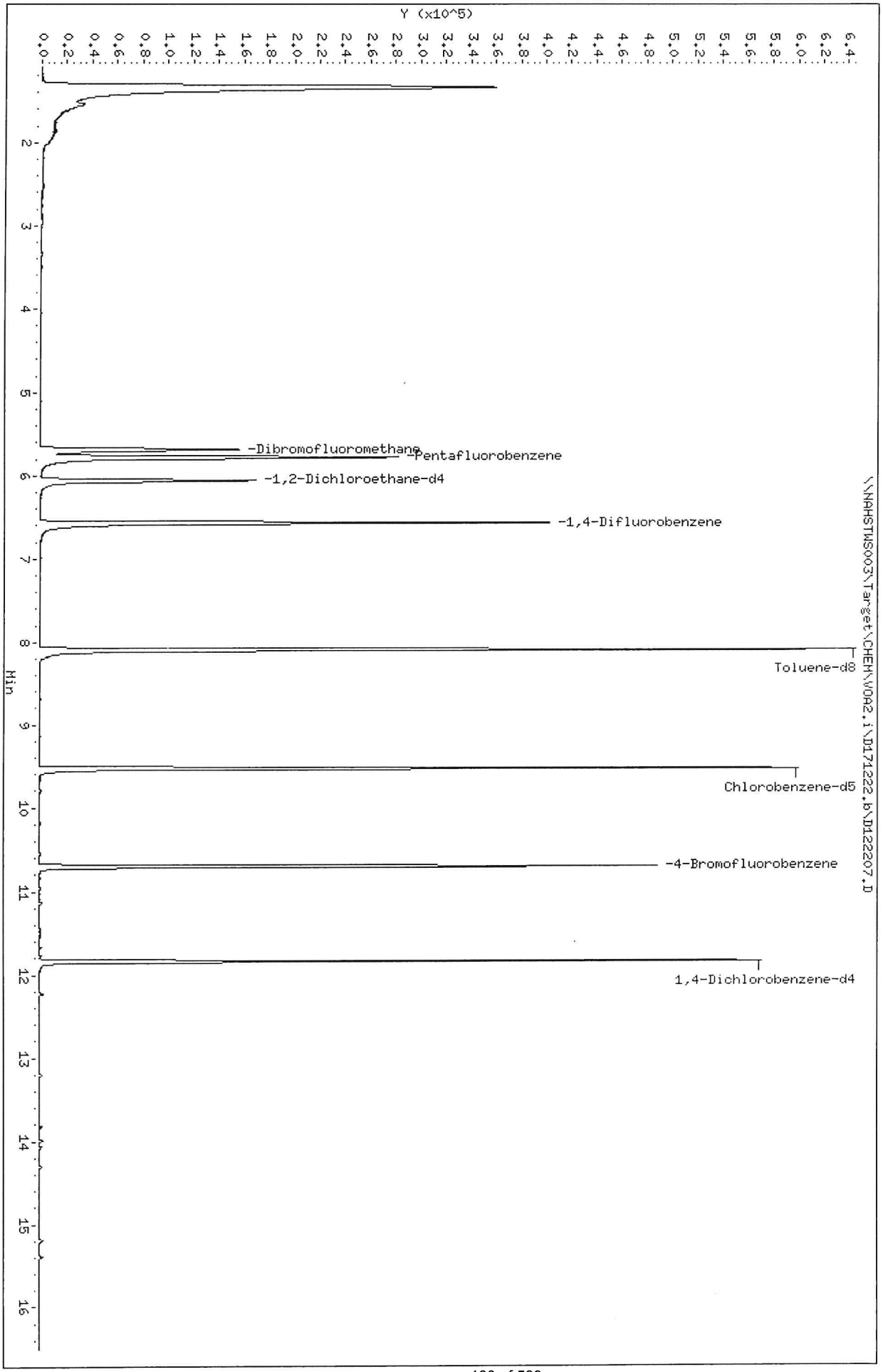
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	271927	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	121981	49.7884	49.78
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	385980	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	140687	46.4944	46.49
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	349470	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	446382	48.4456	48.44
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	161167	47.8994	47.89
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	153118	50.0000	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Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
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Min
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-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
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Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122214.D
Report Date: 09-Feb-2018 17:46

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122214.D
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Comment :
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Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 12 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.651	(0.977)	192898	49.3668	49.36
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	252821	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.686	(0.983)	109023	47.8623	47.86
*	36 1,4-Difluorobenzene	114	6.575	6.572	(1.000)	378998	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	134660	47.8657	47.86
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	345611	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	427724	46.9389	46.93
$	69 4-Bromofluorobenzene	95	10.698	10.695	(1.123)	169625	50.9760	50.97
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.834	(1.000)	162127	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.918)	159110	41.1397	41.13
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.902)	96912	45.8385	45.83
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	150761	51.0629	51.06
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	253004	47.9331	47.93
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	107181	51.3656	51.36
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.167)	142898	44.7403	44.74
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	29017	43.5623	43.56
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	127362	48.0979	48.09
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	240308	41.2372	41.23
	33 1,2-Dichloroethane	62	6.145	6.148	(0.935)	172015	51.4066	51.40
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	142943	47.8850	47.88
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	251460	41.4647	41.46

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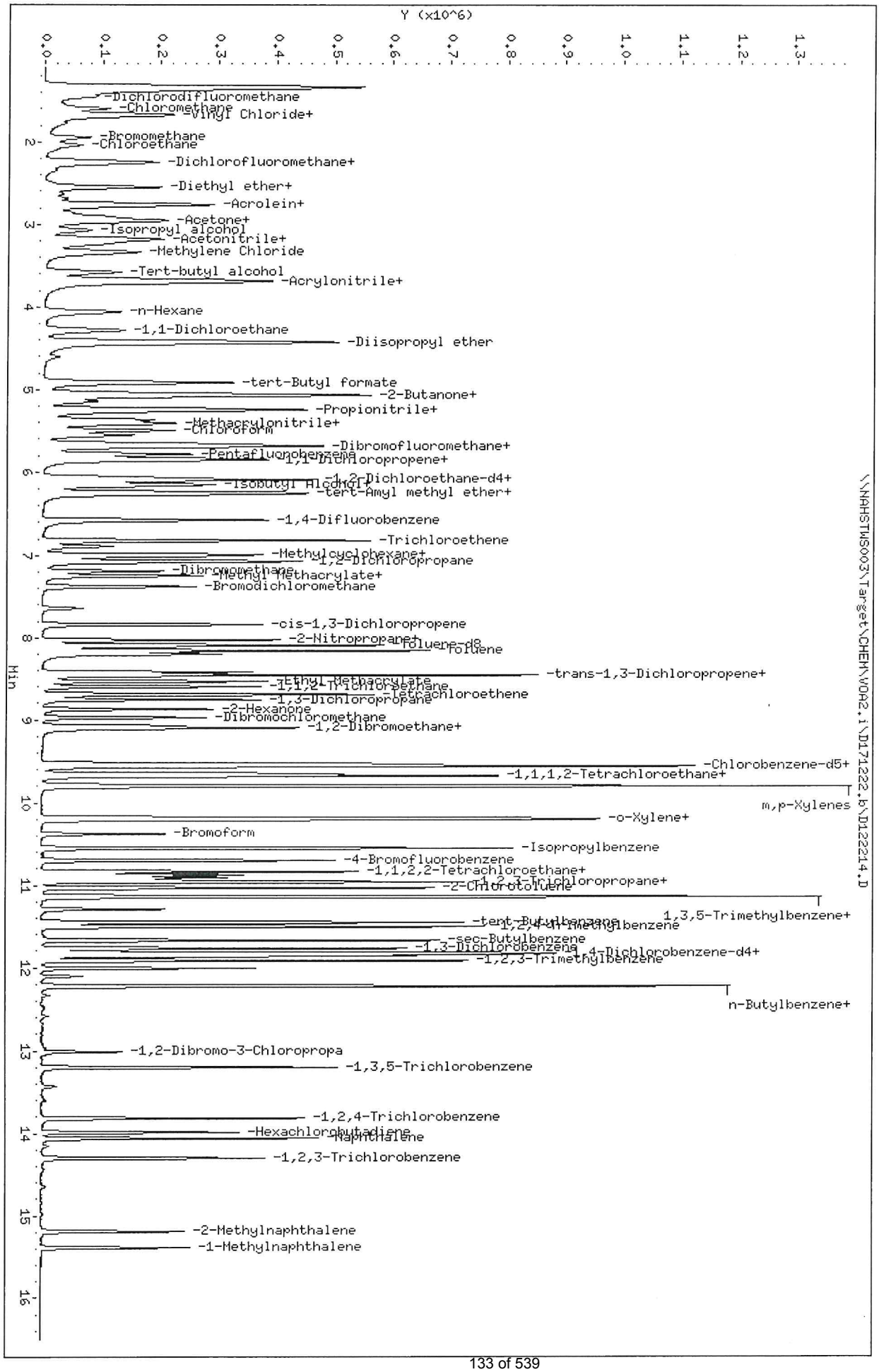
Report Date: 09-Feb-2018 17:46

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	237746	40.9880	40.98
24	2-Butanone	43	5.147	5.144	(0.890)	122485	89.7834	89.78
52	2-Hexanone	43	8.866	8.869	(0.931)	185182	91.4478	91.44
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	287257	91.6132	91.61
10	Acetone	43	2.862	2.859	(0.495)	75376	89.7063	89.70
37	Benzene	78	6.097	6.094	(0.927)	486531	48.7901	48.79
39	Bromodichloromethane	83	7.377	7.377	(1.122)	171567	48.6088	48.60
66	Bromoform	173	10.378	10.378	(1.089)	102931	50.2073	50.20
6	Bromomethane	94	1.941	1.948	(0.336)	86616	50.0384	50.03
19	Carbon Disulfide	76	2.952	2.959	(0.511)	481595	101.065	101.06
34	Carbon Tetrachloride	117	5.840	5.837	(0.888)	166308	46.1971	46.19
59	Chlorobenzene	112	9.553	9.553	(1.003)	331661	46.5977	46.59
7	Chloroethane	64	2.038	2.041	(0.352)	87459	42.7573	42.75
28	Chloroform	83	5.497	5.497	(0.951)	216016	46.8651	46.86
3	Chloromethane	50	1.595	1.601	(0.276)	184334	43.4706	43.47
27	cis-1,2-Dichloroethene	96	5.070	5.073	(0.877)	307805	107.014	107.01
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.192)	216293	53.3617	53.36
55	Dibromochloromethane	129	8.969	8.972	(0.941)	145300	48.6944	48.69
2	Dichlorodifluoromethane	85	1.454	1.454	(0.251)	68565	31.7240	31.72
61	Ethylbenzene	106	9.672	9.672	(1.015)	175101	45.9633	45.96
67	Isopropylbenzene	105	10.548	10.548	(1.107)	527117	44.7269	44.72
17	Methylene Chloride	84	3.337	3.331	(0.577)	123978	44.8018	44.80
56	Tetrachloroethene	164	8.690	8.690	(0.912)	151465	71.7866	71.78
50	Toluene	91	8.160	8.157	(0.857)	511607	46.7098	46.70
20	trans-1,2-Dichloroethene	96	3.664	3.671	(0.634)	122884	54.4450	54.44
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.280)	181484	52.6184	52.61
38	Trichloroethene	130	6.819	6.819	(1.037)	217724	77.5607	77.56
8	Trichlorofluoromethane	101	2.253	2.259	(0.390)	160658	51.5380	51.53
5	Vinyl Chloride	62	1.681	1.685	(0.291)	244073	78.7644	78.76
62	m,p-Xylenes	106	9.790	9.790	(1.028)	425659	91.3652	91.36
63	o-Xylene	106	10.179	10.179	(1.068)	224638	46.0886	46.08
M 95	Xylenes (total)	106				650297	137.454	137.45
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	165265	42.7909	42.79
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	119252	43.3317	43.33
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	421218	39.0050	39.00
75	1,3,5-Trimethylbenzene	105	11.132	11.135	(0.940)	405852	38.5916	38.59
26	2,2-Dichloropropane	77	5.044	5.041	(0.872)	190495	51.7194	51.71
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	194219	45.5462	45.54
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	369240	40.0919	40.09
77	4-Chlorotoluene	91	11.138	11.141	(0.941)	404616	40.3486	40.34
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	385355	38.6145	38.61
29	Bromochloromethane	128	5.372	5.368	(0.929)	66510	48.5902	48.59
74	Bromobenzene	156	10.833	10.833	(0.915)	152932	42.5238	42.52
44	Dibromomethane	93	7.191	7.191	(1.094)	77690	50.2209	50.22
91	Hexachlorobutadiene	225	13.991	13.988	(1.182)	68215	45.8560	45.85
73	n-Propylbenzene	91	10.955	10.955	(0.925)	553623	40.3881	40.38
87	n-Butylbenzene	91	12.223	12.223	(1.033)	301507	40.6518	40.65
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	459939	39.4679	39.46
92	Naphthalene	128	14.061	14.061	(1.188)	368566	44.2513	44.25
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	347887	39.4341	39.43
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	133428	48.3801	48.38
64	Styrene	104	10.198	10.198	(1.070)	369109	47.4818	47.48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-Chloroethane
-Dichlorofluoromethane+
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-Acetone+
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-2-Butanone+
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol+
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-Methylcyclohexane+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
1,3,5-Trimethylbenzene+
-tert-Butylbenzene
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122214.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122214.D
Date : 22-DEC-2017 17:03
Client ID: HS17120851-01MS
Sample Info: HS17120851-01MS;HS17120851-01MS;3;;MS
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122215.D
Report Date: 09-Feb-2018 17:46

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122215.D
Lab Smp Id: HS17120851-01MSD Client Smp ID: HS17120851-01MSD
Inj Date : 22-DEC-2017 17:27
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120851-01MSD;HS17120851-01MSD;3;;MSD
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 12 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

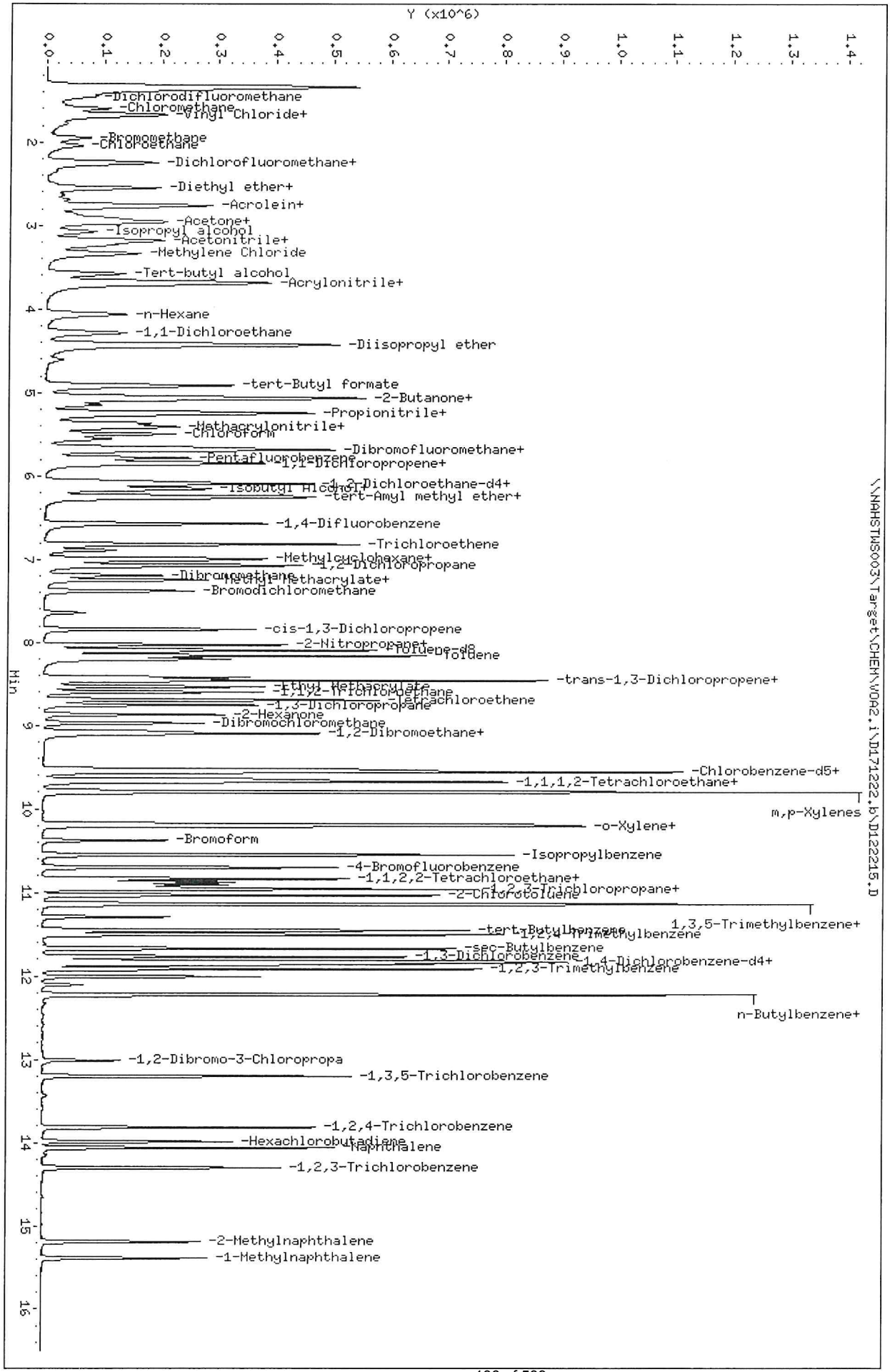
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.651	(0.978)	192339	49.7316	49.73
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	250239	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	106717	47.3333	47.33
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	379574	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	135625	48.7062	48.70
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	342572	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	425299	47.0869	47.08
$	69 4-Bromofluorobenzene	95	10.698	10.695	(1.123)	166938	50.6136	50.61
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.834	(1.000)	161279	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.918)	159384	41.4272	41.42
	53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	97179	46.3725	46.37
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	154657	52.3257	52.32
	22 1,1-Dichloroethane	63	4.284	4.277	(0.741)	250212	47.8933	47.89
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	110167	53.3413	53.34
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.167)	150633	47.4100	47.41
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	29222	44.0941	44.09
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	125960	47.9904	47.99
	88 1,2-Dichlorobenzene	146	12.226	12.223	(1.033)	249627	43.0615	43.06
	33 1,2-Dichloroethane	62	6.145	6.148	(0.935)	172484	51.4687	51.46
	42 1,2-Dichloropropane	63	7.063	7.066	(1.075)	139833	46.7720	46.77
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	257527	42.6884	42.68

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122215.D
Report Date: 09-Feb-2018 17:46

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	84 1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	244291	42.3378	42.33
	24 2-Butanone	43	5.144	5.144	(0.890)	124388	92.1191	92.11
	52 2-Hexanone	43	8.866	8.869	(0.931)	190122	94.7202	94.72
	45 4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	291224	93.7023	93.70
	10 Acetone	43	2.859	2.859	(0.494)	80417	96.8760	96.87
	37 Benzene	78	6.097	6.094	(0.928)	476730	47.7347	47.73
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	169460	47.9390	47.93
	66 Bromoform	173	10.374	10.378	(1.089)	102601	50.4904	50.49
	6 Bromomethane	94	1.945	1.948	(0.336)	86828	50.7104	50.71
	19 Carbon Disulfide	76	2.959	2.959	(0.512)	475506	100.816	100.81
	34 Carbon Tetrachloride	117	5.837	5.837	(0.888)	156127	43.3032	43.30
	59 Chlorobenzene	112	9.553	9.553	(1.003)	326333	46.2559	46.25
	7 Chloroethane	64	2.041	2.041	(0.353)	91670	45.2784	45.27
	28 Chloroform	83	5.494	5.497	(0.950)	212744	46.6315	46.63
	3 Chloromethane	50	1.598	1.601	(0.276)	179064	42.6458	42.64
	27 cis-1,2-Dichloroethene	96	5.070	5.073	(0.877)	305050	107.151	107.15
	46 cis-1,3-Dichloropropene	75	7.842	7.839	(1.193)	211064	51.9926	51.99
	55 Dibromochloromethane	129	8.969	8.972	(0.941)	143959	48.6729	48.67
	2 Dichlorodifluoromethane	85	1.454	1.454	(0.251)	66197	30.9444	30.94
	61 Ethylbenzene	106	9.672	9.672	(1.015)	175693	46.5278	46.52
	67 Isopropylbenzene	105	10.544	10.548	(1.107)	540863	46.3004	46.30
	17 Methylene Chloride	84	3.334	3.331	(0.577)	122472	44.7142	44.71
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	148546	71.0096	71.00
	50 Toluene	91	8.160	8.157	(0.857)	506366	46.6414	46.64
	20 trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	118913	53.2292	53.22
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	179001	51.8197	51.81
	38 Trichloroethene	130	6.819	6.819	(1.038)	211015	75.0566	75.05
	8 Trichlorofluoromethane	101	2.259	2.259	(0.391)	158874	51.4916	51.49
	5 Vinyl Chloride	62	1.681	1.685	(0.291)	238542	77.7738	77.77
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	427998	92.6822	92.68
	63 o-Xylene	106	10.179	10.179	(1.068)	227347	47.0582	47.05
M	95 Xylenes (total)	106				655345	139.740	139.74
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	169121	44.0196	44.01
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	131057	47.8715	47.87
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	436585	40.6406	40.64
	75 1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	422404	40.3767	40.37
	26 2,2-Dichloropropane	77	5.041	5.041	(0.872)	183625	50.3686	50.36
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	192295	45.4951	45.49
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	378674	41.3324	41.33
	77 4-Chlorotoluene	91	11.141	11.141	(0.941)	413095	41.4107	41.41
	82 p-Isopropyltoluene	119	11.818	11.818	(0.998)	407151	41.0131	41.01
	29 Bromochloromethane	128	5.365	5.368	(0.928)	66174	48.8436	48.84
	74 Bromobenzene	156	10.833	10.833	(0.915)	153520	42.9118	42.91
	44 Dibromomethane	93	7.191	7.191	(1.094)	77932	50.3009	50.30
	91 Hexachlorobutadiene	225	13.991	13.988	(1.182)	68461	46.2672	46.26
	73 n-Propylbenzene	91	10.955	10.955	(0.925)	569929	41.7963	41.79
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	315873	42.8127	42.81
	81 sec-Butylbenzene	105	11.668	11.668	(0.986)	477466	41.1873	41.18
	92 Naphthalene	128	14.061	14.061	(1.188)	389400	47.0314	47.03
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	358371	40.8361	40.83
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	131893	48.2478	48.24
	64 Styrene	104	10.198	10.198	(1.070)	366834	47.6077	47.60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Date : 22-DEC-2017 17:27
Client ID: HS17120851-01MSD
Sample Info: HS17120851-01MSD;HS17120851-01MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122215.D
Y (x10^6)
Min
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Dichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2-Butanone+
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
1,3,5-Trimethylbenzene+
-tert-Butylbenzene
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122219.D
Report Date: 09-Feb-2018 17:46

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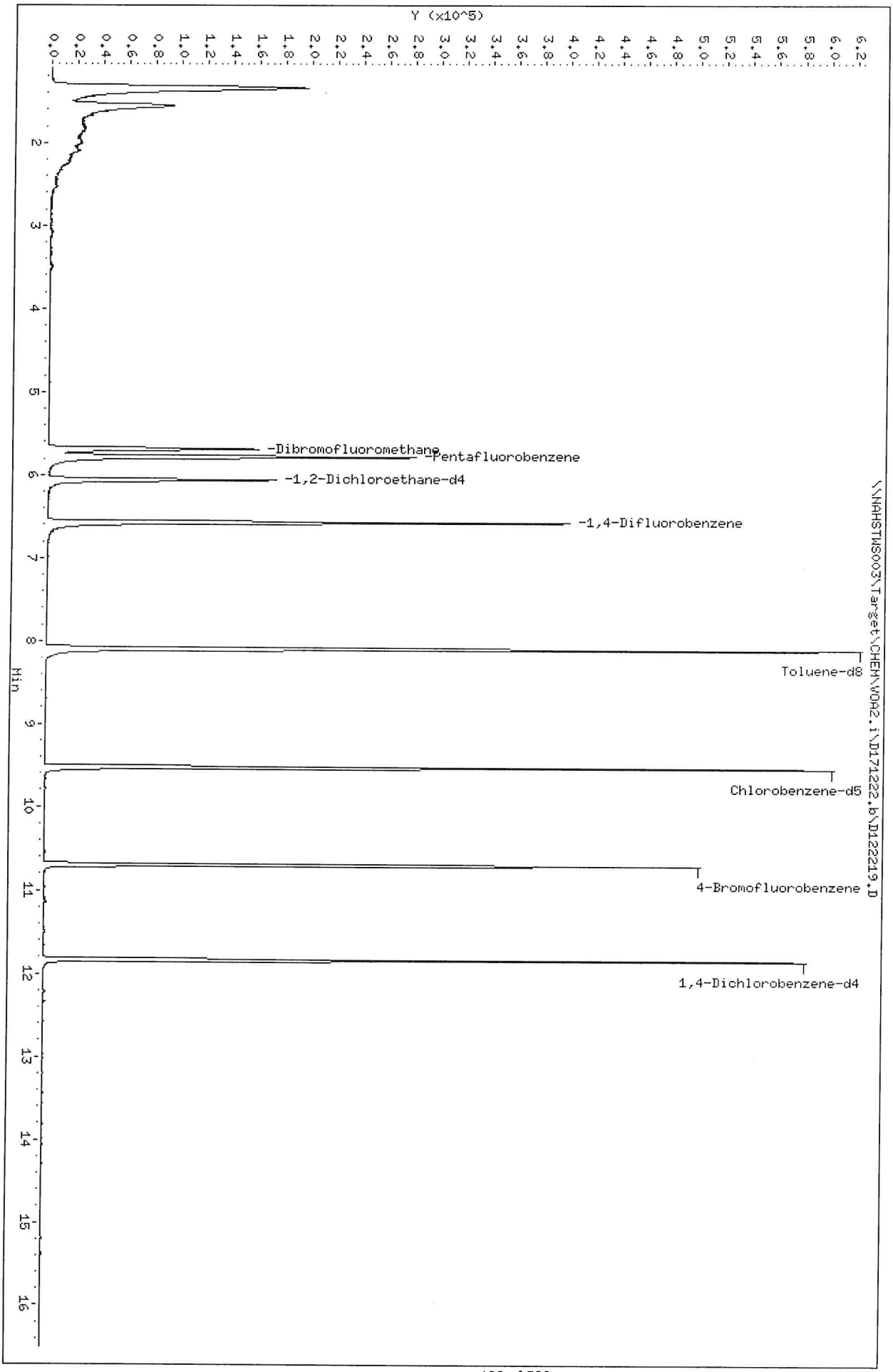
Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122219.D
Lab Smp Id: HS17120868-10 Client Smp ID: HS17120868-10
Inj Date : 22-DEC-2017 19:05
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-10;HS17120868-10;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	267490	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	121650	50.4769	50.47
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	377201	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	140406	47.1713	47.17
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	347923	50.0000	
$ 48 Toluene-d8	98	8.093	8.093	(0.850)	444599	48.4666	48.46
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	165276	49.3390	49.33
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	158461	50.0000	



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Date : 22-DEC-2017 19:05
Client ID: HS17120868-10
Sample Info: HS17120868-10;HS17120868-10;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122220.D
Report Date: 09-Feb-2018 17:46

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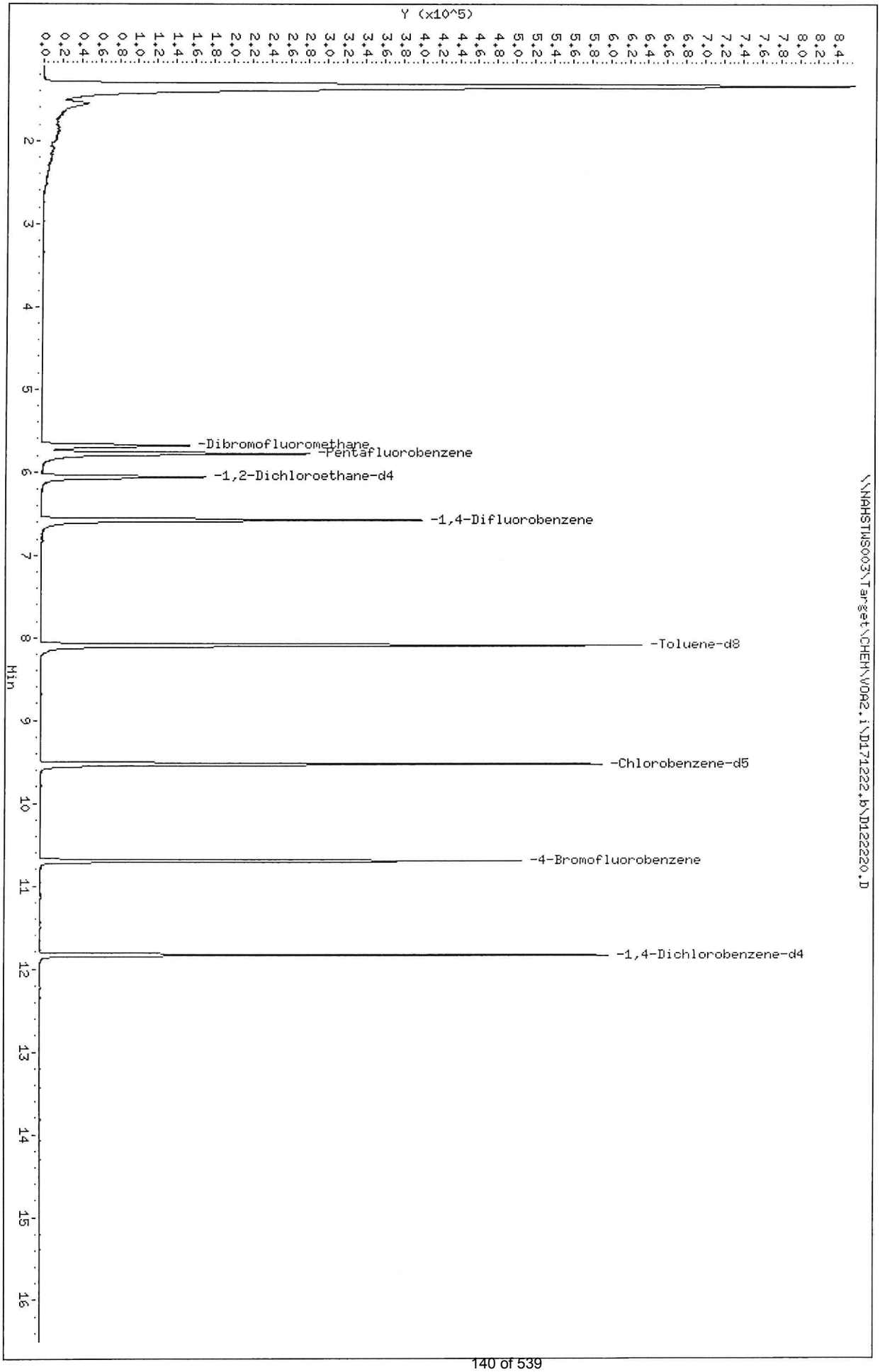
Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122220.D
Lab Smp Id: HS17120868-01 Client Smp ID: HS17120868-01
Inj Date : 22-DEC-2017 19:30
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-01;HS17120868-01;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	269375	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	121328	49.9910	49.99
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	389889	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	142774	47.6312	47.63
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	348697	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	446199	48.5331	48.53
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	165372	49.2581	49.25
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	157905	50.0000	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Date : 22-DEC-2017 19:30
Client ID: HS17120868-01
Sample Info: HS17120868-01;HS17120868-01;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
-Toluene-d8
-Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4
Min
\\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122220.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122221.D
Report Date: 09-Feb-2018 17:46

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122221.D
Lab Smp Id: HS17120868-03 Client Smp ID: HS17120868-03
Inj Date : 22-DEC-2017 19:54
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-03;HS17120868-03;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

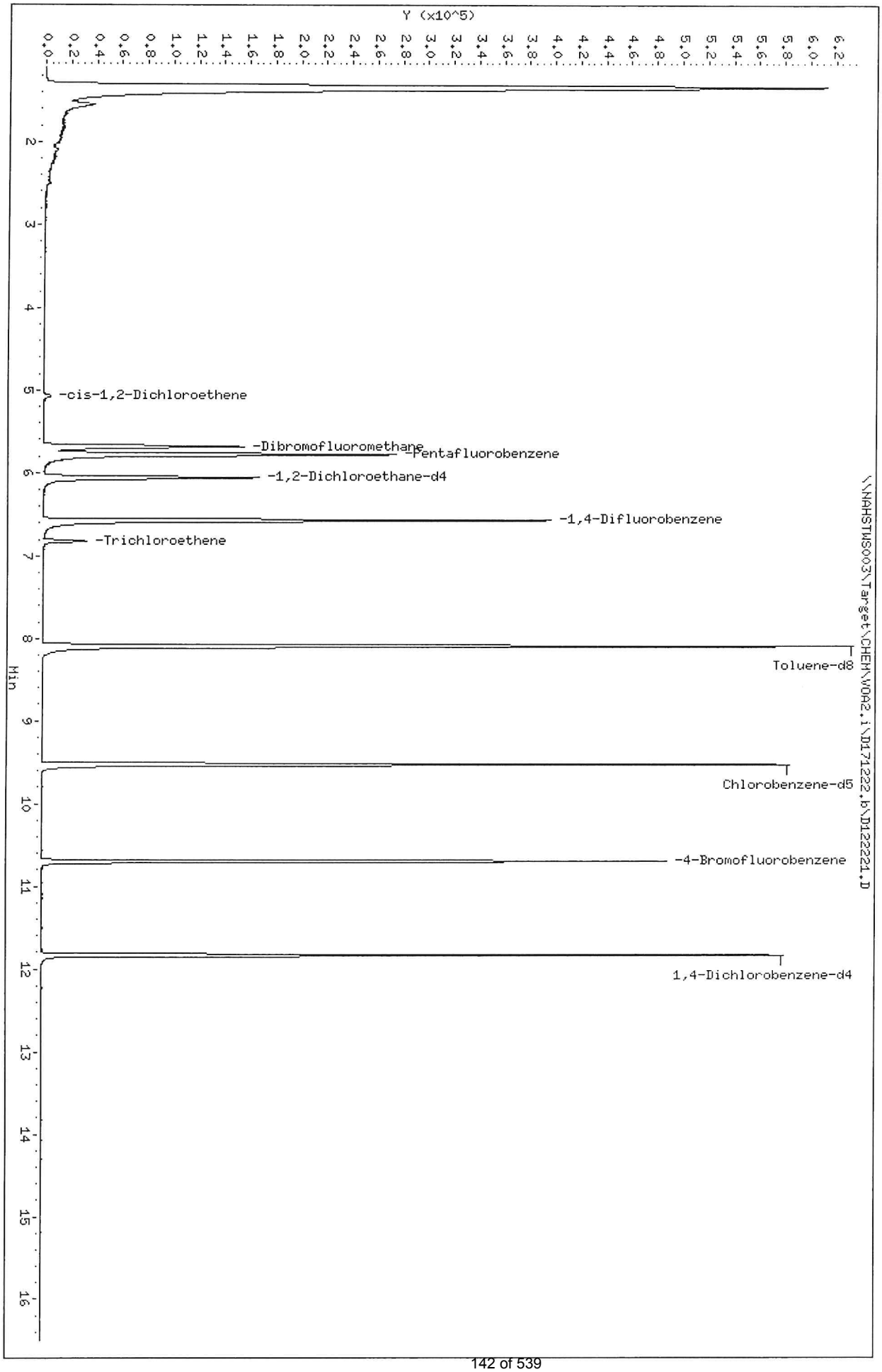
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	271657	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	122279	49.9596	49.95
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	381525	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.062	(1.048)	139267	46.0709	46.07
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	347743	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	445938	48.6377	48.63
$ 69 4-Bromofluorobenzene	95	10.698	10.695	(1.123)	164383	49.0978	49.09
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	153047	50.0000	
27 cis-1,2-Dichloroethene	96	5.073	5.073	(0.878)	3705	1.19880	1.19(aM)
38 Trichloroethene	130	6.816	6.819	(1.038)	13490	4.77377	4.77(a)

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122221.D
Date : 22-DEC-2017 19:54
Client ID: HS17120868-03
Sample Info: HS17120868-03;HS17120868-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122221.D

Date : 22-DEC-2017 19:54

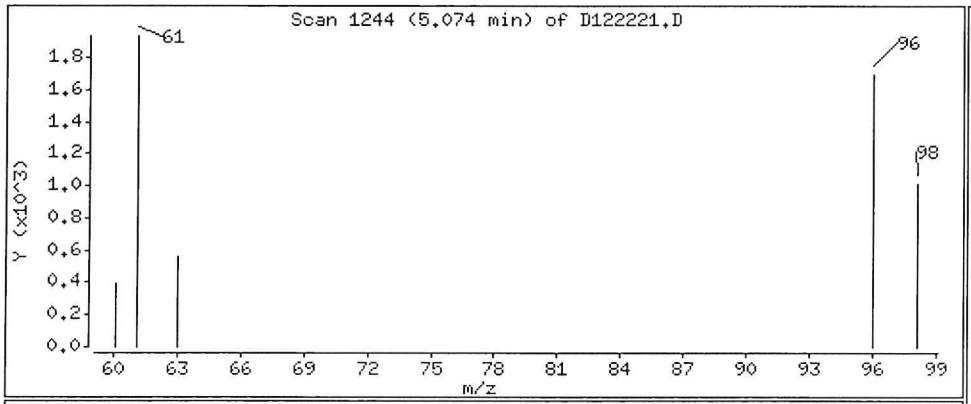
Client ID: HS17120868-03 Instrument: VOA2.i

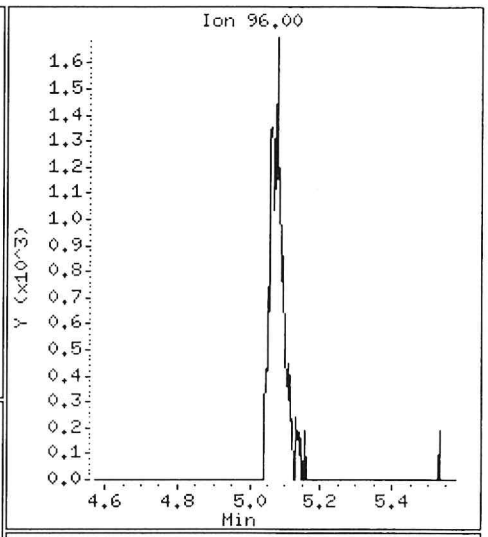
Sample Info: HS17120868-03;HS17120868-03;;;

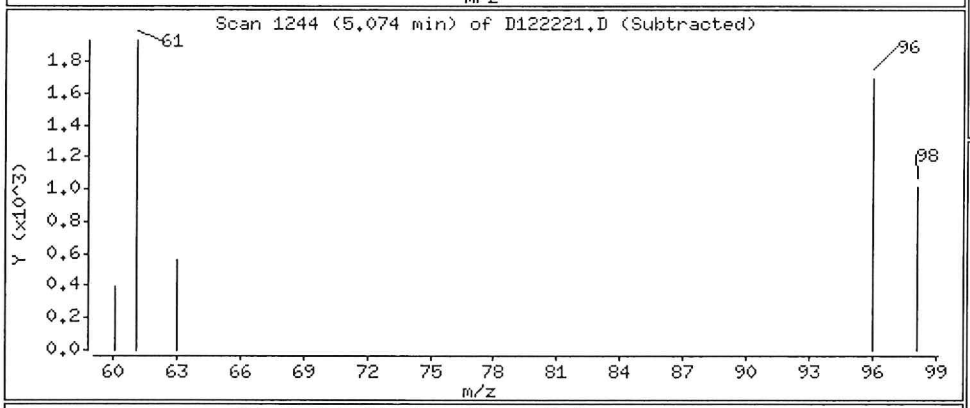
Purge Volume: 5.0 Operator: AP

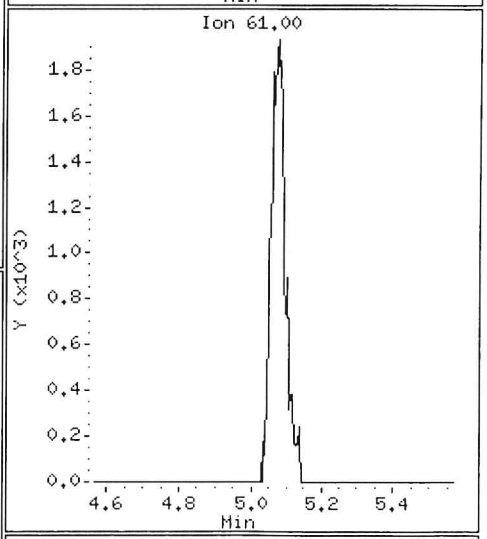
Column phase: DB624 Column diameter: 0.18

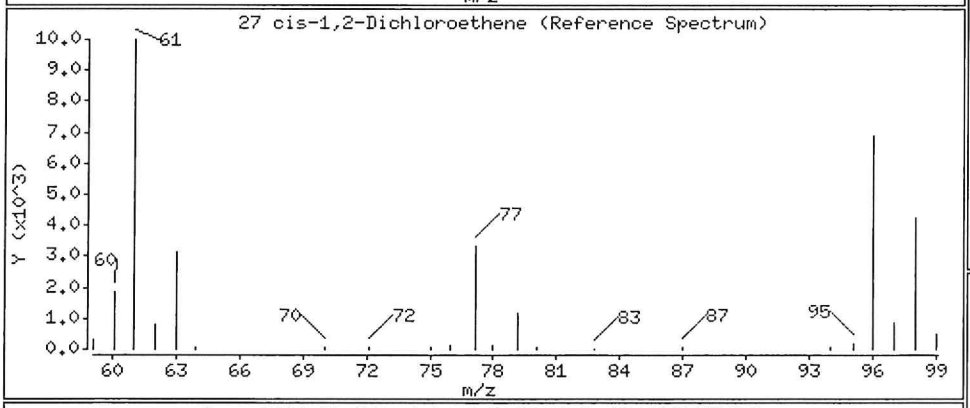
27 cis-1,2-Dichloroethene Concentration: 1.19 ug/l Review Code:

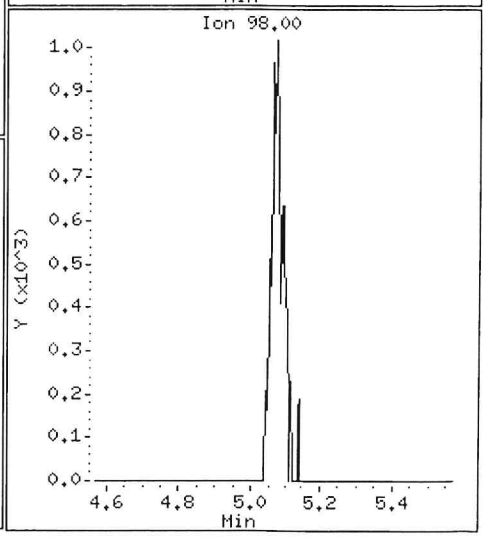


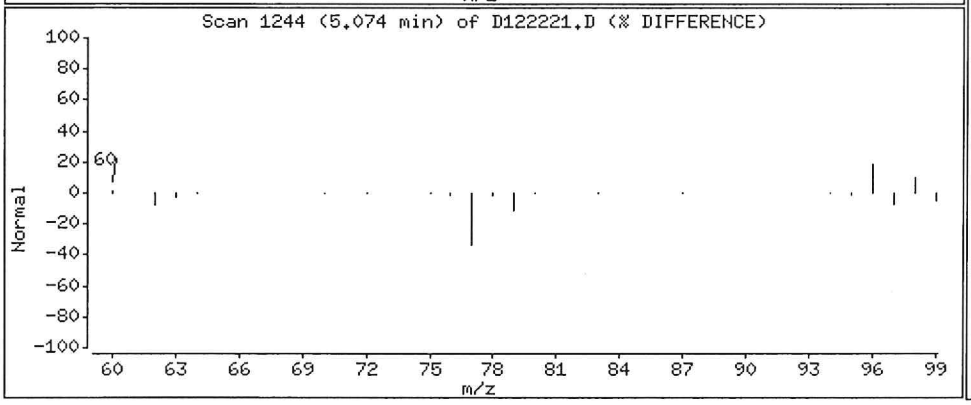












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122221.D

Date : 22-DEC-2017 19:54

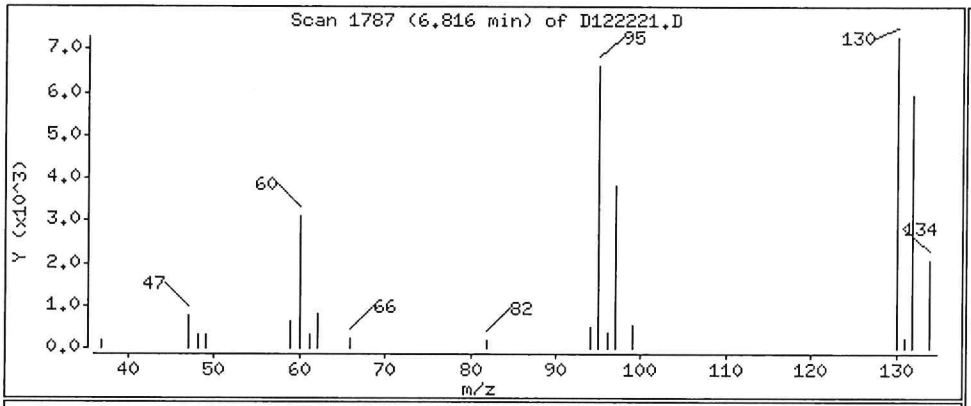
Client ID: HS17120868-03 Instrument: VOA2.i

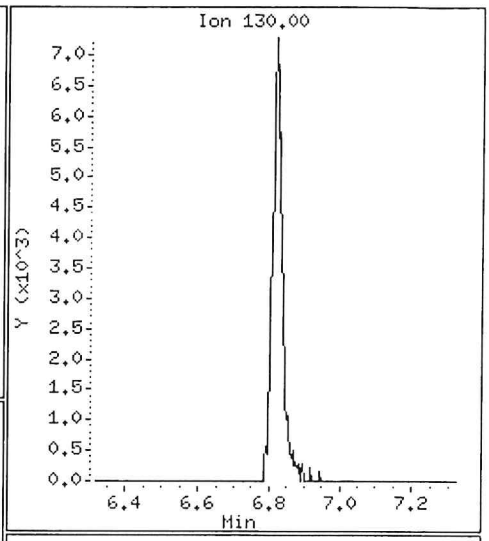
Sample Info: HS17120868-03;HS17120868-03;;;

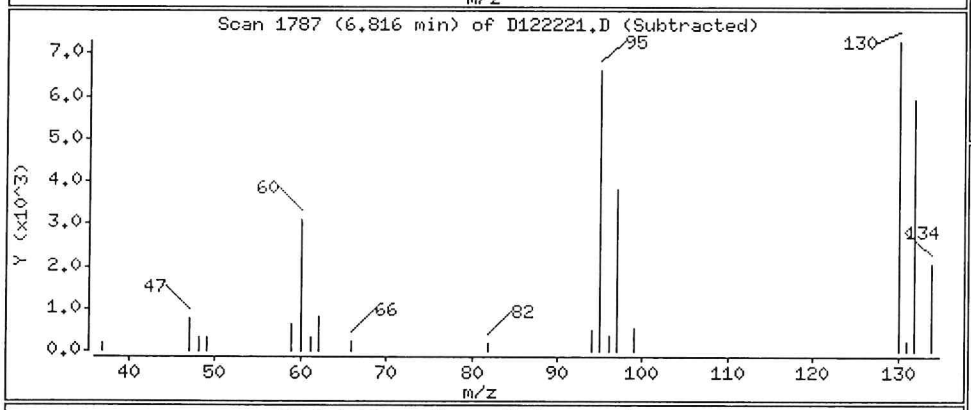
Purge Volume: 5.0 Operator: AP

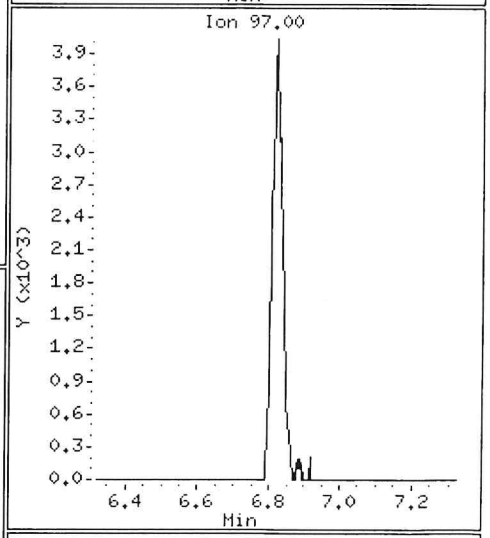
Column phase: DB624 Column diameter: 0.18

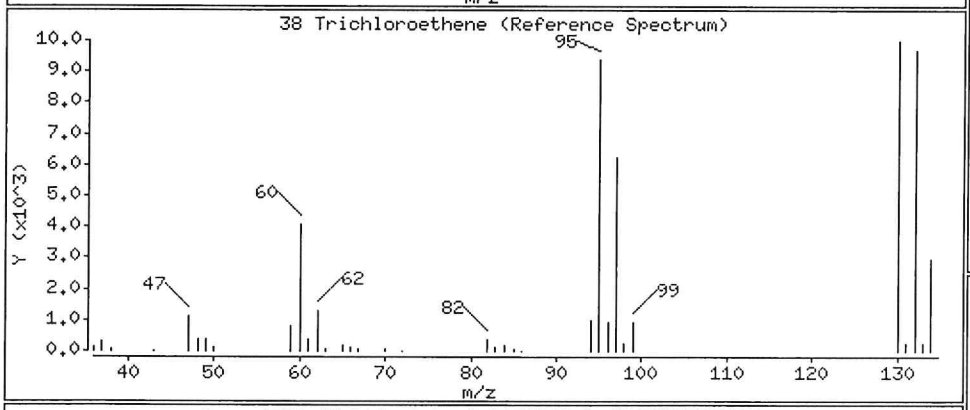
38 Trichloroethene Concentration: 4.77 ug/l Review Code:

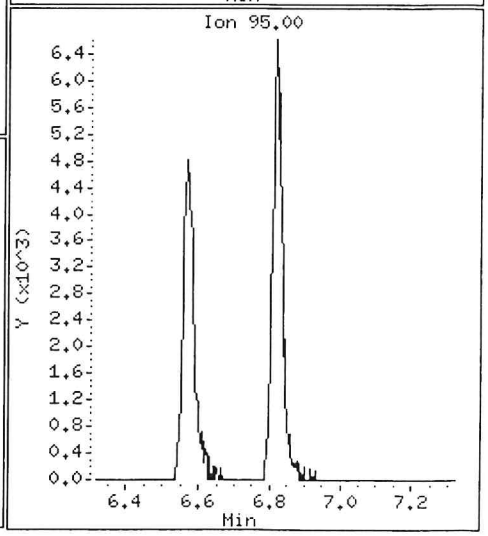


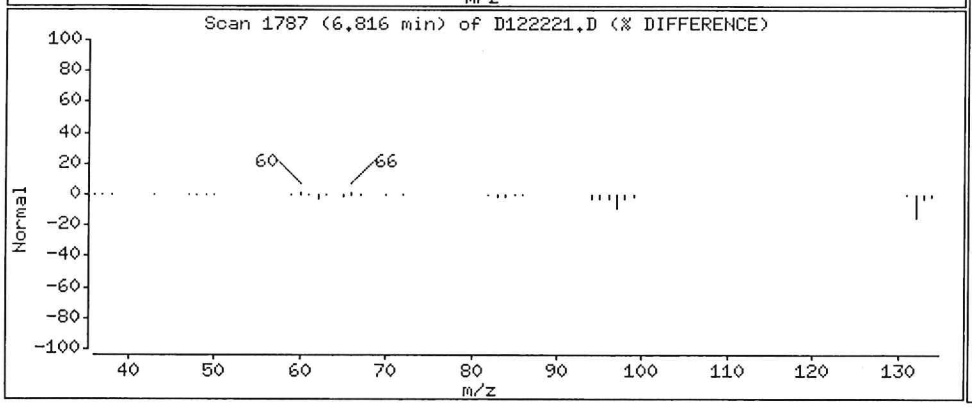












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122222.D
Report Date: 09-Feb-2018 17:46

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122222.D
Lab Smp Id: HS17120868-04 Client Smp ID: HS17120868-04
Inj Date : 22-DEC-2017 20:19
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-04;HS17120868-04;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

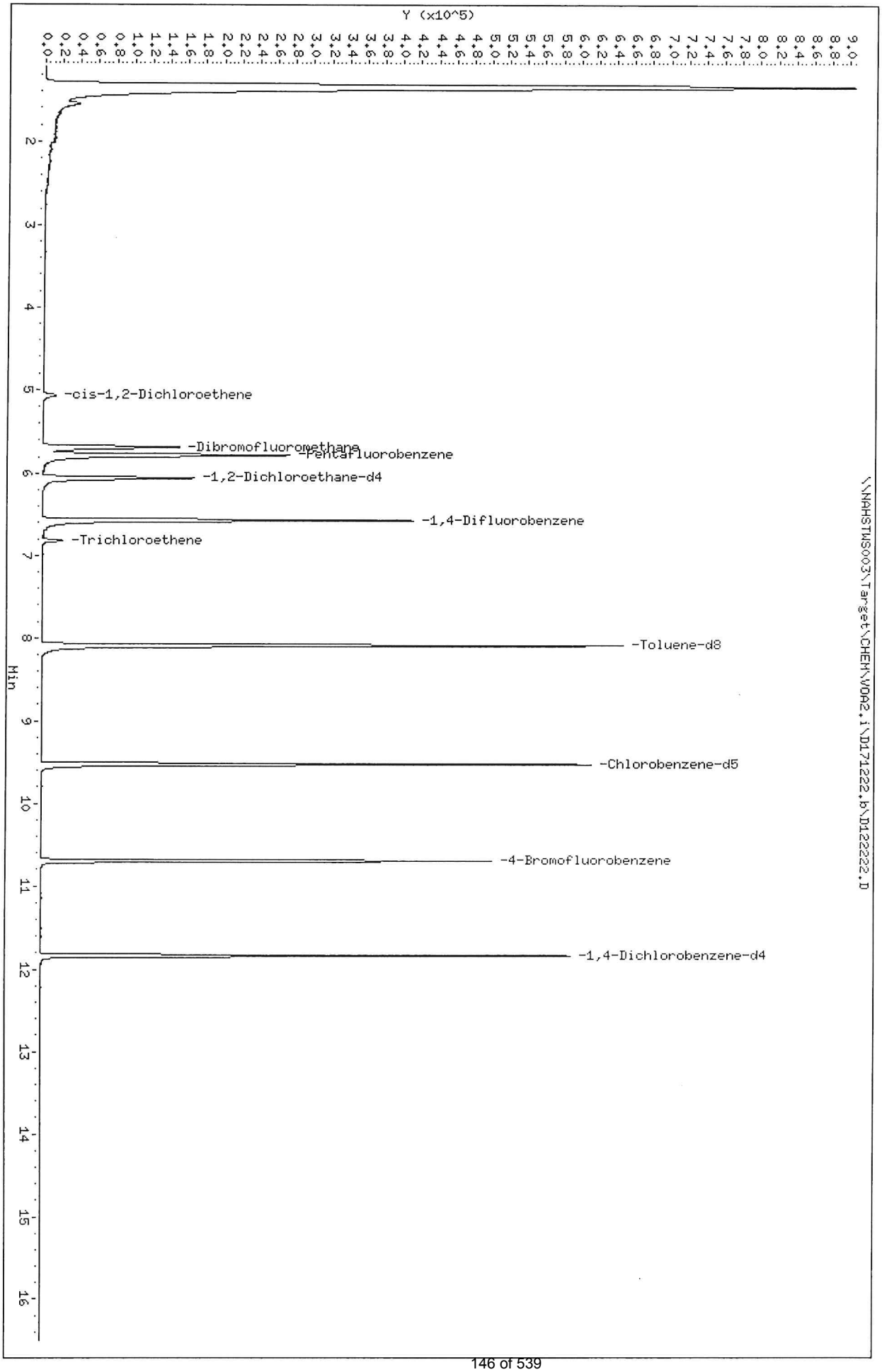
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.782	5.782	(1.000)	273253	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.983)	122627	49.8092	49.80
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	392669	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.062	(1.047)	141338	46.4829	46.48
* 47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	361216	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	460170	48.3180	48.31
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	169851	48.8388	48.83
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	161125	50.0000	
27 cis-1,2-Dichloroethene	96	5.076	5.073	(0.878)	9715	3.12505	3.12(a)
38 Trichloroethene	130	6.819	6.819	(1.038)	9200	3.16325	3.16(a)

QC Flag Legend

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


Y (x10^5)
Min
-cis-1,2-Dichloroethene
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
-Trichloroethene
-Toluene-d8
-Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2,i\D171222,b\D122222.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2,i\D171222,b\D122222.D
Date : 22-DEC-2017 20:19
Client ID: HS17120868-04
Sample Info: HS17120868-04;HS17120868-04;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2,i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122222.D

Date : 22-DEC-2017 20:19

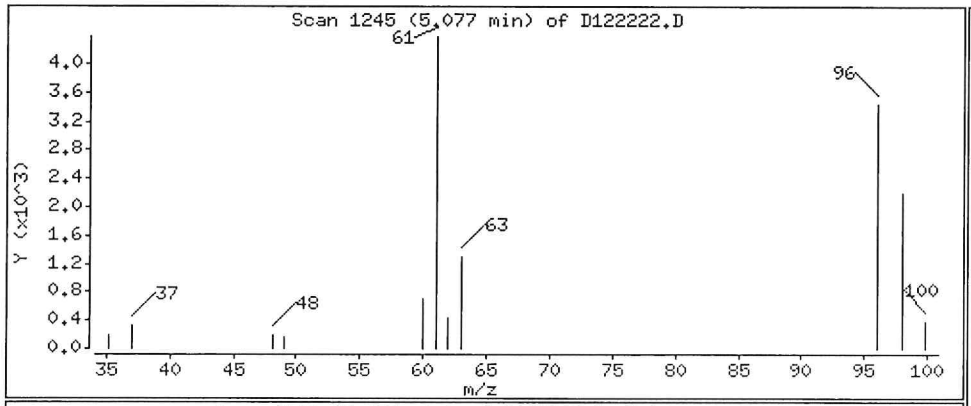
Client ID: HS17120868-04 Instrument: VOA2.i

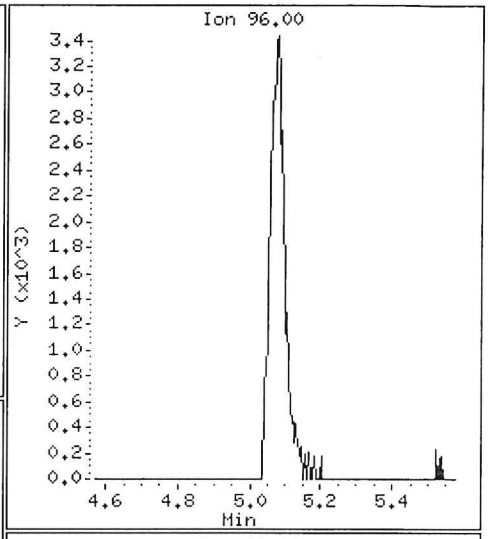
Sample Info: HS17120868-04;HS17120868-04;;;

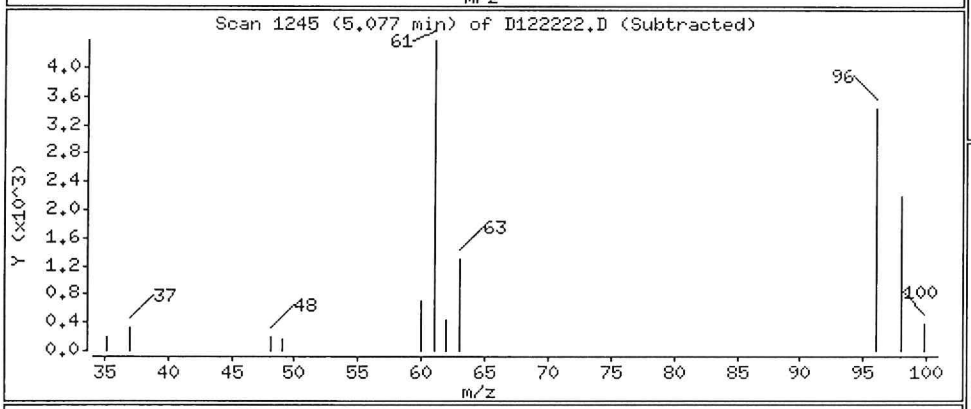
Purge Volume: 5.0 Operator: AP

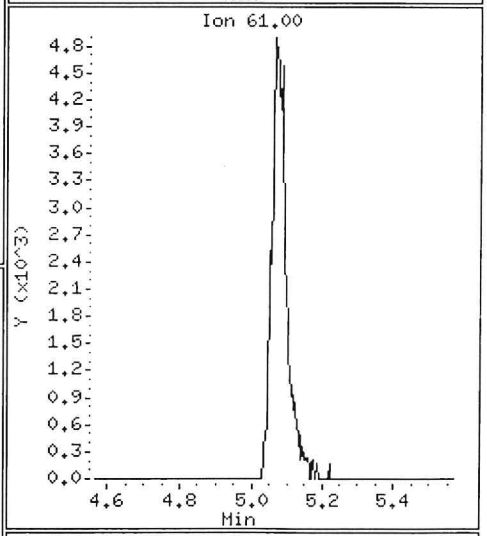
Column phase: DB624 Column diameter: 0.18

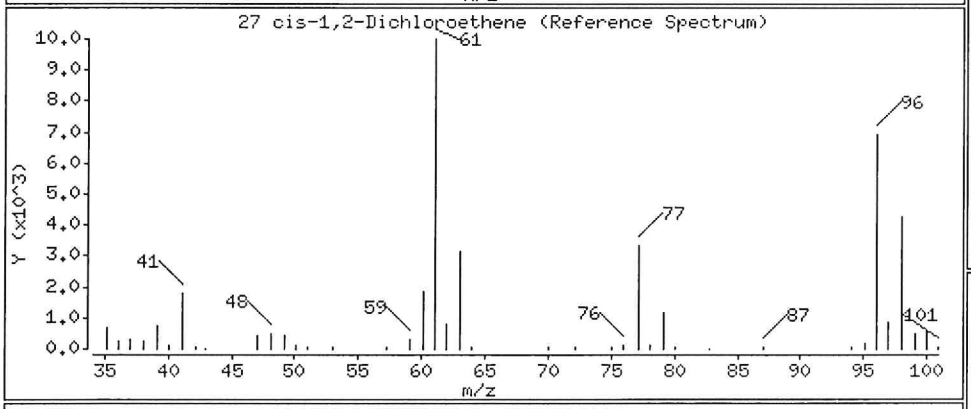
27 cis-1,2-Dichloroethene Concentration: 3.12 ug/l Review Code:

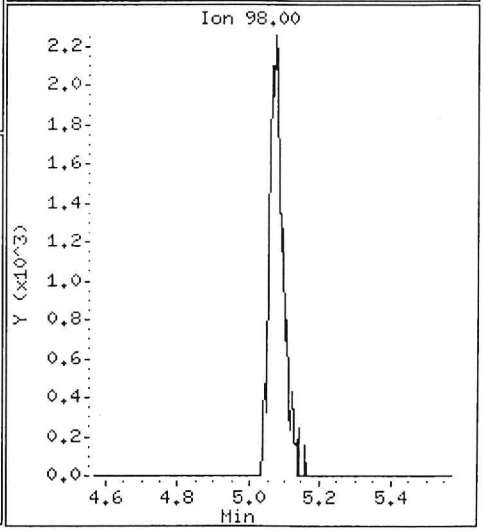


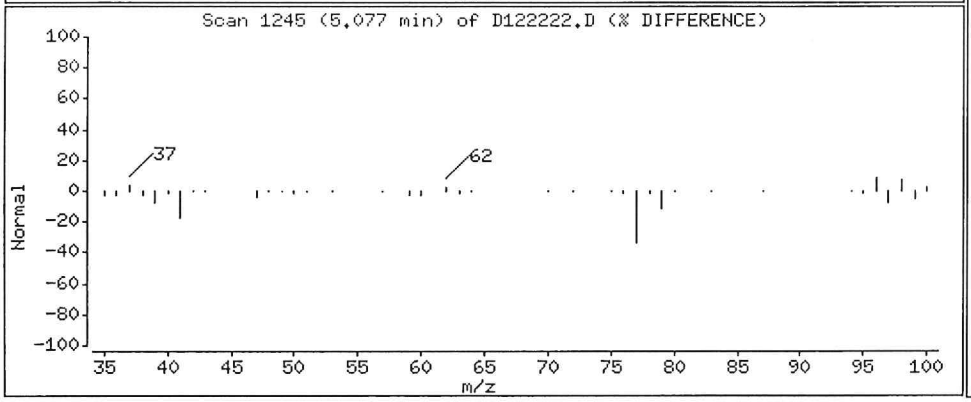












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122222.D

Date : 22-DEC-2017 20:19

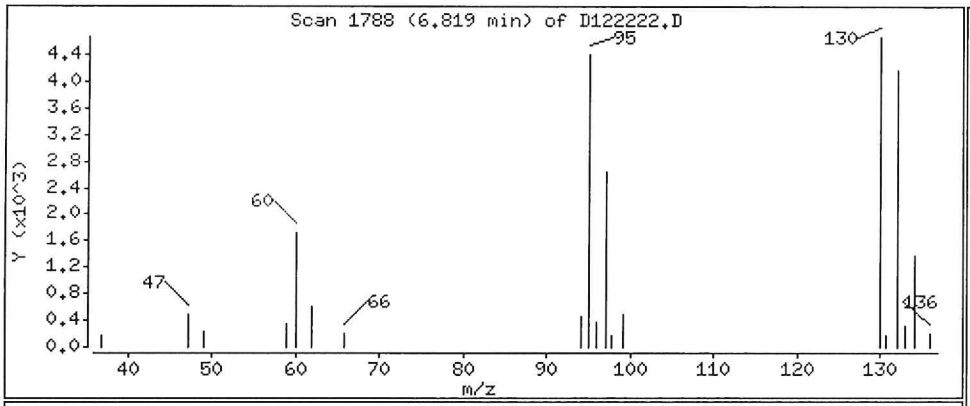
Client ID: HS17120868-04 Instrument: VOA2.i

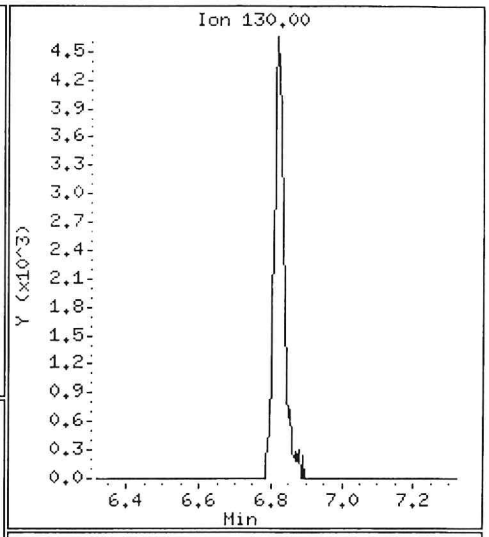
Sample Info: HS17120868-04;HS17120868-04;;;

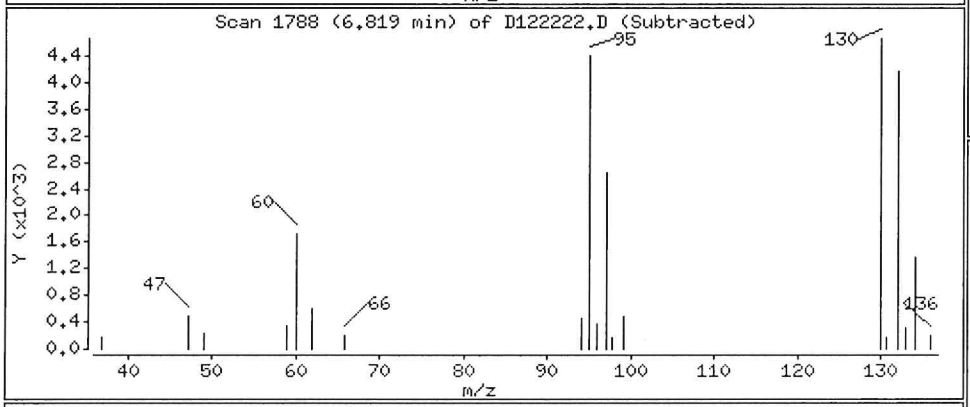
Purge Volume: 5.0 Operator: AP

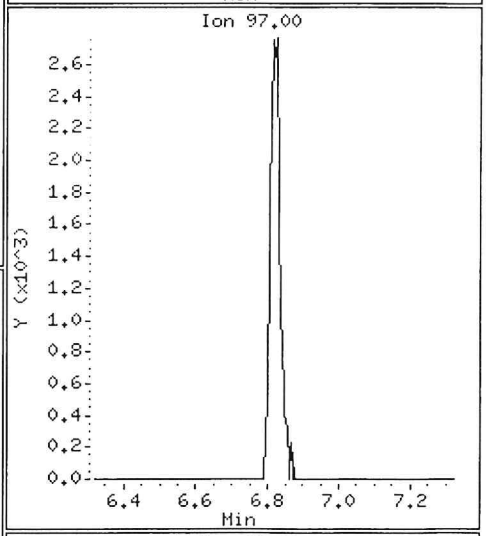
Column phase: DB624 Column diameter: 0.18

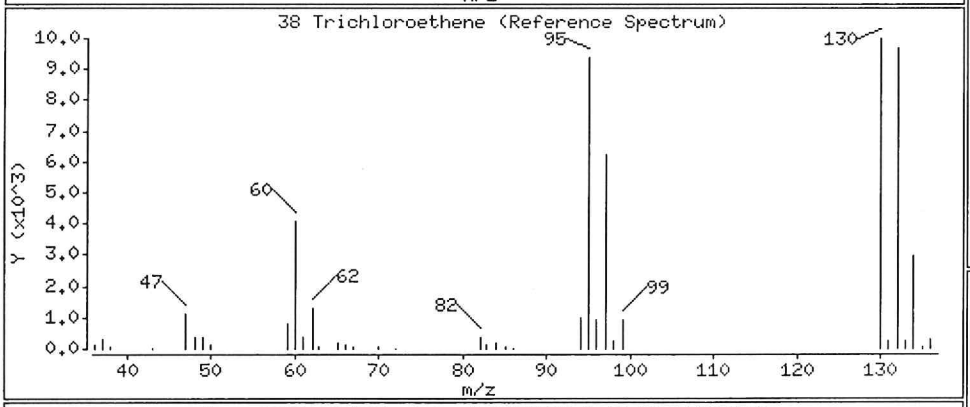
38 Trichloroethene Concentration: 3.16 ug/l Review Code:

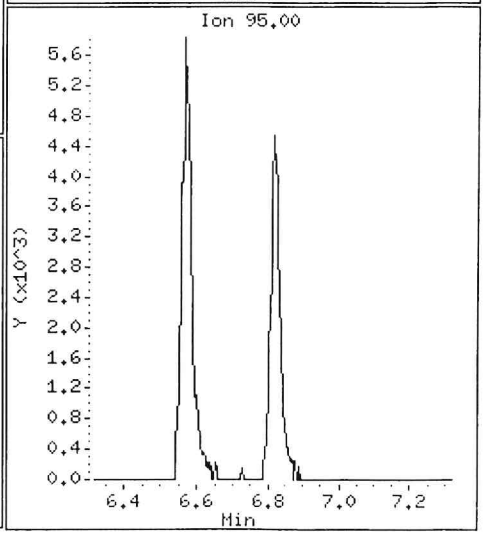


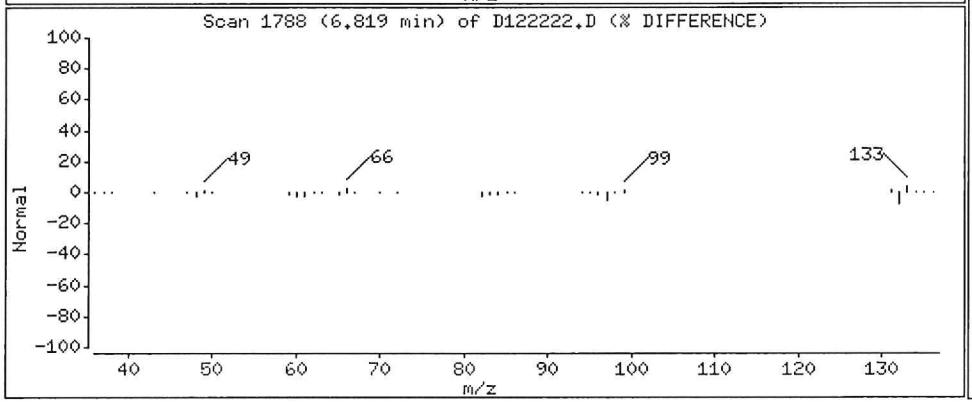












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122223.D
Report Date: 09-Feb-2018 17:46

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122223.D
Lab Smp Id: HS17120868-05 Client Smp ID: HS17120868-05
Inj Date : 22-DEC-2017 20:43
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-05;HS17120868-05;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 20
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

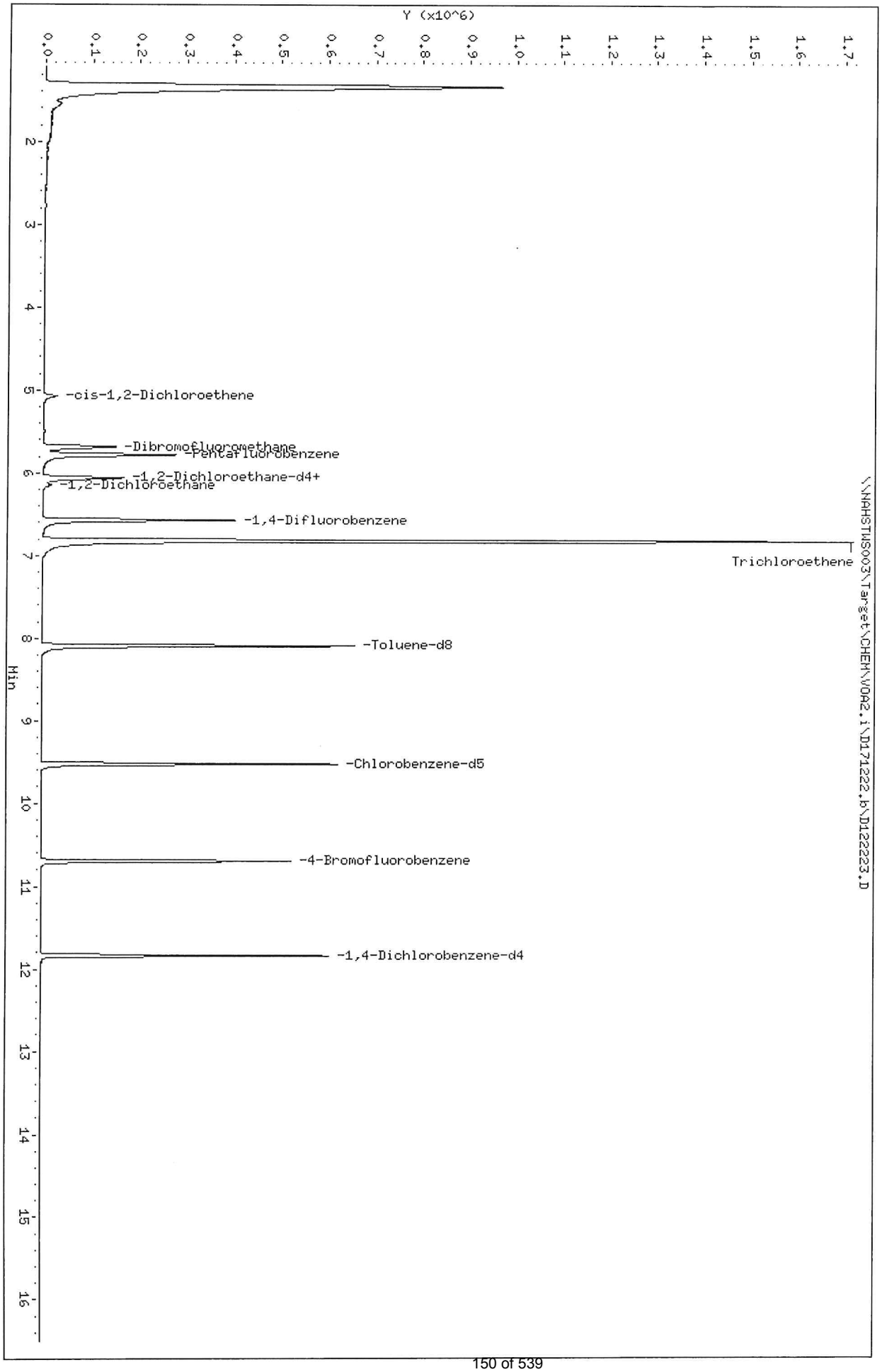
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	272853	50.0000	
$ 30 Dibromofluoromethane	113	5.689	5.686	(0.984)	123720	50.3268	50.32
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	393525	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.062	(1.048)	143593	47.2938	47.29
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	365420	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	456064	47.3359	47.33
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	171326	48.6961	48.69
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	164680	50.0000	
33 1,2-Dichloroethane	62	6.145	6.148	(0.935)	14202	3.99547	3.99(aM)
37 Benzene	78	6.087	6.094	(0.926)	3885	0.37521	0.37(a)
27 cis-1,2-Dichloroethene	96	5.070	5.073	(0.877)	16862	5.43200	5.43
38 Trichloroethene	130	6.819	6.819	(1.038)	709370	243.373	243.37(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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122223.D
Date : 22-DEC-2017 20:43
Client ID: HS17120868-05
Sample Info: HS17120868-05;HS17120868-05;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^6)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7
-cis-1,2-Dichloroethene
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4+
-1,2-Dichloroethane
-1,4-Difluorobenzene
Trichloroethene
-Toluene-d8
-Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122223.D
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122223.D

Date : 22-DEC-2017 20:43

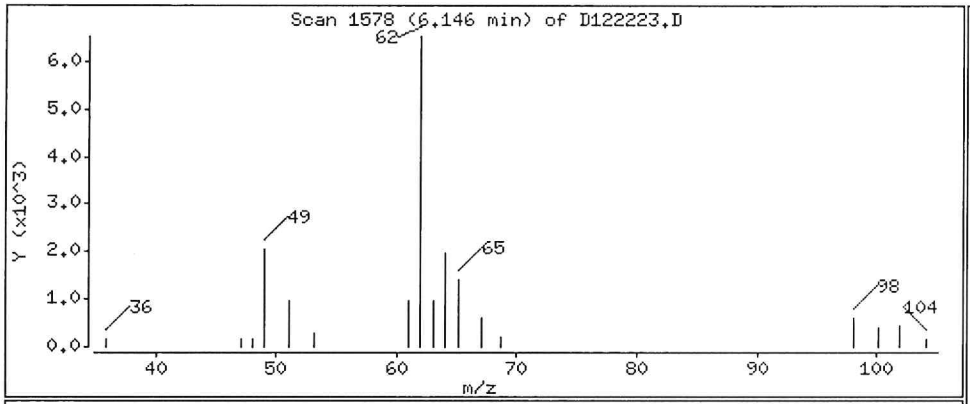
Client ID: HS17120868-05 Instrument: VOA2.i

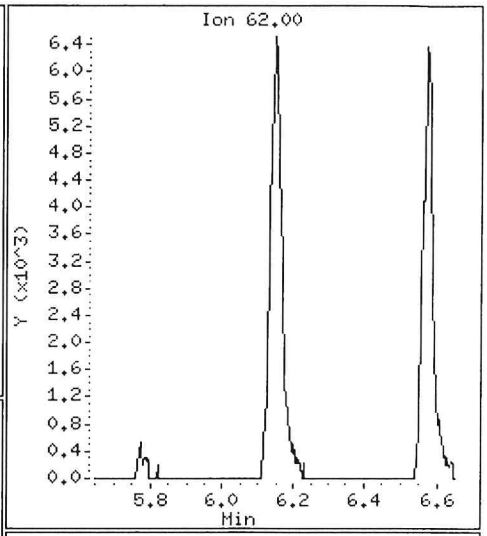
Sample Info: HS17120868-05;HS17120868-05;;;

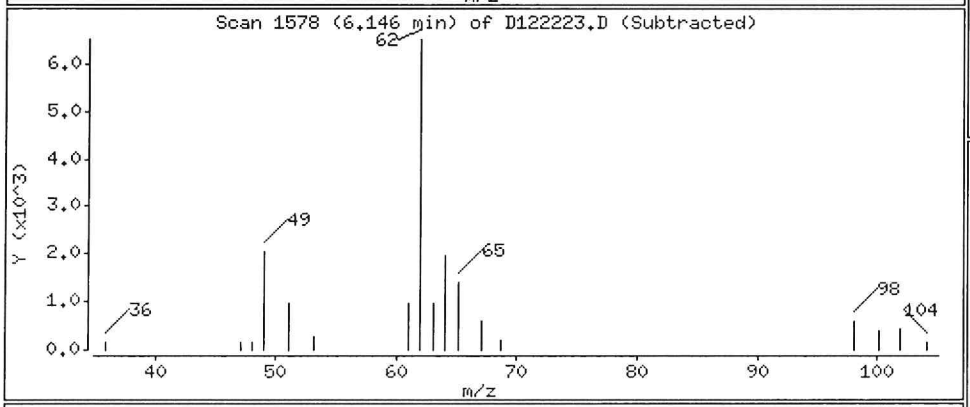
Purge Volume: 5.0 Operator: AP

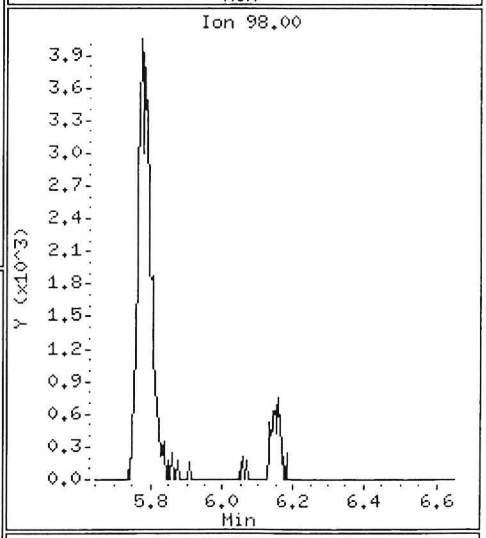
Column phase: DB624 Column diameter: 0.18

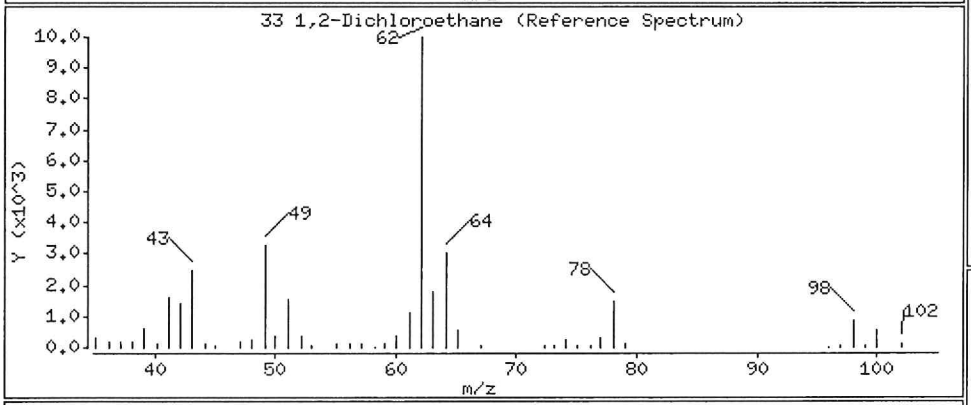
33 1,2-Dichloroethane Concentration: 3.99 ug/l Review Code:

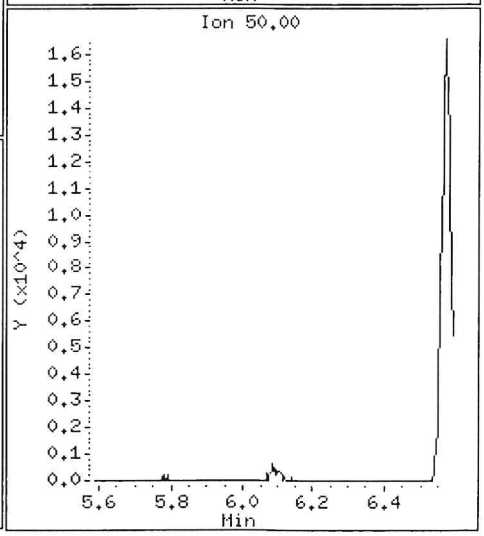


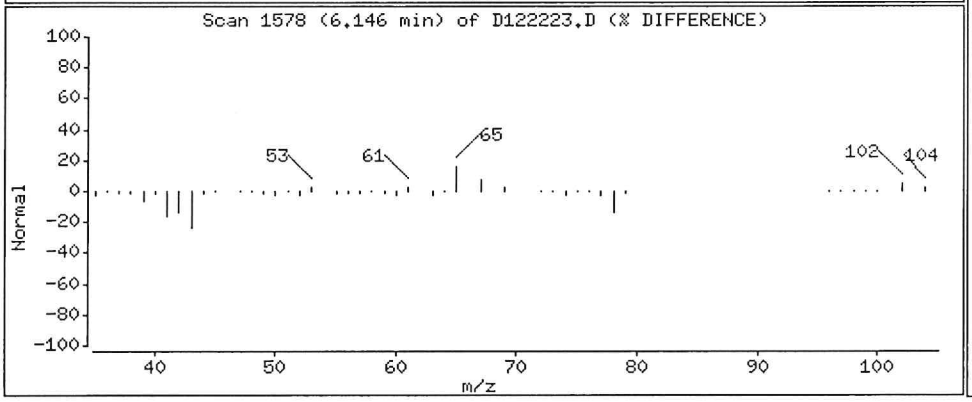












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122223.D

Date : 22-DEC-2017 20:43

Client ID: HS17120868-05

Instrument: VOA2.i

Sample Info: HS17120868-05;HS17120868-05;;;

Purge Volume: 5.0

Operator: AP

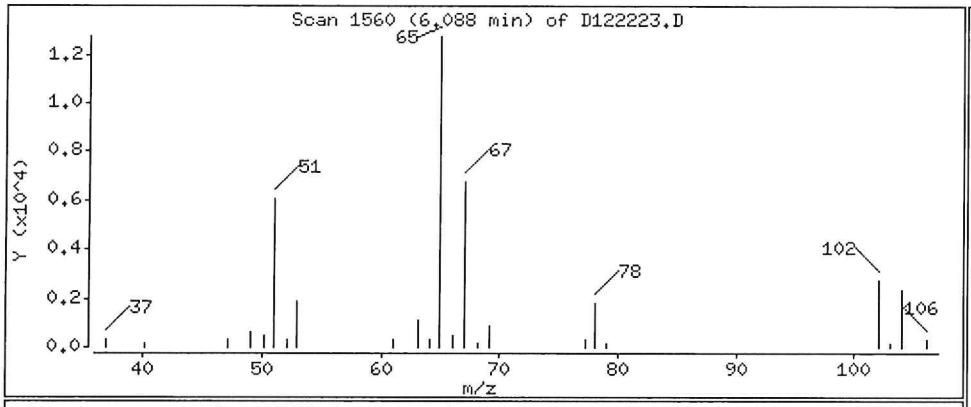
Column phase: DB624

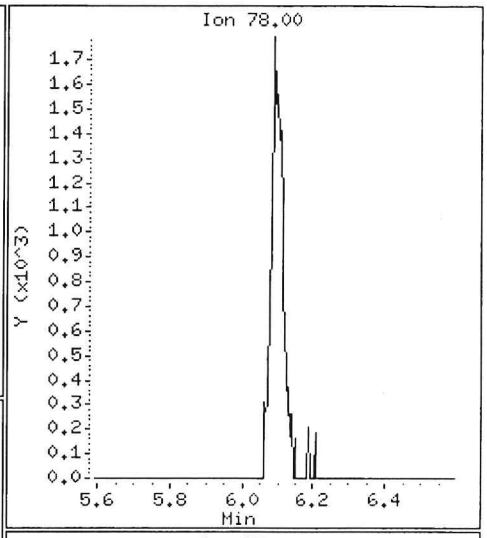
Column diameter: 0.18

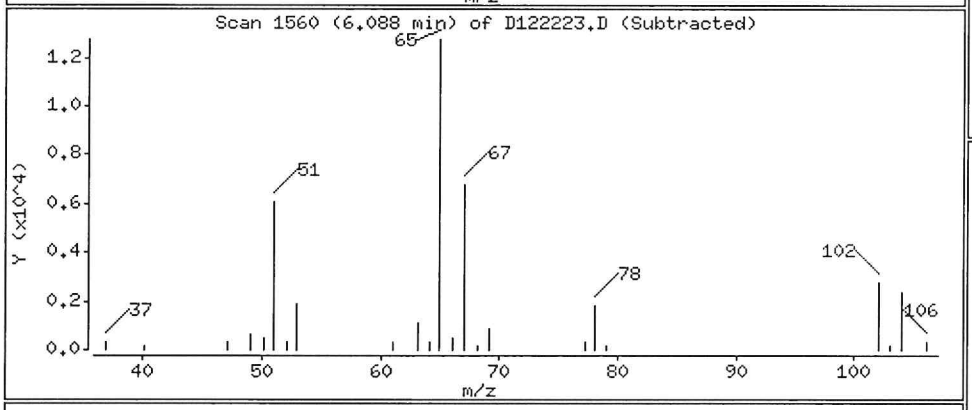
37 Benzene

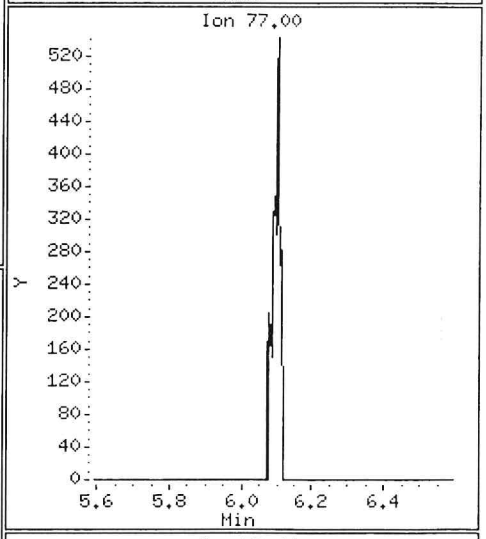
Concentration: 0.37 ug/l

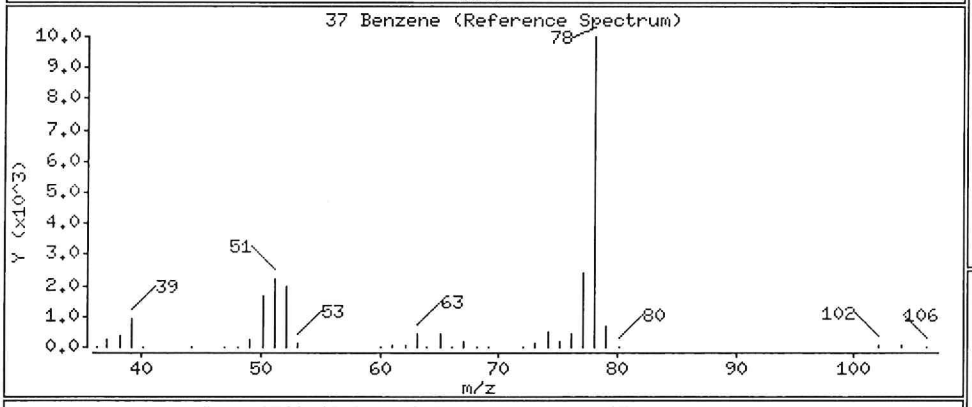
Review Code:

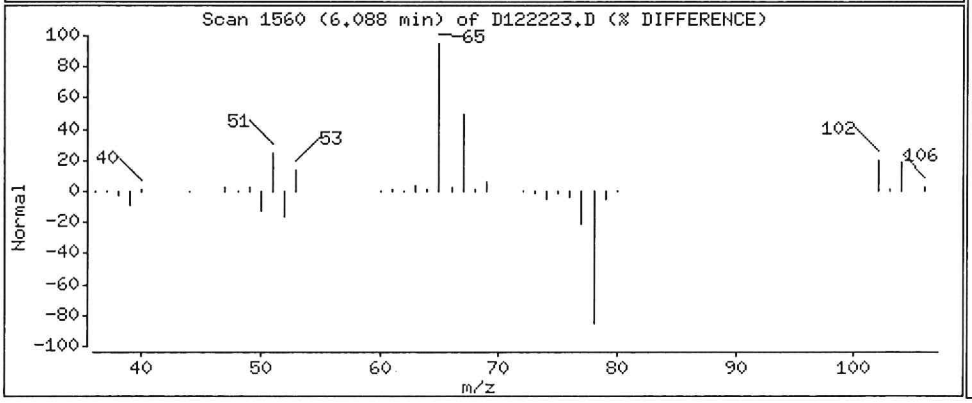


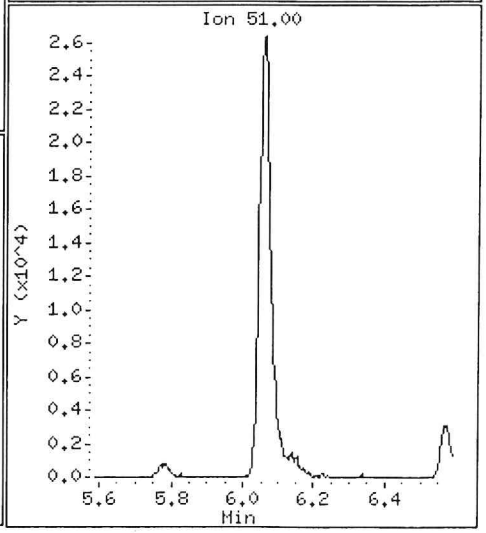












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122223.D

Date : 22-DEC-2017 20:43

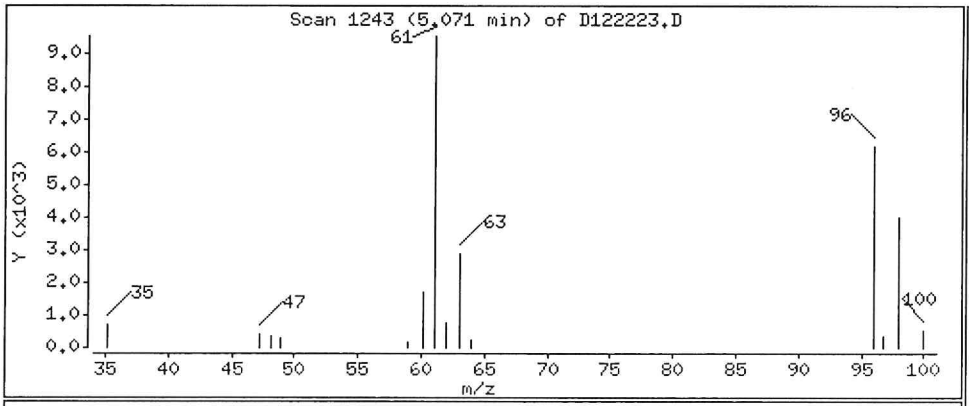
Client ID: HS17120868-05 Instrument: VOA2.i

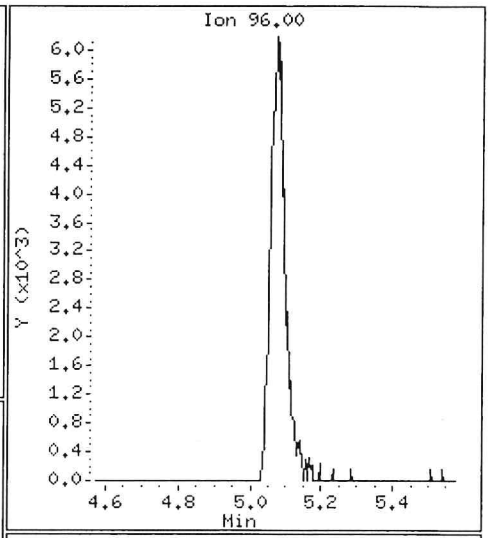
Sample Info: HS17120868-05;HS17120868-05;;;

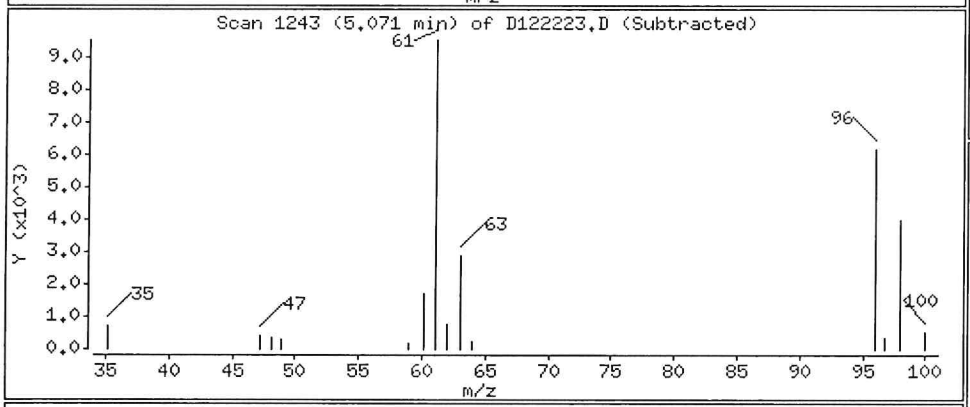
Purge Volume: 5.0 Operator: AP

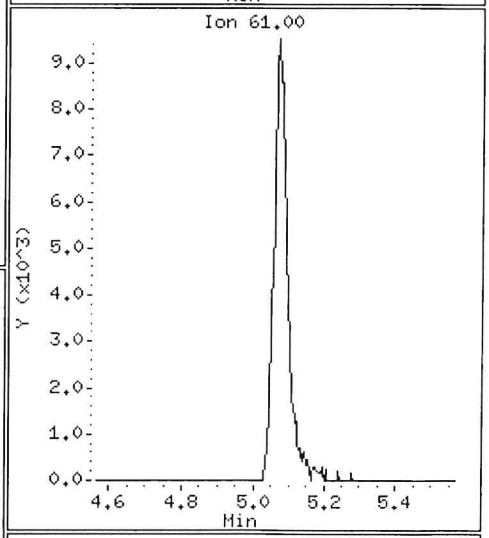
Column phase: DB624 Column diameter: 0.18

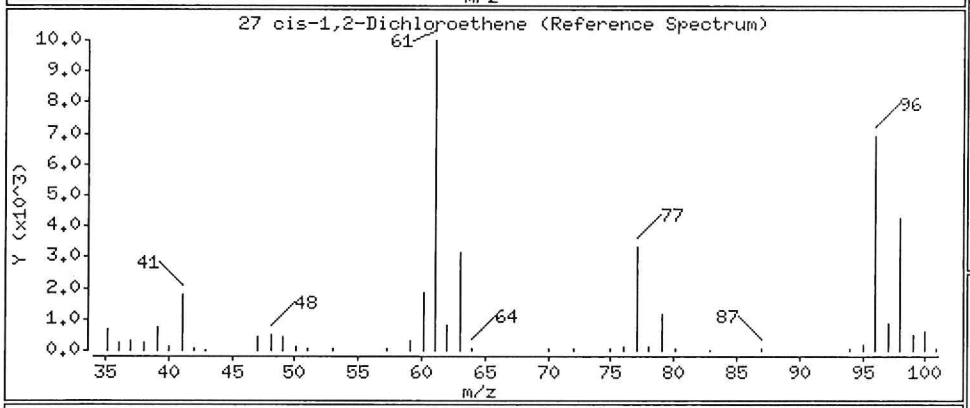
27 cis-1,2-Dichloroethene Concentration: 5.43 ug/l Review Code:

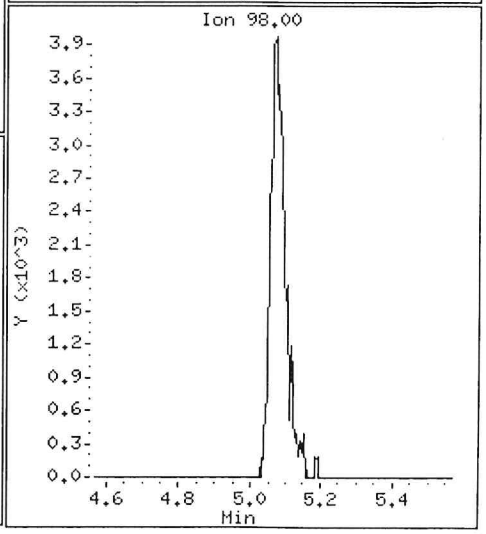


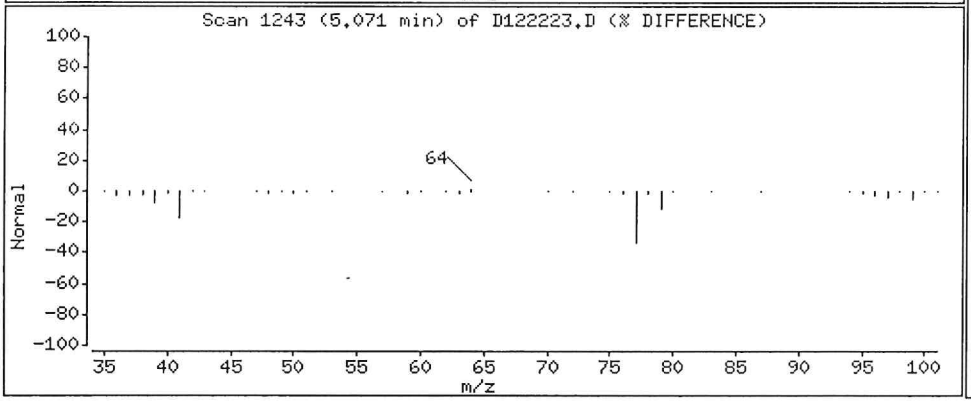












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Date : 22-DEC-2017 20:43

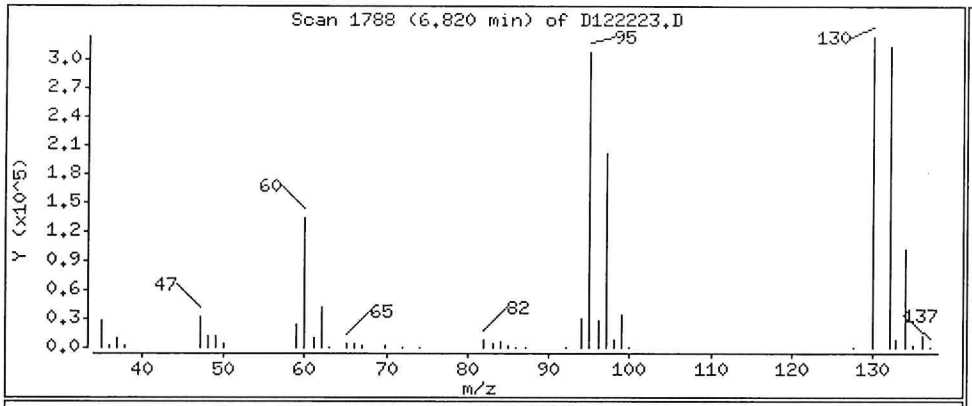
Client ID: HS17120868-05 Instrument: VOA2.i

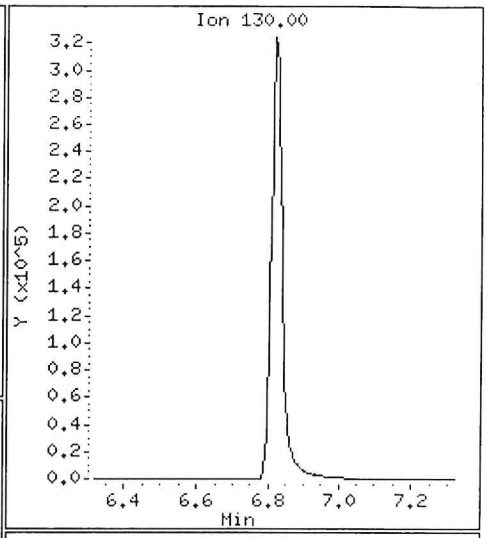
Sample Info: HS17120868-05;HS17120868-05;;;

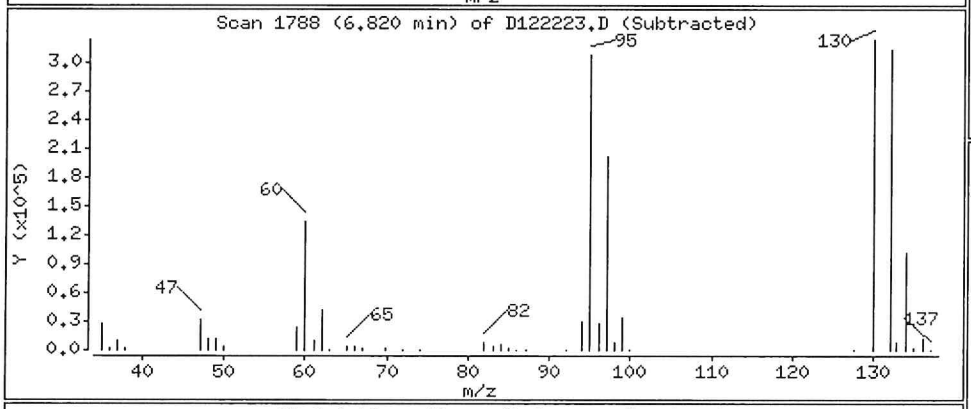
Purge Volume: 5.0 Operator: AP

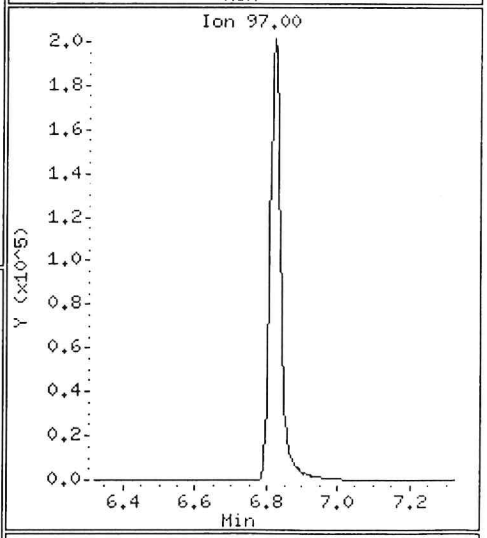
Column phase: DB624 Column diameter: 0.18

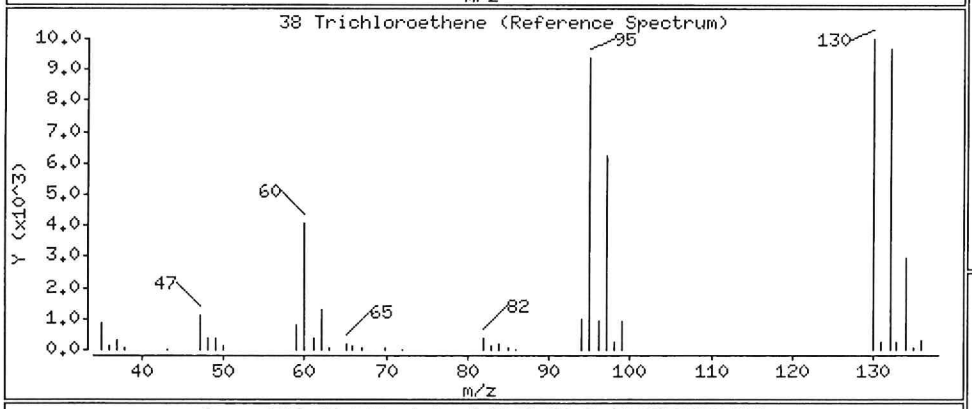
38 Trichloroethene Concentration: 243.37 ug/l Review Code:

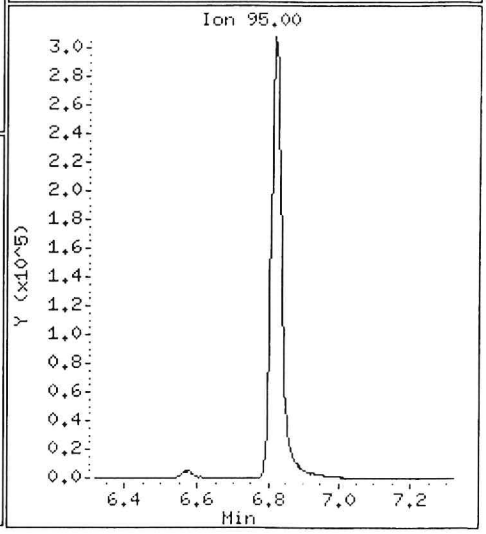


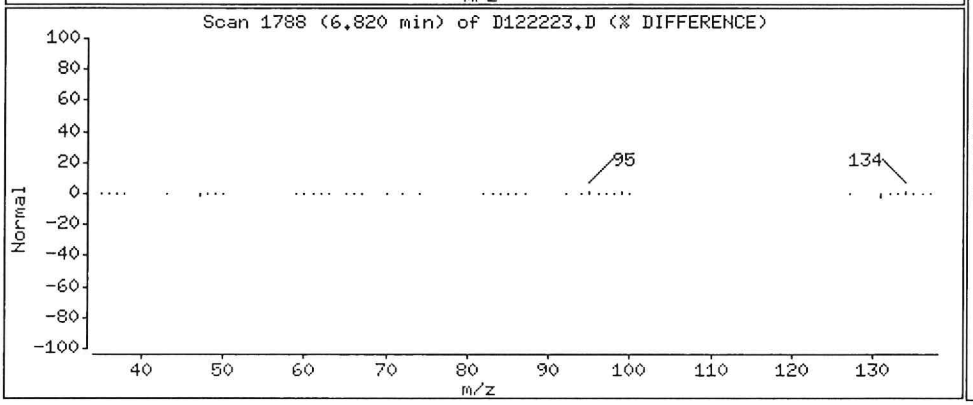












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122224.D
Report Date: 09-Feb-2018 17:46

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122224.D
Lab Smp Id: HS17120868-06 Client Smp ID: HS17120868-06
Inj Date : 22-DEC-2017 21:07
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-06;HS17120868-06;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 21
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

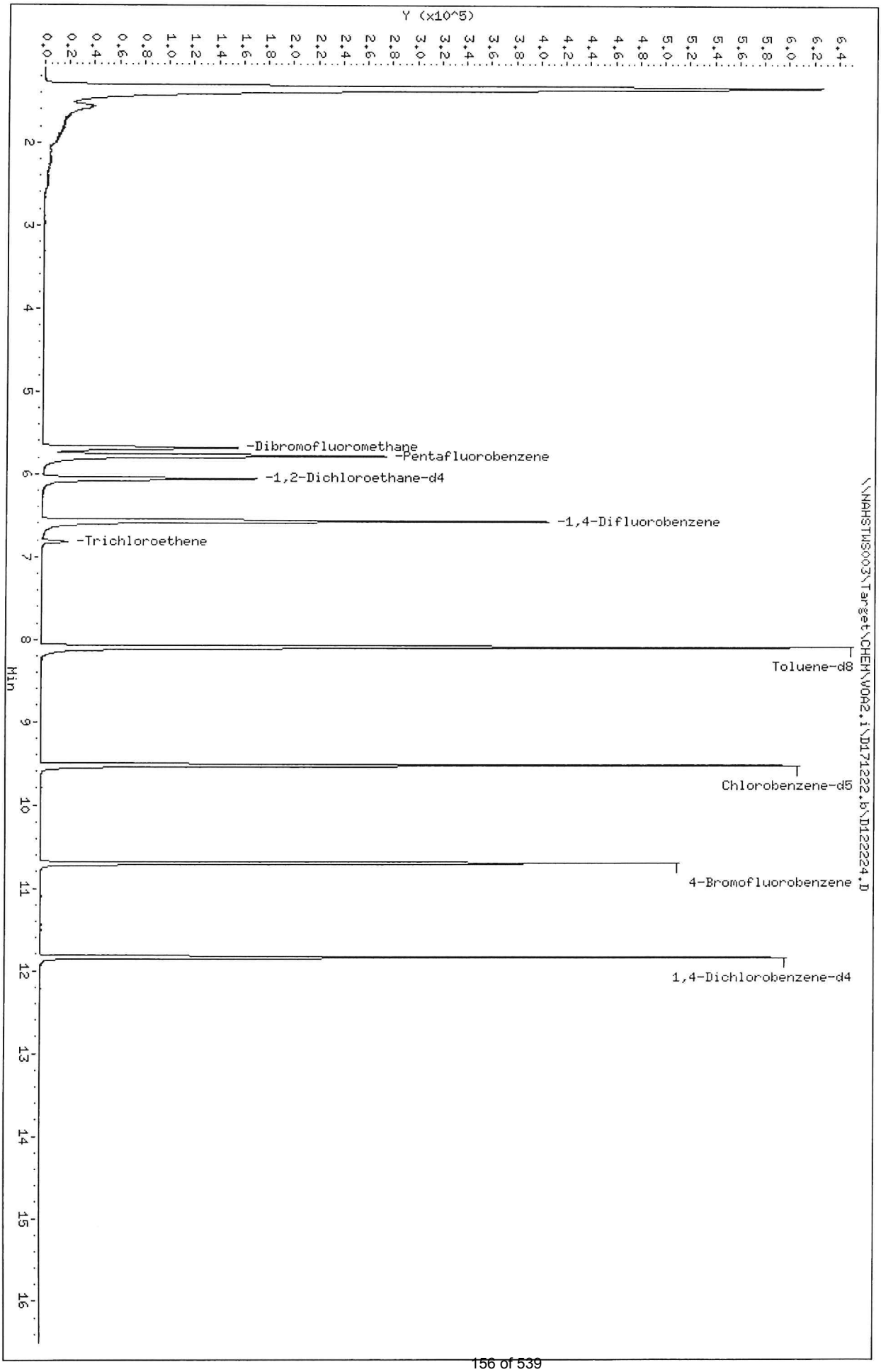
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.782	5.782	(1.000)	275271	50.0000	
$ 30 Dibromofluoromethane	113	5.689	5.686	(0.984)	124355	50.1408	50.14
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	393934	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	142682	46.5809	46.58
* 47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	359383	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	460656	48.6157	48.61
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	169629	49.0237	49.02
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	160646	50.0000	
38 Trichloroethene	130	6.825	6.819	(1.039)	7789	2.66950	2.66(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 22-DEC-2017 21:07
Client ID: HS17120868-06
Sample Info: HS17120868-06;HS17120868-06;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
-Trichloroethene
Toluene-d8
Chlorobenzene-d5
4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122224.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122224.D

Date : 22-DEC-2017 21:07

Client ID: HS17120868-06

Instrument: VOA2.i

Sample Info: HS17120868-06;HS17120868-06;;;

Purge Volume: 5.0

Operator: AP

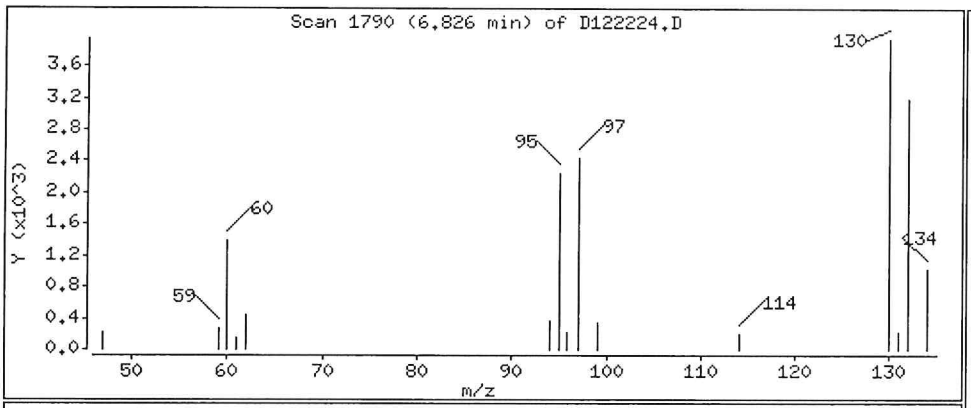
Column phase: DB624

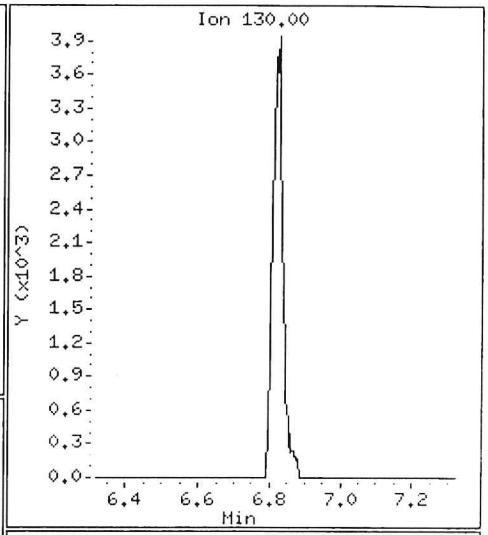
Column diameter: 0.18

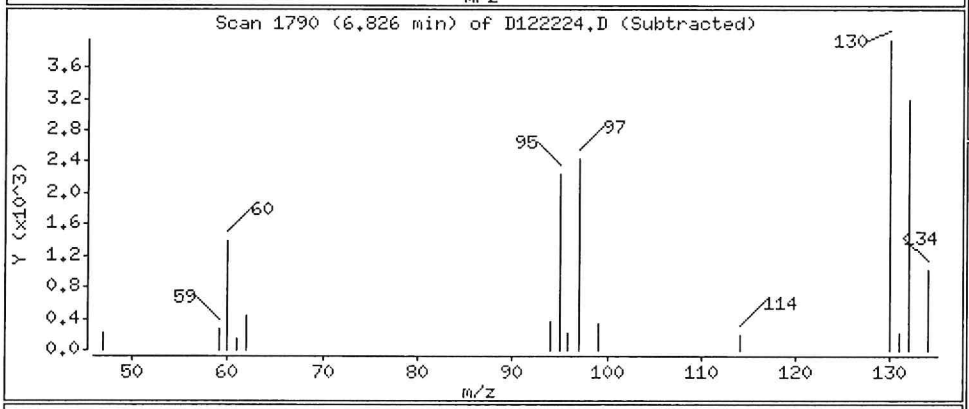
38 Trichloroethene

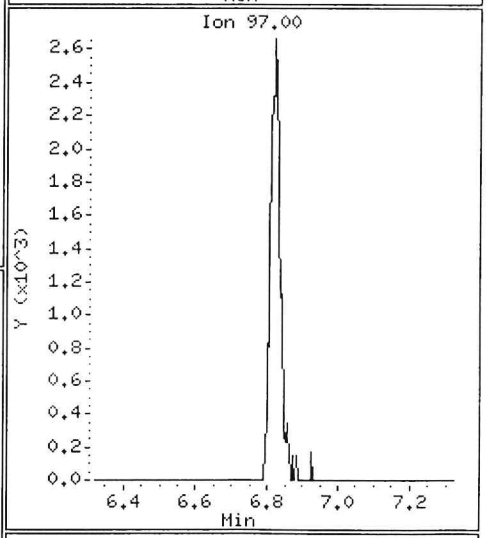
Concentration: 2.66 ug/l

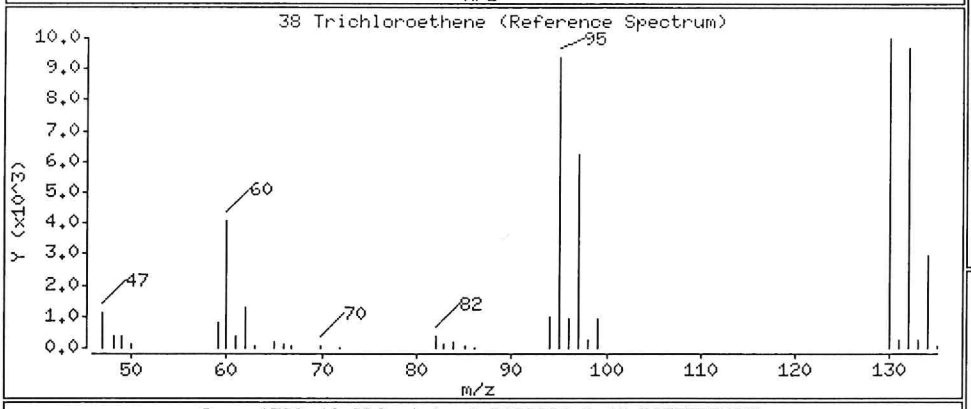
Review Code:

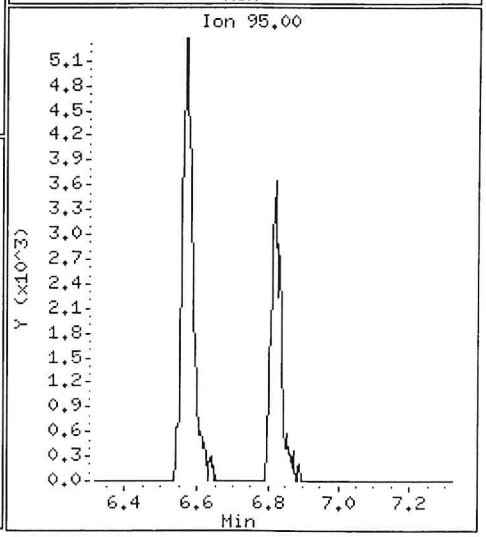


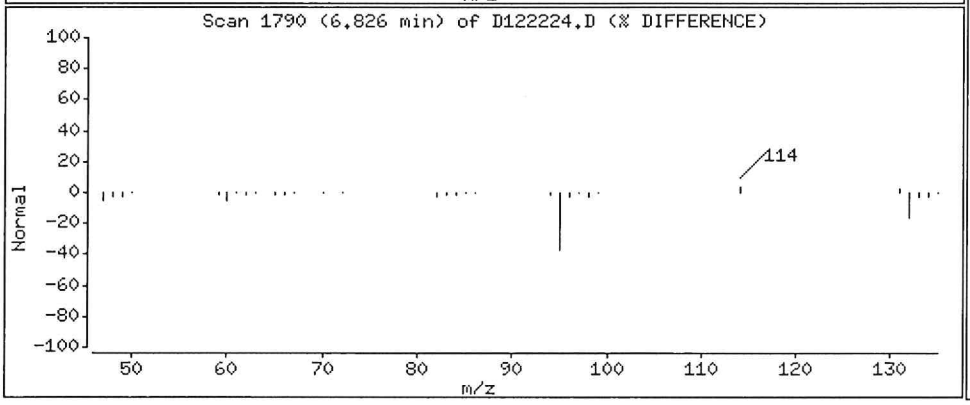












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122225.D
Report Date: 09-Feb-2018 17:46

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122225.D
Lab Smp Id: HS17120868-07 Client Smp ID: HS17120868-07
Inj Date : 22-DEC-2017 21:32
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-07;HS17120868-07;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 22
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

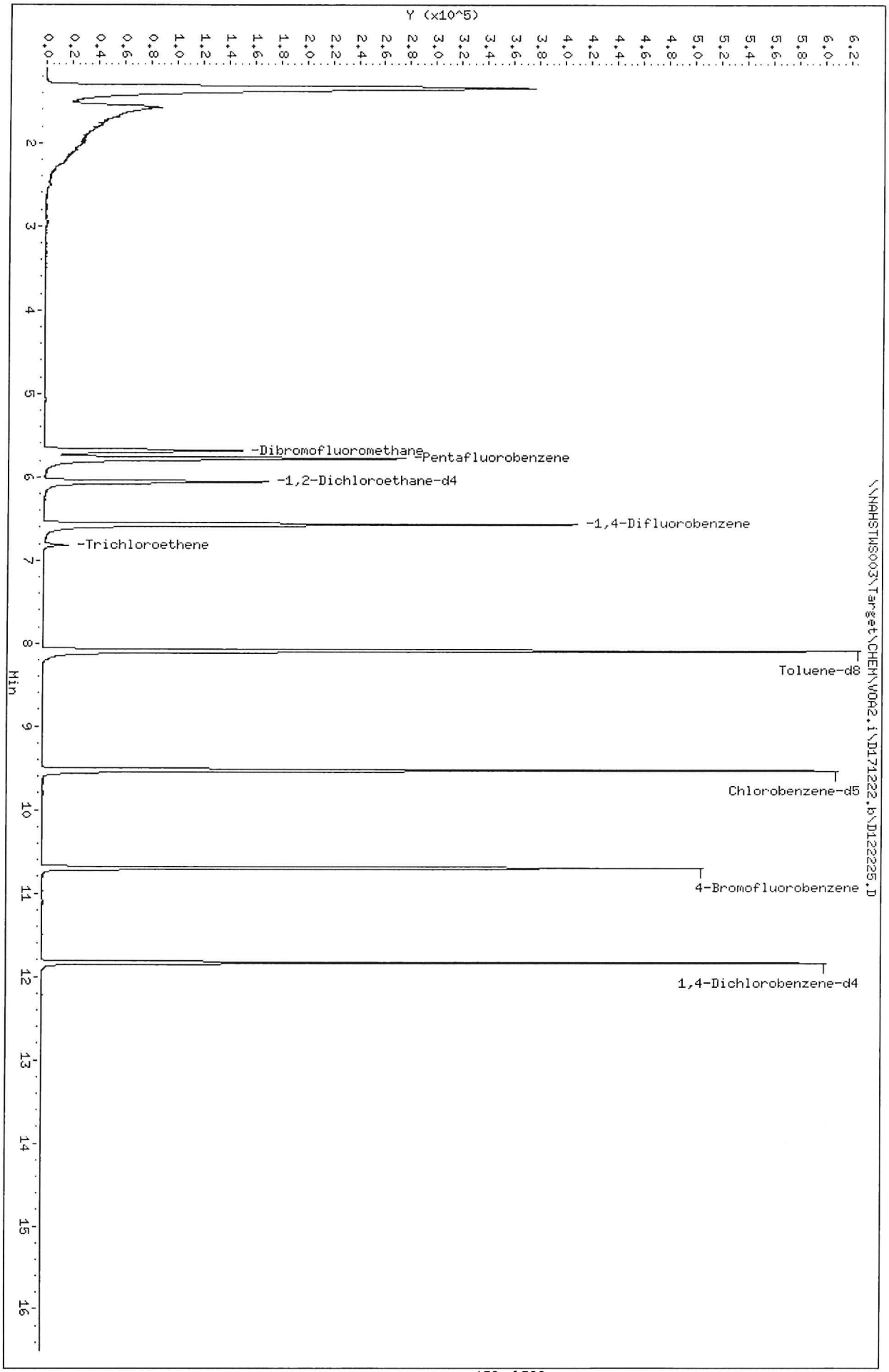
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.782	(1.000)	275037	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	122755	49.5378	49.53
* 36 1,4-Difluorobenzene	114	6.568	6.572	(1.000)	388957	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.062	(1.048)	140928	46.0474	46.04
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	356519	50.0000	
$ 48 Toluene-d8	98	8.089	8.093	(0.849)	452175	48.1040	48.10
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	169571	49.4006	49.40
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	163361	50.0000	
38 Trichloroethene	130	6.822	6.819	(1.039)	7083	2.45860	2.45(a)

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122225.D
Date : 22-DEC-2017 21:32
Client ID: HS17120868-07
Sample Info: HS17120868-07;HS17120868-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122225.D

Date : 22-DEC-2017 21:32

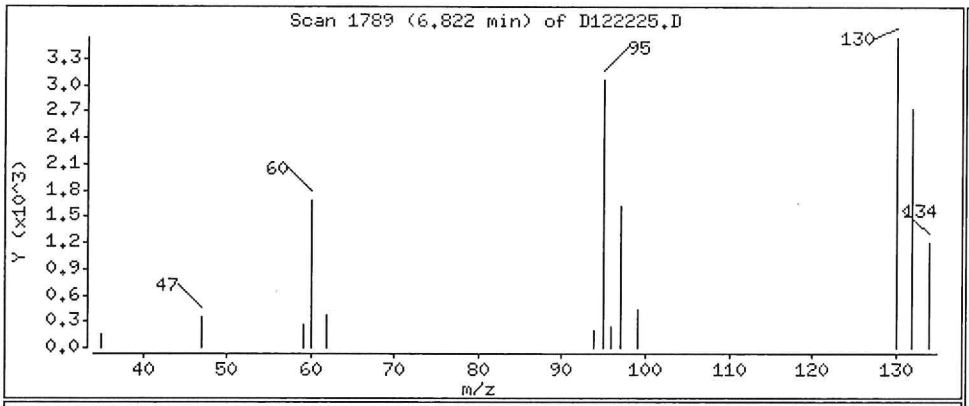
Client ID: HS17120868-07 Instrument: VOA2.i

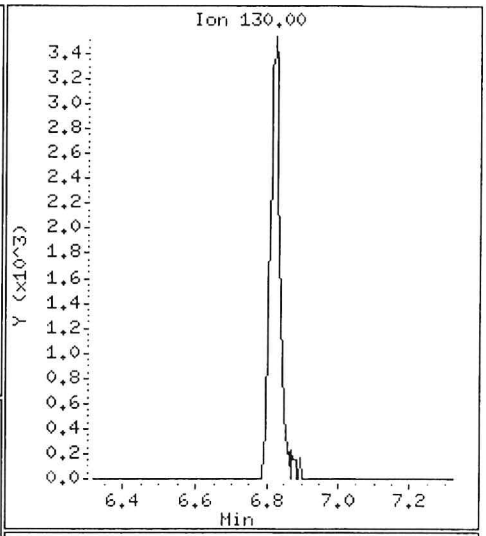
Sample Info: HS17120868-07;HS17120868-07;;;

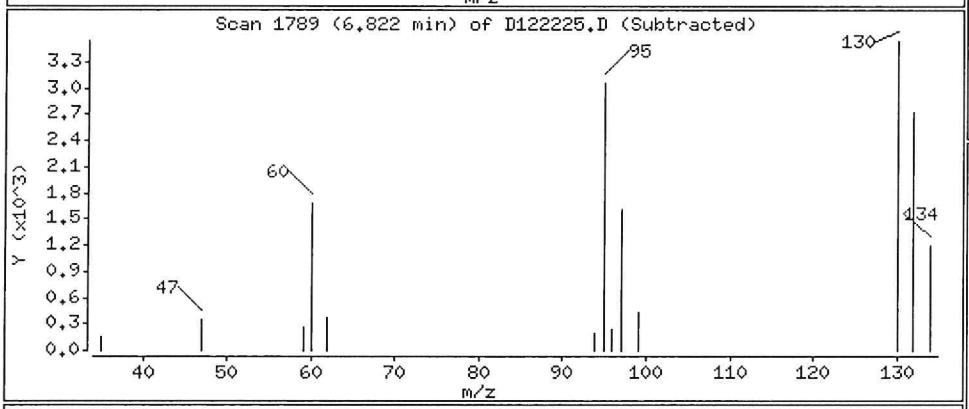
Purge Volume: 5.0 Operator: AP

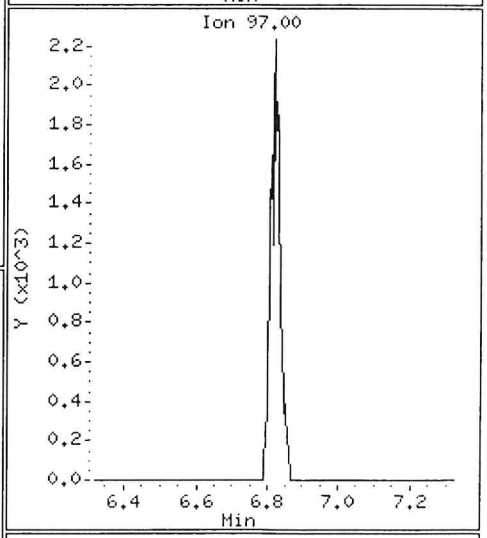
Column phase: DB624 Column diameter: 0.18

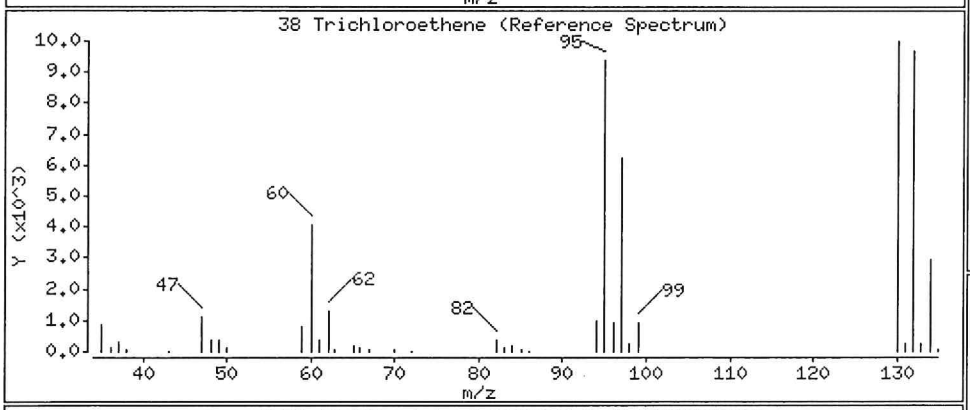
38 Trichloroethene Concentration: 2.45 ug/l Review Code:

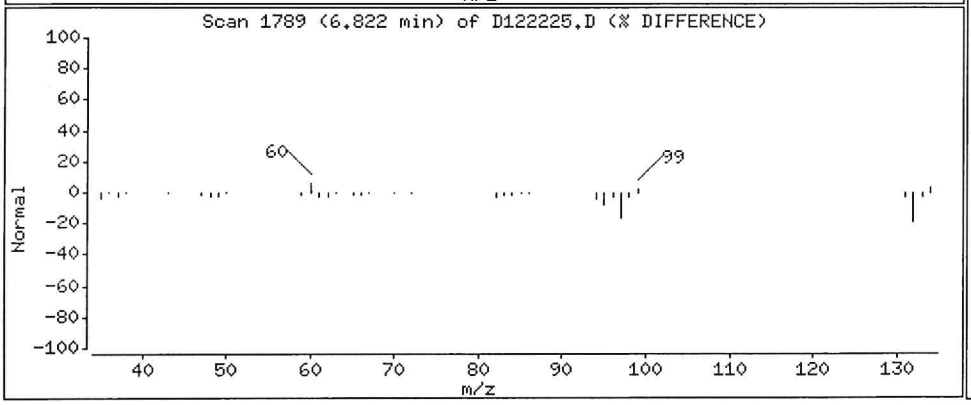


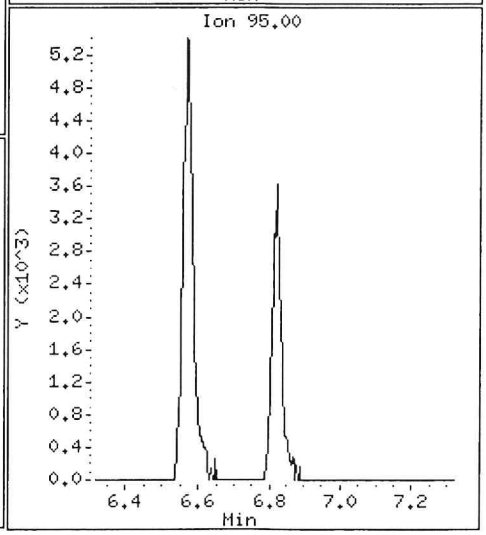












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122226.D
Report Date: 09-Feb-2018 17:46

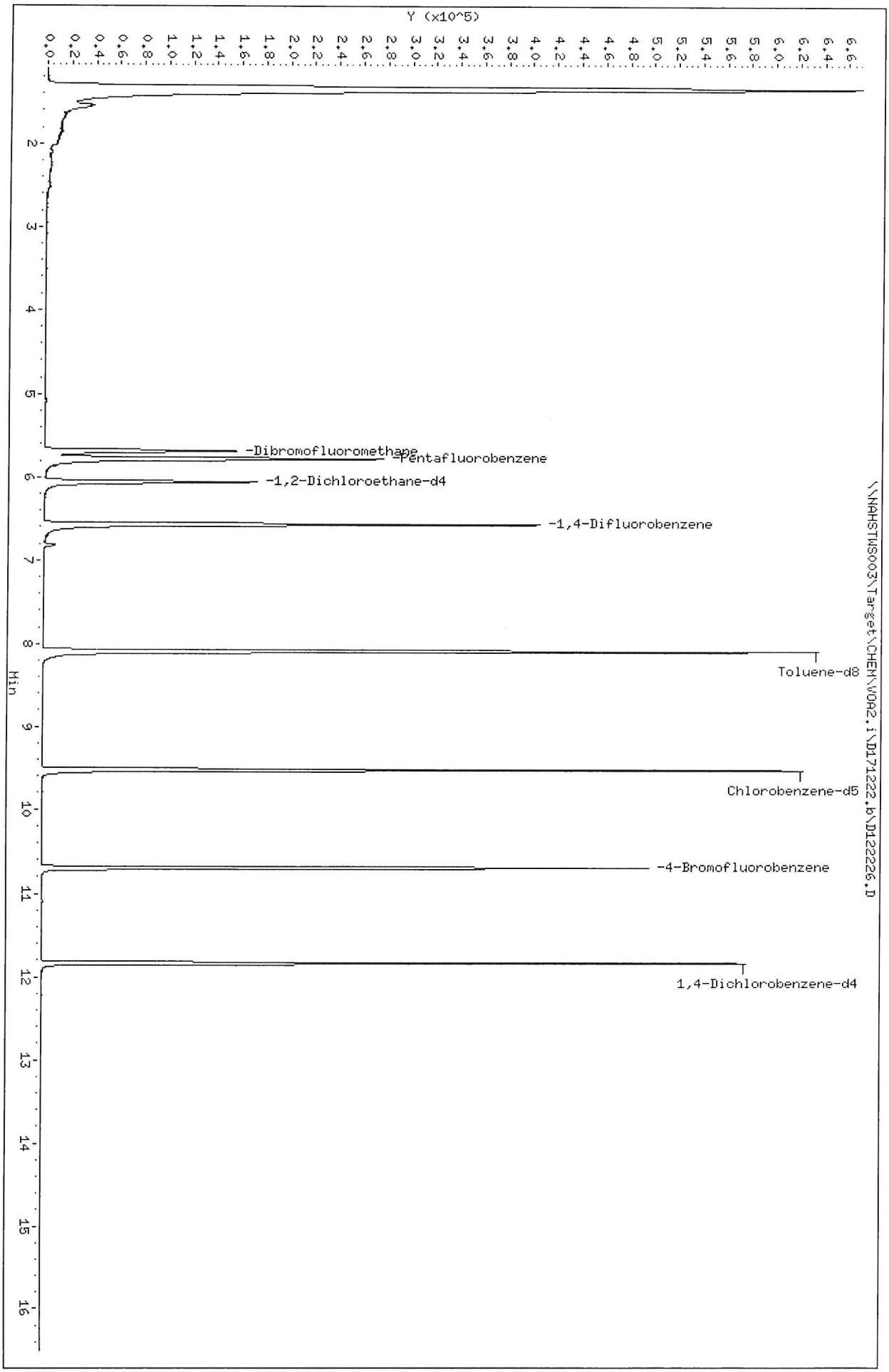
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122226.D
Lab Smp Id: HS17120868-08 Client Smp ID: HS17120868-08
Inj Date : 22-DEC-2017 21:57
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-08;HS17120868-08;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 23
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	273946	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.983)	121255	49.1273	49.12
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	384230	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	140678	46.1488	46.14
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	353783	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	450654	48.3129	48.31
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	165218	48.5047	48.50
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	157087	50.0000	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Date : 22-DEC-2017 21:57
Client ID: HS17120868-08
Sample Info: HS17120868-08;HS17120868-08;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122226.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122227.D
Report Date: 09-Feb-2018 17:46

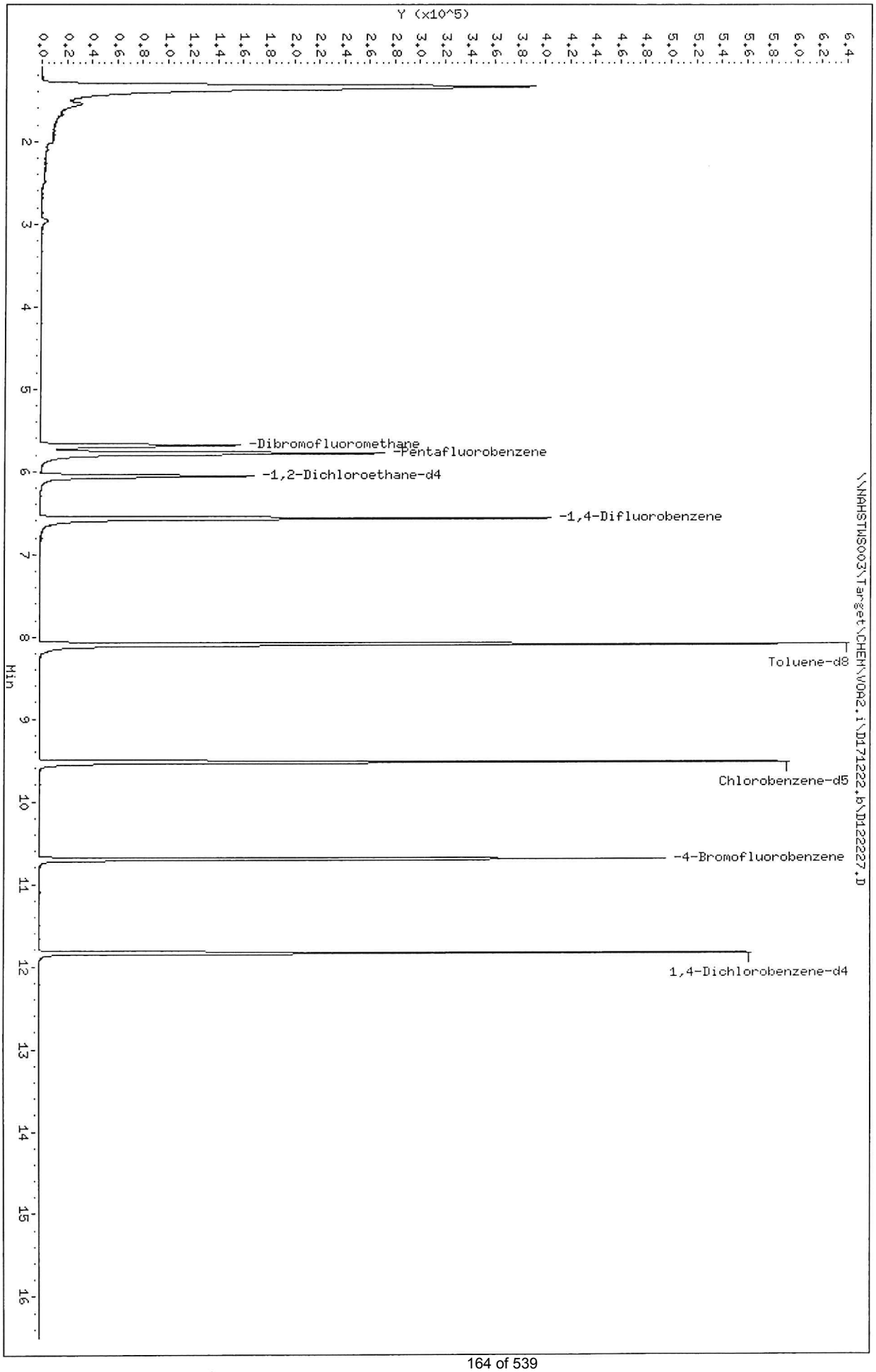
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122227.D
Lab Smp Id: HS17120868-09 Client Smp ID: HS17120868-09
Inj Date : 22-DEC-2017 22:21
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-09;HS17120868-09;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:46 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 24
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	271675	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.983)	121460	49.6217	49.62
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	384134	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.059	6.062	(1.048)	140215	46.3814	46.38
* 47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	348703	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	449644	48.9069	48.90
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	165830	49.3936	49.39
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	154843	50.0000	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Date : 22-DEC-2017 22:21
Client ID: HS1712086B-09
Sample Info: HS1712086B-09;HS1712086B-09;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
Min
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122227.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Report Date: 09-Feb-2018 17:50

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Lab Smp Id: CCV-END Client Smp ID: CCV-END
Inj Date : 22-DEC-2017 23:34
Operator : AP Inst ID: VOA2.i
Smp Info : CCV-END;CCV-END;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\8260LL.m
Meth Date : 09-Feb-2018 17:50 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 27 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	176415	50.0000	45.25
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	252251	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	106808	50.0000	46.99
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	375499	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	132933	50.0000	47.35
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	343678	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	425896	50.0000	47.00
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	167683	50.0000	50.67
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	160740	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	155315	50.0000	40.50
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	98297	50.0000	46.75
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	141519	50.0000	48.33
	22 1,1-Dichloroethane	63	4.284	4.284	(0.741)	250376	50.0000	47.54
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	100555	50.0000	48.29
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.168)	153855	50.0000	48.58
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	28758	50.0000	43.54
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	127901	50.0000	48.57
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	247833	50.0000	42.89
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	172872	50.0000	52.14
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	143369	50.0000	48.47
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	259734	50.0000	43.19

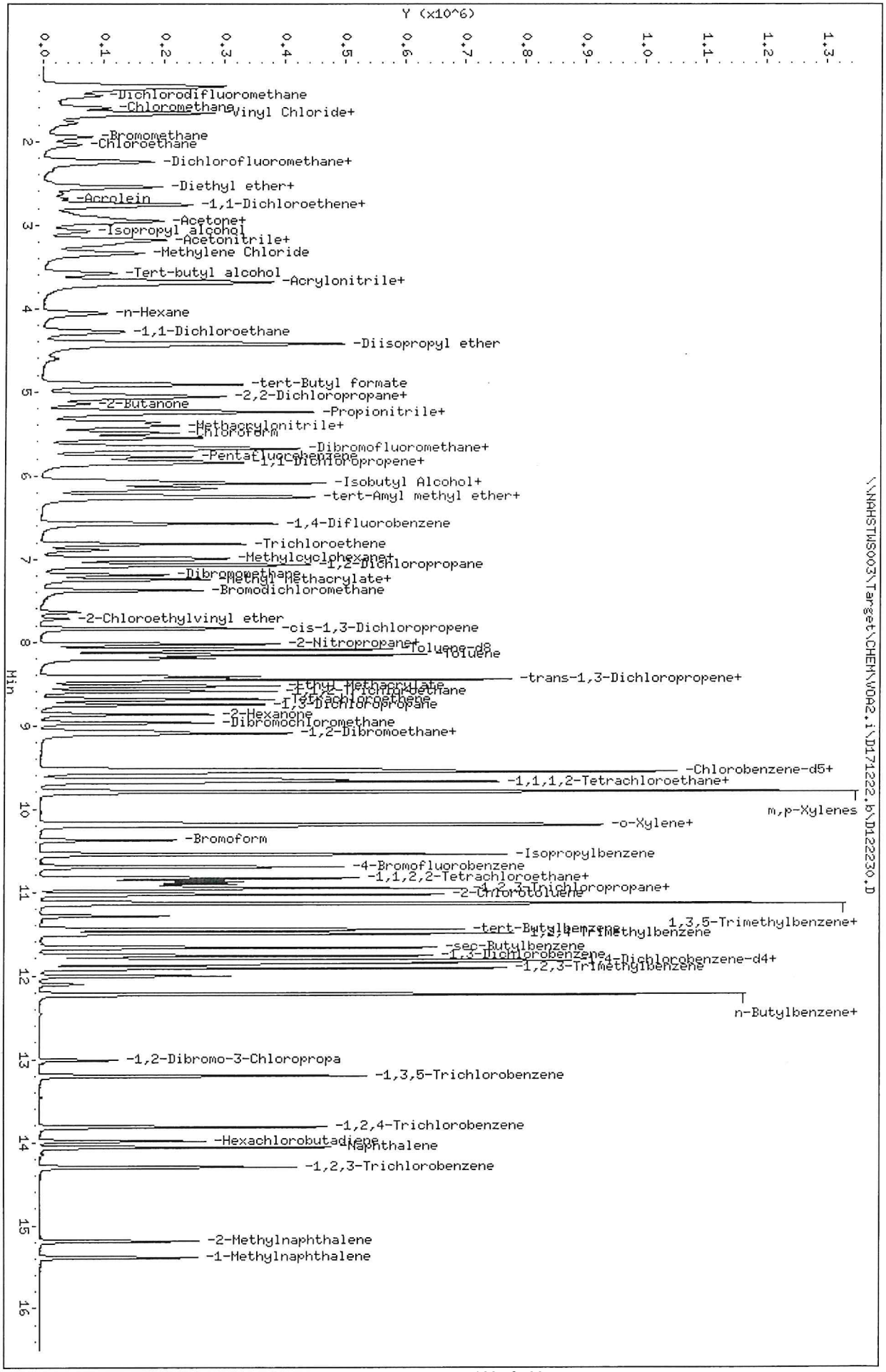
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Report Date: 09-Feb-2018 17:50

	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	11.857	11.857	(1.002)	245686	50.0000	42.72	
24	2-Butanone	43	5.144	5.144	(0.890)	121007	100.000	88.90	
52	2-Hexanone	43	8.866	8.866	(0.931)	177617	100.000	88.20	
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	275864	100.000	88.47	
10	Acetone	43	2.862	2.862	(0.495)	78057	100.000	93.19	
37	Benzene	78	6.090	6.090	(0.927)	475058	50.0000	48.08	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	172654	50.0000	49.37	
66	Bromoform	173	10.374	10.374	(1.089)	103230	50.0000	50.63	
6	Bromomethane	94	1.941	1.941	(0.336)	92479	50.0000	53.72	
19	Carbon Disulfide	76	2.952	2.952	(0.511)	455213	100.000	95.74	
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	138210	50.0000	38.74	
59	Chlorobenzene	112	9.553	9.553	(1.003)	325203	50.0000	45.94	
7	Chloroethane	64	2.041	2.041	(0.353)	88558	50.0000	43.39	
28	Chloroform	83	5.493	5.493	(0.951)	215574	50.0000	46.87	
3	Chloromethane	50	1.591	1.591	(0.275)	201538	50.0000	47.72	
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	136085	50.0000	47.41	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	209900	50.0000	52.26	
55	Dibromochloromethane	129	8.969	8.969	(0.941)	146944	50.0000	49.52	
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	99165	50.0000	45.98	
61	Ethylbenzene	106	9.672	9.672	(1.015)	168606	50.0000	44.50	
67	Isopropylbenzene	105	10.544	10.544	(1.107)	506866	50.0000	43.25	
17	Methylene Chloride	84	3.331	3.331	(0.576)	126942	50.0000	45.97	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	97651	50.0000	45.94	
50	Toluene	91	8.157	8.157	(0.856)	492462	50.0000	45.21	
20	trans-1,2-Dichloroethene	96	3.664	3.664	(0.634)	112989	50.0000	50.17	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	178588	50.0000	52.26	
38	Trichloroethene	130	6.816	6.816	(1.037)	133102	50.0000	47.85	
8	Trichlorofluoromethane	101	2.259	2.259	(0.391)	139610	50.0000	44.88	
5	Vinyl Chloride	62	1.685	1.685	(0.292)	154468	50.0000	49.96	
62	m,p-Xylenes	106	9.793	9.793	(1.028)	403761	100.000	87.15	
63	o-Xylene	106	10.179	10.179	(1.068)	219205	50.0000	45.22	
M 95	Xylenes (total)	106				622966	150.000		(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	164956	50.0000	43.07	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	130509	50.0000	47.83	
79	1,2,4-Trimethylbenzene	105	11.497	11.497	(0.972)	428858	50.0000	40.05	
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	413112	50.0000	39.62	
26	2,2-Dichloropropane	77	5.038	5.038	(0.872)	164595	50.0000	44.78	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	196860	50.0000	46.42	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	370544	50.0000	40.58	
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	407691	50.0000	41.00	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	386014	50.0000	39.01	
29	Bromochloromethane	128	5.365	5.365	(0.928)	67291	50.0000	49.27	
74	Bromobenzene	156	10.833	10.833	(0.915)	152282	50.0000	42.70	
44	Dibromomethane	93	7.191	7.191	(1.094)	77869	50.0000	50.80	
91	Hexachlorobutadiene	225	13.987	13.987	(1.182)	54859	50.0000	37.11	
73	n-Propylbenzene	91	10.952	10.952	(0.925)	537095	50.0000	39.52	
87	n-Butylbenzene	91	12.219	12.219	(1.033)	288554	50.0000	39.24	
81	sec-Butylbenzene	105	11.667	11.667	(0.986)	440835	50.0000	38.15	
92	Naphthalene	128	14.061	14.061	(1.188)	374472	50.0000	45.36	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	342795	50.0000	39.19	
60	1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	132363	50.0000	48.26	
64	Styrene	104	10.198	10.198	(1.070)	363918	50.0000	47.07	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Report Date: 09-Feb-2018 17:50

QC Flag Legend

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


Y (x10^6)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Dichlorodifluoromethane
-Chloromethane
Vinyl Chloride+
-Bromomethane
-Chloroethane
-Dichlorofluoromethane+
-Diethyl ether+
-Acrolein
-1,1-Dichloroethene+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
1,1-Dichloropropene+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
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-2-Nitropropane+
-Toluene-d8
Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
1,3,5-Trimethylbenzene+
-tert-Butylbenzene
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171222.b\D122230.D
Date : 22-DEC-2017 23:34
Client ID: CCV-END
Sample Info: CCV-END;CCV-END;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Lab File ID: D122301 BFB Injection Date: 12/23/17

Instrument ID: VOA2 BFB Injection Time: 1200

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.0
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	83.9
175	5.0 - 9.0% of mass 174	6.8 (8.1)1
176	95.0 - 101.0% of mass 174	83.2 (99.1)1
177	5.0 - 9.0% of mass 176	5.7 (6.8)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	D122302	12/23/17	1225
02	VLCSW-171223	VLCSW-171223	D122305	12/23/17	1338
03	VBLKW-171223	VBLKW-171223	D122307	12/23/17	1427
04	HS17120869-0	HS17120869-01M	D122311	12/23/17	1605
05	HS17120869-0	HS17120869-01M	D122312	12/23/17	1630
06	HS17120868-0	HS17120868-06	D122319	12/23/17	1924
07	HS17120868-0	HS17120868-07	D122320	12/23/17	1949
08	HS17120868-0	HS17120868-05	D122327	12/23/17	2244
09	CCV_END	CCV_END	D122329	12/23/17	2335
10					
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18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Instrument ID: VOA2 Calibration Date: 12/23/17 Time: 1225

Lab File ID: D122302 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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	
1,1,1-Trichloroethane	0.7730000	0.7477115	0.7477115	0.1	-3.27	20.00	AVRG	
1,1,1,2-Tetrachloroethane	0.3990000	0.3870180	0.3870180	0.1	-3.00	20.00	AVRG	
tert-Butylbenzene	2.7210000	2.4153371	2.4153371	0.1	-11.23	20.00	AVRG	
Naphthalene	48.427634	50.000000	2.4853320	0.2	-3.14	20.00	LINR	
sec-Butylbenzene	3.5940000	3.2339047	3.2339047	0.1	-10.02	20.00	AVRG	
1,1,2,2-Tetrachloroethane	1.1930000	1.0063336	1.0063336	0.3	-15.65	20.00	AVRG	
1,1,2-Trichloroethane	0.3060000	0.2859083	0.2859083	0.1	-6.56	20.00	AVRG	
1,1-Dichloropropene	50.709592	50.000000	0.3950855	0.1	1.42	20.00	LINR	
1,1-Dichloroethane	1.0440000	0.9886171	0.9886171	0.2	-5.30	20.00	AVRG	
1,1-Dichloroethene	0.4120000	0.4176650	0.4176650	0.1	1.38	20.00	AVRG	
1,2,4-Trichlorobenzene	0.9850000	1.0299350	1.0299350	0.2	4.56	20.00	AVRG	
1,2-Dibromo-3-Chloropropane	45.610720	50.000000	0.1874984	0.05	-8.78	20.00	LINR	
1,2-Dibromoethane	0.3830000	0.3690698	0.3690698	0.1	-3.64	20.00	AVRG	
1,2-Dichlorobenzene	1.7970000	1.5888365	1.5888365	0.4	-11.58	20.00	AVRG	
1,2-Dichloroethane	50.475669	50.000000	0.4456646	0.1	0.95	20.00	LINR	
1,2-Dichloropropane	0.3940000	0.3723036	0.3723036	0.1	-5.51	20.00	AVRG	
1,3-Dichlorobenzene	1.8700000	1.6610169	1.6610169	0.6	-11.18	20.00	AVRG	
1,4-Dichlorobenzene	1.7890000	1.5682172	1.5682172	0.4	-12.34	20.00	AVRG	
2-Butanone	0.2700000	0.2476348	0.2476348	0.1	-8.28	20.00	AVRG	
2-Hexanone	0.2930000	0.2681691	0.2681691	0.1	-8.47	20.00	AVRG	
4-Methyl-2-Pentanone	0.4540000	0.4158400	0.4158400	0.1	-8.40	20.00	AVRG	
Acetone	97.538029	100.00000	0.1617525	0.1	-2.46	20.00	LINR	
Benzene	1.3160000	1.2592295	1.2592295	0.5	-4.31	20.00	AVRG	
Bromodichloromethane	0.4660000	0.4519044	0.4519044	0.2	-3.02	20.00	AVRG	
Bromoform	0.2970000	0.3067222	0.3067222	0.1	3.27	20.00	AVRG	
Bromomethane	74.184883	50.000000	0.5000505	0.1	48.37	20.00	LINR	<-
Carbon Disulfide	0.9420000	0.9322984	0.9322984	0.1	-1.03	20.00	AVRG	
Carbon Tetrachloride	0.4750000	0.4177492	0.4177492	0.1	-12.05	20.00	AVRG	
Chlorobenzene	1.0300000	0.9544932	0.9544932	0.5	-7.33	20.00	AVRG	
Chloroethane	0.4040000	0.3594869	0.3594869	0.1	-11.02	20.00	AVRG	
Chloroform	0.9120000	0.8539610	0.8539610	0.2	-6.36	20.00	AVRG	
Chloromethane	49.830757	50.000000	0.8334888	0.1	-0.34	20.00	LINR	
cis-1,2-Dichloroethene	0.5690000	0.5411564	0.5411564	0.1	-4.89	20.00	AVRG	
cis-1,3-Dichloropropene	0.5350000	0.5626507	0.5626507	0.2	5.17	20.00	AVRG	
Dibromochloromethane	0.4320000	0.4284810	0.4284810	0.1	-0.81	20.00	AVRG	
Dichlorodifluoromethane	0.4270000	0.4228174	0.4228174	0.1	-0.98	20.00	AVRG	
Ethylbenzene	0.5510000	0.5102199	0.5102199	0.1	-7.40	20.00	AVRG	
Isopropylbenzene	1.7050000	1.6152969	1.6152969	0.1	-5.26	20.00	AVRG	
Methylene Chloride	0.5470000	0.5026670	0.5026670	0.1	-8.10	20.00	AVRG	
Tetrachloroethene	51.733817	50.000000	0.3186798	0.2	3.47	20.00	LINR	
Toluene	1.5840000	1.4605310	1.4605310	0.4	-7.79	20.00	AVRG	
trans-1,2-Dichloroethene	0.4460000	0.4608626	0.4608626	0.1	3.33	20.00	AVRG	

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712086

Instrument ID: VOA2 Calibration Date: 12/23/17 Time: 1225

Lab File ID: D122302 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4822337	0.4822337	0.1	5.98	20.00	AVRG
Trichloroethene	0.3700000	0.3580492	0.3580492	0.2	-3.23	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.6388737	0.6388737	0.1	3.71	20.00	AVRG
Vinyl Chloride	0.6130000	0.6054278	0.6054278	0.1	-1.24	20.00	AVRG
m,p-Xylenes	0.6740000	0.6217602	0.6217602	0.1	-7.75	20.00	AVRG
o-Xylene	0.7050000	0.6492878	0.6492878	0.3	-7.90	20.00	AVRG
Xylenes (total)	0.6190000	0.5751787	0.5751787	0.1	-7.08	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0904613	1.0904613	0.1	-8.44	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8576016	0.8576016	0.1	1.01	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.8158851	2.8158851	0.1	-15.44	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.8100229	2.8100229	0.1	-13.35	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.7228057	0.7228057	0.1	-0.71	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.5686150	0.5686150	0.1	-7.84	20.00	AVRG
2-Chlorotoluene	2.8400000	2.4000956	2.4000956	0.1	-15.49	20.00	AVRG
4-Chlorotoluene	3.0920000	2.6372499	2.6372499	0.1	-14.71	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.7423601	2.7423601	0.1	-10.90	20.00	AVRG
Bromochloromethane	0.2700000	0.2683392	0.2683392	0.1	-0.62	20.00	AVRG
Bromobenzene	1.1090000	0.9614566	0.9614566	0.1	-13.30	20.00	AVRG
Dibromomethane	0.2040000	0.2029126	0.2029126	0.1	-0.53	20.00	AVRG
Hexachlorobutadiene	47.607553	50.000000	0.4366701	0.1	-4.78	20.00	LINR
n-Propylbenzene	4.2270000	3.7228304	3.7228304	0.1	-11.93	20.00	AVRG
n-Butylbenzene	2.2870000	2.1774946	2.1774946	0.05	-4.79	20.00	AVRG
Styrene	1.1240000	1.0771798	1.0771798	0.3	-4.16	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5260869	0.5260869	0.1	-5.38	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4312970	0.4312970	0.1	-4.16	20.00	AVRG
Toluene-d8	1.3180000	1.2351089	1.2351089	0.1	-6.29	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4810180	0.4810180	0.1	0.00	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Instrument ID: VOA2 Calibration Date: 12/23/17 Time: 2335

Lab File ID: D122329 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7541456	0.7541456	0.1	-2.44	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3654751	0.3654751	0.1	-8.40	50.00	AVRG
tert-Butylbenzene	2.7210000	2.3097559	2.3097559	0.1	-15.11	50.00	AVRG
Naphthalene	47.073169	50.000000	2.4165705	0.2	-5.85	50.00	LINR
sec-Butylbenzene	3.5940000	3.1146751	3.1146751	0.1	-13.34	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.8749921	0.8749921	0.3	-26.66	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2693144	0.2693144	0.1	-11.99	50.00	AVRG
1,1-Dichloropropene	50.473949	50.000000	0.3932827	0.1	0.95	50.00	LINR
1,1-Dichloroethane	1.0440000	0.9575328	0.9575328	0.2	-8.28	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.4163527	0.4163527	0.1	1.06	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	0.8886466	0.8886466	0.2	-9.78	50.00	AVRG
1,2-Dibromo-3-Chloropropane	42.153303	50.000000	0.1731157	0.05	-15.69	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3510105	0.3510105	0.1	-8.35	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.4697052	1.4697052	0.4	-18.21	50.00	AVRG
1,2-Dichloroethane	47.093131	50.000000	0.4158583	0.1	-5.81	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3443371	0.3443371	0.1	-12.60	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.5540856	1.5540856	0.6	-16.89	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.4600190	1.4600190	0.4	-18.39	50.00	AVRG
2-Butanone	0.2700000	0.2425553	0.2425553	0.1	-10.16	50.00	AVRG
2-Hexanone	0.2930000	0.2540695	0.2540695	0.1	-13.29	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.3957488	0.3957488	0.1	-12.83	50.00	AVRG
Acetone	96.250360	100.00000	0.1596673	0.1	-3.75	50.00	LINR
Benzene	1.3160000	1.2034116	1.2034116	0.5	-8.56	50.00	AVRG
Bromodichloromethane	0.4660000	0.4142978	0.4142978	0.2	-11.09	50.00	AVRG
Bromoform	0.2970000	0.2804369	0.2804369	0.1	-5.58	50.00	AVRG
Bromomethane	54.247452	50.000000	0.3700443	0.1	8.49	50.00	LINR
Carbon Disulfide	0.9420000	0.9399799	0.9399799	0.1	-0.21	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.4184412	0.4184412	0.1	-11.91	50.00	AVRG
Chlorobenzene	1.0300000	0.9034837	0.9034837	0.5	-12.28	50.00	AVRG
Chloroethane	0.4040000	0.3382924	0.3382924	0.1	-16.26	50.00	AVRG
Chloroform	0.9120000	0.8168050	0.8168050	0.2	-10.44	50.00	AVRG
Chloromethane	48.481906	50.000000	0.8113519	0.1	-3.04	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5198592	0.5198592	0.1	-8.64	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5095929	0.5095929	0.2	-4.75	50.00	AVRG
Dibromochloromethane	0.4320000	0.4005796	0.4005796	0.1	-7.27	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4889315	0.4889315	0.1	14.50	50.00	AVRG
Ethylbenzene	0.5510000	0.5000764	0.5000764	0.1	-9.24	50.00	AVRG
Isopropylbenzene	1.7050000	1.5642335	1.5642335	0.1	-8.26	50.00	AVRG
Methylene Chloride	0.5470000	0.4793937	0.4793937	0.1	-12.36	50.00	AVRG
Tetrachloroethene	52.655265	50.000000	0.3241743	0.2	5.31	50.00	LINR
Toluene	1.5840000	1.4105470	1.4105470	0.4	-10.95	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4461272	0.4461272	0.1	0.03	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712086

Instrument ID: VOA2 Calibration Date: 12/23/17 Time: 2335

Lab File ID: D122329 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4390196	0.4390196	0.1	-3.51	50.00	AVRG
Trichloroethene	0.3700000	0.3779687	0.3779687	0.2	2.15	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.6517476	0.6517476	0.1	5.80	50.00	AVRG
Vinyl Chloride	0.6130000	0.6217984	0.6217984	0.1	1.44	50.00	AVRG
m,p-Xylenes	0.6740000	0.6192301	0.6192301	0.1	-8.13	50.00	AVRG
o-Xylene	0.7050000	0.6363444	0.6363444	0.3	-9.74	50.00	AVRG
Xylenes (total)	0.6190000	0.5661471	0.5661471	0.1	-8.54	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	0.9983835	0.9983835	0.1	-16.17	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.7720127	0.7720127	0.1	-9.07	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.7413249	2.7413249	0.1	-17.68	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.6554739	2.6554739	0.1	-18.12	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.6311047	0.6311047	0.1	-13.31	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5353280	0.5353280	0.1	-13.24	50.00	AVRG
2-Chlorotoluene	2.8400000	2.2861300	2.2861300	0.1	-19.50	50.00	AVRG
4-Chlorotoluene	3.0920000	2.4910111	2.4910111	0.1	-19.44	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.5848621	2.5848621	0.1	-16.02	50.00	AVRG
Bromochloromethane	0.2700000	0.2512912	0.2512912	0.1	-6.93	50.00	AVRG
Bromobenzene	1.1090000	0.9109794	0.9109794	0.1	-17.86	50.00	AVRG
Dibromomethane	0.2040000	0.1914635	0.1914635	0.1	-6.14	50.00	AVRG
Hexachlorobutadiene	42.864200	50.000000	0.3935594	0.1	-14.27	50.00	LINR
n-Propylbenzene	4.2270000	3.5342124	3.5342124	0.1	-16.39	50.00	AVRG
n-Butylbenzene	2.2870000	2.0508082	2.0508082	0.05	-10.33	50.00	AVRG
Styrene	1.1240000	1.0092442	1.0092442	0.3	-10.21	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5396940	0.5396940	0.1	-2.93	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4344091	0.4344091	0.1	-3.46	50.00	AVRG
Toluene-d8	1.3180000	1.2426752	1.2426752	0.1	-5.72	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4781724	0.4781724	0.1	-0.59	50.00	AVRG

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Lab File ID (Standard): D122302 Date Analyzed: 12/23/17

Instrument ID: VOA2 Time Analyzed: 1225

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

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	247653	5.78	372446	6.57	339532	9.52
	UPPER LIMIT	495306	6.28	744892	7.07	679064	10.02
	LOWER LIMIT	123827	5.28	186223	6.07	169766	9.02
	CLIENT SAMPLE NO.						
01	VLCSW-171223	248664	5.78	368657	6.57	343528	9.53
02	VBLKW-171223	267194	5.78	383660	6.57	344355	9.52
03	HS17120869-01	249055	5.78	373470	6.57	340966	9.52
04	HS17120869-01	249909	5.78	374244	6.57	339610	9.52
05	HS17120868-06	266398	5.78	379871	6.57	343325	9.52
06	HS17120868-07	277835	5.78	392929	6.57	356788	9.52
07	HS17120868-05	269482	5.77	382514	6.57	340111	9.52
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120868

Lab File ID (Standard): D122302 Date Analyzed: 12/23/17

Instrument ID: VOA2 Time Analyzed: 1225

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	156940	11.83				
	UPPER LIMIT	313880	12.33				
	LOWER LIMIT	78470	11.33				
	CLIENT SAMPLE NO.						
01	VLCSW-171223	162305	11.83				
02	VBLKW-171223	153297	11.84				
03	HS17120869-01	159812	11.83				
04	HS17120869-01	159663	11.84				
05	HS17120868-06	154924	11.83				
06	HS17120868-07	157661	11.83				
07	HS17120868-05	151350	11.84				
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.

MSVOA02 -Logbook

Batch: 30173
Date: 12-23-2017
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-23-2017 12:00 pm	1.00	50 mL	50 mL	D122301.D	Liquid	Y	NA
	Auto find/purged									
2	CCV	CCV	12-23-2017 12:25 pm	1.00	50 mL	50 mL	D122302.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
3	CCV	CCV	12-23-2017 12:49 pm	1.00	50 mL	50 mL	D122303.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	CCB	SAMP	12-23-2017 01:14 pm	1.00	50 mL	50 mL	D122304.D	Liquid	Y	NA
	CCB									
5	VLCSW-171223	LCS	12-23-2017 01:38 pm	1.00	50 mL	50 mL	D122305.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
6	BLK	SAMP	12-23-2017 02:03 pm	1.00	50 mL	50 mL	D122306.D	Liquid	Y	NA
	Cleanup blk									
7	VBLKW-171223	MBLK	12-23-2017 02:27 pm	1.00	50 mL	50 mL	D122307.D	Liquid	Y	NA
8	HS17120869-09	SAMP	12-23-2017 02:52 pm	1.00	50 mL	50 mL	D122308.D	Liquid	Y	<2
9	HS17120618-06	SAMP	12-23-2017 03:16 pm	1.00	50 mL	50 mL	D122309.D	Liquid	Y	<2
10	HS17120869-01	SAMP	12-23-2017 03:41 pm	1.00	50 mL	50 mL	D122310.D	Liquid	Y	<2
11	HS17120869-01MS	MS	12-23-2017 04:05 pm	1.00	50 mL	50 mL	D122311.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
12	HS17120869-01MSD	MSD	12-23-2017 04:30 pm	1.00	50 mL	50 mL	D122312.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
13	HS17120851-02	SAMP	12-23-2017 04:57 pm	10.00	5 mL	50 mL	D122313.D	Liquid	Y	<2
14	HS17120869-02	SAMP	12-23-2017 05:22 pm	1.00	50 mL	50 mL	D122314.D	Liquid	Y	<2
15	HS17120869-03	SAMP	12-23-2017 05:46 pm	1.00	50 mL	50 mL	D122315.D	Liquid	Y	<2
16	HS17120869-04	SAMP	12-23-2017 06:11 pm	1.00	50 mL	50 mL	D122316.D	Liquid	Y	<2
17	HS17120869-07	SAMP	12-23-2017 06:35 pm	1.00	50 mL	50 mL	D122317.D	Liquid	Y	<2
18	HS17120869-08	SAMP	12-23-2017 07:00 pm	1.00	50 mL	50 mL	D122318.D	Liquid	Y	<2
19	HS17120868-06	SAMP	12-23-2017 07:24 pm	1.00	50 mL	50 mL	D122319.D	Liquid	Y	<2
20	HS17120868-07	SAMP	12-23-2017 07:49 pm	1.00	50 mL	50 mL	D122320.D	Liquid	Y	<2
21	HS17120644-01	SAMP	12-23-2017 08:13 pm	1.00	50 mL	50 mL	D122321.D	Liquid	Y	<2
22	HS17120644-02	SAMP	12-23-2017 08:38 pm	1.00	50 mL	50 mL	D122322.D	Liquid	Y	<2
23	HS17120644-03	SAMP	12-23-2017 09:03 pm	1.00	50 mL	50 mL	D122323.D	Liquid	Y	<2
24	HS17120644-04	SAMP	12-23-2017 09:27 pm	1.00	50 mL	50 mL	D122324.D	Liquid	Y	<2
25	HS17120869-05	SAMP	12-23-2017 09:52 pm	1.00	50 mL	50 mL	D122325.D	Liquid	Y	<2
26	HS17120869-06	SAMP	12-23-2017 10:16 pm	1.00	50 mL	50 mL	D122326.D	Liquid	Y	<2
27	HS17120868-05	SAMP	12-23-2017 10:44 pm	5.00	10 mL	50 mL	D122327.D	Liquid	Y	<2
28	HS17120537-01	SAMP	12-23-2017 11:11 pm	10000.(	5 µL	50 mL	D122328.D	Liquid	Y	<2
29	CCV_END	CCV_END	12-23-2017 11:35 pm	1.00	50 mL	50 mL	D122329.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
30	BFB	TUNE	12-24-2017 12:00 am	1.00	50 mL	50 mL	E122301.D	Liquid	Y	NA
	Auto find/purged									
31	CCV	CCV	12-24-2017 12:25 am	1.00	50 mL	50 mL	E122302.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
32	CCV	CCV	12-24-2017 12:49 am	1.00	50 mL	50 mL	E122303.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	CCB	SAMP	12-24-2017 01:14 am	1.00	50 mL	50 mL	E122304.D	Liquid	Y	NA
	CCB									
34	VLCSW-171223	LCS	12-24-2017 01:38 am	1.00	50 mL	50 mL	E122305.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
35	BLK	SAMP	12-24-2017 02:03 am	1.00	50 mL	50 mL	E122306.D	Liquid	Y	NA
	Cleanup blk									
36	VBLKW-171223	MBLK	12-24-2017 02:27 am	1.00	50 mL	50 mL	E122307.D	Liquid	Y	NA
37	HS17120644-05	SAMP	12-24-2017 02:52 am	1.00	50 mL	50 mL	E122308.D	Liquid	Y	<2
38	HS17120665-04	SAMP	12-24-2017 03:17 am	1.00	50 mL	50 mL	E122309.D	Liquid	Y	<2
39	HS17120663-06	SAMP	12-24-2017 03:41 am	1.00	50 mL	50 mL	E122310.D	Liquid	Y	<2
40	HS17120644-13	SAMP	12-24-2017 04:06 am	1.00	50 mL	50 mL	E122311.D	Liquid	Y	<2
41	HS17120663-05	SAMP	12-24-2017 04:30 am	1.00	50 mL	50 mL	E122312.D	Liquid	Y	<2
42	HS17120644-09	SAMP	12-24-2017 04:55 am	1.00	50 mL	50 mL	E122313.D	Liquid	Y	<2
43	HS17120644-09MS	MS	12-24-2017 05:19 am	1.00	50 mL	50 mL	E122314.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
44	HS17120644-09MSD	MSD	12-24-2017 05:44 am	1.00	50 mL	50 mL	E122315.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
45	HS17121112-01	SAMP	12-24-2017 06:11 am	50.00	1 mL	50 mL	E122316.D	Liquid	Y	<2
46	HS17121112-02	SAMP	12-24-2017 06:38 am	50.00	1 mL	50 mL	E122317.D	Liquid	Y	<2
47	HS17120644-10	SAMP	12-24-2017 07:03 am	1.00	50 mL	50 mL	E122318.D	Liquid	Y	<2
48	HS17120644-11	SAMP	12-24-2017 07:27 am	1.00	50 mL	50 mL	E122319.D	Liquid	Y	<2
49	HS17120644-12	SAMP	12-24-2017 07:52 am	1.00	50 mL	50 mL	E122320.D	Liquid	Y	<2
50	HS17120886-04	SAMP	12-24-2017 08:14 am	1.00	50 mL	50 mL	E122321.D	Liquid	Y	<2
51	HS17120886-03	SAMP	12-24-2017 08:37 am	1.00	50 mL	50 mL	E122322.D	Liquid	Y	<2
52	HS17120886-03	SAMP	12-24-2017 09:00 am	10.00	5 mL	50 mL	E122323.D	Liquid	Y	<2
53	HS17120886-02	SAMP	12-24-2017 09:27 am	5.00	10 mL	50 mL	E122324.D	Liquid	Y	<2
54	HS17120886-02	SAMP	12-24-2017 09:54 am	50.00	1 mL	50 mL	E122325.D	Liquid	Y	<2
55	HS17120886-01	SAMP	12-24-2017 10:22 am	10.00	5 mL	50 mL	E122326.D	Liquid	Y	<2
56	HS17120886-01	SAMP	12-24-2017 10:49 am	100.0(	500 µL	50 mL	E122327.D	Liquid	Y	<2
57	HS17120899-06	SAMP	12-24-2017 11:13 am	1.00	50 mL	50 mL	E122328.D	Liquid	Y	<2
58	HS17120899-07	SAMP	12-24-2017 11:38 am	1.00	50 mL	50 mL	E122329.D	Liquid	Y	<2

Chemical	Value
SURR ID	29814-95-03
IS ID	29814-95-04
LCS/MS ID	29814-97-01
CAL STD ID	29814-97-01
BFB ID	29814-95-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122301.D

Date : 23-DEC-2017 12:00

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

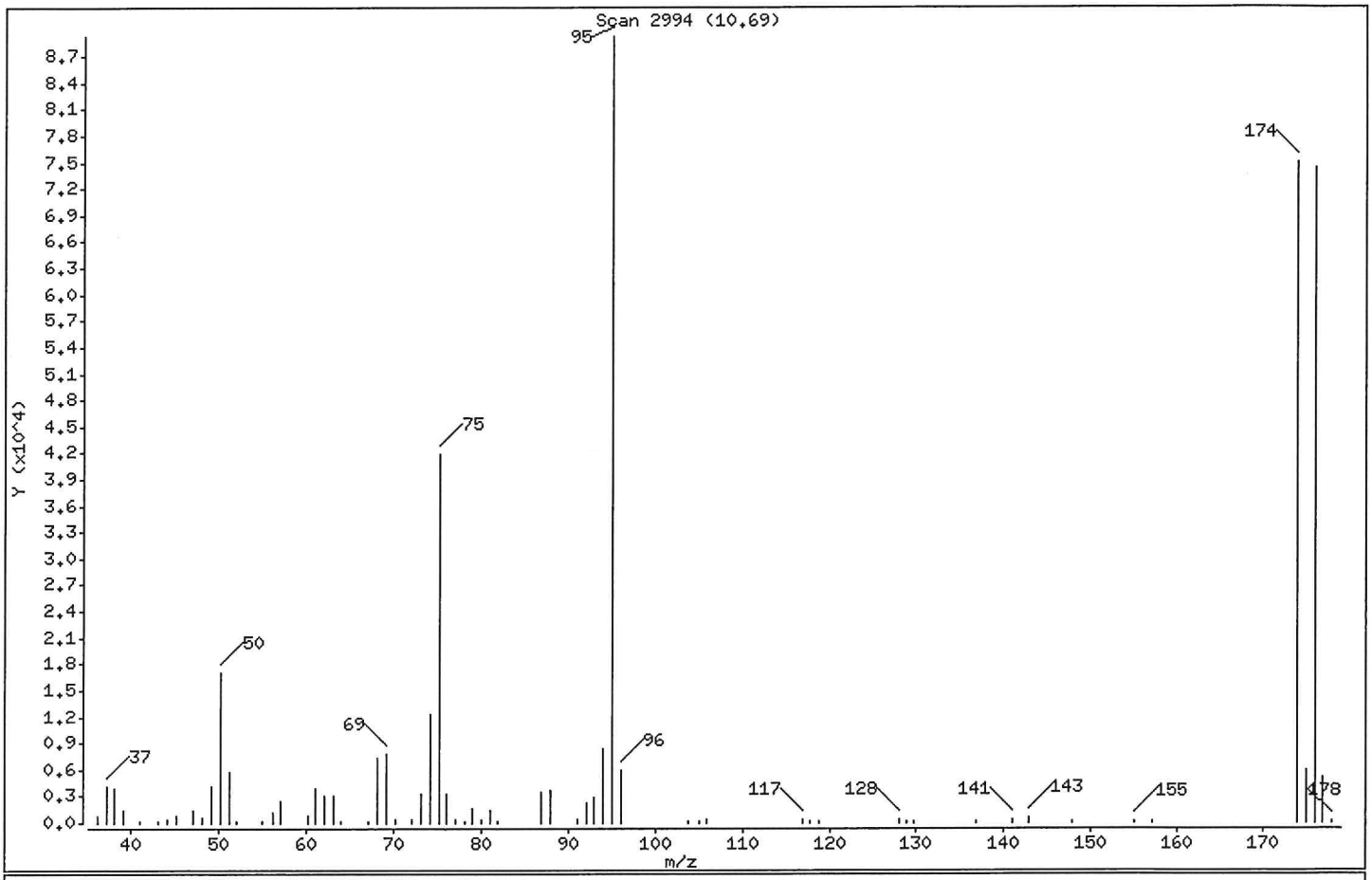
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

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	19.02
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	83.94
175	5.00 - 9.00% of mass 174	6.77 (8.07)
176	95.00 - 101.00% of mass 174	83.16 (99.07)
177	5.00 - 9.00% of mass 176	5.65 (6.80)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122301.D

Date : 23-DEC-2017 12:00

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: D122301.D
Spectrum: Scan 2994 (10.69)
Location of Maximum: 95.10
Number of points: 65

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	823	60.10	806	80.10	466	128.00	327
37.10	4092	61.10	3901	81.00	1360	128.80	171
38.10	3845	62.10	3140	81.90	300	129.80	239
39.10	1392	63.10	3038	87.00	3388	136.80	207
41.00	297	64.00	290	88.00	3670	140.90	475
43.10	256	67.10	241	91.00	322	142.80	637
44.00	481	68.00	7449	92.10	2219	147.80	215
45.10	784	69.10	7852	93.00	2836	155.00	253
47.10	1504	70.10	425	94.10	8482	157.10	152
48.00	657	72.00	375	95.10	89296	174.00	74952
49.00	4042	73.10	3277	96.10	5993	175.10	6047
50.10	16984	74.10	12232	103.90	249	176.00	74256
51.10	5820	75.10	41824	105.10	184	177.00	5049
52.10	285	76.10	3334	105.90	392	178.00	244
55.00	286	77.10	457	117.00	513		
56.10	1204	78.10	287	117.90	221		
57.10	2411	78.90	1594	118.90	230		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122301.D

Date : 23-DEC-2017 12:00

Client ID: BFB

Instrument: VOA2.i

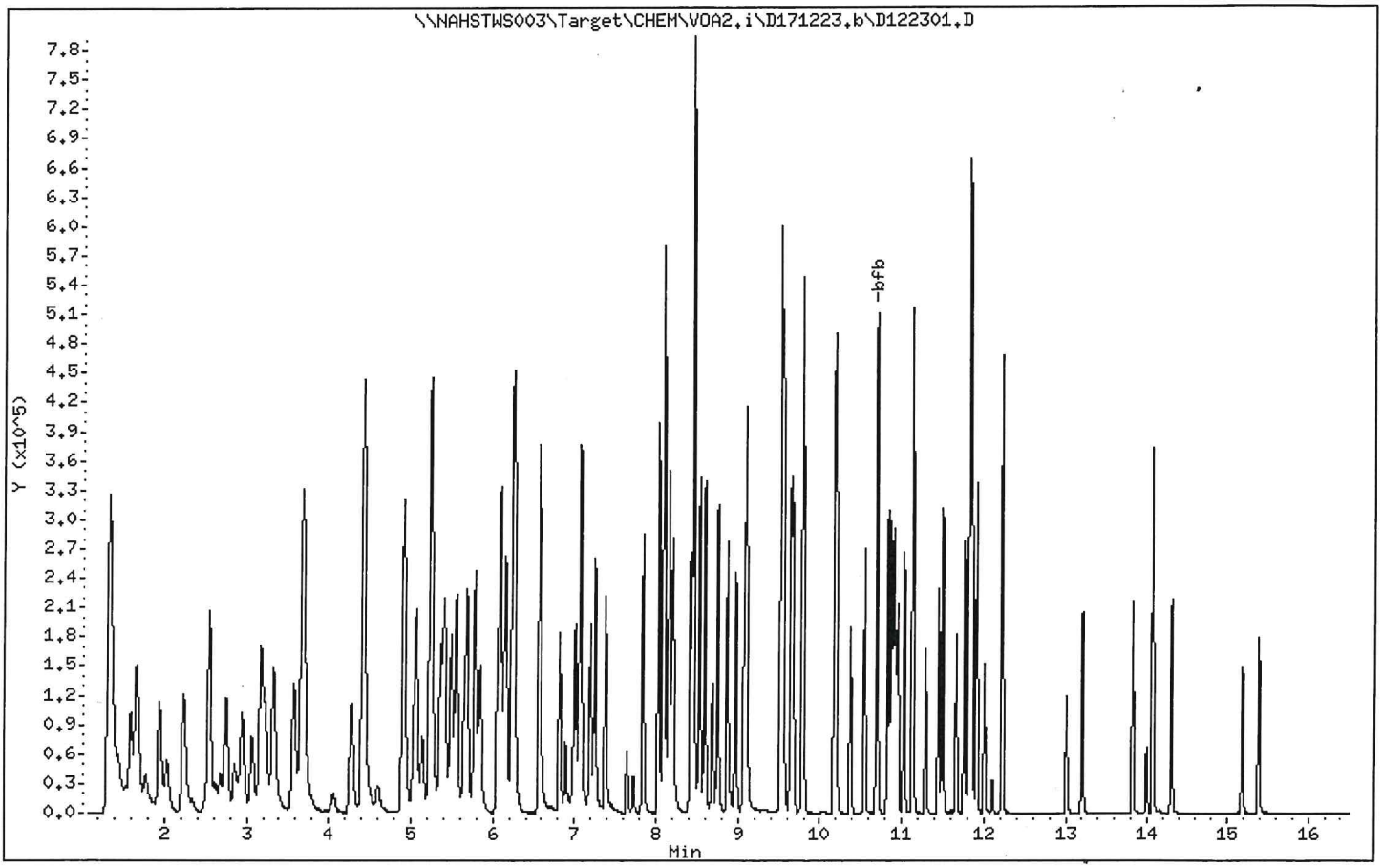
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122302.D
Report Date: 09-Feb-2018 18:00

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122302.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 23-DEC-2017 12:25
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171223.b\8260LL.m
Meth Date : 09-Feb-2018 18:00 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.651	5.651	(0.978)	185173	50.0000	48.37
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	247653	50.0000	
$	30 Dibromofluoromethane	113	5.680	5.680	(0.983)	106812	50.0000	47.87
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	372446	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.048)	130287	50.0000	47.27
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	339532	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	419359	50.0000	46.84
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	163321	50.0000	49.96
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	156940	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	157934	50.0000	42.18
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	97075	50.0000	46.73
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	147148	50.0000	50.70
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	244834	50.0000	47.35
	11 1,1-Dichloroethene	96	2.747	2.747	(0.475)	103436	50.0000	50.60
	90 1,2,4-Trichlorobenzene	180	13.814	13.814	(1.167)	161638	50.0000	52.28
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	29426	50.0000	45.61
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	125311	50.0000	48.17
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	249352	50.0000	44.20
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	165986	50.0000	50.47
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	138663	50.0000	47.26
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	260680	50.0000	44.40

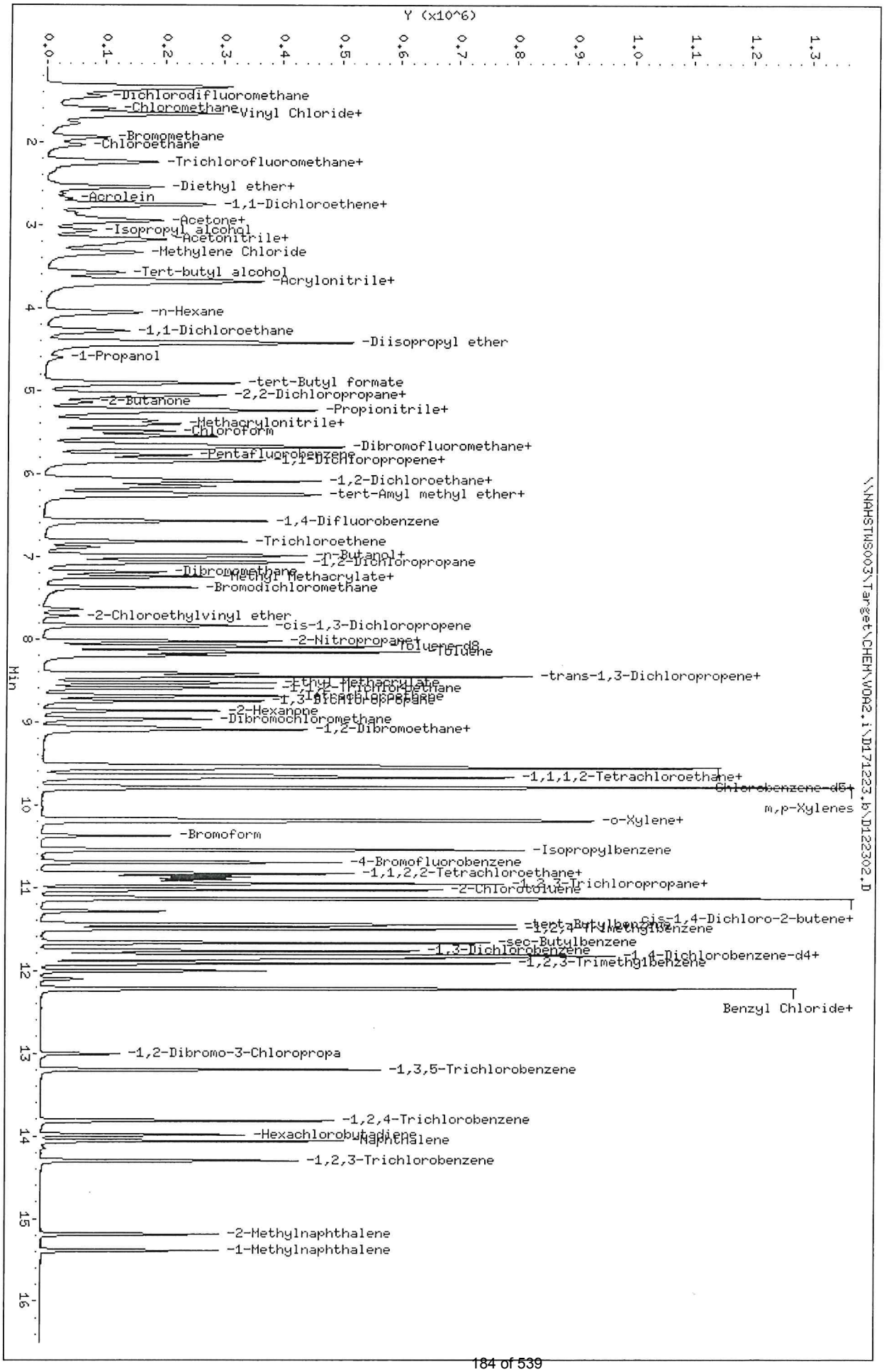
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122302.D
Report Date: 09-Feb-2018 18:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)	
84	1,4-Dichlorobenzene	146	11.857	11.857	(1.002)	246116	50.0000	43.83	
24	2-Butanone	43	5.144	5.144	(0.890)	122655	100.000	91.78	
52	2-Hexanone	43	8.866	8.866	(0.931)	182104	100.000	91.53	
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.843)	282382	100.000	91.67	
10	Acetone	43	2.856	2.856	(0.494)	80117	100.000	97.53	
37	Benzene	78	6.090	6.090	(0.927)	468995	50.0000	47.85	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	168310	50.0000	48.52	
66	Bromoform	173	10.374	10.374	(1.089)	104142	50.0000	51.70	
6	Bromomethane	94	1.938	1.938	(0.335)	123839	50.0000	74.18	
19	Carbon Disulfide	76	2.952	2.952	(0.511)	461773	100.000	98.92	
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	155589	50.0000	43.97	
59	Chlorobenzene	112	9.553	9.553	(1.003)	324081	50.0000	46.34	
7	Chloroethane	64	2.034	2.034	(0.352)	89028	50.0000	44.43	
28	Chloroform	83	5.494	5.494	(0.951)	211486	50.0000	46.83	
3	Chloromethane	50	1.595	1.595	(0.276)	206416	50.0000	49.83	
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	134019	50.0000	47.56	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	209557	50.0000	52.60	
55	Dibromochloromethane	129	8.969	8.969	(0.942)	145483	50.0000	49.62	
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	104712	50.0000	49.45	
61	Ethylbenzene	106	9.672	9.672	(1.015)	173236	50.0000	46.28	
67	Isopropylbenzene	105	10.548	10.548	(1.107)	548445	50.0000	47.36	
17	Methylene Chloride	84	3.334	3.334	(0.577)	124487	50.0000	45.92	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	108202	50.0000	51.73	
50	Toluene	91	8.157	8.157	(0.856)	495897	50.0000	46.08	
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.635)	114134	50.0000	51.62	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	179606	50.0000	52.98	
38	Trichloroethene	130	6.819	6.819	(1.038)	133354	50.0000	48.34	
8	Trichlorofluoromethane	101	2.253	2.253	(0.390)	158219	50.0000	51.81	
5	Vinyl Chloride	62	1.681	1.681	(0.291)	149936	50.0000	49.39	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	422215	100.000	92.24	
63	o-Xylene	106	10.175	10.175	(1.068)	220454	50.0000	46.03	
M 95	Xylenes (total)	106				642669	150.000		(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	171137	50.0000	45.77	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	134592	50.0000	50.52	
79	1,2,4-Trimethylbenzene	105	11.497	11.497	(0.972)	441925	50.0000	42.27	
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	441005	50.0000	43.32	
26	2,2-Dichloropropane	77	5.038	5.038	(0.872)	179005	50.0000	49.61	
54	1,3-Dichloropropane	76	8.751	8.751	(0.919)	193063	50.0000	46.08	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	376671	50.0000	42.25	
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	413890	50.0000	42.63	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	430386	50.0000	44.55	
29	Bromochloromethane	128	5.368	5.368	(0.929)	66455	50.0000	49.56	
74	Bromobenzene	156	10.830	10.830	(0.915)	150891	50.0000	43.34	
44	Dibromomethane	93	7.191	7.191	(1.094)	75574	50.0000	49.71	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	68531	50.0000	47.60	
73	n-Propylbenzene	91	10.952	10.952	(0.925)	584261	50.0000	44.03	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	341736	50.0000	47.59	
81	sec-Butylbenzene	105	11.667	11.667	(0.986)	507529	50.0000	44.99	
92	Naphthalene	128	14.061	14.061	(1.188)	390048	50.0000	48.42	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	379063	50.0000	44.38	
60	1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	131405	50.0000	48.49	
64	Styrene	104	10.198	10.198	(1.071)	365737	50.0000	47.89	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122302.D
Report Date: 09-Feb-2018 18:00

QC Flag Legend

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


Y (x10^6)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Dichlorodifluoromethane
-Chloromethane
Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein
-1,1-Dichloroethene+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
1,1-Dichloropropene+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
Toluene-d8
Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
-1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122302.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122302.D
Date : 23-DEC-2017 12:25
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122305.D
Report Date: 09-Feb-2018 18:00

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122305.D
Lab Smp Id: VLCSW-171223 Client Smp ID: VLCSW-171223
Inj Date : 23-DEC-2017 13:38
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171223;VLCSW-171223;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171223.b\8260LL.m
Meth Date : 09-Feb-2018 18:00 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 5 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

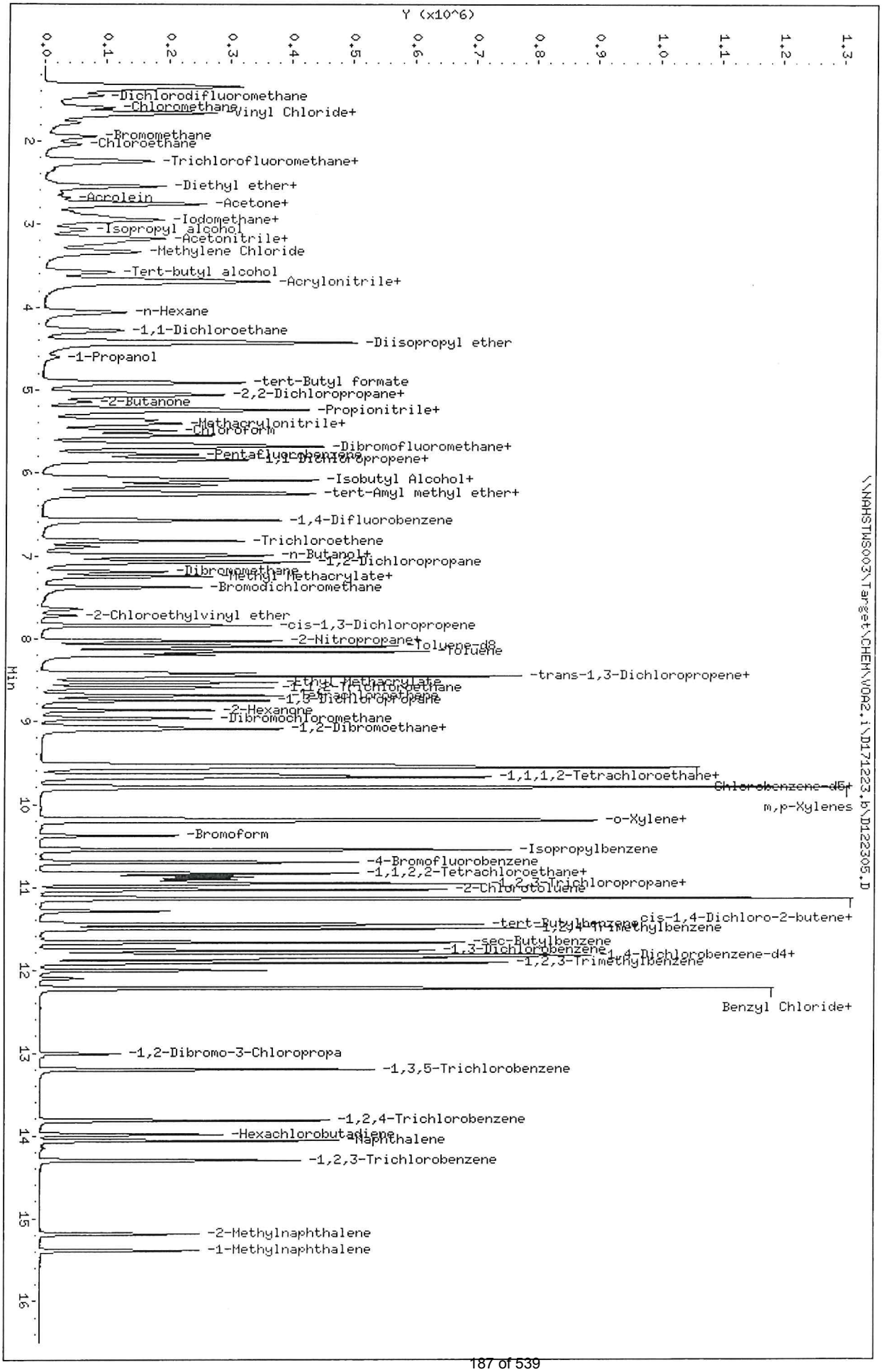
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.657	5.651	(0.978)	170310	44.3147	44.31
*	1 Pentafluorobenzene	168	5.782	5.779	(1.000)	248664	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.680	(0.983)	107711	48.0768	48.07
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	368657	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.055	(1.048)	132073	47.7310	47.73
*	47 Chlorobenzene-d5	117	9.527	9.524	(1.000)	343528	50.0000	
$	48 Toluene-d8	98	8.093	8.090	(0.849)	423889	46.8002	46.80
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	166377	50.3031	50.30
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	162305	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	155355	40.1247	40.12
	53 1,1,2-Trichloroethane	83	8.597	8.593	(0.902)	96911	46.1159	46.11
	32 1,1-Dichloropropene	75	5.856	5.853	(0.891)	137304	47.7500	47.75
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	237541	45.7559	45.75
	11 1,1-Dichloroethene	96	2.753	2.747	(0.476)	95975	46.7641	46.76
	90 1,2,4-Trichlorobenzene	180	13.817	13.814	(1.168)	151624	47.4203	47.42
	89 1,2-Dibromo-3-Chloropropane	75	13.006	13.009	(1.099)	26943	40.4433	40.44
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	124624	47.3493	47.34
	88 1,2-Dichlorobenzene	146	12.223	12.226	(1.033)	242793	41.6179	41.61
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	166749	51.2304	51.23
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	134760	46.4100	46.41
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	250924	41.3309	41.33

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122305.D
Report Date: 09-Feb-2018 18:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.857	11.857	(1.002)	241496	41.5888	41.58
24	2-Butanone	43	5.144	5.144	(0.890)	117041	87.2271	87.22
52	2-Hexanone	43	8.866	8.866	(0.931)	174865	86.8766	86.87
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	271808	87.2117	87.21
10	Acetone	43	2.853	2.856	(0.493)	75373	91.2414	91.24
37	Benzene	78	6.090	6.090	(0.927)	450947	46.4902	46.49
39	Bromodichloromethane	83	7.377	7.377	(1.123)	168392	49.0475	49.04
66	Bromoform	173	10.374	10.374	(1.089)	103982	51.0275	51.02
6	Bromomethane	94	1.941	1.938	(0.336)	98469	58.2268	58.22
19	Carbon Disulfide	76	2.952	2.952	(0.511)	429482	91.6352	91.63
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	138212	39.4695	39.46
59	Chlorobenzene	112	9.553	9.553	(1.003)	314377	44.4372	44.43
7	Chloroethane	64	2.041	2.034	(0.353)	82895	41.2035	41.20
28	Chloroform	83	5.494	5.494	(0.950)	207469	45.7633	45.76
3	Chloromethane	50	1.595	1.595	(0.276)	203858	48.9975	48.99
27	cis-1,2-Dichloroethene	96	5.070	5.067	(0.877)	130031	45.9636	45.96
46	cis-1,3-Dichloropropene	75	7.836	7.839	(1.192)	207633	52.6621	52.66
55	Dibromochloromethane	129	8.969	8.969	(0.941)	143941	48.5314	48.53
2	Dichlorodifluoromethane	85	1.457	1.447	(0.252)	97372	45.8057	45.80
61	Ethylbenzene	106	9.672	9.672	(1.015)	162851	43.0069	43.00
67	Isopropylbenzene	105	10.544	10.548	(1.107)	504017	43.0262	43.02
17	Methylene Chloride	84	3.334	3.334	(0.577)	119053	43.7413	43.74
56	Tetrachloroethene	164	8.690	8.690	(0.912)	97497	45.8862	45.88
50	Toluene	91	8.157	8.157	(0.856)	476289	43.7489	43.74
20	trans-1,2-Dichloroethene	96	3.664	3.668	(0.634)	108020	48.6594	48.65
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	176364	52.5682	52.56
38	Trichloroethene	130	6.819	6.819	(1.038)	125587	45.9933	45.99
8	Trichlorofluoromethane	101	2.259	2.253	(0.391)	142228	46.3886	46.38
5	Vinyl Chloride	62	1.681	1.681	(0.291)	143519	47.0890	47.08
62	m,p-Xylenes	106	9.790	9.790	(1.028)	401887	86.7857	86.78
63	o-Xylene	106	10.175	10.175	(1.068)	214945	44.3673	44.36
M 95	Xylenes (total)	106				616832	131.153	131.15
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	165326	42.7598	42.75
93	1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	126152	45.7886	45.78
79	1,2,4-Trimethylbenzene	105	11.497	11.497	(0.972)	422769	39.1057	39.10
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	408189	38.7713	38.77
26	2,2-Dichloropropane	77	5.048	5.038	(0.873)	167828	46.3271	46.32
54	1,3-Dichloropropane	76	8.754	8.751	(0.919)	192938	45.5202	45.52
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	361183	39.1741	39.17
77	4-Chlorotoluene	91	11.138	11.141	(0.941)	395983	39.4444	39.44
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	394586	39.4962	39.49
29	Bromochloromethane	128	5.365	5.368	(0.928)	65259	48.4733	48.47
74	Bromobenzene	156	10.830	10.830	(0.915)	146758	40.7624	40.76
44	Dibromomethane	93	7.188	7.191	(1.094)	75409	50.1138	50.11
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	59728	40.0518	40.05
73	n-Propylbenzene	91	10.952	10.952	(0.925)	534932	38.9817	38.98
87	n-Butylbenzene	91	12.223	12.223	(1.033)	298500	40.2022	40.20
81	sec-Butylbenzene	105	11.667	11.667	(0.986)	455326	39.0292	39.02
92	Naphthalene	128	14.061	14.061	(1.188)	373959	44.8568	44.85
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	345401	39.1094	39.10
60	1,1,1,2-Tetrachloroethane	131	9.646	9.643	(1.012)	130368	47.5572	47.55
64	Styrene	104	10.198	10.198	(1.070)	353796	45.7879	45.78



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Date : 23-DEC-2017 13:38
Client ID: VLCSW-171223
Sample Info: VLCSW-171223;VLCSW-171223;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122307.D
Report Date: 09-Feb-2018 18:00

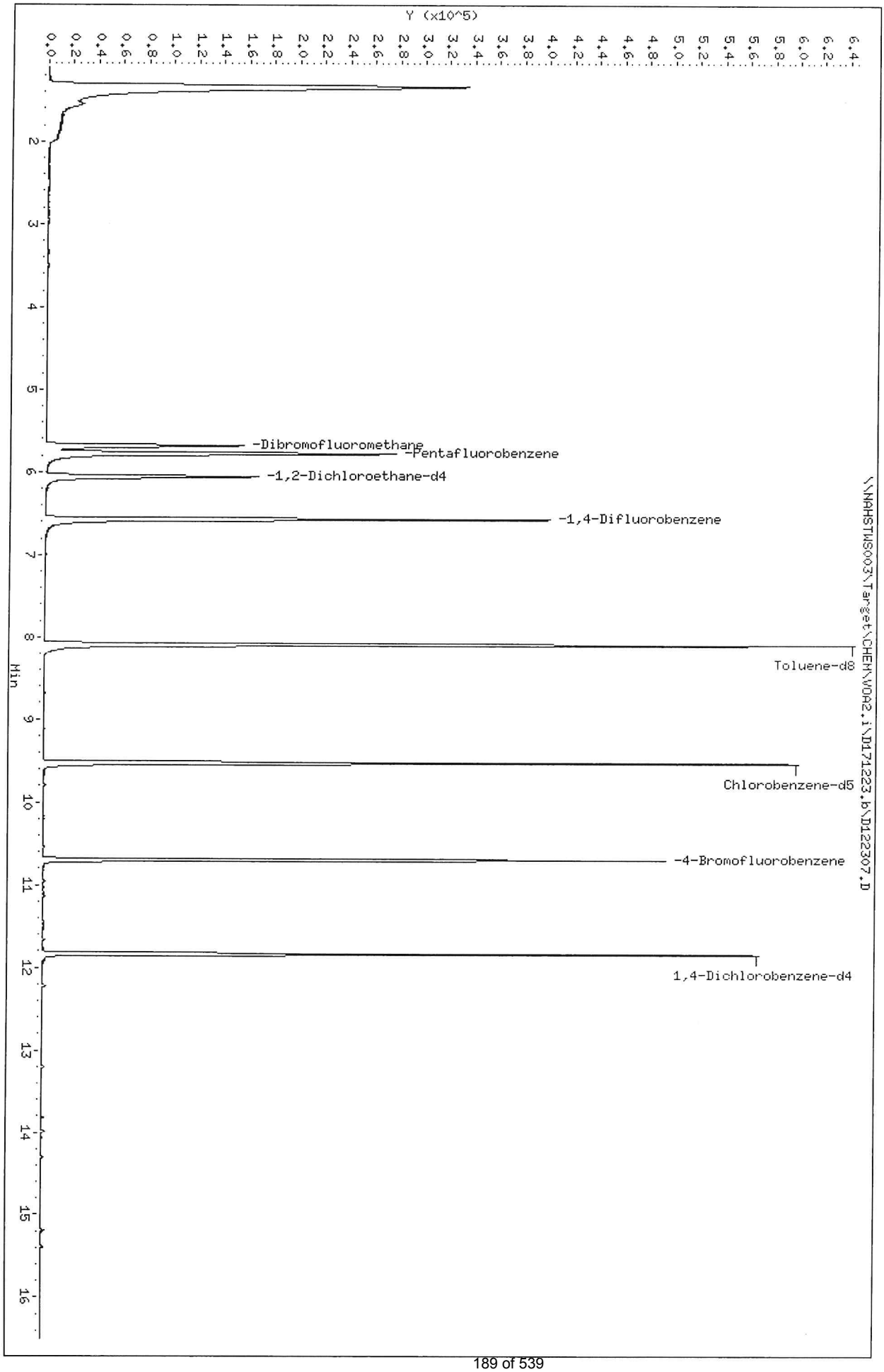
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122307.D
Lab Smp Id: VBLKW-171223 Client Smp ID: VBLKW-171223
Inj Date : 23-DEC-2017 14:27
Operator : AP Inst ID: VOA2.i
Smp Info : VBLKW-171223;VBLKW-171223;3;;BLANK
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171223.b\8260LL.m
Meth Date : 09-Feb-2018 18:00 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 7 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.779	(1.000)	267194	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.680	(0.984)	121445	50.4477	50.44
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	383660	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.059	6.055	(1.049)	135616	45.6125	45.61
* 47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	344355	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	443320	48.8279	48.82
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	161940	48.8440	48.84
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	153297	50.0000	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Date : 23-DEC-2017 14:27
Client ID: VBLKW-171223
Sample Info: VBLKW-171223;VBLKW-171223;3;;BLANK
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
Min
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
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Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122311.D
Report Date: 09-Feb-2018 18:00

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122311.D
Lab Smp Id: HS17120869-01MS Client Smp ID: HS17120869-01MS
Inj Date : 23-DEC-2017 16:05
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120869-01MS;HS17120869-01MS;3;;MS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171223.b\8260LL.m
Meth Date : 09-Feb-2018 18:00 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 11 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

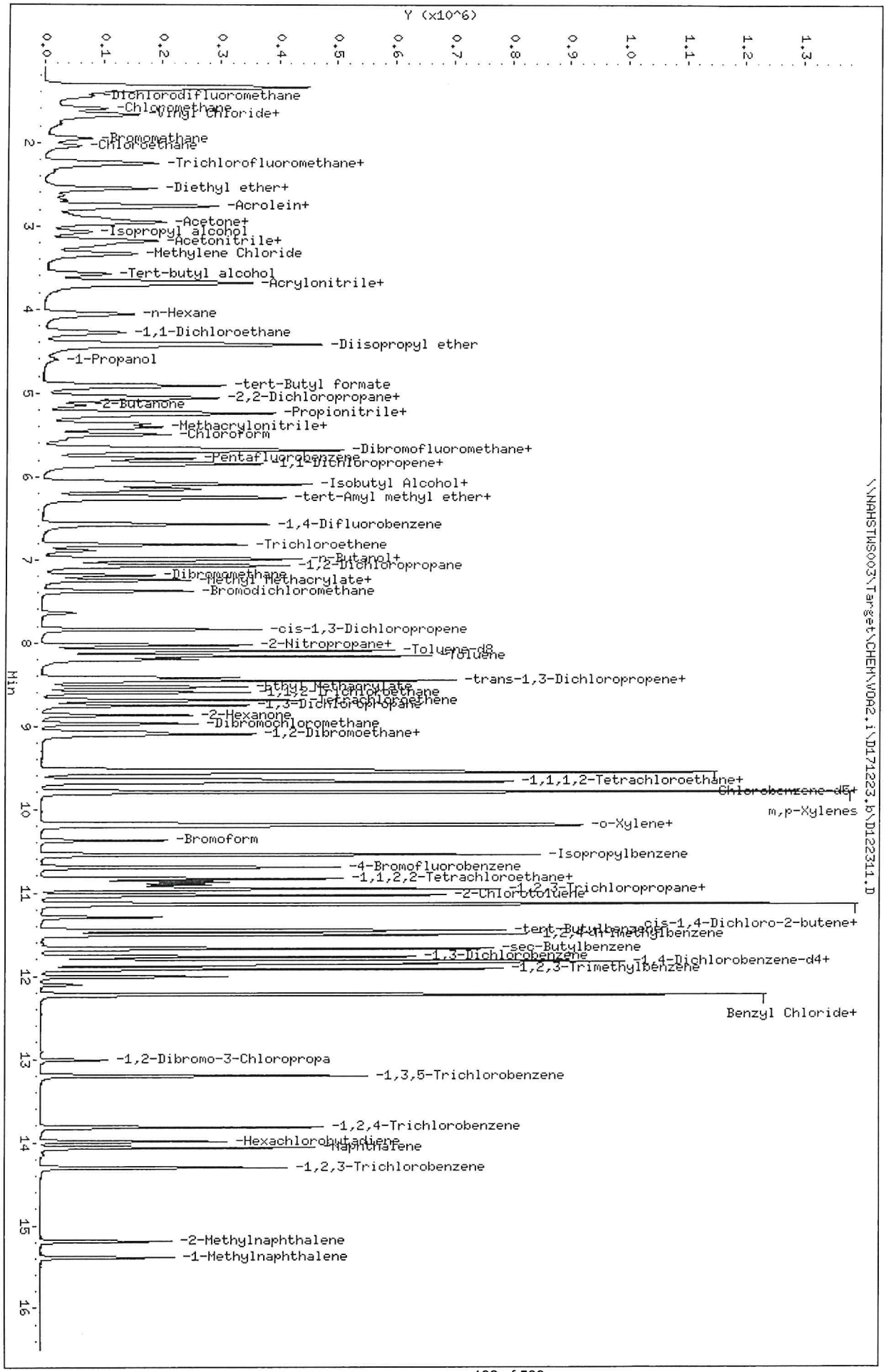
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.651	(0.978)	190514	49.4939	49.49
*	1 Pentafluorobenzene	168	5.782	5.779	(1.000)	249055	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.680	(0.983)	107558	47.9331	47.93
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	373470	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	129606	46.7659	46.76
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	340966	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	425357	47.3151	47.31
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	165370	50.3743	50.37
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	159812	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	145706	38.2197	38.21
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	92448	44.3227	44.32
	32 1,1-Dichloropropene	75	5.850	5.853	(0.890)	153837	52.9091	52.90
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	242192	46.5785	46.57
	11 1,1-Dichloroethene	96	2.753	2.747	(0.476)	100714	48.9962	48.99
	90 1,2,4-Trichlorobenzene	180	13.814	13.814	(1.167)	151810	48.2191	48.21
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	25332	38.6426	38.64
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	119010	45.5561	45.55
	88 1,2-Dichlorobenzene	146	12.223	12.226	(1.033)	243717	42.4280	42.42
	33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	161367	48.9335	48.93
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	135283	45.9897	45.98
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	257559	43.0856	43.08

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122311.D
Report Date: 09-Feb-2018 18:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.857	11.857	(1.002)	244454	42.7549	42.75
24	2-Butanone	43	5.144	5.144	(0.890)	105196	78.2763	78.27
52	2-Hexanone	43	8.866	8.866	(0.931)	155889	78.0309	78.03
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.843)	247661	80.0611	80.06
10	Acetone	43	2.859	2.856	(0.494)	67051	80.7776	80.77
37	Benzene	78	6.090	6.090	(0.927)	468622	47.6898	47.68
39	Bromodichloromethane	83	7.377	7.377	(1.123)	163866	47.1141	47.11
66	Bromoform	173	10.374	10.374	(1.089)	96205	47.5658	47.56
6	Bromomethane	94	1.941	1.938	(0.336)	94361	55.6019	55.60
19	Carbon Disulfide	76	2.955	2.952	(0.511)	469701	100.059	100.05
34	Carbon Tetrachloride	117	5.837	5.834	(0.888)	153542	43.2822	43.28
59	Chlorobenzene	112	9.553	9.553	(1.003)	320612	45.6590	45.65
7	Chloroethane	64	2.038	2.034	(0.352)	85107	42.2366	42.23
28	Chloroform	83	5.490	5.494	(0.950)	210459	46.3499	46.34
3	Chloromethane	50	1.595	1.595	(0.276)	181279	43.3950	43.39
27	cis-1,2-Dichloroethene	96	5.070	5.067	(0.877)	132610	46.8016	46.80
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	199907	50.0491	50.04
55	Dibromochloromethane	129	8.969	8.969	(0.942)	139645	47.4368	47.43
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	66013	31.0051	31.00
61	Ethylbenzene	106	9.668	9.672	(1.015)	173829	46.2510	46.25
67	Isopropylbenzene	105	10.544	10.548	(1.107)	555921	47.8136	47.81
17	Methylene Chloride	84	3.331	3.334	(0.576)	121277	44.4884	44.48
56	Tetrachloroethene	164	8.690	8.690	(0.912)	111656	53.2079	53.20
50	Toluene	91	8.157	8.157	(0.856)	501235	46.3863	46.38
20	trans-1,2-Dichloroethene	96	3.664	3.668	(0.634)	116644	52.4618	52.46
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	168364	49.5370	49.53
38	Trichloroethene	130	6.819	6.819	(1.038)	134111	48.4820	48.48
8	Trichlorofluoromethane	101	2.256	2.253	(0.390)	162292	52.8495	52.84
5	Vinyl Chloride	62	1.681	1.681	(0.291)	146440	47.9720	47.97
62	m,p-Xylenes	106	9.790	9.790	(1.028)	425619	92.6011	92.60
63	o-Xylene	106	10.179	10.175	(1.069)	222639	46.3008	46.30
M 95	Xylenes (total)	106				648258	138.902	138.90
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	150445	39.5180	39.51
93	1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	124785	45.9990	45.99
79	1,2,4-Trimethylbenzene	105	11.501	11.497	(0.972)	442670	41.5853	41.58
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	441798	42.6182	42.61
26	2,2-Dichloropropane	77	5.041	5.038	(0.872)	178373	49.1606	49.16
54	1,3-Dichloropropane	76	8.754	8.751	(0.919)	184979	43.9703	43.97
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	377918	41.6286	41.62
77	4-Chlorotoluene	91	11.138	11.141	(0.941)	413865	41.8687	41.86
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	431312	43.8457	43.84
29	Bromochloromethane	128	5.365	5.368	(0.928)	64102	47.5391	47.53
74	Bromobenzene	156	10.833	10.830	(0.915)	149400	42.1435	42.14
44	Dibromomethane	93	7.188	7.191	(1.094)	74038	48.5686	48.56
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	64488	43.9606	43.96
73	n-Propylbenzene	91	10.955	10.952	(0.926)	589302	43.6137	43.61
87	n-Butylbenzene	91	12.223	12.223	(1.033)	332389	45.4648	45.46
81	sec-Butylbenzene	105	11.667	11.667	(0.986)	513525	44.7045	44.70
92	Naphthalene	128	14.061	14.061	(1.188)	349842	42.5921	42.59
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	380032	43.7019	43.70
60	1,1,1,2-Tetrachloroethane	131	9.646	9.643	(1.013)	127588	46.8928	46.89
64	Styrene	104	10.198	10.198	(1.071)	357243	46.5814	46.58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-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
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-Trichloroethene
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-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
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-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
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Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

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Report Date: 09-Feb-2018 18:00

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122312.D
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Inj Date : 23-DEC-2017 16:30
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120869-01MSD;HS17120869-01MSD;3;;MSD
Misc Info : HS15080001;WATER;0;1;
Comment :
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Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
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Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.651	(0.978)	188281	48.7467	48.74
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	249909	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.680	(0.983)	107659	47.8142	47.81
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	374244	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.048)	132074	47.4936	47.49
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	339610	50.0000	
$	48 Toluene-d8	98	8.093	8.090	(0.850)	422492	47.1841	47.18
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	165537	50.6265	50.62
*	70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	159663	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	146596	38.4890	38.48
	53 1,1,2-Trichloroethane	83	8.594	8.593	(0.902)	92487	44.5185	44.51
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	151576	52.0081	52.00
	22 1,1-Dichloroethane	63	4.278	4.277	(0.740)	238650	45.7405	45.74
	11 1,1-Dichloroethene	96	2.757	2.747	(0.477)	104941	50.8781	50.87
	90 1,2,4-Trichlorobenzene	180	13.818	13.814	(1.168)	153422	48.7766	48.77
	89 1,2-Dibromo-3-Chloropropane	75	13.006	13.009	(1.099)	25449	38.8543	38.85
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	118571	45.5692	45.56
	88 1,2-Dichlorobenzene	146	12.223	12.226	(1.033)	239832	41.7906	41.79
	33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	164586	49.8082	49.80
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	135905	46.1056	46.10
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	254516	42.6163	42.61

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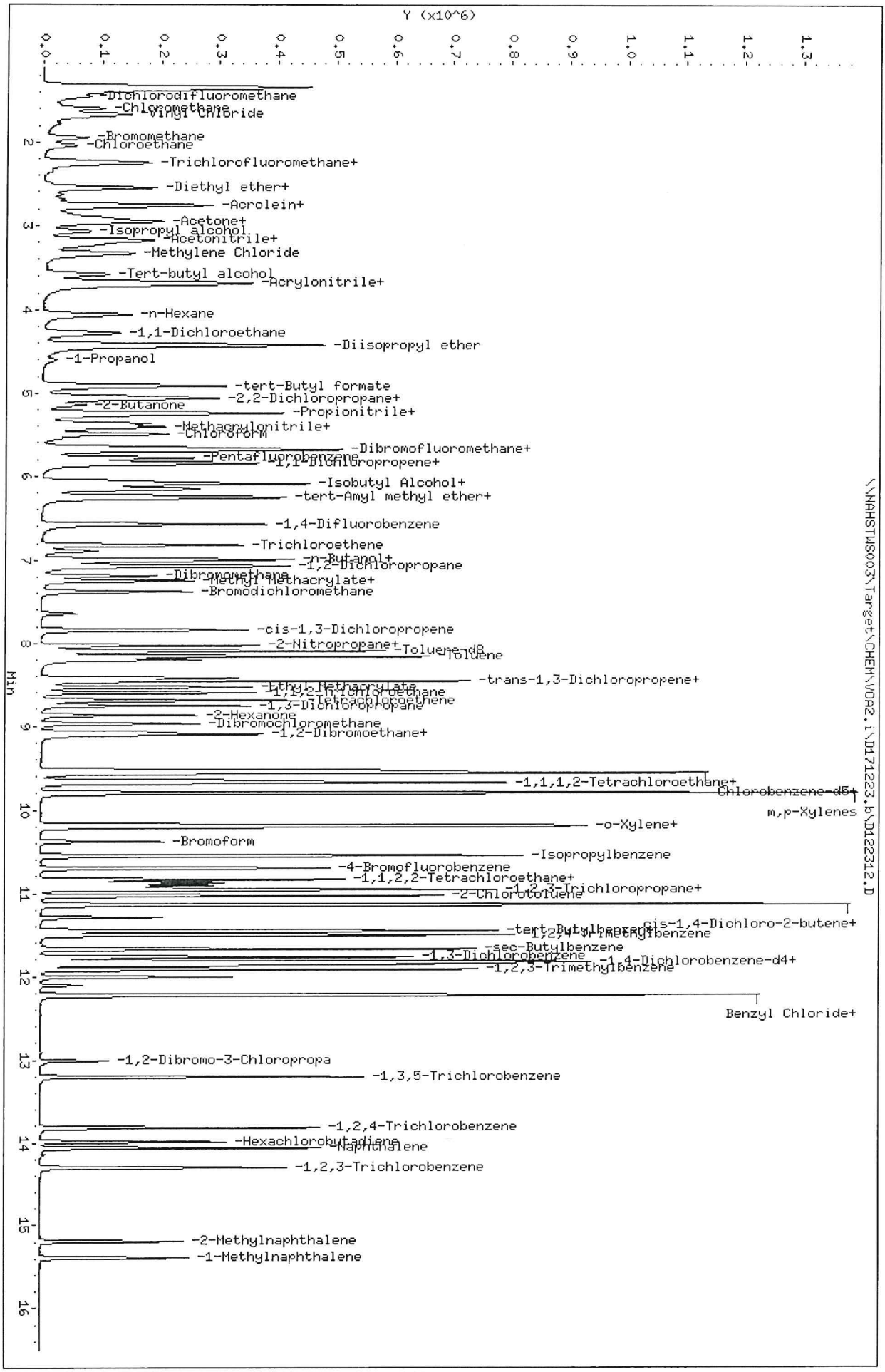
Report Date: 09-Feb-2018 18:00

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	84 1,4-Dichlorobenzene	146	11.857	11.857	(1.002)	240495	42.1017	42.10
	24 2-Butanone	43	5.144	5.144	(0.890)	109014	80.8400	80.84
	52 2-Hexanone	43	8.866	8.866	(0.931)	163248	82.0407	82.04
	45 4-Methyl-2-Pentanone	43	8.026	8.025	(0.843)	254344	82.5498	82.54
	10 Acetone	43	2.859	2.856	(0.495)	71500	85.9902	85.99
	37 Benzene	78	6.091	6.090	(0.927)	462503	46.9697	46.96
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	164714	47.2600	47.26
	66 Bromoform	173	10.374	10.374	(1.089)	95950	47.6292	47.62
	6 Bromomethane	94	1.941	1.938	(0.336)	88775	51.9755	51.97
	19 Carbon Disulfide	76	2.955	2.952	(0.511)	457900	97.2118	97.21
	34 Carbon Tetrachloride	117	5.831	5.834	(0.887)	158726	44.6510	44.65
	59 Chlorobenzene	112	9.553	9.553	(1.003)	320303	45.7972	45.79
	7 Chloroethane	64	2.031	2.034	(0.352)	81857	40.4849	40.48
	28 Chloroform	83	5.497	5.494	(0.951)	205478	45.0983	45.09
	3 Chloromethane	50	1.595	1.595	(0.276)	176010	41.9588	41.95
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	129639	45.5967	45.59
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	200573	50.1120	50.11
	55 Dibromochloromethane	129	8.969	8.969	(0.942)	137325	46.8349	46.83
	2 Dichlorodifluoromethane	85	1.451	1.447	(0.251)	65482	30.6506	30.65
	61 Ethylbenzene	106	9.672	9.672	(1.015)	172498	46.0801	46.08
	67 Isopropylbenzene	105	10.545	10.548	(1.107)	547243	47.2552	47.25
	17 Methylene Chloride	84	3.331	3.334	(0.576)	116740	42.6778	42.67
	56 Tetrachloroethene	164	8.687	8.690	(0.912)	110223	52.7195	52.71
	50 Toluene	91	8.157	8.157	(0.856)	493113	45.8168	45.81
	20 trans-1,2-Dichloroethene	96	3.665	3.668	(0.634)	115600	51.8145	51.81
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	168874	49.5843	49.58
	38 Trichloroethene	130	6.816	6.819	(1.037)	133442	48.1404	48.14
	8 Trichlorofluoromethane	101	2.253	2.253	(0.390)	157158	51.0027	51.00
	5 Vinyl Chloride	62	1.682	1.681	(0.291)	141802	46.2939	46.29
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	417883	91.2810	91.28
	63 o-Xylene	106	10.176	10.175	(1.068)	218172	45.5530	45.55
M	95 Xylenes (total)	106				636055	136.834	136.83
	71 1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	151948	39.9500	39.95
	93 1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	128210	47.3056	47.30
	79 1,2,4-Trimethylbenzene	105	11.498	11.497	(0.972)	436469	41.0410	41.04
	75 1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	433636	41.8699	41.86
	26 2,2-Dichloropropane	77	5.044	5.038	(0.873)	176002	48.3414	48.34
	54 1,3-Dichloropropane	76	8.754	8.751	(0.919)	182806	43.6273	43.62
	76 2-Chlorotoluene	91	11.026	11.029	(0.932)	369646	40.7554	40.75
	77 4-Chlorotoluene	91	11.138	11.141	(0.941)	406826	41.1950	41.19
	82 p-Isopropyltoluene	119	11.819	11.818	(0.999)	427874	43.5368	43.53
	29 Bromochloromethane	128	5.365	5.368	(0.928)	65044	48.0729	48.07
	74 Bromobenzene	156	10.830	10.830	(0.915)	147854	41.7463	41.74
	44 Dibromomethane	93	7.188	7.191	(1.094)	73524	48.1317	48.13
	91 Hexachlorobutadiene	225	13.988	13.988	(1.182)	64345	43.9035	43.90
	73 n-Propylbenzene	91	10.955	10.952	(0.926)	578626	42.8636	42.86
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	332489	45.5209	45.52
	81 sec-Butylbenzene	105	11.668	11.667	(0.986)	504751	43.9817	43.98
	92 Naphthalene	128	14.062	14.061	(1.188)	353793	43.1198	43.11
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	375533	43.2248	43.22
	60 1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	128681	47.4834	47.48
	64 Styrene	104	10.195	10.198	(1.070)	354313	46.3838	46.38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-Chloromethane
-Vinyl Chloride
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
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-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
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-n-Butanol+
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-2-Nitropropane+
Toluene-d8
Toluene
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-1,3-Dichloropropane
-2-Hexanone
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Chlorobenzene-d5+
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-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
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-Hexachlorobutadiene
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Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

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Report Date: 09-Feb-2018 18:00

ALS Laboratory Group

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Inj Date : 23-DEC-2017 19:24
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Processing Host: NAHSTW7056

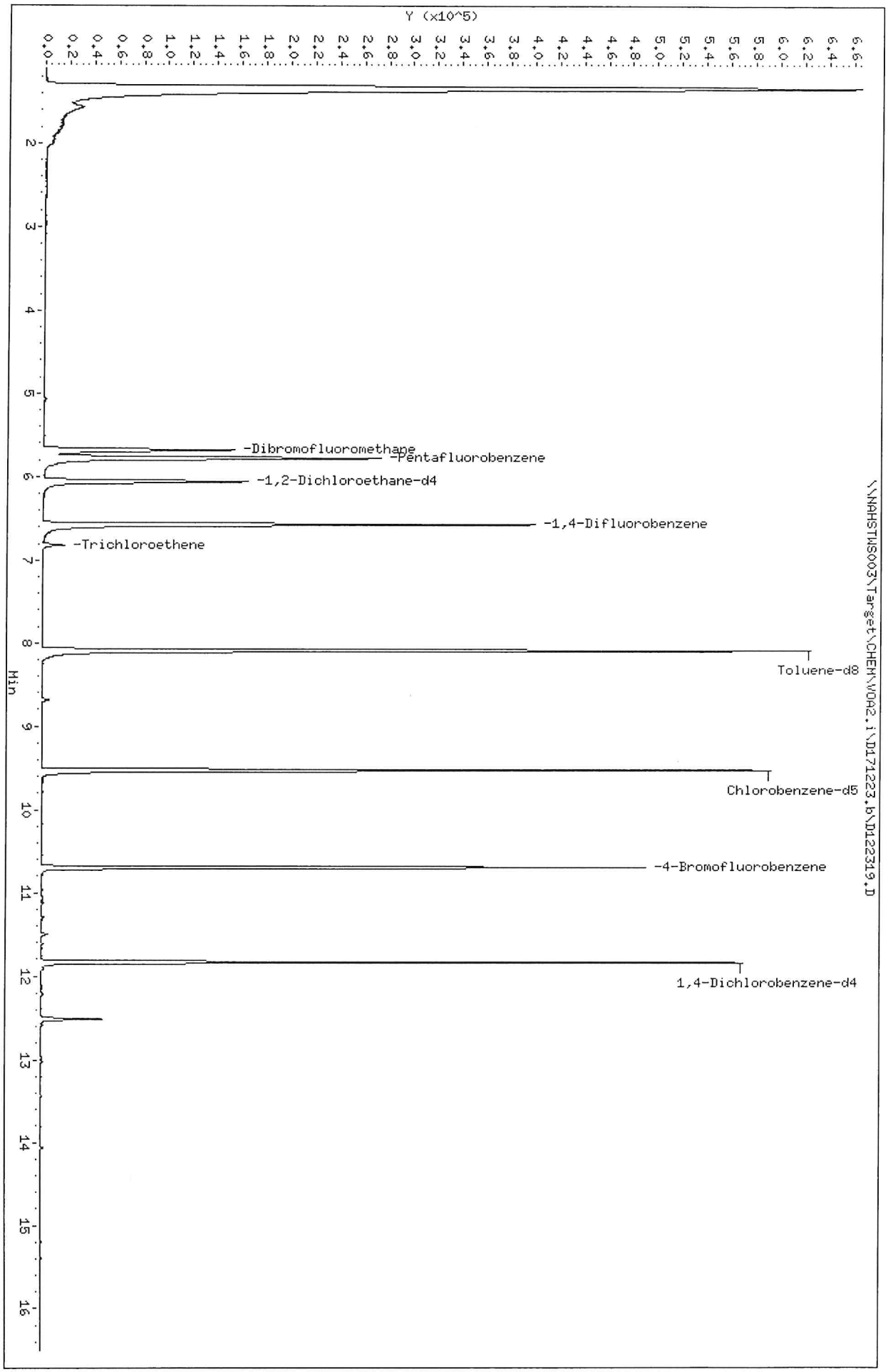
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.779	(1.000)	266398	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.680	(0.983)	119674	49.8606	49.86
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	379871	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	139606	47.0947	47.09
* 47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	343325	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	438214	48.4103	48.41
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	162016	49.0135	49.01
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	154924	50.0000	
38 Trichloroethene	130	6.816	6.819	(1.038)	7175	2.55010	2.55(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 23-DEC-2017 19:24
Client ID: HS17120868-06
Sample Info: HS17120868-06;HS17120868-06;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
-Trichloroethene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122319.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122319.D

Date : 23-DEC-2017 19:24

Client ID: HS17120868-06

Instrument: VOA2.i

Sample Info: HS17120868-06;HS17120868-06;;;

Purge Volume: 5.0

Operator: AP

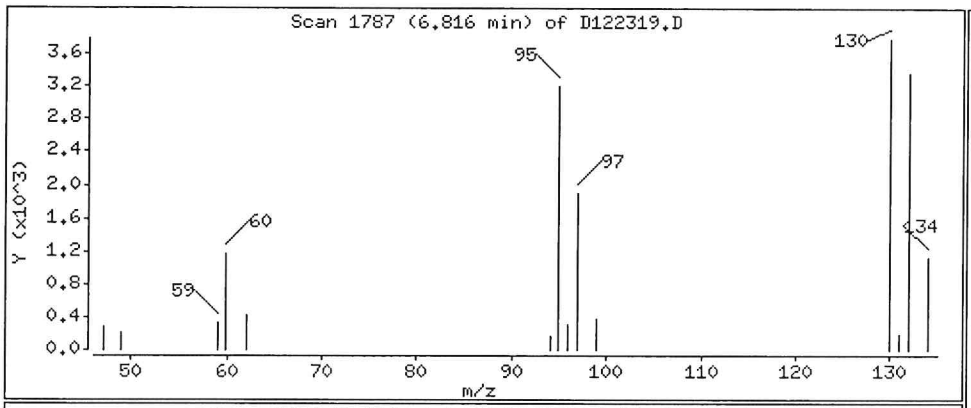
Column phase: DB624

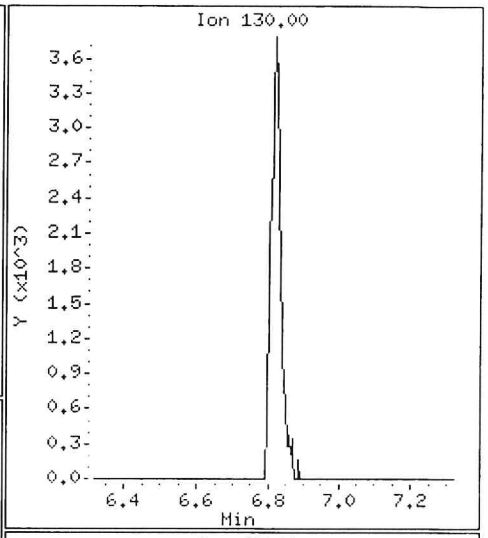
Column diameter: 0.18

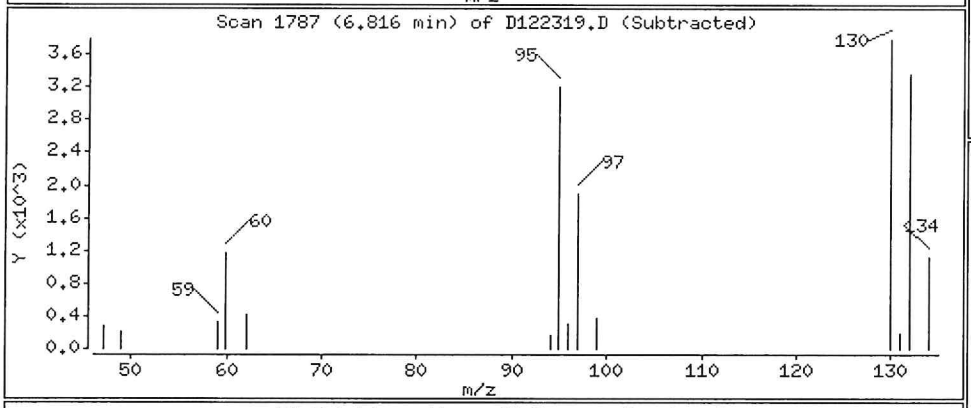
38 Trichloroethene

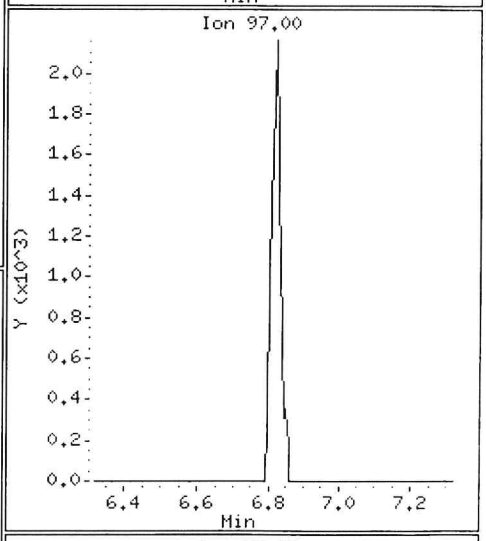
Concentration: 2.55 ug/l

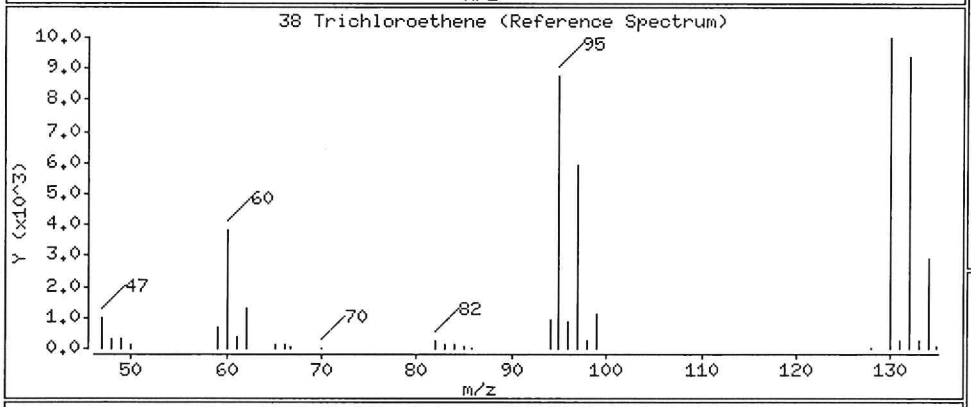
Review Code:

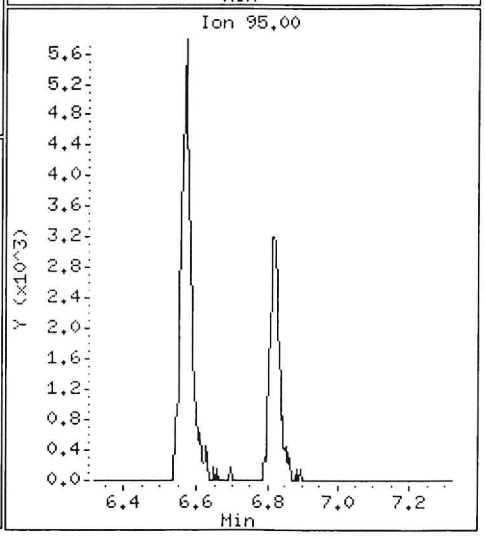


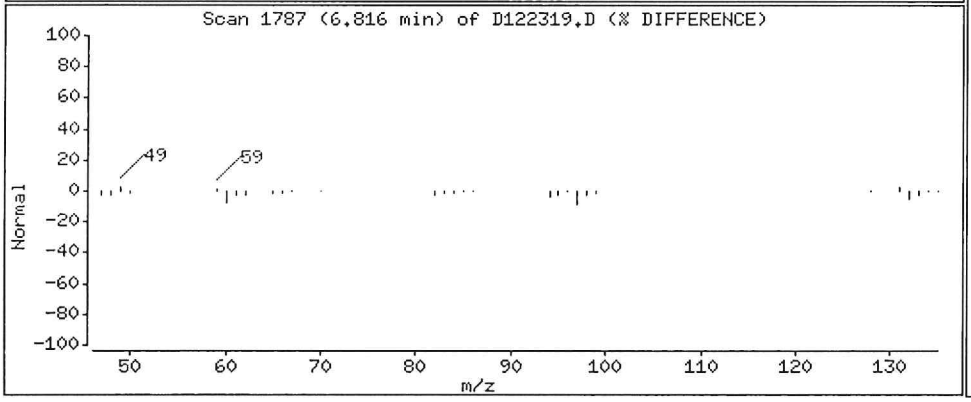












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Report Date: 09-Feb-2018 18:00

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122320.D
Lab Smp Id: HS17120868-07 Client Smp ID: HS17120868-07
Inj Date : 23-DEC-2017 19:49
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-07;HS17120868-07;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171223.b\8260LL.m
Meth Date : 09-Feb-2018 18:00 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

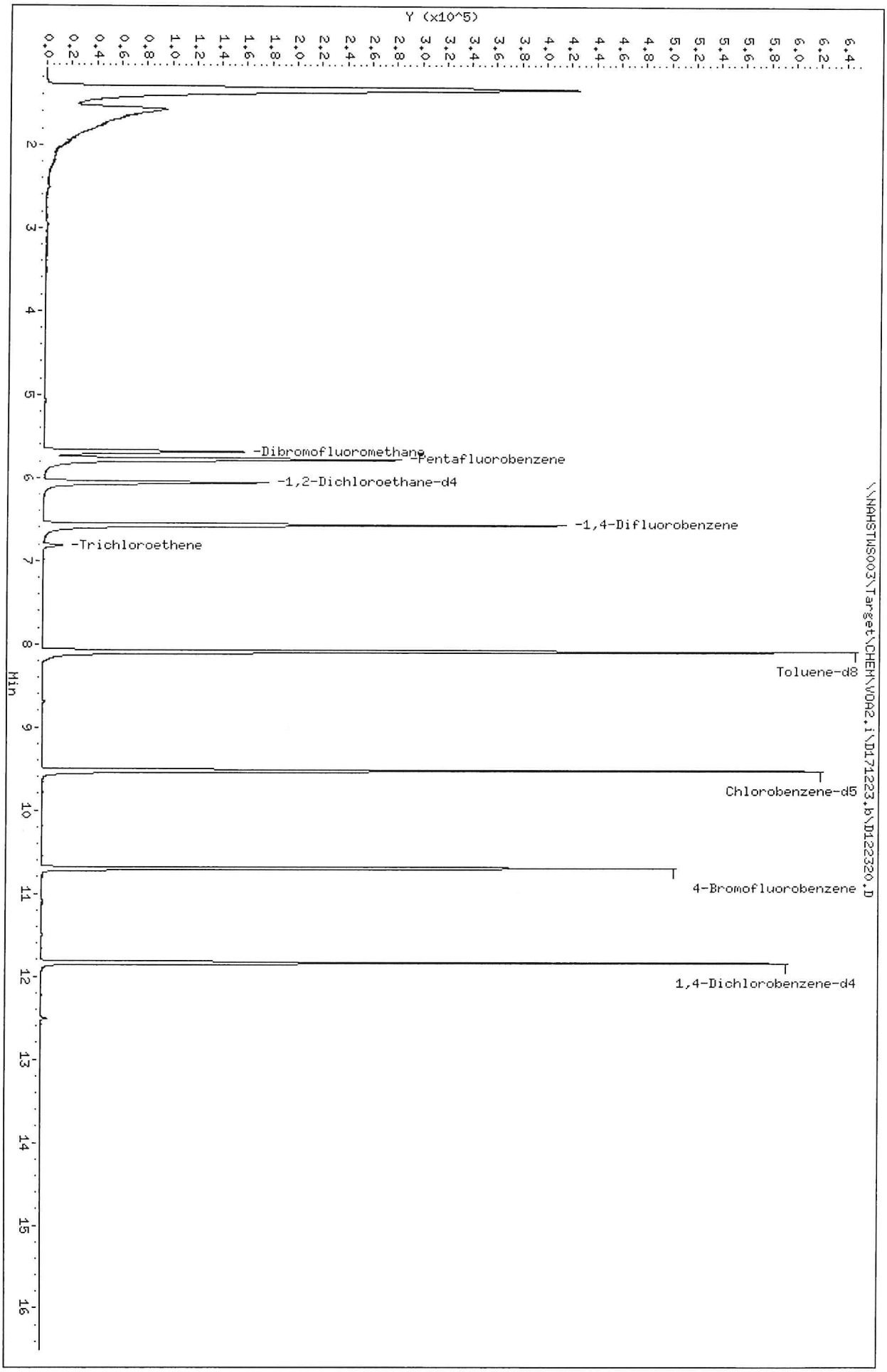
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.779	(1.000)	277835	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.680	(0.984)	124501	49.7364	49.73
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	392929	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	145257	46.9839	46.98
* 47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	356788	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	455211	48.3905	48.39
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	168240	48.9759	48.97
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	157661	50.0000	
38 Trichloroethene	130	6.822	6.819	(1.039)	6177	2.12244	2.12(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 23-DEC-2017 19:49
Client ID: HS17120868-07
Sample Info: HS17120868-07;HS17120868-07;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
-Trichloroethene
Toluene-d8
Chlorobenzene-d5
4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122320.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122320.D

Date : 23-DEC-2017 19:49

Client ID: HS17120868-07

Instrument: VOA2.i

Sample Info: HS17120868-07;HS17120868-07;;;

Purge Volume: 5.0

Operator: AP

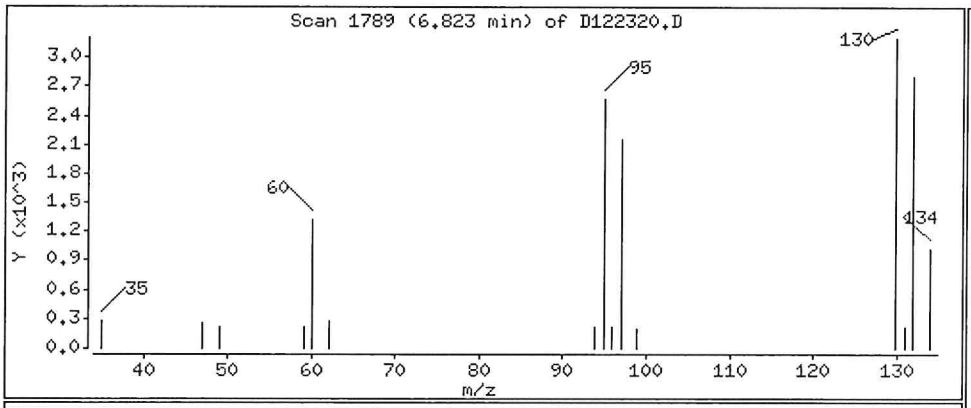
Column phase: DB624

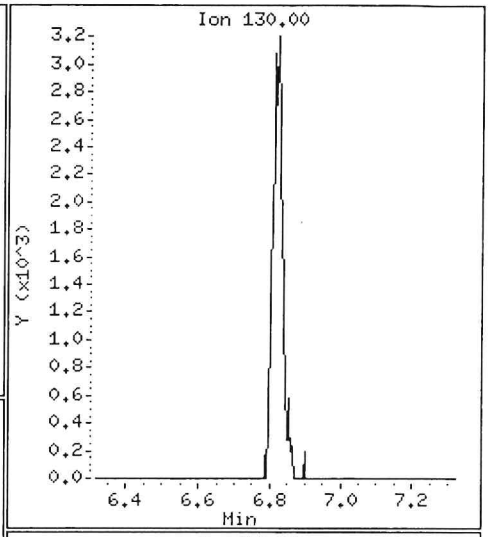
Column diameter: 0.18

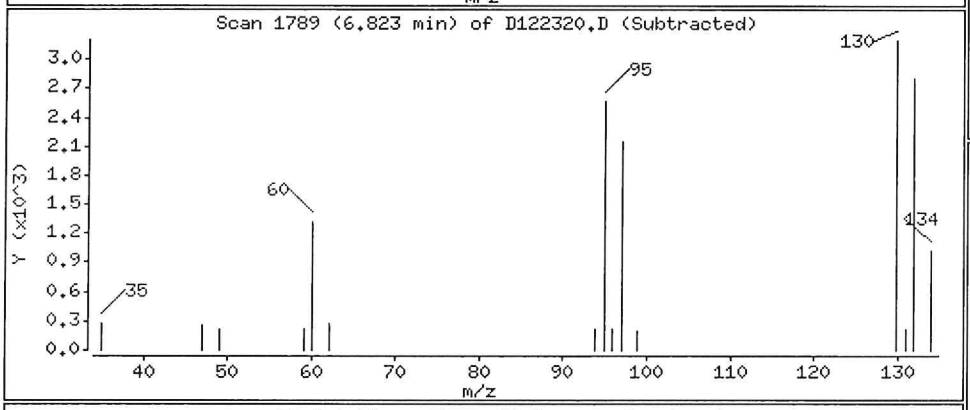
38 Trichloroethene

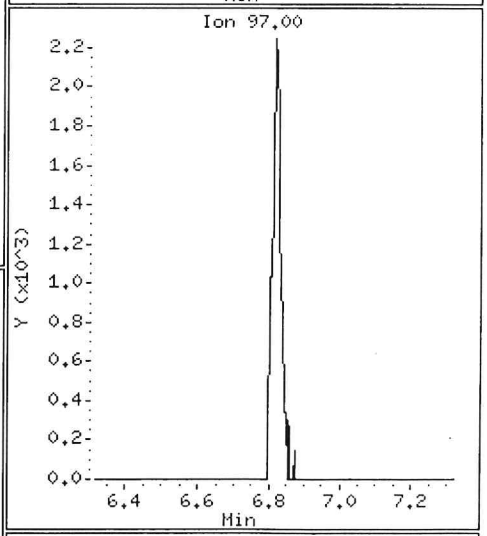
Concentration: 2.12 ug/l

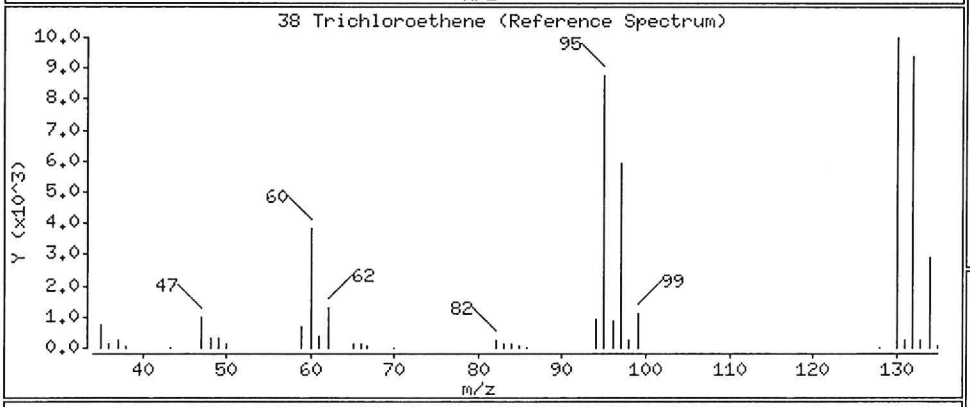
Review Code:

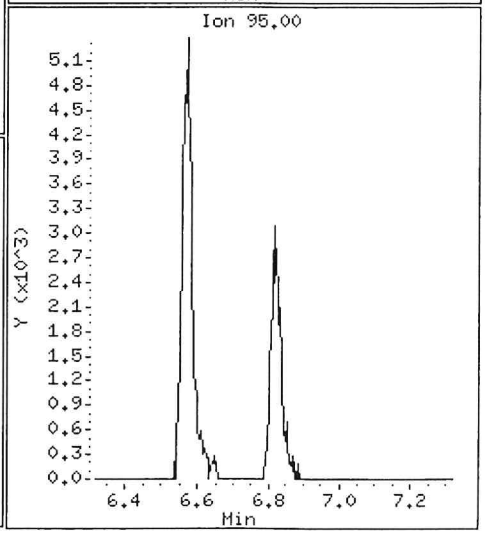


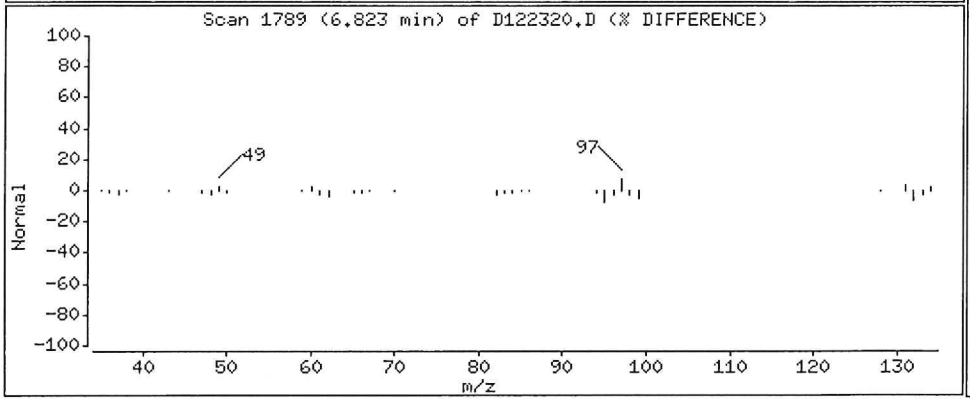












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122327.D
Report Date: 09-Feb-2018 18:00

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122327.D
Lab Smp Id: HS17120868-05 Client Smp ID: HS17120868-05
Inj Date : 23-DEC-2017 22:44
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120868-05;HS17120868-05;;;
Misc Info : HS15080001;WATER;0;5;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171223.b\8260LL.m
Meth Date : 09-Feb-2018 18:00 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 26
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

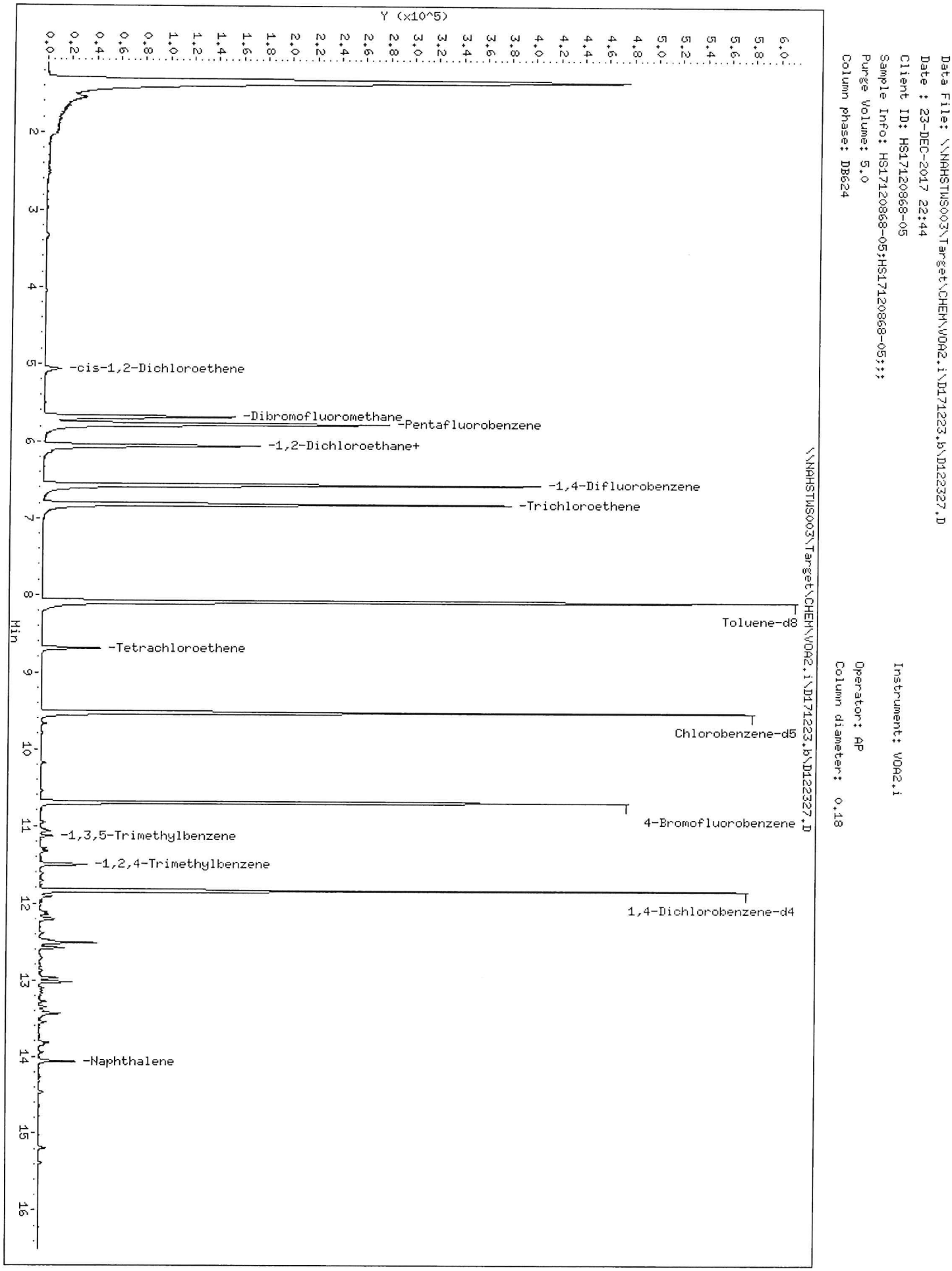
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	5.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.773	5.779	(1.000)	269482	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.680	(0.984)	119667	49.2871	49.28
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	382514	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.049)	141186	47.0827	47.08
* 47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	340111	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	429644	47.9121	47.91
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	159083	48.5810	48.58
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	151350	50.0000	
33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	3346	0.89262	4.46(a)
27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.878)	7802	2.54481	12.72(a)
56 Tetrachloroethene	164	8.687	8.690	(0.912)	11916	4.16572	20.82(a)
38 Trichloroethene	130	6.819	6.819	(1.038)	152187	53.7158	268.57
79 1,2,4-Trimethylbenzene	105	11.498	11.497	(0.972)	22725	2.25419	11.27(a)
75 1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	6153	0.62674	3.13(a)
92 Naphthalene	128	14.065	14.061	(1.188)	25531	2.79432	13.97(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Client ID: HS17120868-05
Sample Info: HS17120868-05;HS17120868-05;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
Min
\\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122327.D
-cis-1,2-Dichloroethene
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane+
-1,4-Difluorobenzene
-Trichloroethene
Toluene-d8
-Tetrachloroethene
Chlorobenzene-d5
4-Bromofluorobenzene
-1,3,5-Trimethylbenzene
-1,2,4-Trimethylbenzene
1,4-Dichlorobenzene-d4
-Naphthalene

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122327.D

Date : 23-DEC-2017 22:44

Client ID: HS17120868-05

Instrument: VOA2.i

Sample Info: HS17120868-05;HS17120868-05;;;

Purge Volume: 5.0

Operator: AP

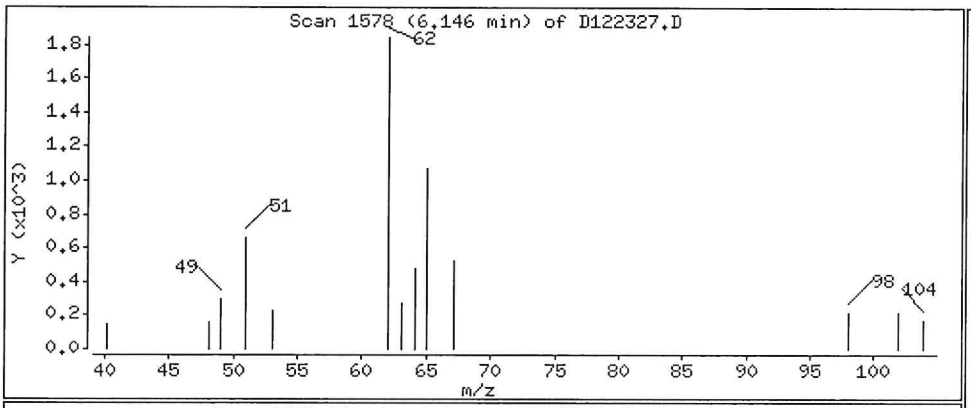
Column phase: DB624

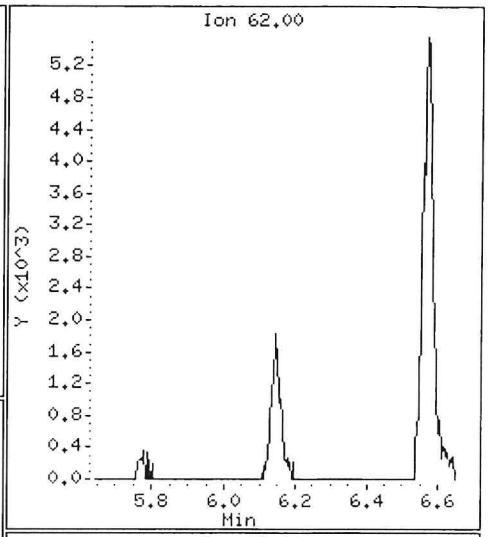
Column diameter: 0.18

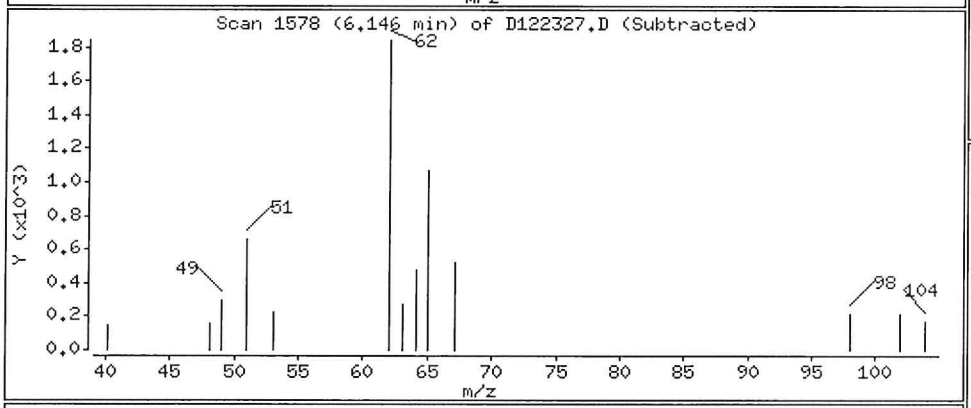
33 1,2-Dichloroethane

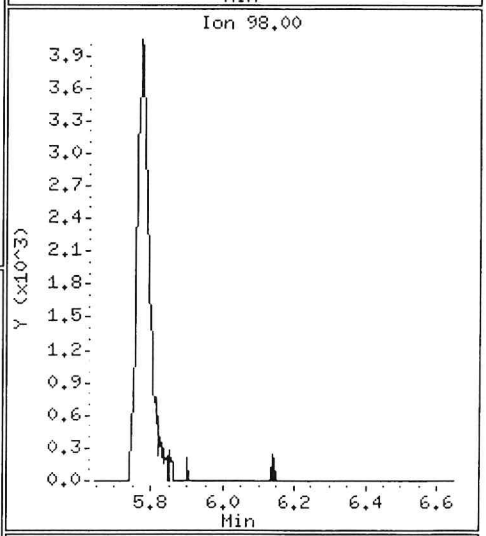
Concentration: 4.46 ug/l

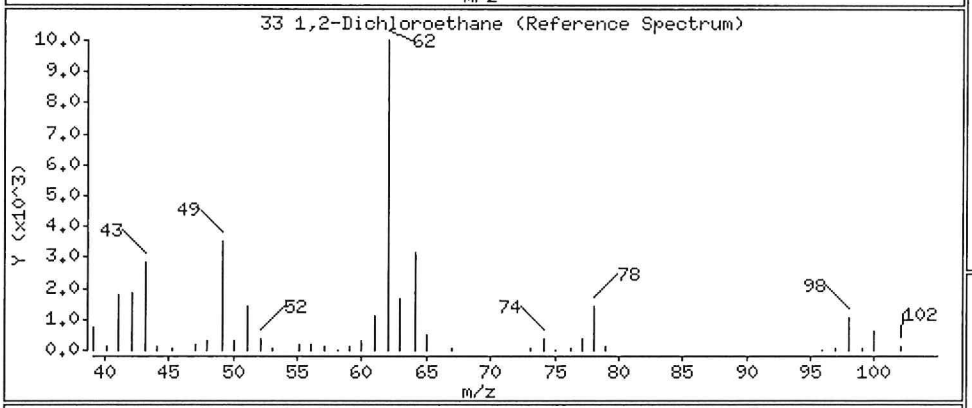
Review Code:

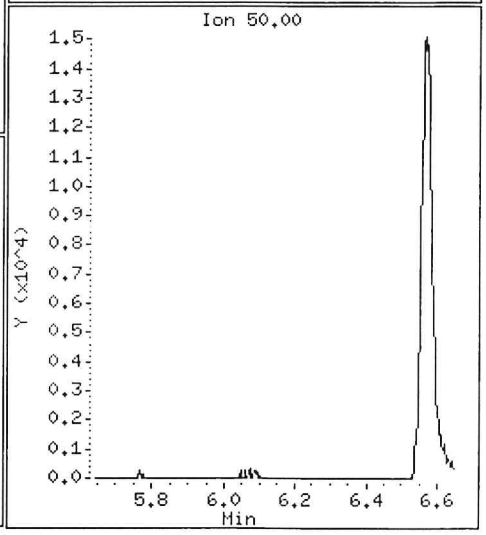


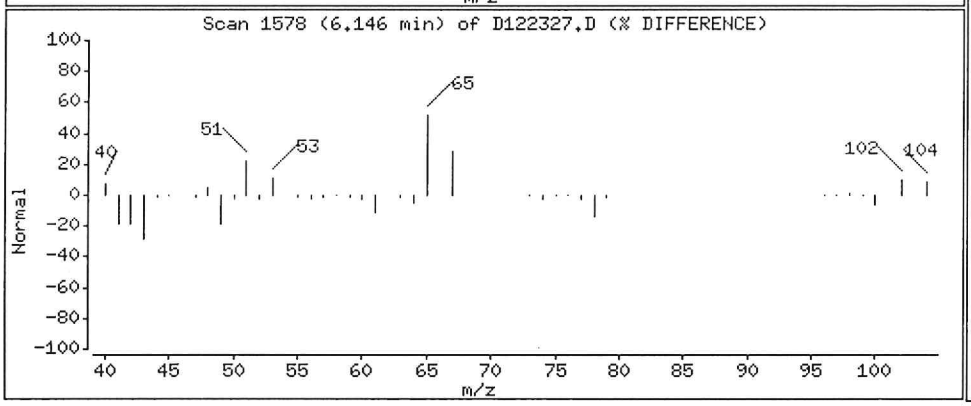












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122327.D

Date : 23-DEC-2017 22:44

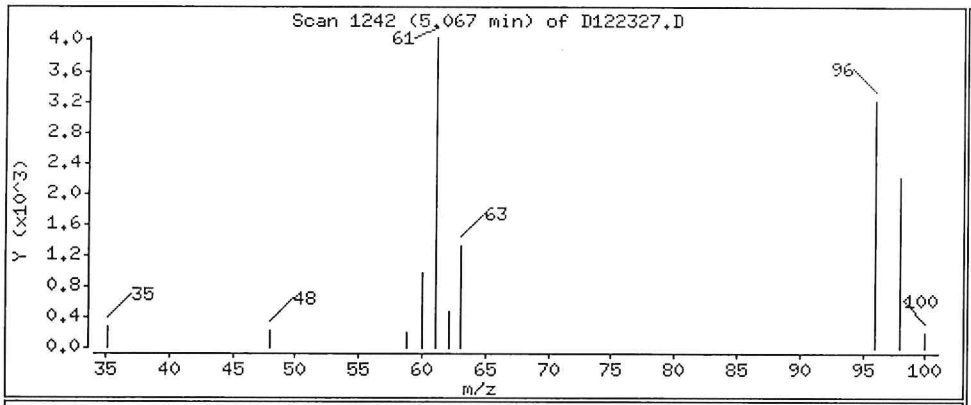
Client ID: HS17120868-05 Instrument: VOA2.i

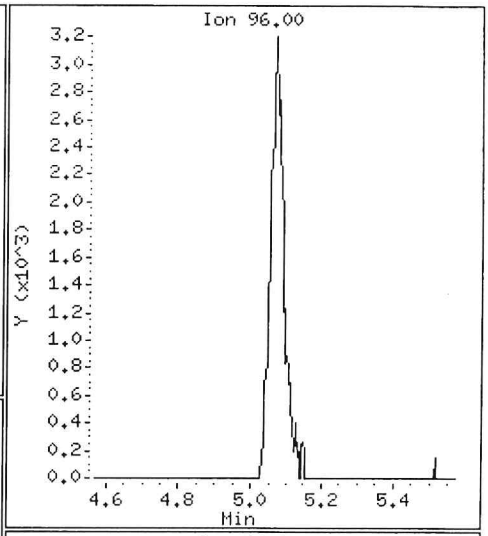
Sample Info: HS17120868-05;HS17120868-05;;;

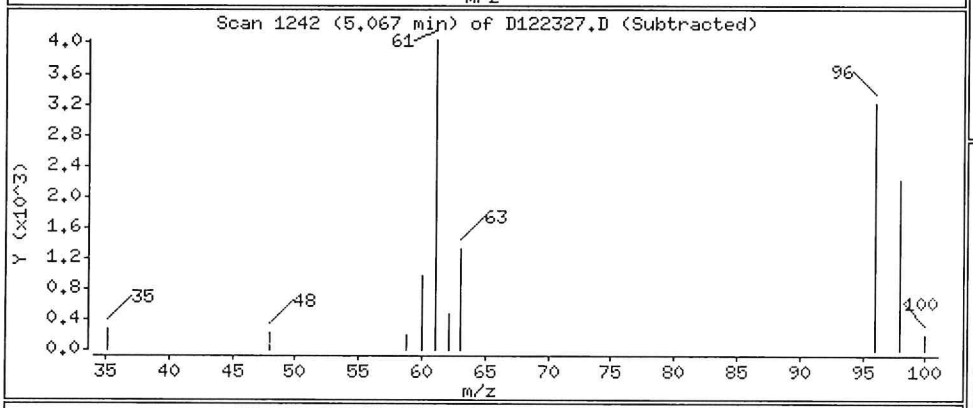
Purge Volume: 5.0 Operator: AP

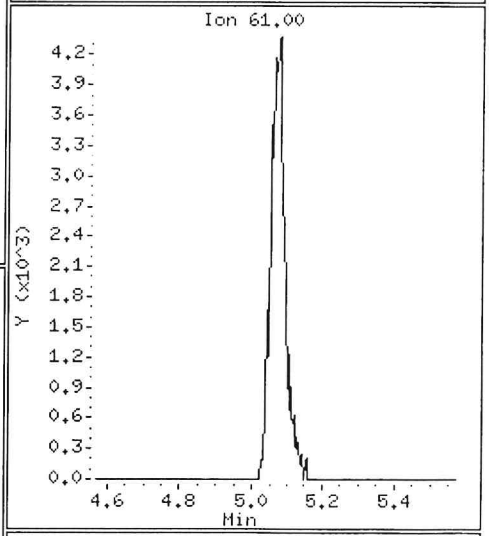
Column phase: DB624 Column diameter: 0.18

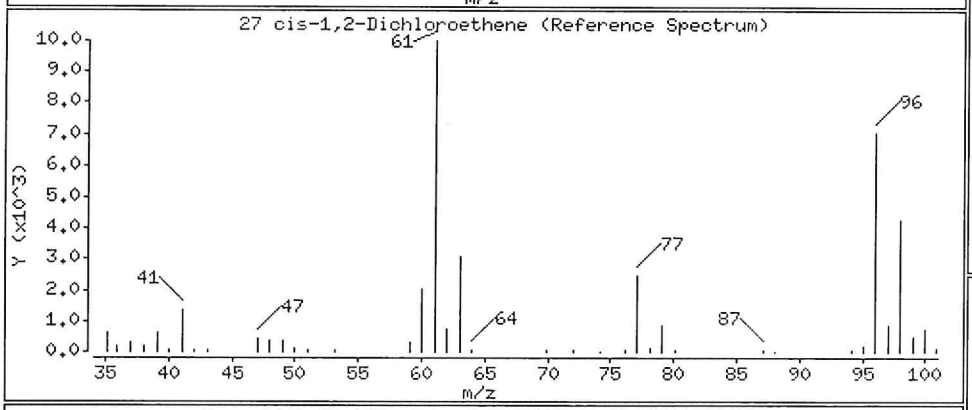
27 cis-1,2-Dichloroethene Concentration: 12.72 ug/l Review Code:

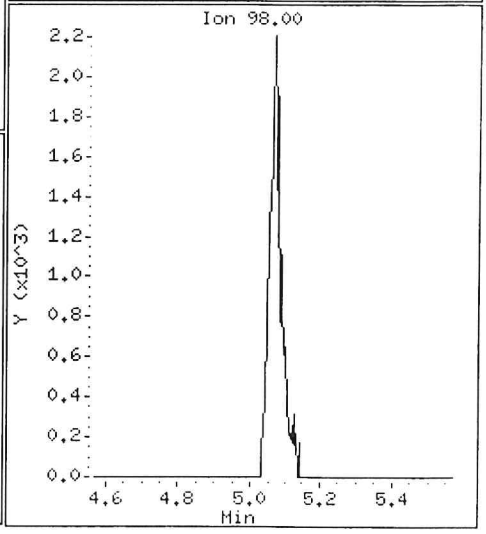


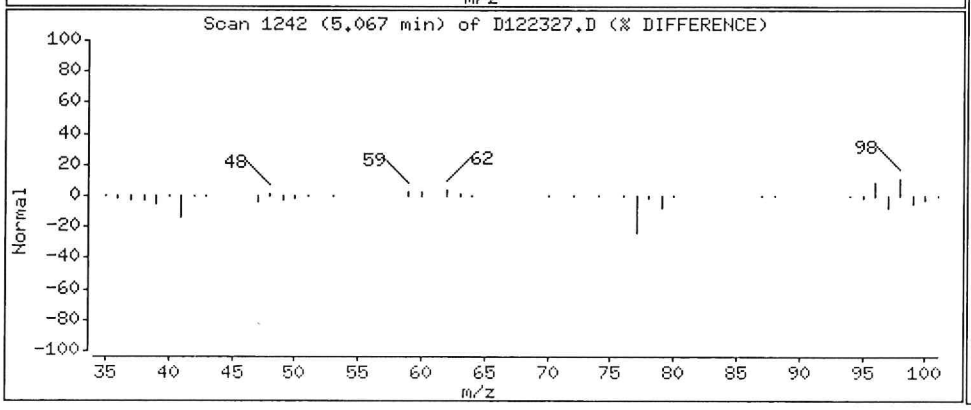












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Date : 23-DEC-2017 22:44

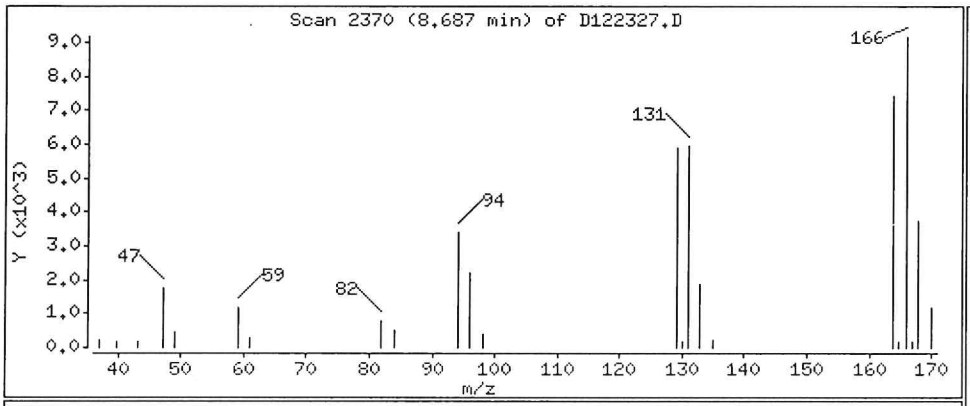
Client ID: HS17120868-05 Instrument: VOA2.i

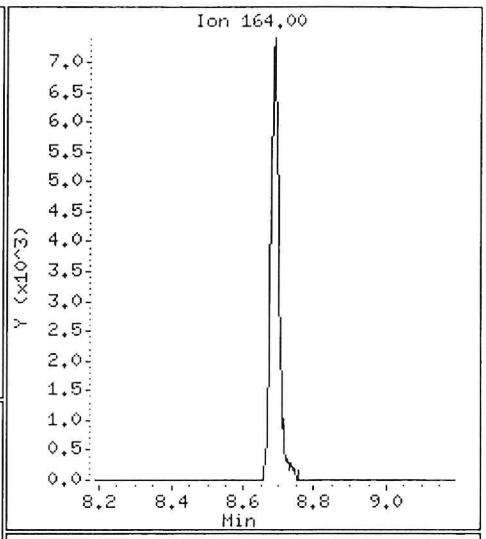
Sample Info: HS17120868-05;HS17120868-05;;;

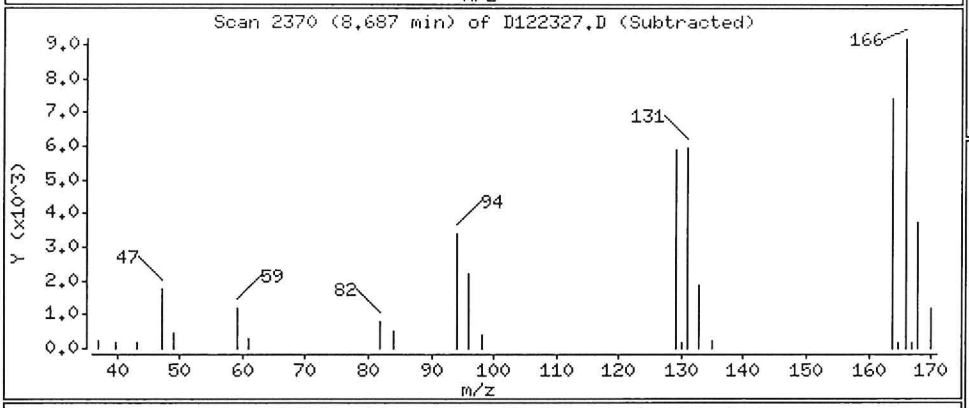
Purge Volume: 5.0 Operator: AP

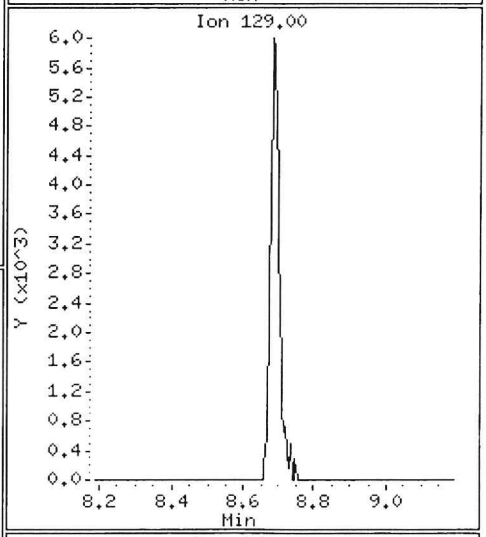
Column phase: DB624 Column diameter: 0.18

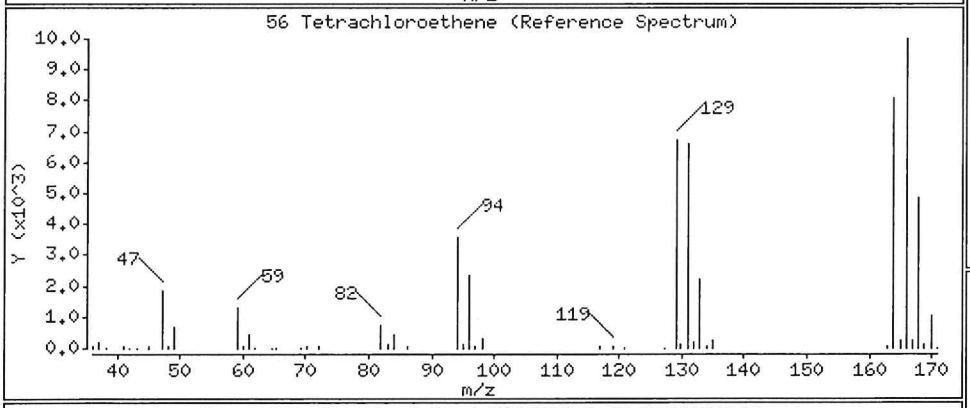
56 Tetrachloroethene Concentration: 20.82 ug/l Review Code:

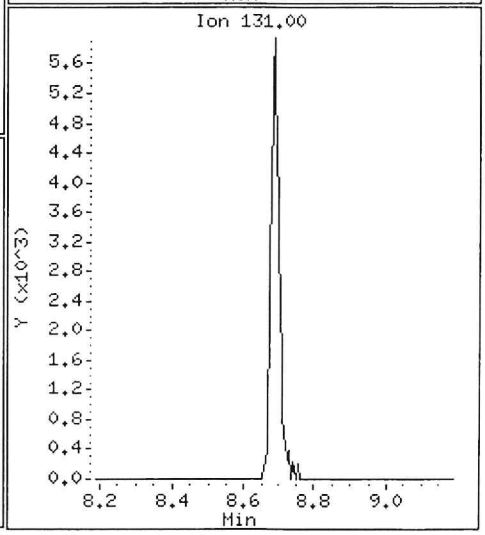


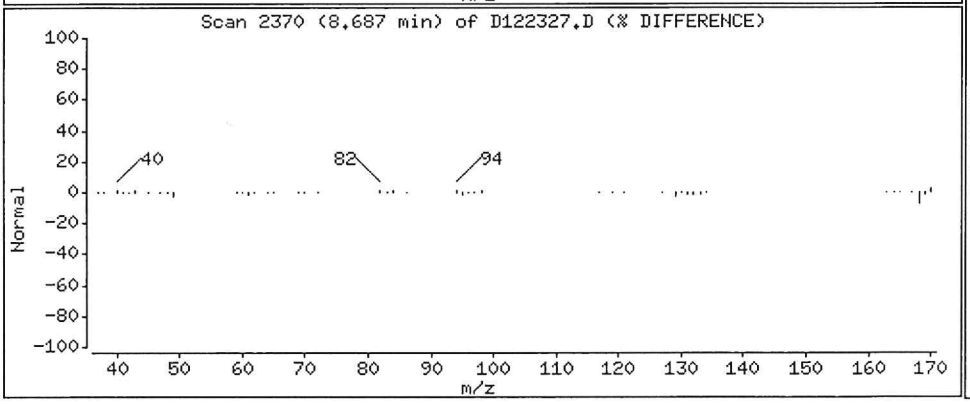












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122327.D

Date : 23-DEC-2017 22:44

Client ID: HS17120868-05

Instrument: VOA2.i

Sample Info: HS17120868-05;HS17120868-05;;;

Purge Volume: 5.0

Operator: AP

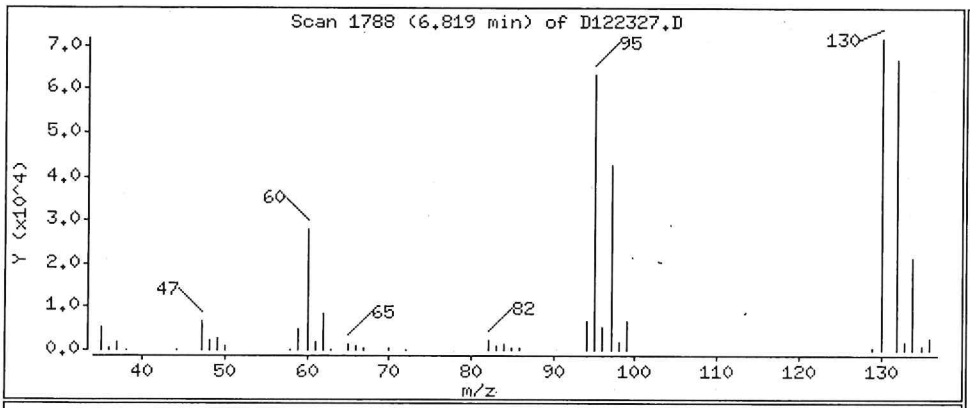
Column phase: DB624

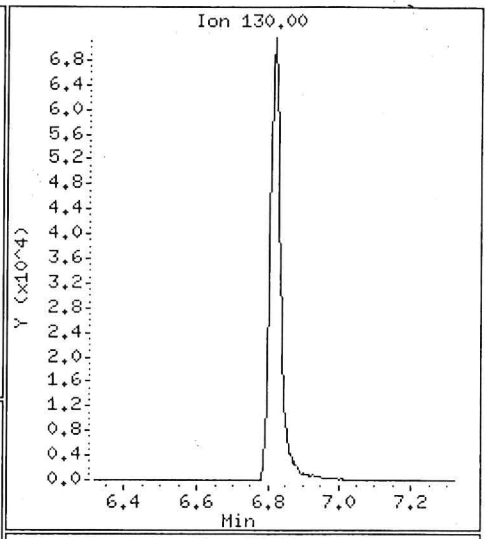
Column diameter: 0.18

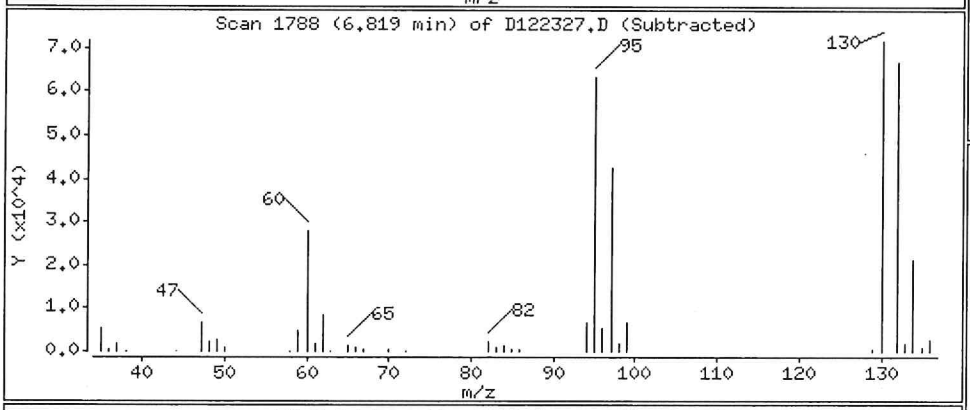
38 Trichloroethene

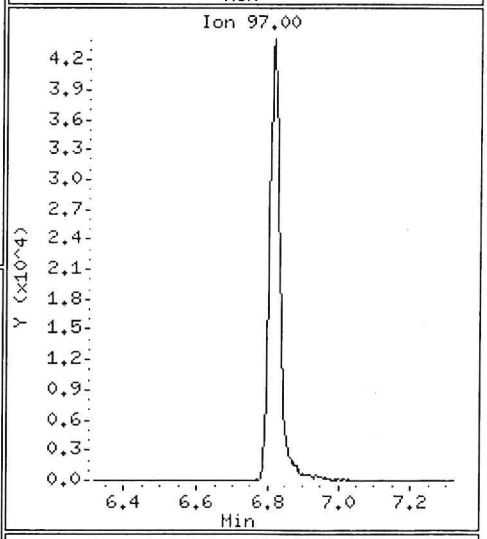
Concentration: 268.57 ug/l

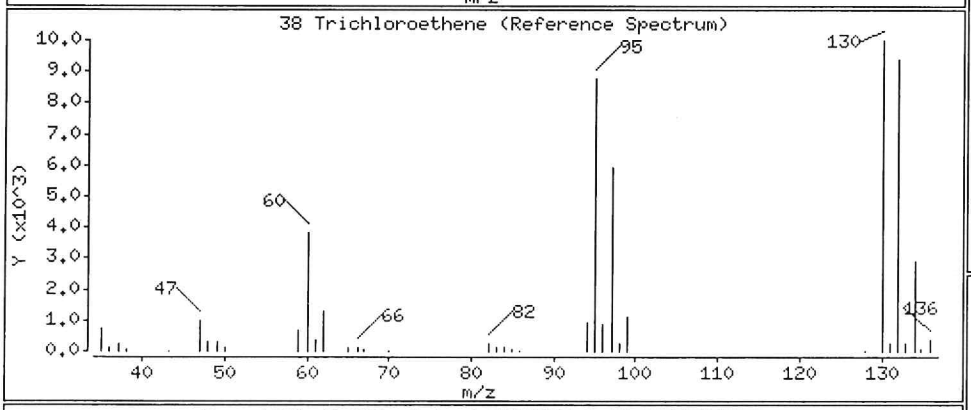
Review Code:

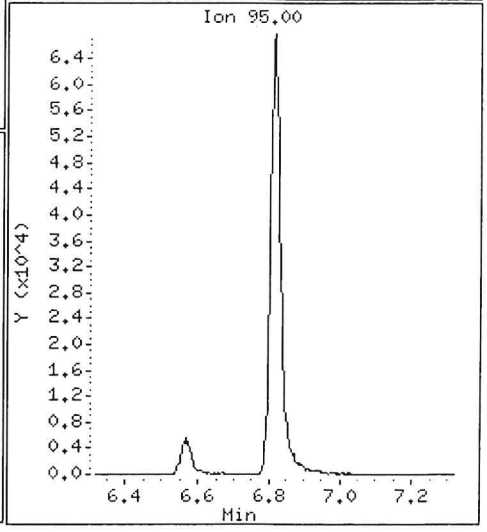


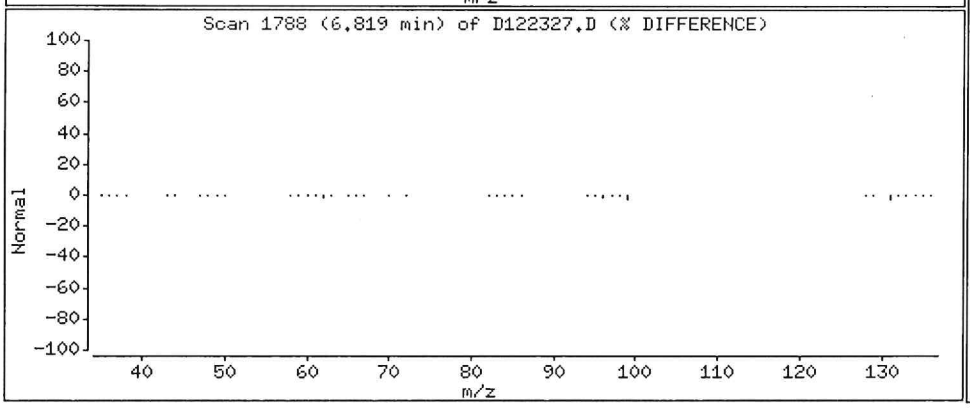












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122327.D

Date : 23-DEC-2017 22:44

Client ID: HS17120868-05

Instrument: VOA2.i

Sample Info: HS17120868-05;HS17120868-05;;;

Purge Volume: 5.0

Operator: AP

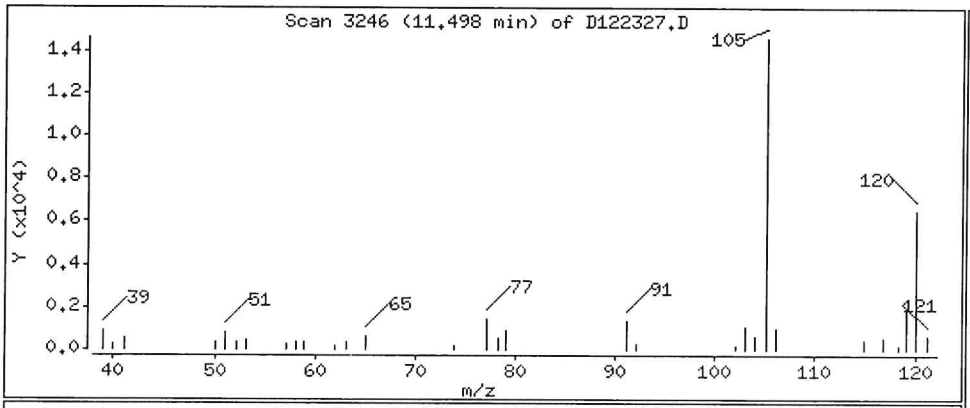
Column phase: DB624

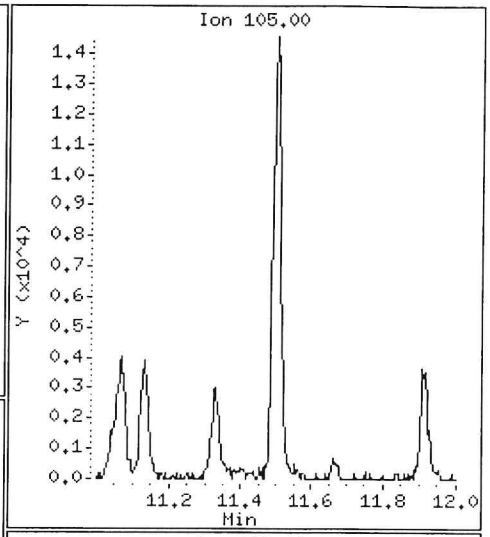
Column diameter: 0.18

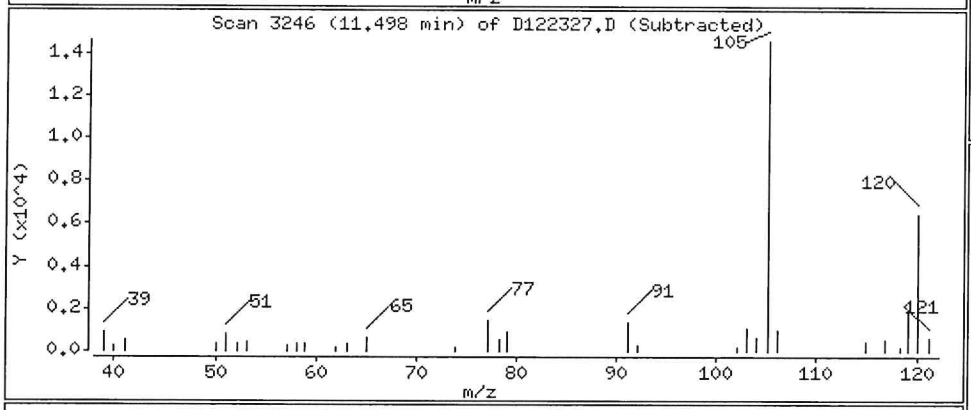
79 1,2,4-Trimethylbenzene

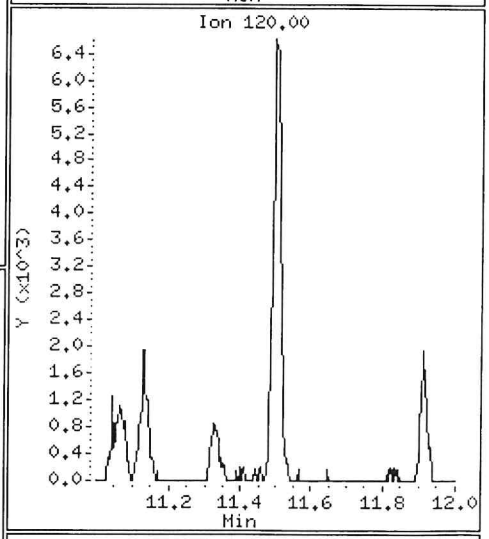
Concentration: 11.27 ug/l

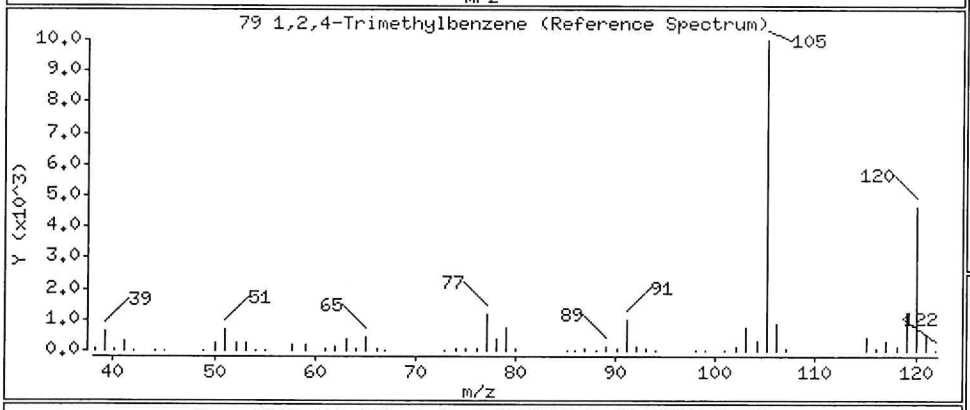
Review Code:

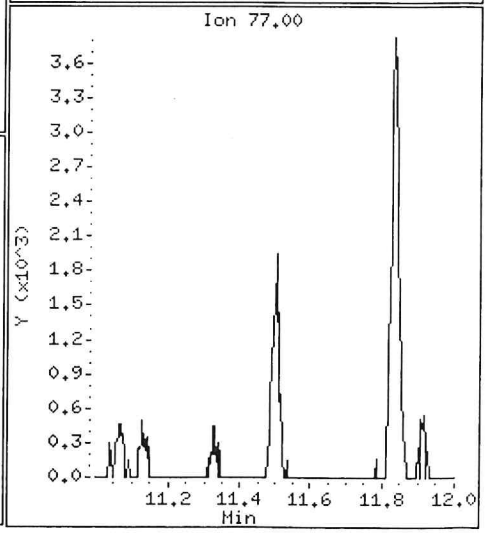


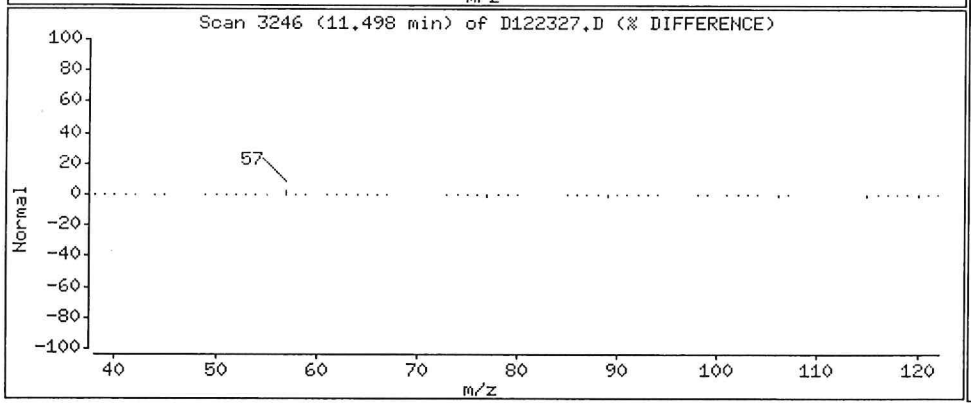












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Date : 23-DEC-2017 22:44

Client ID: HS17120868-05

Instrument: VOA2.i

Sample Info: HS17120868-05;HS17120868-05;;;

Purge Volume: 5.0

Operator: AP

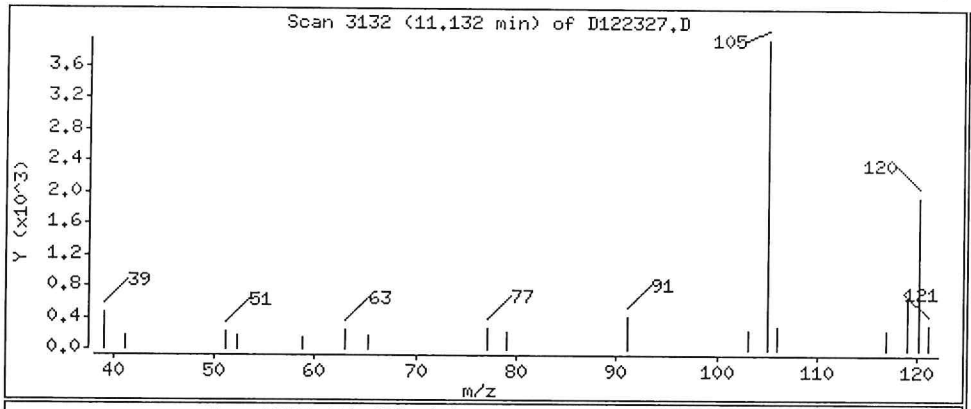
Column phase: DB624

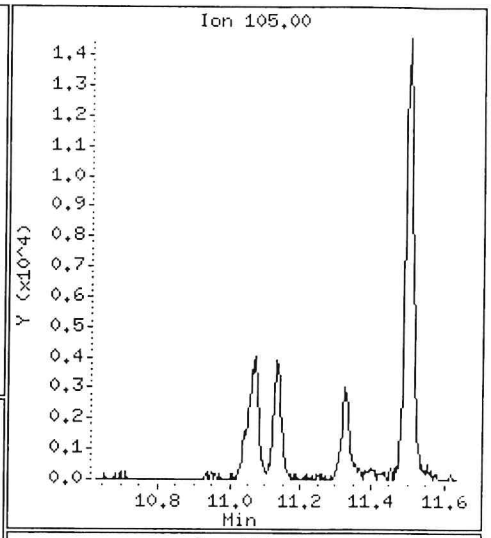
Column diameter: 0.18

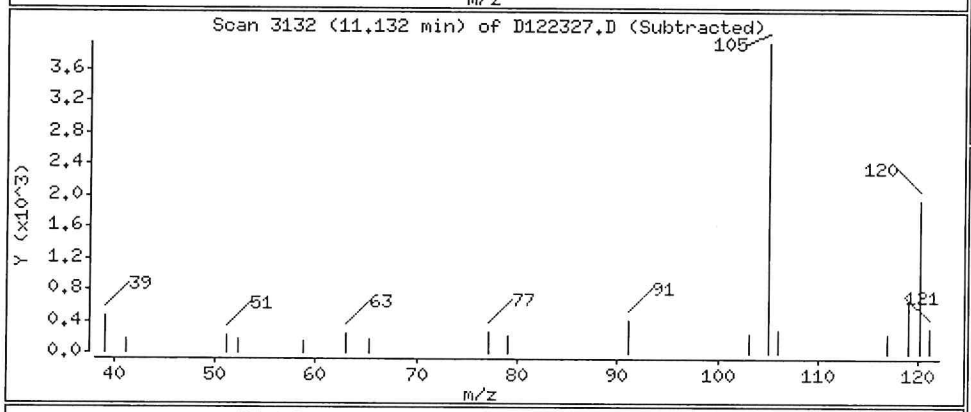
75 1,3,5-Trimethylbenzene

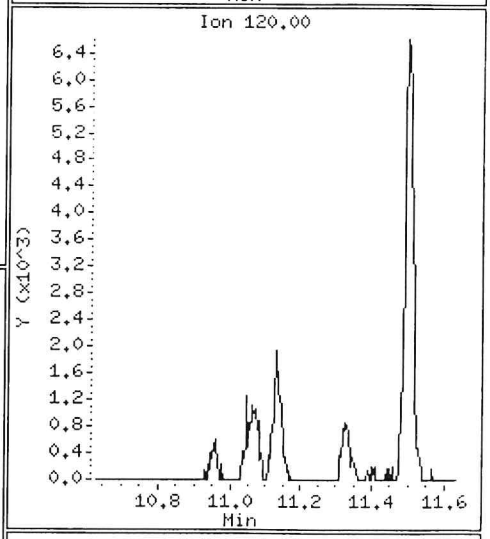
Concentration: 3.13 ug/l

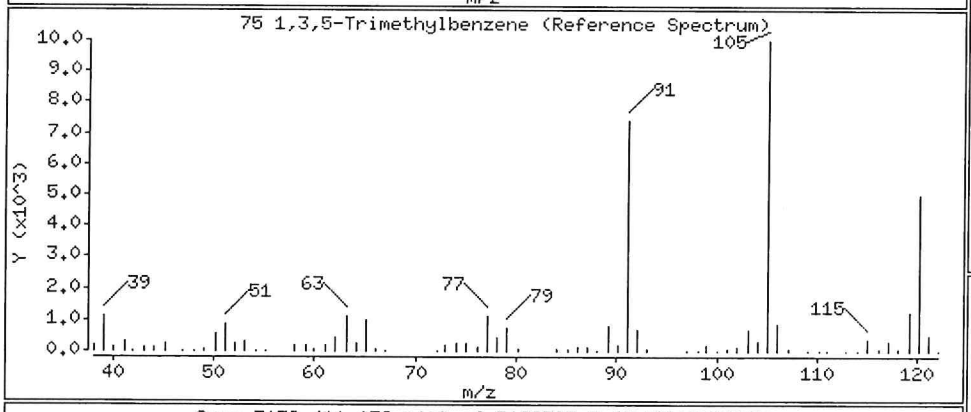
Review Code:

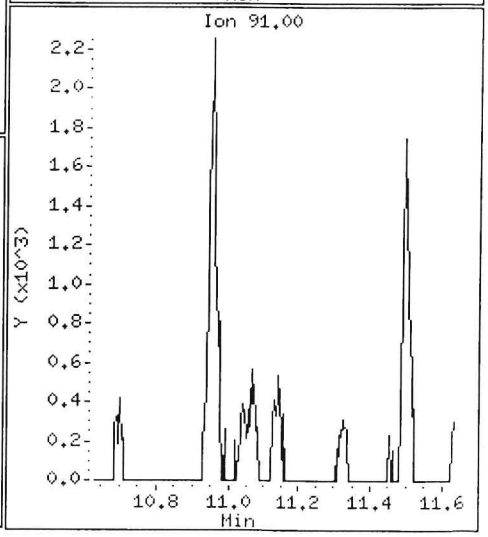


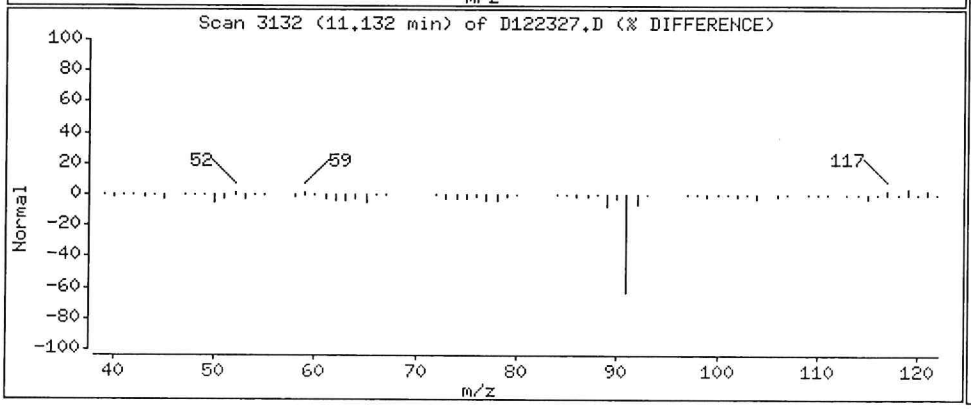












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Date : 23-DEC-2017 22:44

Client ID: HS17120868-05

Instrument: VOA2.i

Sample Info: HS17120868-05;HS17120868-05;;;

Purge Volume: 5.0

Operator: AP

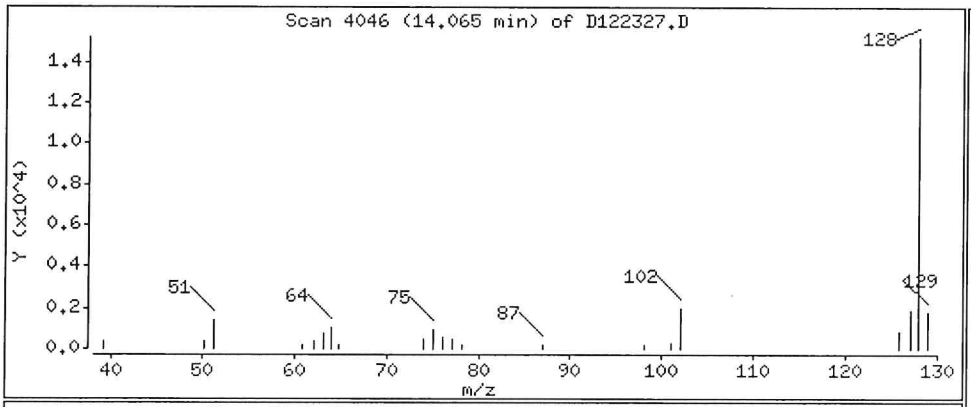
Column phase: DB624

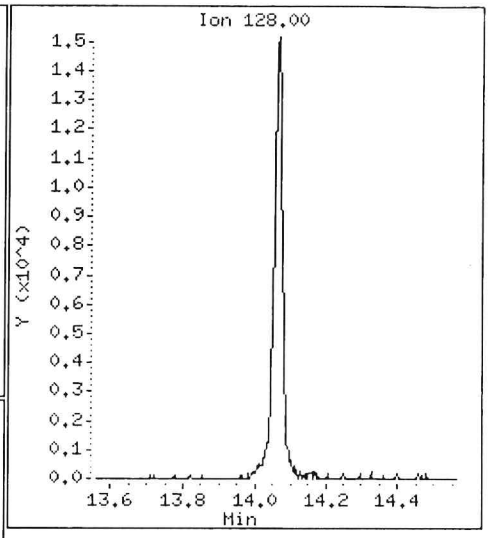
Column diameter: 0.18

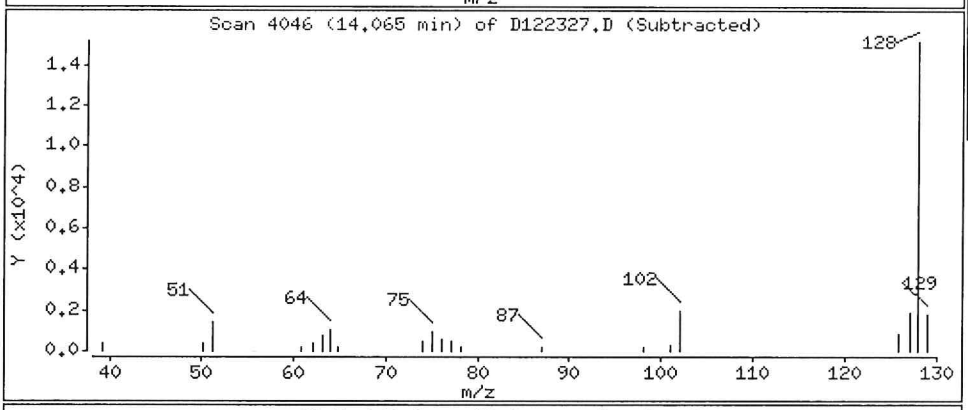
92 Naphthalene

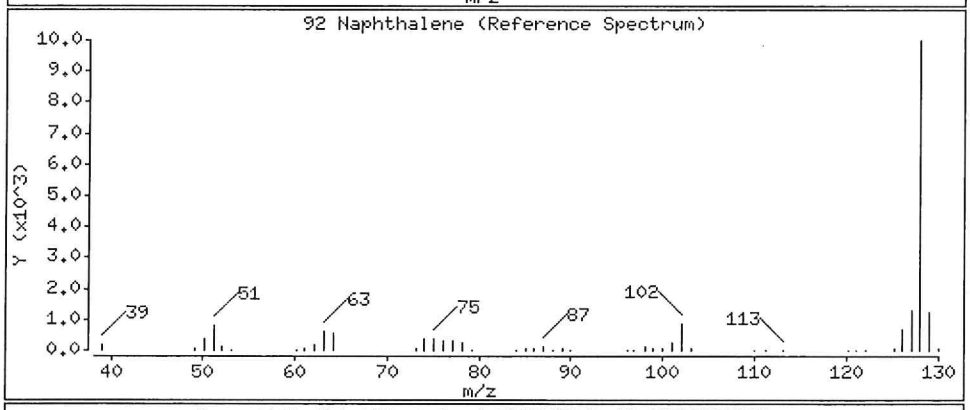
Concentration: 13.97 ug/l

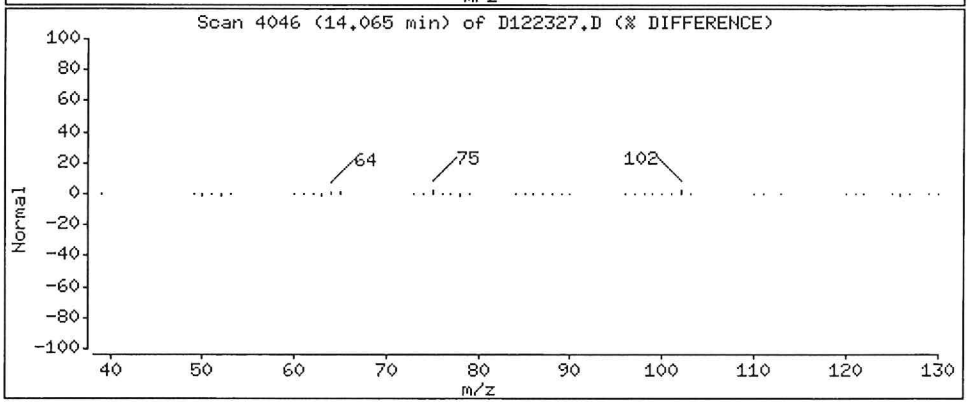
Review Code:











Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122329.D
Report Date: 09-Feb-2018 18:00

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122329.D
Lab Smp Id: CCV_END Client Smp ID: CCV_END
Inj Date : 23-DEC-2017 23:35
Operator : AP Inst ID: VOA2.i
Smp Info : CCV_END;CCV_END;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171223.b\8260LL.m
Meth Date : 09-Feb-2018 18:00 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	185734	50.0000	48.79
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	246284	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.683	(0.983)	106988	50.0000	48.21
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	375539	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	132918	50.0000	48.50
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	340212	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	422773	50.0000	47.13
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	162680	50.0000	49.66
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	157750	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.869	10.869	(0.918)	138030	50.0000	36.67
	53 1,1,2-Trichloroethane	83	8.590	8.590	(0.902)	91624	50.0000	44.02
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	147693	50.0000	50.47
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	235825	50.0000	45.86
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	102541	50.0000	50.44
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	140184	50.0000	45.10
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	27309	50.0000	42.15
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	119418	50.0000	45.81
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	231846	50.0000	40.88
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	156171	50.0000	47.09
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	129312	50.0000	43.71
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	245157	50.0000	41.54

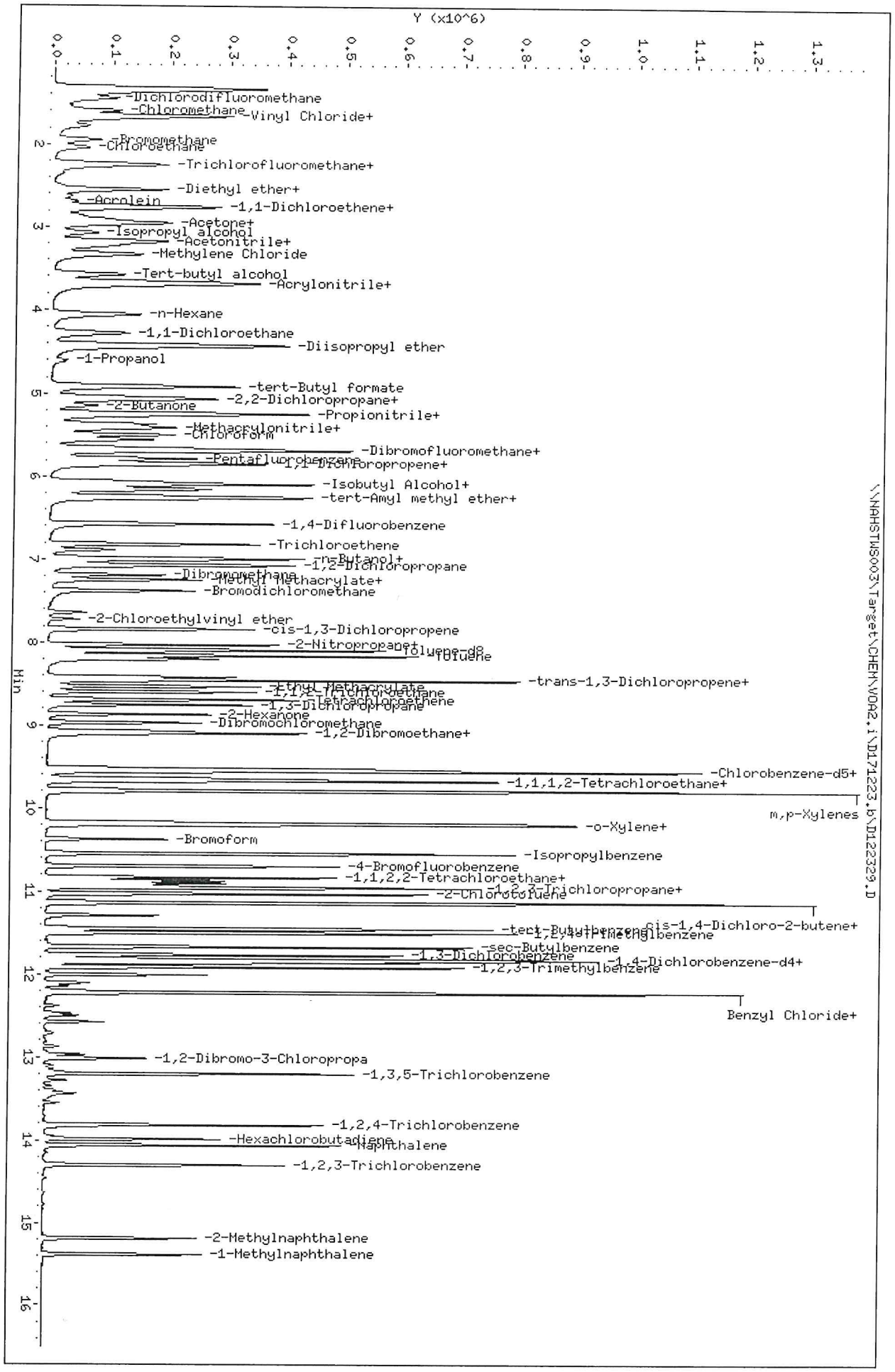
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122329.D
Report Date: 09-Feb-2018 18:00

	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	11.857	11.857	(1.002)	230318	50.0000	40.80	
	24 2-Butanone	43	5.144	5.144	(0.890)	119475	100.000	89.90	
	52 2-Hexanone	43	8.866	8.866	(0.931)	172875	100.000	86.72	
	45 4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	269277	100.000	87.24	
	10 Acetone	43	2.853	2.853	(0.493)	78647	100.000	96.25	
	37 Benzene	78	6.094	6.094	(0.927)	451928	50.0000	45.73	
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	155585	50.0000	44.48	
	66 Bromoform	173	10.374	10.374	(1.089)	95408	50.0000	47.27	
	6 Bromomethane	94	1.945	1.945	(0.336)	91136	50.0000	54.24	
	19 Carbon Disulfide	76	2.952	2.952	(0.511)	463004	100.000	99.74	
	34 Carbon Tetrachloride	117	5.834	5.834	(0.888)	157141	50.0000	44.05	
	59 Chlorobenzene	112	9.553	9.553	(1.003)	307376	50.0000	43.87	
	7 Chloroethane	64	2.044	2.044	(0.354)	83316	50.0000	41.81	
	28 Chloroform	83	5.494	5.494	(0.950)	201166	50.0000	44.80	
	3 Chloromethane	50	1.595	1.595	(0.276)	199823	50.0000	48.48	
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	128033	50.0000	45.69	
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	191372	50.0000	47.64	
	55 Dibromochloromethane	129	8.969	8.969	(0.941)	136282	50.0000	46.39	
	2 Dichlorodifluoromethane	85	1.450	1.450	(0.251)	120416	50.0000	57.19	
	61 Ethylbenzene	106	9.672	9.672	(1.015)	170132	50.0000	45.36	
	67 Isopropylbenzene	105	10.544	10.544	(1.107)	532171	50.0000	45.87	
	17 Methylene Chloride	84	3.337	3.337	(0.577)	118067	50.0000	43.79	
	56 Tetrachloroethene	164	8.686	8.686	(0.912)	110288	50.0000	52.65	
	50 Toluene	91	8.157	8.157	(0.856)	479885	50.0000	44.50	
	20 trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	109874	50.0000	49.97	
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	164869	50.0000	48.24	
	38 Trichloroethene	130	6.816	6.816	(1.037)	141942	50.0000	51.03	
	8 Trichlorofluoromethane	101	2.253	2.253	(0.390)	160515	50.0000	52.85	
	5 Vinyl Chloride	62	1.685	1.685	(0.291)	153139	50.0000	50.73	
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	421339	100.000	91.87	
	63 o-Xylene	106	10.179	10.179	(1.068)	216492	50.0000	45.12	
M	95 Xylenes (total)	106				637831	150.000		(a)
	71 1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	157495	50.0000	41.91	
	93 1,2,3-Trichlorobenzene	182	14.299	14.299	(1.208)	121785	50.0000	45.47	
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	432444	50.0000	41.15	
	75 1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	418901	50.0000	40.93	
	26 2,2-Dichloropropane	77	5.044	5.044	(0.872)	155431	50.0000	43.31	
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	182125	50.0000	43.38	
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	360637	50.0000	40.24	
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	392957	50.0000	40.27	
	82 p-Isopropyltoluene	119	11.818	11.818	(0.999)	407762	50.0000	41.99	
	29 Bromochloromethane	128	5.362	5.362	(0.927)	61889	50.0000	46.41	
	74 Bromobenzene	156	10.833	10.833	(0.915)	143707	50.0000	41.06	
	44 Dibromomethane	93	7.188	7.188	(1.094)	71902	50.0000	46.90	
	91 Hexachlorobutadiene	225	13.988	13.988	(1.182)	62084	50.0000	42.86	
	73 n-Propylbenzene	91	10.952	10.952	(0.925)	557522	50.0000	41.80	
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	323515	50.0000	44.82	
	81 sec-Butylbenzene	105	11.668	11.668	(0.986)	491340	50.0000	43.33	
	92 Naphthalene	128	14.061	14.061	(1.188)	381214	50.0000	47.07	
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	364364	50.0000	42.44	
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	124339	50.0000	45.79	
	64 Styrene	104	10.198	10.198	(1.070)	343357	50.0000	44.86	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122329.D
Report Date: 09-Feb-2018 18:00

QC Flag Legend

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


Y (x10^6)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein
-1,1-Dichloroethene+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
1,1-Dichloropropene+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
Toluene-d8
Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122329.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171223.b\D122329.D
Date : 23-DEC-2017 23:35
Client ID: CCV_END
Sample Info: CCV_END;CCV_END;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Mercury Raw Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17120868

ALS Group USA, Corp

Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: HG03_307667
Instrument: HG03
Method: SW7470

ICCV1	Date: 20-Dec-2017 13:21		Seq: 4361572	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.02	100	90-110	

ICV	Date: 20-Dec-2017 13:32		Seq: 4361573	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.77	95	90-110	

CCV2	Date: 20-Dec-2017 14:02		Seq: 4361586	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.87	97	90-110	

CCV3	Date: 20-Dec-2017 14:25		Seq: 4361598	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.16	103	90-110	

CCV4	Date: 20-Dec-2017 14:54		Seq: 4361610	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.07	101	90-110	

CCV5	Date: 20-Dec-2017 15:14		Seq: 4361622	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.06	101	90-110	

CCV6	Date: 20-Dec-2017 15:42		Seq: 4361632	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.11	102	90-110	

CCV7	Date: 20-Dec-2017 16:06		Seq: 4361644	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.07	101	90-110	

CCV8	Date: 20-Dec-2017 16:27		Seq: 4361656	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.09	102	90-110	

CCV9	Date: 20-Dec-2017 17:12		Seq: 4361678	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.23	105	90-110	

CCV10	Date: 20-Dec-2017 17:32		Seq: 4361690	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.16	103	90-110	

CCV11	Date: 20-Dec-2017 17:54		Seq: 4361701	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.09	102	90-110	

CCV12	Date: 20-Dec-2017 18:26		Seq: 4361713	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.12	102	90-110	

CCV13	Date: 20-Dec-2017 18:48		Seq: 4361724	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.11	102	90-110	

CCV14	Date: 20-Dec-2017 19:08		Seq: 4361736	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.86	97	90-110	

ALS Group USA, Corp Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: HG03_307667
Instrument: HG03
Method: SW7470

CCV15 Date: 20-Dec-2017 19:31 Seq: 4361747 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.89	98	90-110	

CCV16 Date: 20-Dec-2017 19:52 Seq: 4361870 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.79	96	90-110	

CCV17 Date: 20-Dec-2017 19:58 Seq: 4361873 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.03	101	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: HG03_307667
Instrument: HG03
Method: SW7470

ICB	Date: 20-Dec-2017 13:34		Seq: 4361574	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

MBLK-123589	Date: 20-Dec-2017 13:39		Seq: 4361576	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB1	Date: 20-Dec-2017 14:04		Seq: 4361587	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB2	Date: 20-Dec-2017 14:26		Seq: 4361599	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB3	Date: 20-Dec-2017 14:56		Seq: 4361611	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB4	Date: 20-Dec-2017 15:16		Seq: 4361623	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB5	Date: 20-Dec-2017 15:44		Seq: 4361633	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB6	Date: 20-Dec-2017 16:08		Seq: 4361645	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB7	Date: 20-Dec-2017 16:29		Seq: 4361657	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB8	Date: 20-Dec-2017 17:13		Seq: 4361679	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB9	Date: 20-Dec-2017 17:34		Seq: 4361691	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB10	Date: 20-Dec-2017 17:56		Seq: 4361702	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB11	Date: 20-Dec-2017 18:27		Seq: 4361714	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB12	Date: 20-Dec-2017 18:49		Seq: 4361725	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB13	Date: 20-Dec-2017 19:10		Seq: 4361737	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

ALS Group USA, Corp Date: 09-Jan-18

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: HG03_307667
Instrument: HG03
Method: SW7470

CCB14	Date: 20-Dec-2017 19:33		Seq: 4361748	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB15	Date: 20-Dec-2017 19:54		Seq: 4361871	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB16	Date: 20-Dec-2017 20:00		Seq: 4361874	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

ALS Group USA, Corp Date: 09-Jan-18

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Date Analyzed: 20-Dec-2017 14:13
Date Extracted: 20-Dec-2017 08:30
Units: ug/L

Matrix Spike: HS17120868-04MS
Client Sample ID: MW19-121217

Analysis Method: SW7470

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Mercury	0.2000	4.540	5.000	91.1	4.770	5.000	95.7	75-125	4.94	20

ALS Group USA, Corp Date: 09-Jan-18

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Date Analyzed: 20-Dec-2017 13:45
Date Extracted: 20-Dec-2017 08:30
Units: ug/L

Lab Sample ID: LCS-123589 Analysis Method: SW7470

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Mercury	5	4.78	96	80-120

ALS Group USA, Corp Date: 09-Jan-18

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868
Start Date: 20-Dec-2017 08:30 End Date: 20-Dec-2017 11:00

Batch ID: 123589
Prep Code: Hg_WPr
Method: SW7470
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17120868-04	MW19-121217	Groundwater		10	10	1
HS17120868-04MS				10	10	1
HS17120868-04MSD				10	10	1
HS17120868-07	18CPTMW10DW-121217	Groundwater		10	10	1
HS17120868-08	18CPTMW12SW-121217	Groundwater		10	10	1
HS17120868-09	18CPTMW12DW-121217	Groundwater		10	10	1
LCS-123589				10	10	1
MBLK-123589				10	10	1

ALS Group USA, Corp Date: 09-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868
Start Date: 20-Dec-2017 End Date: 20-Dec-2017

Run ID:HG03_307667
Instrument:HG03
Method:SW7470

Sample No.	D/F	Time	FileID	Analytes
ICCV 1	1	20-Dec-2017 13:21		HG
ICV	1	20-Dec-2017 13:32		HG
ICB	1	20-Dec-2017 13:34		HG
CRA	1	20-Dec-2017 13:36		HG
MBLK-123589	1	20-Dec-2017 13:39		HG
LCS-123589	1	20-Dec-2017 13:45		HG
CCV 2	1	20-Dec-2017 14:02		HG
CCB 1	1	20-Dec-2017 14:04		HG
MW19-121217	1	20-Dec-2017 14:09		HG
MW19-121217MS	1	20-Dec-2017 14:11		HG
MW19-121217MSD	1	20-Dec-2017 14:13		HG
18CPTMW10DW-121217	1	20-Dec-2017 14:14		HG
18CPTMW12SW-121217	1	20-Dec-2017 14:16		HG
18CPTMW12DW-121217	1	20-Dec-2017 14:18		HG
CCV 3	1	20-Dec-2017 14:25		HG
CCB 2	1	20-Dec-2017 14:26		HG
CCV 4	1	20-Dec-2017 14:54		HG
CCB 3	1	20-Dec-2017 14:56		HG
CCV 5	1	20-Dec-2017 15:14		HG
CCB 4	1	20-Dec-2017 15:16		HG
CCV 6	1	20-Dec-2017 15:42		HG
CCB 5	1	20-Dec-2017 15:44		HG
CCV 7	1	20-Dec-2017 16:06		HG
CCB 6	1	20-Dec-2017 16:08		HG
CCV 8	1	20-Dec-2017 16:27		HG
CCB 7	1	20-Dec-2017 16:29		HG
CCV 9	1	20-Dec-2017 17:12		HG
CCB 8	1	20-Dec-2017 17:13		HG
CCV 10	1	20-Dec-2017 17:32		HG
CCB 9	1	20-Dec-2017 17:34		HG
CCV 11	1	20-Dec-2017 17:54		HG
CCB 10	1	20-Dec-2017 17:56		HG
CCV 12	1	20-Dec-2017 18:26		HG
CCB 11	1	20-Dec-2017 18:27		HG
CCV 13	1	20-Dec-2017 18:48		HG
CCB 12	1	20-Dec-2017 18:49		HG
CCV 14	1	20-Dec-2017 19:08		HG
CCB 13	1	20-Dec-2017 19:10		HG
CCV 15	1	20-Dec-2017 19:31		HG
CCB 14	1	20-Dec-2017 19:33		HG
CCV 16	1	20-Dec-2017 19:52		HG
CCB 15	1	20-Dec-2017 19:54		HG
CCV 17	1	20-Dec-2017 19:58		HG
CCB 16	1	20-Dec-2017 20:00		HG

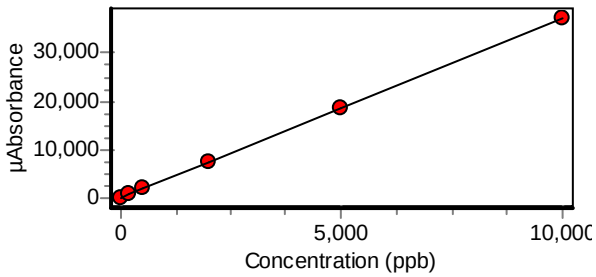
Report Generated By CETAC QuickTrace
Analyst: ALSHS.NoUser
Worksheet file: C:\Program Files (x86)\QuickTrace\Worksheets\122017AW.wsz
Date Started: 12/20/2017 11:00:13 AM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
Calibration Blank					STD	12/20/17 12:55:46 pm	0.000	49	17.27	
Replicates	52.3	57.6	47.1	37.9						
Standard #1 (0.2 ppb)					STD	12/20/17 12:57:27 pm	0.200	820	1.79	
Replicates	825.9	832.5	798.8	821.8						
Standard #2 (0.5 ppb)					STD	12/20/17 12:59:09 pm	0.500	2021	0.80	
Replicates	2007.5	2015.1	2044.3	2017.3						
Standard #3 (2.0 ppb)					STD	12/20/17 01:00:52 pm	2.000	7459	1.68	
Replicates	7297.9	7424.3	7539.5	7574.8						
Standard #4 (5.0 ppb)					STD	12/20/17 01:02:35 pm	5.000	18506	0.53	
Replicates	18364.3	18518.9	18552.6	18589.4						
Standard #5 (10.0 ppb)					STD	12/20/17 01:18:51 pm	10.000	37146	2.76	
Replicates	35698.9	37148.9	37793.4	37940.7						

Calibration

Equation: A = 85.434 + 3696.882C
R2: 0.99998
SEE: 73.7206
Flags:



ICCV					UNK	12/20/17 01:21:03 pm	5.020	18634	2.14	
Replicates	18078.5	18627.3	18837.6	18993.3						
ICV					UNK	12/20/17 01:32:44 pm	4.770	17727	4.61	
Replicates	16813.6	17357.9	18042.6	18694.9						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
ICB					UNK	12/20/17 01:34:26 pm	0.001	88	13.78	s
	Replicates	103.1	78.5	77.5	91.3					
CRA					UNK	12/20/17 01:36:07 pm	0.180	751	2.94	
	Replicates	721.1	756.9	750.9	774.1					
MBLK-123589					UNK	12/20/17 01:39:27 pm	-0.017	22	64.51	
	Replicates	30.2	14.0	7.0	38.5					
LCS-123589					UNK	12/20/17 01:45:03 pm	4.780	17774	2.15	
	Replicates	17320.0	17618.7	17969.2	18188.4					
HS17120660-02					UNK	12/20/17 01:47:49 pm	0.188	782	2.72	
	Replicates	762.0	794.3	765.6	805.1					
HS17120789-01					UNK	12/20/17 01:49:32 pm	-0.008	55	41.35	s
	Replicates	64.8	20.8	66.5	66.3					
HS17120789-02					UNK	12/20/17 01:51:15 pm	-0.015	31	62.65	
	Replicates	24.1	57.1	30.6	11.3					
HS17120789-03					UNK	12/20/17 01:52:59 pm	-0.020	11	406.90	
	Replicates	-10.0	-40.4	51.4	41.6					
HS17120789-05					UNK	12/20/17 01:54:43 pm	-0.017	24	100.05	
	Replicates	15.8	58.0	4.0	16.8					
HS17120789-06					UNK	12/20/17 01:56:27 pm	-0.012	42	8.61	
	Replicates	38.0	41.0	44.5	46.3					
HS17120789-07					UNK	12/20/17 01:58:07 pm	-0.018	19	92.54	
	Replicates	22.9	41.2	13.9	-1.3					
HS17120851-02					UNK	12/20/17 01:59:48 pm	-0.017	23	91.55	
	Replicates	48.9	20.6	-2.4	24.6					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	12/20/17 02:02:26 pm	4.870	18083	1.16	
	Replicates	17784.7	18106.3	18171.8	18270.8					
CCB					UNK	12/20/17 02:04:11 pm	-0.028	-18	117.29	
	Replicates	-12.3	6.2	-43.8	-20.8					
HS17120851-03					UNK	12/20/17 02:08:02 pm	-0.022	5	226.53	
	Replicates	18.0	11.7	-6.8	-2.3					
HS17120851-04					UNK	12/20/17 02:09:44 pm	-0.014	35	40.42	
	Replicates	39.6	52.6	22.3	24.8					
HS17120851-04MS					UNK	12/20/17 02:11:25 pm	4.540	16882	3.15	
	Replicates	16217.6	16725.9	17140.9	17441.7					
HS17120851-04MSD					UNK	12/20/17 02:13:07 pm	4.770	17704	1.53	
	Replicates	17332.9	17675.1	17871.6	17937.4					
HS17120868-07					UNK	12/20/17 02:14:50 pm	-0.019	15	131.43	
	Replicates	14.7	6.2	-3.3	42.4					
HS17120868-08					UNK	12/20/17 02:16:32 pm	-0.023	1	846.57	
	Replicates	-11.9	12.8	3.0	1.0					
HS17120868-09					UNK	12/20/17 02:18:15 pm	-0.014	33	42.97	
	Replicates	14.0	45.3	30.1	41.6					
HS17120916-01					UNK	12/20/17 02:19:59 pm	-0.019	16	119.78	
	Replicates	32.0	-11.7	23.1	20.3					
HS17120916-02					UNK	12/20/17 02:21:42 pm	-0.016	27	37.34	
	Replicates	18.3	31.0	18.5	38.5					
HS17120916-03					UNK	12/20/17 02:23:26 pm	-0.017	24	61.93	
	Replicates	29.5	32.3	31.3	1.8					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	12/20/17 02:25:10 pm	5.160	19145	0.36	
	Replicates	19042.6	19163.5	19185.8	19188.3					
CCB					UNK	12/20/17 02:26:55 pm	-0.013	36	37.87	
	Replicates	50.6	32.3	19.1	43.6					
HS17120944-01					UNK	12/20/17 02:28:36 pm	-0.015	31	83.12	
	Replicates	11.3	9.6	39.1	63.6					
HS17120944-02					UNK	12/20/17 02:30:17 pm	-0.014	34	86.14	
	Replicates	9.3	71.8	12.6	42.1					
GBLKT1-123612					UNK	12/20/17 02:40:47 pm	-0.013	39	63.32	
	Replicates	21.3	71.4	18.2	45.7					
MBLK-123612					UNK	12/20/17 02:42:28 pm	-0.019	15	139.60	
	Replicates	28.0	8.1	33.3	-11.2					
LCS-123612					UNK	12/20/17 02:44:10 pm	5.000	18560	0.96	
	Replicates	18302.3	18586.9	18640.2	18709.2					
HS17120691-01					UNK	12/20/17 02:45:52 pm	-0.015	28	76.73	
	Replicates	56.9	33.1	10.1	12.9					
HS17120691-01MS					UNK	12/20/17 02:47:34 pm	5.130	19051	0.75	
	Replicates	18851.0	19054.9	19119.4	19179.9					
HS17120691-01MSD					UNK	12/20/17 02:49:17 pm	6.050	22441	0.32	
	Replicates	22354.0	22520.5	22472.0	22417.5					
HS17120691-02					UNK	12/20/17 02:51:00 pm	-0.013	38	8.27	
	Replicates	40.1	37.9	39.4	33.2					
HS17120691-03					UNK	12/20/17 02:52:43 pm	-0.014	33	82.39	
	Replicates	38.4	67.9	14.6	9.1					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	12/20/17 02:54:27 pm	5.070	18822	1.98	
	Replicates	18296.8	18817.8	19049.8	19123.1					
CCB					UNK	12/20/17 02:56:12 pm	-0.024	-3	684.99	
	Replicates	-26.1	-5.6	9.1	12.4					
HS17120691-04					UNK	12/20/17 02:57:56 pm	-0.012	40	41.64	
	Replicates	28.5	23.5	57.5	51.5					
HS17120691-05					UNK	12/20/17 02:59:39 pm	-0.013	36	55.97	
	Replicates	42.8	30.3	11.8	59.8					
HS17120691-06					UNK	12/20/17 03:01:21 pm	-0.015	30	28.82	
	Replicates	21.7	23.9	36.7	38.9					
HS17120691-07					UNK	12/20/17 03:03:02 pm	-0.004	70	26.33	s
	Replicates	94.7	50.8	70.1	63.8					
HS17120691-08					UNK	12/20/17 03:04:43 pm	-0.005	67	35.16	s
	Replicates	39.5	79.8	57.3	92.8					
HS17120691-09					UNK	12/20/17 03:06:24 pm	-0.015	30	69.52	
	Replicates	7.5	43.1	18.1	52.9					
HS17120767-20					UNK	12/20/17 03:08:06 pm	-0.003	73	32.76	s
	Replicates	41.2	69.0	89.5	93.8					
HS17120767-21					UNK	12/20/17 03:09:48 pm	-0.010	49	54.34	
	Replicates	40.4	36.7	29.4	87.4					
HS17120767-22					UNK	12/20/17 03:11:31 pm	-0.016	26	38.32	
	Replicates	31.0	11.4	33.1	27.4					
HS17120767-23					UNK	12/20/17 03:13:13 pm	-0.013	38	33.54	
	Replicates	49.9	48.0	23.3	32.0					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	12/20/17 03:14:58 pm	5.060	18776	2.31	
	Replicates	18189.3	18721.1	19019.9	19175.6					
CCB					UNK	12/20/17 03:16:43 pm	-0.013	38	57.64	
	Replicates	53.7	22.6	16.1	59.8					
HS17120767-24					UNK	12/20/17 03:18:25 pm	-0.010	49	33.57	
	Replicates	58.5	25.9	48.9	62.6					
HS17120872-01					UNK	12/20/17 03:20:09 pm	-0.017	21	86.33	
	Replicates	19.5	8.8	9.3	48.3					
HS17120878-01					UNK	12/20/17 03:21:52 pm	-0.006	62	40.01	s
	Replicates	61.9	96.7	40.7	48.4					
HS17120910-01					UNK	12/20/17 03:23:36 pm	-0.007	58	39.02	s
	Replicates	46.9	52.8	91.8	41.8					
HS17120920-01					UNK	12/20/17 03:25:17 pm	-0.021	8	245.27	
	Replicates	9.1	33.1	-8.7	-3.2					
HS17120934-01					UNK	12/20/17 03:26:59 pm	3.230	12009	0.45	
	Replicates	11933.5	12012.4	12031.9	12059.9					
HS17120936-01					UNK	12/20/17 03:28:40 pm	0.010	123	23.18	s
	Replicates	114.8	101.3	110.3	164.5					
HS17120691-01MSD					UNK	12/20/17 03:41:07 pm	5.100	18938	0.89	
	Replicates	18720.9	18909.3	18999.1	19122.6					
CCV					UNK	12/20/17 03:42:51 pm	5.110	18970	0.52	
	Replicates	18834.6	18963.7	19029.4	19053.4					
CCB					UNK	12/20/17 03:44:36 pm	-0.021	9	173.62	
	Replicates	23.2	-0.3	-8.5	22.8					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
GBLKF1-123609				UNK	12/20/17 03:46:18 pm	-0.012	42	46.13	
Replicates	19.5	50.7	34.7	64.7					
MBLK-123609				UNK	12/20/17 03:47:59 pm	-0.013	36	50.27	
Replicates	32.2	54.6	45.1	12.6					
LCS-123609				UNK	12/20/17 03:49:41 pm	5.160	19178	0.61	
Replicates	19040.6	19136.1	19225.6	19310.6					
HS17120778-02				UNK	12/20/17 03:51:24 pm	-0.021	10	233.38	
Replicates	27.2	31.2	-11.3	-8.3					
HS17120799-01				UNK	12/20/17 03:53:06 pm	0.000	87	32.40	s
Replicates	55.0	85.4	123.4	82.9					
HS17120799-02				UNK	12/20/17 03:54:49 pm	-0.004	70	38.17	s
Replicates	104.7	43.4	74.9	56.1					
HS17120799-03				UNK	12/20/17 03:56:32 pm	-0.006	63	47.76	s
Replicates	74.4	79.0	80.3	18.0					
HS17120799-04				UNK	12/20/17 03:58:16 pm	-0.013	37	65.03	
Replicates	47.7	63.6	10.1	24.8					
HS17120799-05				UNK	12/20/17 04:00:00 pm	-0.008	54	25.38	s
Replicates	60.7	56.4	65.7	34.4					
HS17120799-06				UNK	12/20/17 04:05:05 pm	0.024	174	8.64	s
Replicates	176.9	155.2	172.2	191.7					
CCV				UNK	12/20/17 04:06:50 pm	5.070	18838	0.27	
Replicates	18777.1	18839.0	18833.5	18902.0					
CCB				UNK	12/20/17 04:08:35 pm	-0.015	32	82.86	
Replicates	45.3	61.8	4.1	16.3					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120799-07				UNK	12/20/17 04:10:16 pm	-0.008	57	40.64	s
Replicates	66.0	44.9	32.4	84.9					
HS17120799-08				UNK	12/20/17 04:11:58 pm	-0.007	60	25.19	s
Replicates	71.4	72.8	52.8	41.8					
HS17120799-09				UNK	12/20/17 04:13:41 pm	-0.008	57	25.37	s
Replicates	62.5	48.6	74.1	41.9					
HS17120799-10				UNK	12/20/17 04:15:23 pm	-0.003	76	25.54	s
Replicates	52.1	90.9	68.7	92.9					
HS17120912-01				UNK	12/20/17 04:17:05 pm	-0.001	83	16.75	s
Replicates	82.9	77.6	69.4	102.1					
HS17120912-01MS				UNK	12/20/17 04:18:47 pm	5.100	18924	0.69	
Replicates	18753.5	18897.3	18994.1	19053.1					
HS17120912-01MSD				UNK	12/20/17 04:20:30 pm	5.060	18777	0.62	
Replicates	18615.3	18775.2	18835.7	18881.7					
HS17120912-06				UNK	12/20/17 04:22:13 pm	-0.001	82	17.10	s
Replicates	63.2	96.4	86.6	80.4					
HS17120912-07				UNK	12/20/17 04:23:56 pm	-0.008	57	25.67	s
Replicates	48.1	60.9	43.4	76.2					
HS17120912-11				UNK	12/20/17 04:25:39 pm	-0.003	73	18.74	s
Replicates	67.6	64.9	65.4	93.1					
CCV				UNK	12/20/17 04:27:24 pm	5.090	18904	0.43	
Replicates	18790.4	18922.8	18918.0	18983.5					
CCB				UNK	12/20/17 04:29:09 pm	-0.019	14	177.04	
Replicates	23.1	-14.8	44.0	4.5					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120932-19				UNK	12/20/17 04:30:52 pm	0.496	1921	1.39	
Replicates	1892.7	1956.8	1916.3	1916.6					
HS17121027-04				UNK	12/20/17 04:32:34 pm	0.017	148	23.56	s
Replicates	115.2	171.1	183.6	120.6					
HS17121027-05				UNK	12/20/17 04:52:35 pm	-0.021	9	112.45	
Replicates	24.3	3.6	3.9	4.4					
HS17121027-06				UNK	12/20/17 04:54:17 pm	-0.013	38	17.28	
Replicates	46.7	31.4	34.9	37.9					
GBLKP1-123613				UNK	12/20/17 05:01:48 pm	-0.010	47	31.73	
Replicates	28.5	64.6	51.1	44.9					
MBLK-123613				UNK	12/20/17 05:03:30 pm	-0.016	26	89.88	
Replicates	7.4	5.7	38.2	53.4					
LCS-123613				UNK	12/20/17 05:05:12 pm	5.020	18657	0.69	
Replicates	18481.0	18664.7	18693.2	18789.9					
HS17120767-01				UNK	12/20/17 05:06:54 pm	-0.011	47	63.96	
Replicates	61.1	70.3	3.3	52.1					
HS17120767-02				UNK	12/20/17 05:08:37 pm	-0.009	54	30.15	s
Replicates	68.3	60.2	56.7	30.7					
HS17120767-03				UNK	12/20/17 05:10:20 pm	-0.009	51	31.69	s
Replicates	73.6	40.2	52.4	38.4					
CCV				UNK	12/20/17 05:12:04 pm	5.230	19405	0.99	
Replicates	19168.3	19359.9	19466.6	19624.6					
CCB				UNK	12/20/17 05:13:49 pm	-0.020	12	173.59	
Replicates	6.2	5.6	40.8	-5.9					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120767-04				UNK	12/20/17 05:15:32 pm	-0.012	42	52.53	
Replicates	46.9	23.6	25.6	70.4					
HS17120767-05				UNK	12/20/17 05:17:16 pm	-0.014	35	20.99	
Replicates	31.4	25.9	42.2	38.4					
HS17120767-06				UNK	12/20/17 05:18:59 pm	-0.010	50	60.84	
Replicates	48.5	40.4	18.7	90.7					
HS17120767-07				UNK	12/20/17 05:20:42 pm	-0.014	35	81.66	
Replicates	43.1	68.7	27.2	0.7					
HS17120767-08				UNK	12/20/17 05:22:24 pm	-0.014	33	14.48	
Replicates	27.5	31.3	38.3	35.8					
HS17120767-08MS				UNK	12/20/17 05:24:07 pm	4.940	18354	0.81	
Replicates	18174.9	18294.1	18432.6	18512.8					
HS17120767-08MSD				UNK	12/20/17 05:25:49 pm	4.980	18484	0.78	
Replicates	18313.7	18444.3	18520.1	18656.8					
HS17120767-09				UNK	12/20/17 05:27:32 pm	-0.013	37	44.18	
Replicates	56.5	30.6	18.4	44.4					
HS17120767-10				UNK	12/20/17 05:29:14 pm	-0.007	59	19.06	s
Replicates	49.5	74.9	53.6	56.9					
HS17120767-11				UNK	12/20/17 05:30:56 pm	-0.012	39	39.74	
Replicates	23.0	47.9	56.9	29.9					
CCV				UNK	12/20/17 05:32:41 pm	5.160	19166	0.78	
Replicates	18959.3	19170.4	19227.4	19307.6					
CCB				UNK	12/20/17 05:34:26 pm	-0.018	21	56.88	
Replicates	7.1	34.6	16.4	24.1					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120767-12				UNK	12/20/17 05:36:08 pm	-0.012	41	70.87	
Replicates	-1.1	58.5	61.3	44.5					
HS17120767-13				UNK	12/20/17 05:37:51 pm	-0.013	36	22.75	
Replicates	30.2	27.8	44.8	40.6					
HS17120767-14				UNK	12/20/17 05:39:34 pm	-0.009	51	30.77	s
Replicates	73.3	46.8	37.5	45.3					
HS17120767-15				UNK	12/20/17 05:41:18 pm	-0.006	63	43.52	s
Replicates	61.6	38.1	50.9	101.6					
HS17120767-16				UNK	12/20/17 05:43:01 pm	-0.013	36	44.81	
Replicates	16.1	33.4	55.1	39.6					
HS17120767-17				UNK	12/20/17 05:44:44 pm	-0.005	66	13.38	s
Replicates	55.8	65.3	64.1	77.1					
HS17120767-18				UNK	12/20/17 05:46:27 pm	-0.011	44	12.70	
Replicates	42.1	41.4	52.9	41.4					
HS17120767-19				UNK	12/20/17 05:48:09 pm	-0.006	64	35.16	s
Replicates	46.2	71.9	45.9	92.6					
HS17120767-20				UNK	12/20/17 05:49:52 pm	-0.010	50	32.36	
Replicates	27.2	51.1	65.1	55.3					
CCV				UNK	12/20/17 05:54:56 pm	5.090	18896	0.52	
Replicates	18780.6	18855.8	18943.5	19002.3					
CCB				UNK	12/20/17 05:56:41 pm	-0.012	42	19.11	
Replicates	45.3	30.6	49.1	44.6					
GBLKP1-123614				UNK	12/20/17 05:58:23 pm	-0.016	28	66.04	
Replicates	31.1	44.8	33.5	1.8					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
MBLK-123614				UNK	12/20/17 06:00:06 pm	-0.015	31	25.02	
Replicates	25.4	41.9	30.4	25.6					
LCS-123614				UNK	12/20/17 06:01:49 pm	5.110	18968	0.51	
Replicates	18834.9	18960.6	19030.1	19045.1					
HS17120616-01				UNK	12/20/17 06:03:31 pm	-0.013	36	51.67	
Replicates	28.1	53.1	49.6	13.6					
HS17120616-01MS				UNK	12/20/17 06:12:07 pm	0.177	738	2.25	
Replicates	716.2	744.5	735.8	755.5					
HS17120616-01MS				UNK	12/20/17 06:15:51 pm	5.000	18568	0.55	
Replicates	18434.5	18554.5	18605.8	18677.3					
HS17120616-01MSD				UNK	12/20/17 06:17:34 pm	5.060	18774	0.93	
Replicates	18537.0	18755.3	18877.1	18926.8					
HS17120616-02				UNK	12/20/17 06:19:17 pm	0.131	571	5.02	s
Replicates	539.4	605.1	557.8	582.6					
HS17120693-01				UNK	12/20/17 06:21:01 pm	0.036	217	4.30	
Replicates	213.0	211.6	212.1	230.8					
HS17120693-02				UNK	12/20/17 06:22:44 pm	0.080	379	5.12	s
Replicates	356.0	379.1	403.6	378.9					
HS17120767-21				UNK	12/20/17 06:24:27 pm	-0.015	31	20.46	
Replicates	26.9	35.5	37.5	24.5					
CCV				UNK	12/20/17 06:26:11 pm	5.120	19014	1.01	
Replicates	18755.6	19025.3	19055.0	19218.3					
CCB				UNK	12/20/17 06:27:56 pm	-0.013	36	58.17	
Replicates	62.8	41.3	21.8	17.3					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120767-22				UNK	12/20/17 06:29:39 pm	-0.011	45	53.98	
Replicates	26.2	24.5	54.8	75.3					
HS17120767-23				UNK	12/20/17 06:31:22 pm	-0.015	30	39.17	
Replicates	41.6	13.6	32.9	31.9					
HS17120767-24				UNK	12/20/17 06:33:05 pm	-0.018	19	102.21	
Replicates	31.0	-6.5	14.5	35.8					
MBLK123615				UNK	12/20/17 06:37:54 pm	-0.011	44	75.32	
Replicates	45.0	-2.7	72.8	61.1					
LCS-123615				UNK	12/20/17 06:39:37 pm	4.950	18403	0.55	
Replicates	18276.6	18385.5	18429.0	18522.3					
HS17120644-01				UNK	12/20/17 06:41:20 pm	-0.022	4	294.76	
Replicates	0.9	-10.1	6.9	18.2					
HS17120644-02				UNK	12/20/17 06:43:03 pm	-0.013	37	36.34	
Replicates	38.6	27.3	26.6	55.3					
HS17120644-03				UNK	12/20/17 06:44:46 pm	-0.003	76	14.91	s
Replicates	87.5	75.9	60.4	78.9					
HS17120644-04				UNK	12/20/17 06:46:29 pm	-0.016	27	74.32	
Replicates	9.1	55.5	28.0	16.8					
CCV				UNK	12/20/17 06:48:14 pm	5.110	18975	0.43	
Replicates	18882.9	18933.4	19018.2	19064.4					
CCB				UNK	12/20/17 06:49:58 pm	-0.012	40	54.89	
Replicates	9.1	48.8	61.0	42.8					
HS17120644-09				UNK	12/20/17 06:51:42 pm	-0.004	69	29.90	s
Replicates	48.9	98.2	67.2	63.2					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120644-09MS				UNK	12/20/17 06:53:23 pm	4.680	17402	3.43	
Replicates	16613.2	17291.3	17732.1	17970.8					
HS17120644-09MSD				UNK	12/20/17 06:55:04 pm	4.760	17667	4.13	
Replicates	16750.5	17446.2	18054.7	18416.4					
HS17120644-10				UNK	12/20/17 06:56:46 pm	-0.018	19	76.99	
Replicates	37.5	13.3	2.6	24.6					
HS17120644-11				UNK	12/20/17 06:58:28 pm	-0.015	32	45.20	
Replicates	33.2	16.0	27.5	50.5					
HS17120644-12				UNK	12/20/17 07:00:10 pm	-0.006	63	25.22	s
Replicates	78.7	51.4	74.7	47.4					
HS17120921-01				UNK	12/20/17 07:01:52 pm	-0.017	24	69.02	
Replicates	8.4	30.3	43.8	12.5					
HS17120921-02				UNK	12/20/17 07:03:35 pm	-0.007	61	4.68	
Replicates	59.4	57.4	61.9	63.9					
HS17120921-03				UNK	12/20/17 07:05:18 pm	-0.012	39	46.36	
Replicates	44.4	23.1	27.1	63.1					
HS17120921-04				UNK	12/20/17 07:07:01 pm	-0.015	31	24.46	
Replicates	40.0	21.8	29.6	34.1					
CCV				UNK	12/20/17 07:08:45 pm	4.860	18070	1.60	
Replicates	17695.8	17997.4	18239.4	18348.2					
CCB				UNK	12/20/17 07:10:30 pm	-0.013	36	33.50	
Replicates	37.9	22.1	33.8	51.6					
HS17120921-05				UNK	12/20/17 07:12:14 pm	-0.001	83	15.92	s
Replicates	82.7	94.1	64.4	90.1					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120921-06				UNK	12/20/17 07:13:58 pm	-0.012	43	67.71	
Replicates	35.0	45.3	79.8	10.3					
HS17120921-07				UNK	12/20/17 07:15:42 pm	-0.011	44	24.59	
Replicates	35.5	47.8	56.8	34.3					
MBLK-123653				UNK	12/20/17 07:18:37 pm	-0.011	47	8.69	
Replicates	52.2	44.9	42.7	46.9					
LCS-123653				UNK	12/20/17 07:20:17 pm	5.200	19319	0.61	
Replicates	19187.1	19262.0	19380.0	19448.5					
HS17121017-01				UNK	12/20/17 07:21:59 pm	-0.017	23	112.98	
Replicates	2.1	13.9	15.4	61.9					
HS17121017-01MS				UNK	12/20/17 07:23:40 pm	5.030	18688	0.80	
Replicates	18478.4	18690.9	18755.6	18826.6					
HS17121017-01MSD				UNK	12/20/17 07:25:22 pm	5.000	18570	0.52	
Replicates	18448.1	18539.0	18623.8	18668.8					
HS17121017-02				UNK	12/20/17 07:27:04 pm	-0.022	5	403.84	
Replicates	-1.5	-19.1	14.6	25.1					
CCV				UNK	12/20/17 07:31:23 pm	4.890	18157	1.02	
Replicates	17927.2	18100.6	18244.6	18356.8					
CCB				UNK	12/20/17 07:33:08 pm	-0.017	23	69.75	
Replicates	13.7	15.6	14.8	46.1					
GBLKT1-123654				UNK	12/20/17 07:34:50 pm	-0.016	26	54.32	
Replicates	22.8	29.1	9.1	43.1					
MBLK-123654				UNK	12/20/17 07:36:33 pm	-0.012	42	40.54	
Replicates	54.0	41.9	17.6	52.6					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
LCS-123654				UNK	12/20/17 07:38:16 pm	5.120	19029	0.96	
Replicates	18804.4	18967.0	19125.0	19217.8					
HS17120846-01				UNK	12/20/17 07:39:59 pm	0.044	248	7.34	s
Replicates	256.9	223.2	248.2	265.4					
HS17120902-01				UNK	12/20/17 07:41:43 pm	-0.021	9	424.94	
Replicates	20.6	-42.8	8.3	50.5					
HS17120923-01				UNK	12/20/17 07:43:26 pm	-0.009	52	24.24	s
Replicates	33.7	62.4	56.6	55.6					
HS17120923-02				UNK	12/20/17 07:45:07 pm	-0.011	44	67.55	
Replicates	55.0	0.1	65.6	54.1					
HS17120923-02MS				UNK	12/20/17 07:46:48 pm	5.110	18964	1.11	
Replicates	18681.8	18929.1	19091.1	19154.1					
HS17120923-02MSD				UNK	12/20/17 07:48:29 pm	5.060	18782	1.02	
Replicates	18540.4	18733.9	18865.2	18989.9					
HS17120923-03				UNK	12/20/17 07:50:10 pm	-0.013	39	24.47	
Replicates	27.5	39.1	50.6	37.3					
CCV				UNK	12/20/17 07:52:25 pm	4.790	17803	1.09	
Replicates	17556.4	17750.4	17899.4	18004.4					
CCB				UNK	12/20/17 07:54:10 pm	-0.014	33	34.91	
Replicates	32.7	23.3	48.5	25.8					
HS17120575-01				UNK	12/20/17 07:55:52 pm	0.412	1610	3.75	
Replicates	1575.3	1545.9	1641.7	1677.9					
CCV				UNK	12/20/17 07:58:16 pm	5.030	18686	0.63	
Replicates	18524.1	18677.3	18757.0	18785.0					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB					UNK	12/20/17 08:00:01 pm	-0.010	50	63.20	s
	Replicates	62.6	53.4	5.4	79.1					

Metals Raw Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17120868

ALS Group USA, Corp Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

ICV	Date: 21-Dec-2017 11:32	Seq: 4363274	ICV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.275	100	90-110	
Antimony	100	100.572	101	90-110	
Arsenic	100	94.244	94	90-110	
Barium	100	90.443	90	90-110	
Beryllium	100	100.82	101	90-110	
Cadmium	100	93.186	93	90-110	
Calcium	10000	9211.184	92	90-110	
Chromium	100	93.548	94	90-110	
Cobalt	100	95.023	95	90-110	
Copper	100	96.435	96	90-110	
Iron	10000	9592.754	96	90-110	
Lead	100	104.84	105	90-110	
Magnesium	10000	9433.854	94	90-110	
Manganese	100	95.137	95	90-110	
Nickel	100	96.329	96	90-110	
Potassium	10000	9463.917	95	90-110	
Selenium	100	93.575	94	90-110	
Silver	100	94.614	95	90-110	
Sodium	10000	9504.642	95	90-110	
Thallium	100	97.225	97	90-110	
Vanadium	100	95.317	95	90-110	
Zinc	100	103.483	103	90-110	

CCV1	Date: 21-Dec-2017 12:07	Seq: 4363525	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	94.002	94	90-110	
Antimony	100	105.046	105	90-110	
Arsenic	100	97.497	98	90-110	
Barium	100	96.399	96	90-110	
Beryllium	100	100.223	100	90-110	
Cadmium	100	96.192	96	90-110	
Calcium	10000	9307.655	93	90-110	
Chromium	100	94.335	94	90-110	
Cobalt	100	95.877	96	90-110	
Copper	100	94.609	95	90-110	
Iron	10000	9581.54	96	90-110	
Lead	100	98.809	99	90-110	
Magnesium	10000	9310.473	93	90-110	
Manganese	100	97.921	98	90-110	
Nickel	100	95.014	95	90-110	
Potassium	10000	9384.652	94	90-110	
Selenium	100	92.085	92	90-110	
Silver	100	92.911	93	90-110	
Sodium	10000	9435.705	94	90-110	
Thallium	100	97.708	98	90-110	
Vanadium	100	94.764	95	90-110	
Zinc	100	101.885	102	90-110	

CCV2	Date: 21-Dec-2017 12:31	Seq: 4363458	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	97.294	97	90-110	
Antimony	100	105.366	105	90-110	
Arsenic	100	94.779	95	90-110	
Barium	100	96.965	97	90-110	
Beryllium	100	98.72	99	90-110	
Cadmium	100	96.255	96	90-110	
Calcium	10000	9422.539	94	90-110	

ALS Group USA, Corp Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV2	Date: 21-Dec-2017 12:31	Seq: 4363458	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Chromium	100	93.369	93	90-110	
Cobalt	100	94.872	95	90-110	
Copper	100	95.073	95	90-110	
Iron	10000	9559.284	96	90-110	
Lead	100	94.345	94	90-110	
Magnesium	10000	9414.782	94	90-110	
Manganese	100	95.606	96	90-110	
Nickel	100	96.362	96	90-110	
Potassium	10000	9464.174	95	90-110	
Selenium	100	98.036	98	90-110	
Silver	100	92.713	93	90-110	
Sodium	10000	9400.32	94	90-110	
Thallium	100	99.041	99	90-110	
Vanadium	100	94.148	94	90-110	
Zinc	100	106.339	106	90-110	

CCV3	Date: 21-Dec-2017 12:55	Seq: 4363500	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	96.05	96	90-110	
Antimony	100	103.515	104	90-110	
Arsenic	100	95.927	96	90-110	
Barium	100	96.109	96	90-110	
Beryllium	100	103.457	103	90-110	
Cadmium	100	94.533	95	90-110	
Calcium	10000	9420.336	94	90-110	
Chromium	100	93.205	93	90-110	
Cobalt	100	94.952	95	90-110	
Copper	100	95.646	96	90-110	
Iron	10000	9573.615	96	90-110	
Lead	100	94.088	94	90-110	
Magnesium	10000	9541.52	95	90-110	
Manganese	100	94.793	95	90-110	
Nickel	100	95.953	96	90-110	
Potassium	10000	9796.191	98	90-110	
Selenium	100	98.54	99	90-110	
Silver	100	93.489	94	90-110	
Sodium	10000	9523.253	95	90-110	
Thallium	100	95.582	96	90-110	
Vanadium	100	92.419	92	90-110	
Zinc	100	102.741	103	90-110	

CCV4	Date: 21-Dec-2017 13:19	Seq: 4363512	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	98.116	98	90-110	
Antimony	100	105.552	106	90-110	
Arsenic	100	97.049	97	90-110	
Barium	100	97.645	98	90-110	
Beryllium	100	97.654	98	90-110	
Cadmium	100	97.402	97	90-110	
Calcium	10000	9622.001	96	90-110	
Chromium	100	94.838	95	90-110	
Cobalt	100	95.75	96	90-110	
Copper	100	95.644	96	90-110	
Iron	10000	9672.432	97	90-110	
Lead	100	97.41	97	90-110	
Magnesium	10000	9373.028	94	90-110	
Manganese	100	96.539	96	90-110	

ALS Group USA, Corp Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV4	Date: 21-Dec-2017 13:19	Seq: 4363512	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Nickel	100	95.301	95	90-110	
Potassium	10000	9434.639	94	90-110	
Selenium	100	92.909	93	90-110	
Silver	100	94.7	95	90-110	
Sodium	10000	9677.776	97	90-110	
Thallium	100	96.612	97	90-110	
Vanadium	100	94.646	95	90-110	
Zinc	100	104.494	104	90-110	

CCV5	Date: 21-Dec-2017 13:43	Seq: 4363674	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.248	100	90-110	
Antimony	100	101.608	102	90-110	
Arsenic	100	97.362	97	90-110	
Barium	100	95.405	95	90-110	
Beryllium	100	98.772	99	90-110	
Cadmium	100	96.096	96	90-110	
Calcium	10000	9506.739	95	90-110	
Chromium	100	92.435	92	90-110	
Cobalt	100	94.281	94	90-110	
Copper	100	95.802	96	90-110	
Iron	10000	9406.688	94	90-110	
Lead	100	94.907	95	90-110	
Magnesium	10000	9342.176	93	90-110	
Manganese	100	92.091	92	90-110	
Nickel	100	95.218	95	90-110	
Potassium	10000	9687.709	97	90-110	
Selenium	100	98.237	98	90-110	
Silver	100	94.875	95	90-110	
Sodium	10000	9316.381	93	90-110	
Thallium	100	95.272	95	90-110	
Vanadium	100	93.358	93	90-110	
Zinc	100	103.482	103	90-110	

CCV6	Date: 21-Dec-2017 14:07	Seq: 4363686	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	97.597	98	90-110	
Antimony	100	103.369	103	90-110	
Arsenic	100	94.793	95	90-110	
Barium	100	95.516	96	90-110	
Beryllium	100	95.476	96	90-110	
Cadmium	100	95.732	96	90-110	
Calcium	10000	9270.646	93	90-110	
Chromium	100	94.031	94	90-110	
Cobalt	100	93.713	94	90-110	
Copper	100	96.125	96	90-110	
Iron	10000	9413.225	94	90-110	
Lead	100	96.418	96	90-110	
Magnesium	10000	9221.895	92	90-110	
Manganese	100	95.694	96	90-110	
Nickel	100	95.621	96	90-110	
Potassium	10000	9541.533	95	90-110	
Selenium	100	95.75	96	90-110	
Silver	100	95.853	96	90-110	
Sodium	10000	9291.881	93	90-110	
Thallium	100	92.782	93	90-110	
Vanadium	100	92.539	93	90-110	

ALS Group USA, Corp Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV6	Date: 21-Dec-2017 14:07		Seq: 4363686	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Zinc	100	103.568	104	90-110	

CCV7	Date: 21-Dec-2017 14:31		Seq: 4363698	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	97.615	98	90-110	
Antimony	100	104.072	104	90-110	
Arsenic	100	95.002	95	90-110	
Barium	100	95.87	96	90-110	
Beryllium	100	97.857	98	90-110	
Cadmium	100	95.27	95	90-110	
Calcium	10000	9426.856	94	90-110	
Chromium	100	94.899	95	90-110	
Cobalt	100	93.392	93	90-110	
Copper	100	94.022	94	90-110	
Iron	10000	9499.354	95	90-110	
Lead	100	99.401	99	90-110	
Magnesium	10000	9328.722	93	90-110	
Manganese	100	98.03	98	90-110	
Nickel	100	92.719	93	90-110	
Potassium	10000	9261.123	93	90-110	
Selenium	100	94.514	95	90-110	
Silver	100	92.903	93	90-110	
Sodium	10000	9411.172	94	90-110	
Thallium	100	94.487	95	90-110	
Vanadium	100	93.012	93	90-110	
Zinc	100	103.932	104	90-110	

CCV8	Date: 21-Dec-2017 14:55		Seq: 4363710	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	100.336	100	90-110	
Antimony	100	105.59	106	90-110	
Arsenic	100	97.488	98	90-110	
Barium	100	99.825	100	90-110	
Beryllium	100	95.879	96	90-110	
Cadmium	100	98.478	99	90-110	
Calcium	10000	9485.144	95	90-110	
Chromium	100	95.354	95	90-110	
Cobalt	100	95.639	96	90-110	
Copper	100	96.179	96	90-110	
Iron	10000	9711.117	97	90-110	
Lead	100	99.743	100	90-110	
Magnesium	10000	9657.392	97	90-110	
Manganese	100	95.776	96	90-110	
Nickel	100	96.351	96	90-110	
Potassium	10000	9634.824	96	90-110	
Selenium	100	95.801	96	90-110	
Silver	100	94.846	95	90-110	
Sodium	10000	9672.711	97	90-110	
Thallium	100	97.286	97	90-110	
Vanadium	100	94.483	95	90-110	
Zinc	100	102.582	103	90-110	

CCV9	Date: 21-Dec-2017 15:20		Seq: 4363724	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	103.813	104	90-110	
Antimony	100	101.848	102	90-110	
Arsenic	100	96.025	96	90-110	

ALS Group USA, Corp Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV9	Date: 21-Dec-2017 15:20	Seq: 4363724	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	95.365	95	90-110	
Beryllium	100	97.418	97	90-110	
Cadmium	100	94.807	95	90-110	
Calcium	10000	9678.984	97	90-110	
Chromium	100	94.911	95	90-110	
Cobalt	100	95.596	96	90-110	
Copper	100	93.13	93	90-110	
Iron	10000	9618.614	96	90-110	
Lead	100	96.956	97	90-110	
Magnesium	10000	9423.185	94	90-110	
Manganese	100	96.264	96	90-110	
Nickel	100	94.494	95	90-110	
Potassium	10000	9666.316	97	90-110	
Selenium	100	96.632	97	90-110	
Silver	100	94.307	94	90-110	
Sodium	10000	9788.898	98	90-110	
Thallium	100	97.967	98	90-110	
Vanadium	100	93.462	94	90-110	
Zinc	100	103.077	103	90-110	

CCV10	Date: 21-Dec-2017 15:44	Seq: 4364527	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.938	101	90-110	
Antimony	100	102.027	102	90-110	
Arsenic	100	92.253	92	90-110	
Barium	100	96.717	97	90-110	
Beryllium	100	94.481	95	90-110	
Cadmium	100	95.761	96	90-110	
Calcium	10000	9194.553	92	90-110	
Chromium	100	93.079	93	90-110	
Cobalt	100	92.679	93	90-110	
Copper	100	94.473	95	90-110	
Iron	10000	9286.622	93	90-110	
Lead	100	97.64	98	90-110	
Magnesium	10000	9310.084	93	90-110	
Manganese	100	93.359	93	90-110	
Nickel	100	91.775	92	90-110	
Potassium	10000	9476.64	95	90-110	
Selenium	100	91.951	92	90-110	
Silver	100	92.769	93	90-110	
Sodium	10000	9441.419	94	90-110	
Thallium	100	95.265	95	90-110	
Vanadium	100	93.113	93	90-110	
Zinc	100	102.354	102	90-110	

CCV11	Date: 21-Dec-2017 16:08	Seq: 4364539	CCV	Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.592	102	90-110	
Antimony	100	103.729	104	90-110	
Arsenic	100	95.964	96	90-110	
Barium	100	96.475	97	90-110	
Beryllium	100	93.075	93	90-110	
Cadmium	100	96.38	96	90-110	
Calcium	10000	9354.586	94	90-110	
Chromium	100	94.185	94	90-110	
Cobalt	100	95.595	96	90-110	
Copper	100	96.274	96	90-110	

ALS Group USA, Corp Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV11 Date: 21-Dec-2017 16:08 Seq: 4364539 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	9504.277	95	90-110	
Lead	100	98.015	98	90-110	
Magnesium	10000	9658.41	97	90-110	
Manganese	100	96.069	96	90-110	
Nickel	100	94.357	94	90-110	
Potassium	10000	9515.667	95	90-110	
Selenium	100	91.956	92	90-110	
Silver	100	93.149	93	90-110	
Sodium	10000	9874.714	99	90-110	
Thallium	100	96.413	96	90-110	
Vanadium	100	93.732	94	90-110	
Zinc	100	104.725	105	90-110	

CCV12 Date: 21-Dec-2017 16:32 Seq: 4364581 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	93.81	94	90-110	
Antimony	100	97.262	97	90-110	
Arsenic	100	95.555	96	90-110	
Barium	100	90.876	91	90-110	
Beryllium	100	104.704	105	90-110	
Cadmium	100	94.873	95	90-110	
Calcium	10000	9379.327	94	90-110	
Chromium	100	92.871	93	90-110	
Cobalt	100	92.635	93	90-110	
Copper	100	92.759	93	90-110	
Iron	10000	9315.424	93	90-110	
Lead	100	106.977	107	90-110	
Magnesium	10000	8951.74	90	90-110	S
Manganese	100	93.341	93	90-110	
Nickel	100	92.816	93	90-110	
Potassium	10000	9646.887	97	90-110	
Selenium	100	99.981	100	90-110	
Silver	100	90.984	91	90-110	
Sodium	10000	11073.107	111	90-110	S
Thallium	100	96.028	96	90-110	
Vanadium	100	93.575	94	90-110	
Zinc	100	100.424	100	90-110	

CCV13 Date: 21-Dec-2017 16:57 Seq: 4364593 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	92.678	93	90-110	
Antimony	100	100.493	100	90-110	
Arsenic	100	99.349	99	90-110	
Barium	100	97.366	97	90-110	
Beryllium	100	102.478	102	90-110	
Cadmium	100	98.446	98	90-110	
Calcium	10000	9405.245	94	90-110	
Chromium	100	93.873	94	90-110	
Cobalt	100	94.386	94	90-110	
Copper	100	94.432	94	90-110	
Iron	10000	9601.22	96	90-110	
Lead	100	104.107	104	90-110	
Magnesium	10000	9241.801	92	90-110	
Manganese	100	95.786	96	90-110	
Nickel	100	94.883	95	90-110	
Potassium	10000	9413.167	94	90-110	
Selenium	100	96.056	96	90-110	

ALS Group USA, Corp Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV13	Date: 21-Dec-2017 16:57		Seq: 4364593	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	90.881	91	90-110	
Sodium	10000	10733.349	107	90-110	
Thallium	100	97.229	97	90-110	
Vanadium	100	95.554	96	90-110	
Zinc	100	104.19	104	90-110	

CCV14	Date: 21-Dec-2017 17:39		Seq: 4364642	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	98.069	98	90-110	
Antimony	100	98.47	99	90-110	
Arsenic	100	95.969	96	90-110	
Barium	100	95.613	96	90-110	
Beryllium	100	96.088	96	90-110	
Cadmium	100	96.505	97	90-110	
Calcium	10000	9559.453	96	90-110	
Chromium	100	92.646	93	90-110	
Cobalt	100	93.072	93	90-110	
Copper	100	94.107	94	90-110	
Iron	10000	9046.156	91	90-110	
Lead	100	101.342	101	90-110	
Magnesium	10000	9218.809	92	90-110	
Manganese	100	89.539	90	90-110	S
Nickel	100	93.171	93	90-110	
Potassium	10000	9396.858	94	90-110	
Selenium	100	96.273	96	90-110	
Silver	100	93.718	94	90-110	
Sodium	10000	9741.95	97	90-110	
Thallium	100	92.885	93	90-110	
Vanadium	100	92.687	93	90-110	
Zinc	100	100.549	101	90-110	

CCV15	Date: 21-Dec-2017 18:00		Seq: 4364652	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	99.111	99	90-110	
Antimony	100	100.098	100	90-110	
Arsenic	100	97.121	97	90-110	
Barium	100	94.687	95	90-110	
Beryllium	100	99.171	99	90-110	
Cadmium	100	96.041	96	90-110	
Calcium	10000	9484.381	95	90-110	
Chromium	100	94.828	95	90-110	
Cobalt	100	94.164	94	90-110	
Copper	100	95.113	95	90-110	
Iron	10000	9450.759	95	90-110	
Lead	100	100.27	100	90-110	
Magnesium	10000	9302.645	93	90-110	
Manganese	100	91.692	92	90-110	
Nickel	100	93.728	94	90-110	
Potassium	10000	9457.656	95	90-110	
Selenium	100	96.607	97	90-110	
Silver	100	93.984	94	90-110	
Sodium	10000	9956.6	100	90-110	
Thallium	100	91.72	92	90-110	
Vanadium	100	93.408	93	90-110	
Zinc	100	103.175	103	90-110	

ALS Group USA, Corp Date: 09-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV16 | Date: 21-Dec-2017 18:08 | Seq: 4364656 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	96.584	97	90-110	
Antimony	100	98.533	99	90-110	
Arsenic	100	95.578	96	90-110	
Barium	100	91.404	91	90-110	
Beryllium	100	92.833	93	90-110	
Cadmium	100	95.289	95	90-110	
Calcium	10000	9058.664	91	90-110	
Chromium	100	92.907	93	90-110	
Cobalt	100	93.908	94	90-110	
Copper	100	94.442	94	90-110	
Iron	10000	9245.734	93	90-110	
Lead	100	101.158	101	90-110	
Magnesium	10000	9219.564	92	90-110	
Manganese	100	90.513	91	90-110	
Nickel	100	93.627	94	90-110	
Potassium	10000	9085.024	91	90-110	
Selenium	100	95.809	96	90-110	
Silver	100	92.293	92	90-110	
Sodium	10000	9591.49	96	90-110	
Thallium	100	95.797	96	90-110	
Vanadium	100	92.816	93	90-110	
Zinc	100	100.315	100	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

ICB | Date: 21-Dec-2017 11:38 | Seq: 4363277 | ICB | Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	200	14	200	U
Thallium	2	0.2	2	U
Vanadium	0.798	0.6	5	J
Zinc	4	2	4	U

CCB1 | Date: 21-Dec-2017 12:09 | Seq: 4363526 | CCB | Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	0.838	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	0.627	0.6	2	J
Potassium	26.41	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	77.55	14	200	J
Thallium	0.212	0.2	2	J
Vanadium	0.837	0.6	5	J
Zinc	4	2	4	U

CCB2 | Date: 21-Dec-2017 12:33 | Seq: 4363459 | CCB | Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	1.236	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB2	Date: 21-Dec-2017 12:33		Seq: 4363459	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.683	0.6	2	J	
Potassium	33.17	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	63.66	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	0.775	0.6	5	J	
Zinc	4	2	4	U	

MBLK-123627	Date: 21-Dec-2017 12:35		Seq: 4363490	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	2.791	1.8	10	J	
Antimony	0.429	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	36.01	34	500	J	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	13.93	10	200	J	
Manganese	5	0.7	5	U	
Nickel	0.729	0.6	2	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	59.17	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	0.721	0.6	5	J	
Zinc	4	2	4	U	

CCB3	Date: 21-Dec-2017 12:57		Seq: 4363501	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	1.052	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB3	Date: 21-Dec-2017 12:57		Seq: 4363501	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Manganese	5	0.7	5	U	
Nickel	0.646	0.6	2	J	
Potassium	56.91	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	128.8	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	0.813	0.6	5	J	
Zinc	4	2	4	U	

CCB4	Date: 21-Dec-2017 13:21		Seq: 4363513	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.818	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.65	0.6	2	J	
Potassium	66.64	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	80.94	14	200	J	
Thallium	0.221	0.2	2	J	
Vanadium	0.83	0.6	5	J	
Zinc	4	2	4	U	

CCB5	Date: 21-Dec-2017 13:45		Seq: 4363675	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.747	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.698	0.6	2	J	
Potassium	53.34	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	53.13	14	200	J	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB5	Date: 21-Dec-2017 13:45		Seq: 4363675	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Thallium	0.23	0.2	2	J	
Vanadium	0.828	0.6	5	J	
Zinc	4	2	4	U	

CCB6	Date: 21-Dec-2017 14:09		Seq: 4363687	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.782	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.63	0.6	2	J	
Potassium	47.75	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	43.94	14	200	J	
Thallium	0.203	0.2	2	J	
Vanadium	0.876	0.6	5	J	
Zinc	4	2	4	U	

CCB7	Date: 21-Dec-2017 14:33		Seq: 4363699	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.799	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	0.994	0.7	5	J	
Nickel	0.649	0.6	2	J	
Potassium	31.83	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	35.23	14	200	J	
Thallium	0.231	0.2	2	J	
Vanadium	0.932	0.6	5	J	
Zinc	4	2	4	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB8	Date: 21-Dec-2017 14:57		Seq: 4363711	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.667	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.687	0.6	2	J	
Potassium	26.56	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	63.99	14	200	J	
Thallium	0.243	0.2	2	J	
Vanadium	0.865	0.6	5	J	
Zinc	4	2	4	U	

CCB9	Date: 21-Dec-2017 15:22		Seq: 4363725	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.59	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.694	0.6	2	J	
Potassium	59.74	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	286.4	14	200		
Thallium	0.224	0.2	2	J	
Vanadium	0.876	0.6	5	J	
Zinc	4	2	4	U	

MBLK-123627	Date: 21-Dec-2017 15:28		Seq: 4363790	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Potassium	49.49	18	200	J	

CCB10	Date: 21-Dec-2017 15:46		Seq: 4364528	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.565	0.4	2	J	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB10	Date: 21-Dec-2017 15:46		Seq: 4364528	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.743	0.6	2	J	
Potassium	42.24	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	101	14	200	J	
Thallium	0.262	0.2	2	J	
Vanadium	0.886	0.6	5	J	
Zinc	4	2	4	U	

CCB11	Date: 21-Dec-2017 16:10		Seq: 4364540	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.503	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.688	0.6	2	J	
Potassium	64.21	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	230.5	14	200		
Thallium	0.278	0.2	2	J	
Vanadium	0.895	0.6	5	J	
Zinc	4	2	4	U	

CCB12	Date: 21-Dec-2017 16:34		Seq: 4364582	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB12	Date: 21-Dec-2017 16:34	Seq: 4364582	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	24.69	10	200	J
Manganese	5	0.7	5	U
Nickel	0.659	0.6	2	J
Potassium	74.57	18	200	J
Selenium	1.341	1.1	2	J
Silver	2	0.2	2	U
Sodium	1616	14	200	
Thallium	0.234	0.2	2	J
Vanadium	1.144	0.6	5	J
Zinc	4	2	4	U

CCB13	Date: 21-Dec-2017 16:59	Seq: 4364594	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	0.467	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	22.7	10	200	J
Manganese	5	0.7	5	U
Nickel	0.713	0.6	2	J
Potassium	36.18	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	1309	14	200	
Thallium	0.258	0.2	2	J
Vanadium	1.191	0.6	5	J
Zinc	4	2	4	U

CCB14	Date: 21-Dec-2017 17:35	Seq: 4364640	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB14	Date: 21-Dec-2017 17:35		Seq: 4364640	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Nickel	0.678	0.6	2	J	
Potassium	26.37	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	409.3	14	200		
Thallium	0.253	0.2	2	J	
Vanadium	1.227	0.6	5	J	
Zinc	4	2	4	U	

CCB15	Date: 21-Dec-2017 18:02		Seq: 4364653	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.429	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.768	0.6	2	J	
Potassium	46.13	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	399.1	14	200		
Thallium	0.272	0.2	2	J	
Vanadium	1.095	0.6	5	J	
Zinc	4	2	4	U	

CCB16	Date: 21-Dec-2017 18:10		Seq: 4364657	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.41	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.757	0.6	2	J	
Potassium	35.14	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	359.4	14	200		
Thallium	0.275	0.2	2	J	

ALS Group USA, Corp Date: 09-Jan-18

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB16 | Date: 21-Dec-2017 18:10 | Seq: 4364657 | CCB | Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Vanadium	1.043	0.6	5	J
Zinc	4	2	4	U

ALS Group USA, Corp Date: 09-Jan-18

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS05_307676
Project: LHAAP 18/24 Instrument:ICPMS05
WorkOrder: HS17120868 Method:SW6020

ICSA	Date: 21-Dec-2017 11:40	Seq: 4363278	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	83500	83.5	
Antimony		0.069	0	
Arsenic		0.137	0	
Barium		0.155	0	
Beryllium		-0.006	0	
Cadmium		1.35	0	
Calcium	100000	98660	98.7	
Chromium		0.262	0	
Cobalt		0.008	0	
Copper		1.174	0	
Iron	100000	95150	95.2	
Lead		0.141	0	
Magnesium	100000	95180	95.2	
Manganese		0.373	0	
Nickel		0.787	0	
Potassium	100000	96690	96.7	
Selenium		0.509	0	
Silver		0.05	0	
Sodium	100000	96110	96.1	
Thallium		0.012	0	
Vanadium		0.819	0	
Zinc		-0.045	0	

ICSAB	Date: 21-Dec-2017 11:42	Seq: 4363279	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	83470	83.1	
Antimony	100	94.77	94.8	
Arsenic	100	85.1	85.1	
Barium	100	86.99	87.0	
Beryllium	100	86.78	86.8	
Cadmium	100	85	85.0	
Calcium	110000	100000	91.0	
Chromium	100	82.47	82.5	
Cobalt	100	84.53	84.5	
Copper	100	82.46	82.5	
Iron	110000	105800	96.2	
Lead	100	84.3	84.3	
Magnesium	110000	105600	96.0	
Manganese	100	83.34	83.3	
Nickel	100	81.94	81.9	
Potassium	110000	104900	95.4	
Selenium	100	83.72	83.7	
Silver	100	78.75	78.7	
Sodium	110000	104900	95.3	
Thallium	100	83.2	83.2	
Vanadium	100	84.46	84.5	
Zinc	100	89.81	89.8	

ICSA	Date: 21-Dec-2017 18:16	Seq: 4364660	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	84700	84.7	
Antimony		-0.019	0	
Arsenic		0.052	0	
Barium		0.203	0	
Beryllium		-0.01	0	
Cadmium		1.303	0	
cium	100000	98870	98.9	

ALS Group USA, Corp Date: 09-Jan-18

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Run ID:ICPMS05_307676
Instrument:ICPMS05
Method:SW6020

ICSA	Date: 21-Dec-2017 18:16	Seq: 4364660	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Chromium		0.322	0	
Cobalt		-0.005	0	
Copper		0.974	0	
Iron	100000	94110	94.1	
Lead		0.053	0	
Magnesium	100000	94050	94.0	
Manganese		0.334	0	
Nickel		0.747	0	
Potassium	100000	97280	97.3	
Selenium		-0.105	0	
Silver		0.022	0	
Sodium	100000	97260	97.3	
Thallium		0.042	0	
Vanadium		0.938	0	
Zinc		0.09	0	

ICSAB	Date: 21-Dec-2017 18:18	Seq: 4364661	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	83870	83.5	
Antimony	100	92.67	92.7	
Arsenic	100	89.13	89.1	
Barium	100	86.23	86.2	
Beryllium	100	85.95	85.9	
Cadmium	100	88.77	88.8	
Calcium	110000	106500	96.8	
Chromium	100	85.28	85.3	
Cobalt	100	84.31	84.3	
Copper	100	84.49	84.5	
Iron	110000	105100	95.6	
Lead	100	84.77	84.8	
Magnesium	110000	102400	93.1	
Manganese	100	82.34	82.3	
Nickel	100	83.46	83.5	
Potassium	110000	107100	97.4	
Selenium	100	85.95	86.0	
Silver	100	81.39	81.4	
Sodium	110000	105900	96.3	
Thallium	100	88.97	89.0	
Vanadium	100	86.91	86.9	
Zinc	100	93.15	93.1	

ALS Group USA, Corp

Date: 09-Jan-18

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Date Analyzed: 21-Dec-2017 12:47
Date Extracted: 20-Dec-2017 12:57
Units: ug/L

Matrix Spike: HS17120868-07MS
Client Sample ID: 18CPTMW10DW-121217
Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aluminum	11.06	85.63	100.0	74.6	85.67	100.0	74.6	80-120	0.0432	20
Antimony	0.5010	52.72	50.00	104	51.79	50.00	103	80-120	1.78	20
Arsenic	1.390	47.62	50.00	92.5	47.48	50.00	92.2	80-120	0.280	20
Barium	74.34	119.5	50.00	90.4	114.8	50.00	80.8	80-120	4.06	20
Beryllium	2.000	59.72	50.00	119	58.82	50.00	118	80-120	1.52	20
Cadmium	2.000	45.60	50.00	91.2	44.46	50.00	88.9	80-120	2.53	20
Calcium	3698	7910	5000	84.3	7663	5000	79.3	80-120	3.17	20
Chromium	4.000	44.37	50.00	88.6	43.27	50.00	86.4	80-120	2.50	20
Cobalt	5.000	44.96	50.00	89.9	43.91	50.00	87.8	80-120	2.36	20
Copper	1.000	46.24	50.00	90.5	44.38	50.00	86.8	80-120	4.10	20
Iron	211.1	4561	5000	87.0	4560	5000	87.0	80-120	0.0164	20
Lead	2.000	44.76	50.00	89.5	43.50	50.00	86.9	80-120	2.87	20
Magnesium	3373	7761	5000	87.8	7403	5000	80.6	80-120	4.72	20
Manganese	5.167	48.20	50.00	86.1	47.70	50.00	85.1	80-120	1.02	20
Nickel	1.236	45.54	50.00	88.6	44.62	50.00	86.8	80-120	2.05	20
Potassium	76240	81210	5000	99.5	76970	5000	14.6	80-120	5.37	20
Selenium	2.000	46.96	50.00	92.1	45.57	50.00	89.4	80-120	3.00	20
Silver	2.000	42.77	50.00	85.5	42.07	50.00	84.1	80-120	1.66	20
Sodium	154600	166800	5000	243	153600	5000	-20.2	80-120	8.21	20
Thallium	2.000	43.43	50.00	86.8	41.80	50.00	83.6	80-120	3.84	20
Vanadium	0.7340	45.09	50.00	88.7	44.28	50.00	87.1	80-120	1.80	20
Zinc	3.049	51.57	50.00	97.0	49.94	50.00	93.8	80-120	3.23	20

ALS Group USA, Corp Date: 09-Jan-18

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Date Analyzed: 21-Dec-2017 12:49
Date Extracted: 20-Dec-2017 12:57
Units: ug/L

Lab Sample ID: HS17120868-07PDS
Client Sample ID: 18CPTMW10DW-121217

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Aluminum	11.06	76.61	100	66	75-125
Antimony	0.501	83.85	100	83	75-125
Arsenic	1.39	84.22	100	83	75-125
Barium	74.34	153.7	100	79	75-125
Beryllium	0	101.4	100	101	75-125
Cadmium	0	79.04	100	79	75-125
Calcium	3698	11040	10000	73	75-125
Chromium	0	78.31	100	78	75-125
Cobalt	0	78.9	100	79	75-125
Copper	1	78.34	100	77	75-125
Iron	211.1	7899	10000	77	75-125
Lead	0	76.25	100	76	75-125
Magnesium	3373	10990	10000	76	75-125
Manganese	5.167	82.03	100	77	75-125
Nickel	1.236	78.57	100	77	75-125
Potassium	76240	82090	10000	59	75-125
Selenium	0	78.49	100	78	75-125
Sodium	154600	163200	10000	85	75-125
Thallium	0	76.39	100	76	75-125
Vanadium	0.734	79.56	100	79	75-125
Zinc	3.049	86.14	100	83	75-125

ALS Group USA, Corp Date: 09-Jan-18

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Date Analyzed: 21-Dec-2017 12:37
Date Extracted: 20-Dec-2017 12:57
Units: ug/L

Lab Sample ID: LCS-123627 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Aluminum	100	83.41	83	80-120
Antimony	50	52.44	105	80-120
Arsenic	50	46.08	92	80-120
Barium	50	46.49	93	80-120
Beryllium	50	46.01	92	80-120
Cadmium	50	46.92	94	80-120
Calcium	5000	4341	87	80-120
Chromium	50	45.83	92	80-120
Cobalt	50	44.81	90	80-120
Copper	50	46.97	94	80-120
Iron	5000	4400	88	80-120
Lead	50	52.48	105	80-120
Magnesium	5000	4480	90	80-120
Manganese	50	45.71	91	80-120
Nickel	50	46.03	92	80-120
Potassium	5000	4425	89	80-120
Selenium	50	45.68	91	80-120
Silver	50	45.6	91	80-120
Sodium	5000	4589	92	80-120
Thallium	50	45.8	92	80-120
Vanadium	50	45.61	91	80-120
Zinc	50	51.52	103	80-120

ALS Group USA, Corp Date: 09-Jan-18

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868

Date Analyzed: 21-Dec-2017 12:43
Date Extracted: 20-Dec-2017 12:57
Units: ug/L

Lab Sample ID: HS17120868-07SD
Client Sample ID:18CPTMW10DW-121217

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Aluminum	11.06		18.14	J	64	
Antimony	0.501	J	0	U	0	
Arsenic	1.39	J	0	U	0	
Barium	74.34		73.6		1	
Beryllium	0	U	0	U	0	
Cadmium	0	U	0	U	0	
Calcium	3698		3568		3	
Chromium	0	U	0	U	0	
Cobalt	0	U	0	U	0	
Copper	1	J	0	U	0	
Iron	211.1		217	J	3	
Lead	0	U	0	U	0	
Magnesium	3373		3494		4	
Manganese	5.167		5.238	J	1	
Nickel	1.236	J	3.927	J	218	
Potassium	76240		78310		3	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	
Sodium	154600		162900		5	
Thallium	0	U	0	U	0	
Vanadium	0.734	J	3.562	J	385	
Zinc	3.049	J	0	U	0	

ALS Group USA, Corp Date: 09-Jan-18

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS05
Project: LHAAP 18/24
WorkOrder: HS17120868

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
114	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Group USA, Corp Date: 09-Jan-18

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868
Start Date: 20-Dec-2017 12:00 End Date: 20-Dec-2017 16:00

Batch ID: 123627
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17120868-04	MW19-121217	Groundwater		10	10	1
HS17120868-07	18CPTMW10DW-121217	Groundwater		10	10	1
HS17120868-07MS				10	10	1
HS17120868-07MSD				10	10	1
HS17120868-07PDS				10	10	1
HS17120868-07SD				10	10	1
HS17120868-08	18CPTMW12SW-121217	Groundwater		10	10	1
HS17120868-09	18CPTMW12DW-121217	Groundwater		10	10	1
LCS-123627				10	10	1
MBLK-123627				10	10	1

ALS Group USA, Corp Date: 09-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868
Start Date: 21-Dec-2017 End Date: 21-Dec-2017

Run ID:ICPMS05_307676
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_307676_Tune	1	21-Dec-2017 00:00	ICPMS05_307676_Tune_1	
CAL BLK	1	21-Dec-2017 11:18	020CALB.d_4363267	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	21-Dec-2017 11:20	021CALS.d_4363268	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	21-Dec-2017 11:22	022CALS.d_4363269	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	21-Dec-2017 11:24	023CALS.d_4363270	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	21-Dec-2017 11:25	024CALS.d_4363271	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	21-Dec-2017 11:27	025CALS.d_4363272	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	21-Dec-2017 11:32	027_ICV.d_4363274	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	21-Dec-2017 11:34	028LICV.d_4363275	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	21-Dec-2017 11:36	029LICV.d_4363276	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICB	1	21-Dec-2017 11:38	030_ICB.d_4363277	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	21-Dec-2017 11:40	031ICSA.d_4363278	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	21-Dec-2017 11:42	032ICSB.d_4363279	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 1	1	21-Dec-2017 12:07	044_CCV.d_4363525	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 1	1	21-Dec-2017 12:09	045_CCB.d_4363526	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 2	1	21-Dec-2017 12:31	056_CCV.d_4363458	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 2	1	21-Dec-2017 12:33	057_CCB.d_4363459	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MBLK-123627	1	21-Dec-2017 12:35	058SMPL.d_4363490	AG AL AS BA BE CA CD CO CR CU FE MG MN NA NI PB SB SE TL V ZN
LCS-123627	1	21-Dec-2017 12:37	059SMPL.d_4363491	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MW19-121217	1	21-Dec-2017 12:39	060SMPL.d_4363492	AG AL AS BA BE CA CD CO CR CU FE K MG NI PB SB SE TL V ZN
18CPTMW10DW-121217	1	21-Dec-2017 12:41	061SMPL.d_4363493	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
18CPTMW10DW-121217SD	5	21-Dec-2017 12:43	062SMPL.d_4363494	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
18CPTMW10DW-121217MS	1	21-Dec-2017 12:45	063SMPL.d_4363495	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
18CPTMW10DW-121217MSD	1	21-Dec-2017 12:47	064SMPL.d_4363496	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
18CPTMW10DW-121217PDS	1	21-Dec-2017 12:49	065SMPL.d_4363497	AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
18CPTMW12SW-121217	1	21-Dec-2017 12:51	066SMPL.d_4363498	AG AL AS BA BE CA CD CO CR CU FE K MG MN NI PB SB SE TL V ZN
18CPTMW12DW-121217	1	21-Dec-2017 12:53	067SMPL.d_4363499	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 3	1	21-Dec-2017 12:55	068_CCV.d_4363500	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 3	1	21-Dec-2017 12:57	069_CCB.d_4363501	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 4	1	21-Dec-2017 13:19	080_CCV.d_4363512	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 4	1	21-Dec-2017 13:21	081_CCB.d_4363513	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 5	1	21-Dec-2017 13:43	092_CCV.d_4363674	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 5	1	21-Dec-2017 13:45	093_CCB.d_4363675	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 6	1	21-Dec-2017 14:07	104_CCV.d_4363686	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN

ALS Group USA, Corp Date: 09-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120868
Start Date: 21-Dec-2017 End Date: 21-Dec-2017

Run ID:ICPMS05_307676
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
CCB 6	1	21-Dec-2017 14:09	105_CCB.d_4363687	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 7	1	21-Dec-2017 14:31	116_CCV.d_4363698	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 7	1	21-Dec-2017 14:33	117_CCB.d_4363699	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 8	1	21-Dec-2017 14:55	128_CCV.d_4363710	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 8	1	21-Dec-2017 14:57	129_CCB.d_4363711	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 9	1	21-Dec-2017 15:20	140_CCV.d_4363724	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 9	1	21-Dec-2017 15:22	141_CCB.d_4363725	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MBLK-123627	1	21-Dec-2017 15:28	144SMPL.d_4363790	K
MW19-121217	10	21-Dec-2017 15:30	145SMPL.d_4363791	MN NA
18CPTMW12SW-121217	10	21-Dec-2017 15:32	146SMPL.d_4363792	NA
CCV 10	1	21-Dec-2017 15:44	152_CCV.d_4364527	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 10	1	21-Dec-2017 15:46	153_CCB.d_4364528	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 11	1	21-Dec-2017 16:08	164_CCV.d_4364539	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 11	1	21-Dec-2017 16:10	165_CCB.d_4364540	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 12	1	21-Dec-2017 16:32	176_CCV.d_4364581	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 12	1	21-Dec-2017 16:34	177_CCB.d_4364582	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 13	1	21-Dec-2017 16:57	188_CCV.d_4364593	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 13	1	21-Dec-2017 16:59	189_CCB.d_4364594	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 14	1	21-Dec-2017 17:35	201_CCB.d_4364640	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 14	1	21-Dec-2017 17:39	203_CCV.d_4364642	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 15	1	21-Dec-2017 18:00	213_CCV.d_4364652	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 15	1	21-Dec-2017 18:02	214_CCB.d_4364653	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 16	1	21-Dec-2017 18:08	217_CCV.d_4364656	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 16	1	21-Dec-2017 18:10	218_CCB.d_4364657	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	21-Dec-2017 18:12	219LICV.d_4364658	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	21-Dec-2017 18:14	220SMPL.d_4364659	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	21-Dec-2017 18:16	221ICSA.d_4364660	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	21-Dec-2017 18:18	222ICSB.d_4364661	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\122117A.b
Report Comment
Instrument Name G3281A JP11080910

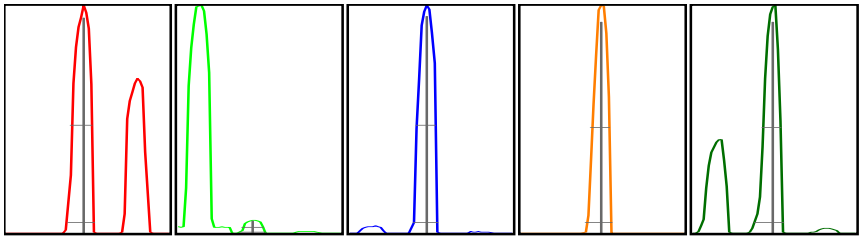
[nogas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		9727				NaN	-	
24		30265				NaN	-	
59		43590				NaN	-	
115		52484				NaN	-	
208		34150				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	1.57	5.00				
24	1.09	5.00				
59	0.91	5.00				
115	1.66	5.00				
208	0.68	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	9518	9843	9899	9646	9727
24	30360	30724	29834	30097	30312
59	44010	43294	43130	43546	43970
115	53207	53052	51650	51427	53086
208	34364	34111	33828	34064	34382

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	2577.10	8.95	8.9 - 9.1		0.39	0.490	0.750	
24	8119.94	23.90	23.9 - 24.1		0.38	0.484	0.750	
59	12387.32	58.95	58.9 - 59.1		0.36	0.447	0.750	
115	15691.79	115.00	114.9 - 115.1		0.33	0.467	0.750	
208	9792.66	208.00	207.9 - 208.1		0.34	0.527	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 168.5 **Y Axis** Linear

Tune Parameters
Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	15.6 V
Extract 2	-200.0 V	Cell Entrance	-38 V	Plate Bias	-50 V
Omega Bias	-100 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		93				NaN	-	
24		610				NaN	-	
59		11060				NaN	-	

Tune Report

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	6.68	5.00	[F]			
24	4.44	5.00				
59	2.07	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	94	93	95	83	100
24	575	635	596	640	607
59	10771	10856	11201	11246	11229

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	23.28	8.95	8.9 - 9.1		0.40	0.491	0.750	
24	167.05	23.90	23.9 - 24.1		0.38	0.476	0.750	
59	3257.65	58.95	58.9 - 59.1		0.34	0.443	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 100.6 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	2.0 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-100 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	5.5 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	020CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:18:01-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	117	44.29
Na	23	1	nogas	1498728	0.00
Mg	24	1	nogas	8904	0.07
Al	27	1	nogas	31220	0.02
K	39	1	nogas	5379792	0.00
Ti	47	1	nogas	207	10.56
V	51	1	nogas	1231066	0.00
Cr	52	1	nogas	34973	0.02
Mn	55	1	nogas	10376	0.04
Co	59	1	nogas	317	7.48
Ni	60	1	nogas	1273	0.68
Cu	63	1	nogas	4547	0.15
Zn	66	1	nogas	1487	0.75
As	75	1	nogas	192747	0.00
Sr	88	1	nogas	1273	0.35
Ag	107	1	nogas	573	2.59
Cd	111	1	nogas	37	227.24
Sb	121	1	nogas	2053	0.37
Tl	205	1	nogas	337	2.22
Pb	208	1	nogas	1260	0.48
[Pb]	206	1	nogas	367	7.95
[Pb]	207	1	nogas	263	3.00
Na	23	2	He	44372	0.01
Mg	24	2	He	277	3.02
Al	27	2	He	110	21.87
K	39	2	He	14155	0.01
Ca	43	2	He	3	5196.15
Ca	44	2	He	217	5.36
V	51	2	He	634	1.44
Cr	52	2	He	1383	0.85
Mn	55	2	He	130	15.66
Fe	56	2	He	4744	0.11
Co	59	2	He	63	103.79
Ni	60	2	He	183	11.26
Cu	63	2	He	1020	0.17
Zn	66	2	He	183	3.44
As	75	2	He	28	49.91
Se	78	2	He	7	687.39
B	11	1	nogas	101111	0.00
Si	28	1	nogas	1789418	0.00
Ca	43	1	nogas	910	0.44
Ca	44	1	nogas	123924	0.00

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	958604	0.00
Se	77	1	nogas	64381	0.01
Se	82	1	nogas	470	4.32
Mo	95	1	nogas	173	13.45
Sn	118	1	nogas	1407	0.51
Ba	137	1	nogas	237	16.10
Sb	121	2	He	277	13.09
Li	7	1	nogas	38667	0.02
P	31	1	nogas	67638	0.00
La	139	1	nogas	160	7.81

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	nogas	424595	4.01
Ge	72	1	nogas	1760485	1.93
In	115	1	nogas	1841567	0.49
Bi	209	1	nogas	1714556	3.00
Ge	72	2	He	144534	2.19

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	021CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:20:02-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	6978	0.09
Na	23	1	nogas	4492718	0.00
Mg	24	1	nogas	2165141	0.00
Al	27	1	nogas	73552	0.05
K	39	1	nogas	7709881	0.00
Ti	47	1	nogas	2510	0.14
V	51	1	nogas	1323172	0.00
Cr	52	1	nogas	66623	0.00
Mn	55	1	nogas	48223	0.00
Co	59	1	nogas	34834	0.00
Ni	60	1	nogas	9189	0.05
Cu	63	1	nogas	22908	0.01
Zn	66	1	nogas	7655	0.05
As	75	1	nogas	208078	0.00
Sr	88	1	nogas	40583	0.01
Ag	107	1	nogas	23770	0.00
Cd	111	1	nogas	4651	0.04
Sb	121	1	nogas	22278	0.01
Tl	205	1	nogas	38639	0.01
Pb	208	1	nogas	55985	0.00
[Pb]	206	1	nogas	13776	0.03
[Pb]	207	1	nogas	12205	0.02
Na	23	2	He	104173	0.00
Mg	24	2	He	29136	0.01
Al	27	2	He	217	10.07
K	39	2	He	28919	0.01
Ca	43	2	He	63	80.14
Ca	44	2	He	947	1.46
V	51	2	He	3779	0.10
Cr	52	2	He	5538	0.18
Mn	55	2	He	1753	0.26
Fe	56	2	He	348074	0.00
Co	59	2	He	7525	0.01
Ni	60	2	He	2294	0.60
Cu	63	2	He	6721	0.05
Zn	66	2	He	1027	1.46
As	75	2	He	612	0.75
Se	78	2	He	37	111.65
B	11	1	nogas	119671	0.00
Si	28	1	nogas	2380443	0.00

Calibration Standard Report

Ca	43	1	nogas	5578	0.09
Ca	44	1	nogas	198966	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	4688239	0.00
Se	77	1	nogas	67532	0.01
Se	82	1	nogas	763	1.33
Mo	95	1	nogas	8245	0.09
Sn	118	1	nogas	13752	0.02
Ba	137	1	nogas	7238	0.08
Sb	121	2	He	2984	0.24
P	31	1	nogas	74872	0.00
La	139	1	nogas	67	34.37

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	429308	2.95	424595	101.11	70	125	
Ge	72	1	nogas	1746046	1.39	1760485	99.18	70	125	
In	115	1	nogas	1864101	6.07	1841567	101.22	70	125	
Bi	209	1	nogas	1693794	3.33	1714556	98.79	70	125	
Ge	72	2	He	144316	3.23	144534	99.85	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	022CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:22:02-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	16944	0.03
Na	23	1	nogas	8933324	0.00
Mg	24	1	nogas	5379516	0.00
Al	27	1	nogas	104265	0.00
K	39	1	nogas	11160046	0.00
Ti	47	1	nogas	6198	0.10
V	51	1	nogas	1415125	0.00
Cr	52	1	nogas	112763	0.00
Mn	55	1	nogas	103370	0.00
Co	59	1	nogas	82992	0.00
Ni	60	1	nogas	19941	0.02
Cu	63	1	nogas	51753	0.00
Zn	66	1	nogas	16985	0.02
As	75	1	nogas	226169	0.00
Sr	88	1	nogas	101658	0.00
Ag	107	1	nogas	59106	0.00
Cd	111	1	nogas	12154	0.04
Sb	121	1	nogas	54759	0.01
Tl	205	1	nogas	97079	0.00
Pb	208	1	nogas	140076	0.00
[Pb]	206	1	nogas	34594	0.01
[Pb]	207	1	nogas	31641	0.01
Na	23	2	He	194443	0.00
Mg	24	2	He	72151	0.00
Al	27	2	He	387	4.70
K	39	2	He	52393	0.00
Ca	43	2	He	150	19.37
Ca	44	2	He	2237	0.29
V	51	2	He	8737	0.01
Cr	52	2	He	12775	0.01
Mn	55	2	He	4384	0.08
Fe	56	2	He	856356	0.00
Co	59	2	He	18336	0.01
Ni	60	2	He	5378	0.16
Cu	63	2	He	15427	0.03
Zn	66	2	He	2424	0.25
As	75	2	He	1489	0.19
Se	78	2	He	58	62.92
B	11	1	nogas	148427	0.00
Si	28	1	nogas	3265665	0.00

Calibration Standard Report

Ca	43	1	nogas	13185	0.01
Ca	44	1	nogas	314682	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	9996390	0.00
Se	77	1	nogas	70560	0.00
Se	82	1	nogas	1440	0.43
Mo	95	1	nogas	21039	0.02
Sn	118	1	nogas	33706	0.01
Ba	137	1	nogas	16492	0.01
Sb	121	2	He	6401	0.02
P	31	1	nogas	86635	0.00
La	139	1	nogas	543	3.90

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	432280	0.20	424595	101.81	70	125	
Ge	72	1	nogas	1819539	1.13	1760485	103.35	70	125	
In	115	1	nogas	1844037	2.77	1841567	100.13	70	125	
Bi	209	1	nogas	1692915	0.57	1714556	98.74	70	125	
Ge	72	2	He	151092	0.71	144534	104.54	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	023CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:24:00-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	36104	0.01
Na	23	1	nogas	16924986	0.00
Mg	24	1	nogas	11116462	0.00
Al	27	1	nogas	176768	0.00
K	39	1	nogas	17117588	0.00
Ti	47	1	nogas	12124	0.04
V	51	1	nogas	1614937	0.00
Cr	52	1	nogas	195991	0.00
Mn	55	1	nogas	201897	0.00
Co	59	1	nogas	172583	0.00
Ni	60	1	nogas	41207	0.01
Cu	63	1	nogas	100869	0.00
Zn	66	1	nogas	31230	0.01
As	75	1	nogas	256409	0.00
Sr	88	1	nogas	207559	0.00
Ag	107	1	nogas	120892	0.00
Cd	111	1	nogas	24210	0.01
Sb	121	1	nogas	107610	0.00
Tl	205	1	nogas	203270	0.00
Pb	208	1	nogas	286018	0.00
[Pb]	206	1	nogas	70697	0.00
[Pb]	207	1	nogas	64043	0.00
Na	23	2	He	356149	0.00
Mg	24	2	He	150935	0.00
Al	27	2	He	573	3.34
K	39	2	He	92551	0.00
Ca	43	2	He	337	6.01
Ca	44	2	He	5124	0.11
V	51	2	He	17052	0.02
Cr	52	2	He	24029	0.01
Mn	55	2	He	8799	0.07
Fe	56	2	He	1840400	0.00
Co	59	2	He	37903	0.00
Ni	60	2	He	11170	0.02
Cu	63	2	He	30870	0.01
Zn	66	2	He	4567	0.10
As	75	2	He	3107	0.06
Se	78	2	He	122	3.56
B	11	1	nogas	212570	0.00
Si	28	1	nogas	4837055	0.00

Calibration Standard Report

Ca	43	1	nogas	24693	0.01
Ca	44	1	nogas	512358	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	19460498	0.00
Se	77	1	nogas	76444	0.01
Se	82	1	nogas	2300	0.26
Mo	95	1	nogas	43480	0.01
Sn	118	1	nogas	66996	0.01
Ba	137	1	nogas	32511	0.01
Sb	121	2	He	13215	0.06
P	31	1	nogas	113516	0.00
La	139	1	nogas	130	27.12

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	419151	2.91	424595	98.72	70	125	
Ge	72	1	nogas	1741110	0.76	1760485	98.90	70	125	
In	115	1	nogas	1813998	1.52	1841567	98.50	70	125	
Bi	209	1	nogas	1713070	1.21	1714556	99.91	70	125	
Ge	72	2	He	145136	1.73	144534	100.42	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	024CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:25:59-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	327291	0.00
Na	23	1	nogas	143038416	0.00
Mg	24	1	nogas	98573433	0.00
Al	27	1	nogas	1442443	0.00
K	39	1	nogas	113008236	0.00
Ti	47	1	nogas	110814	0.00
V	51	1	nogas	2895142	0.00
Cr	52	1	nogas	1445140	0.00
Mn	55	1	nogas	1777672	0.00
Co	59	1	nogas	1528114	0.00
Ni	60	1	nogas	342110	0.00
Cu	63	1	nogas	858255	0.00
Zn	66	1	nogas	276528	0.00
As	75	1	nogas	509941	0.00
Sr	88	1	nogas	1834086	0.00
Ag	107	1	nogas	1079930	0.00
Cd	111	1	nogas	220717	0.00
Sb	121	1	nogas	927746	0.00
Tl	205	1	nogas	1870903	0.00
Pb	208	1	nogas	2544622	0.00
[Pb]	206	1	nogas	624047	0.00
[Pb]	207	1	nogas	565887	0.00
Na	23	2	He	2850066	0.00
Mg	24	2	He	1362510	0.00
Al	27	2	He	4544	0.03
K	39	2	He	719195	0.00
Ca	43	2	He	2650	0.25
Ca	44	2	He	42128	0.00
V	51	2	He	148795	0.00
Cr	52	2	He	200232	0.00
Mn	55	2	He	78313	0.00
Fe	56	2	He	15945685	0.00
Co	59	2	He	335279	0.00
Ni	60	2	He	96212	0.00
Cu	63	2	He	267366	0.00
Zn	66	2	He	40041	0.01
As	75	2	He	26317	0.00
Se	78	2	He	1056	0.11
B	11	1	nogas	1220926	0.00
Si	28	1	nogas	28694221	0.00

Calibration Standard Report

Ca	43	1	nogas	220004	0.00
Ca	44	1	nogas	3565110	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	164816512	0.00
Se	77	1	nogas	84673	0.01
Se	82	1	nogas	15480	0.01
Mo	95	1	nogas	393151	0.00
Sn	118	1	nogas	605448	0.00
Ba	137	1	nogas	294793	0.00
Sb	121	2	He	111739	0.00
P	31	1	nogas	441729	0.00
La	139	1	nogas	753	1.67

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	409608	3.69	424595	96.47	70	125	
Ge	72	1	nogas	1752180	2.43	1760485	99.53	70	125	
In	115	1	nogas	1850414	2.89	1841567	100.48	70	125	
Bi	209	1	nogas	1683909	0.40	1714556	98.21	70	125	
Ge	72	2	He	149087	0.70	144534	103.15	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	025CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:27:59-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	701543	0.00
Na	23	1	nogas	308088115	0.00
Mg	24	1	nogas	207464396	0.00
Al	27	1	nogas	2687611	0.00
K	39	1	nogas	231368622	0.00
Ti	47	1	nogas	236499	0.00
V	51	1	nogas	4855654	0.00
Cr	52	1	nogas	3030192	0.00
Mn	55	1	nogas	3680174	0.00
Co	59	1	nogas	3221337	0.00
Ni	60	1	nogas	709312	0.00
Cu	63	1	nogas	1753888	0.00
Zn	66	1	nogas	559505	0.00
As	75	1	nogas	870119	0.00
Sr	88	1	nogas	3928264	0.00
Ag	107	1	nogas	2276725	0.00
Cd	111	1	nogas	467319	0.00
Sb	121	1	nogas	2151764	0.00
Tl	205	1	nogas	3873621	0.00
Pb	208	1	nogas	5499130	0.00
[Pb]	206	1	nogas	1340340	0.00
[Pb]	207	1	nogas	1198976	0.00
Na	23	2	He	5903086	0.00
Mg	24	2	He	2803389	0.00
Al	27	2	He	8742	0.05
K	39	2	He	1513332	0.00
Ca	43	2	He	5277	0.05
Ca	44	2	He	86819	0.00
V	51	2	He	316246	0.00
Cr	52	2	He	423356	0.00
Mn	55	2	He	164941	0.00
Fe	56	2	He	33417999	0.00
Co	59	2	He	712418	0.00
Ni	60	2	He	202868	0.00
Cu	63	2	He	564765	0.00
Zn	66	2	He	84000	0.00
As	75	2	He	56225	0.00
Se	78	2	He	2325	0.06
B	11	1	nogas	2433031	0.00
Si	28	1	nogas	55762211	0.00

Calibration Standard Report

Ca	43	1	nogas	466671	0.00
Ca	44	1	nogas	7505381	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	352235741	0.00
Se	77	1	nogas	110943	0.00
Se	82	1	nogas	32556	0.01
Mo	95	1	nogas	830543	0.00
Sn	118	1	nogas	1296267	0.00
Ba	137	1	nogas	620388	0.00
Sb	121	2	He	242407	0.00
P	31	1	nogas	899499	0.00
La	139	1	nogas	603	2.49

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	364163	3.54	424595	85.77	70	125	
Ge	72	1	nogas	1770607	0.81	1760485	100.57	70	125	
In	115	1	nogas	1846738	0.63	1841567	100.28	70	125	
Bi	209	1	nogas	1695597	2.04	1714556	98.89	70	125	
Ge	72	2	He	143936	0.26	144534	99.59	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	027_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:32:17-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	100.820	4.062	337094	1.50	100	100.8	90	110	
Na	23	1	nogas	9455.140	1.839	149784137	1.91	10000	94.6	90	110	
Mg	24	1	nogas	9651.286	3.218	102911946	1.64	10000	96.5	90	110	
Al	27	1	nogas	100.275	3.588	1428786	2.63	100	100.3	90	110	
K	39	1	nogas	9463.917	2.050	115244594	1.84	10000	94.6	90	110	
Ti	47	1	nogas	93.766	3.180	113410	2.77	100	93.8	90	110	
V	51	1	nogas	85.527	2.863	2861191	2.80	100	85.5	90	110	ICV Main CR1 Failed
Cr	52	1	nogas	98.406	3.787	1544128	3.16	100	98.4	90	110	
Mn	55	1	nogas	97.614	0.920	1851884	2.11	100	97.6	90	110	
Co	59	1	nogas	96.132	0.380	1586941	0.88	100	96.1	90	110	
Ni	60	1	nogas	97.958	1.709	357940	0.70	100	98.0	90	110	
Cu	63	1	nogas	96.753	0.396	876835	0.99	100	96.8	90	110	
Zn	66	1	nogas	96.987	2.287	281272	1.21	100	97.0	90	110	
As	75	1	nogas	83.354	2.192	494729	2.01	100	83.4	90	110	ICV Main CR1 Failed
Sr	88	1	nogas	97.742	3.929	1961262	2.68	100	97.7	90	110	
Ag	107	1	nogas	94.614	1.696	1104005	1.55	100	94.6	90	110	
Cd	111	1	nogas	93.186	0.129	230644	0.96	100	93.2	90	110	
Sb	121	1	nogas	88.747	1.034	962035	0.37	100	88.7	90	110	ICV Main CR1 Failed
Tl	205	1	nogas	97.225	1.906	1948344	2.08	100	97.2	90	110	
Pb	208	1	nogas	98.603	2.260	2671551	2.26	100	98.6	90	110	
U	238	1	nogas	98.865	1.228	2758795	1.57	100	98.9	90	110	
[Pb]	206	1	nogas	94.912	3.475	653475	2.21	100	94.9	90	110	
[Pb]	207	1	nogas	94.855	2.116	585739	1.48	100	94.9	90	110	
Na	23	2	He	9504.642	1.461	2860316	1.09	10000	95.0	90	110	
Mg	24	2	He	9433.854	3.997	1340751	3.51	10000	94.3	90	110	
Al	27	2	He	96.593	9.717	4394	9.94	100	96.6	90	110	
K	39	2	He	9509.322	1.813	718584	1.78	10000	95.1	90	110	
Ca	43	2	He	9361.122	7.485	2524	7.75	10000	93.6	90	110	
Ca	44	2	He	9639.296	3.218	42506	2.68	10000	96.4	90	110	
V	51	2	He	95.317	2.424	151627	1.92	100	95.3	90	110	
Cr	52	2	He	93.548	2.108	200378	1.68	100	93.5	90	110	
Mn	55	2	He	95.137	1.534	79258	0.98	100	95.1	90	110	
Fe	56	2	He	9592.754	2.763	16199009	2.66	10000	95.9	90	110	
Co	59	2	He	95.023	1.481	341180	1.61	100	95.0	90	110	
Ni	60	2	He	96.329	1.674	98453	2.03	100	96.3	90	110	
Cu	63	2	He	96.435	3.092	274350	2.56	100	96.4	90	110	
Zn	66	2	He	96.884	3.307	41076	3.09	100	96.9	90	110	
As	75	2	He	94.244	2.752	26688	2.26	100	94.2	90	110	
Se	78	2	He	91.872	1.690	1066	1.79	100	91.9	90	110	
B	11	1	nogas	531.459	9.341	1315822	4.78	500	106.3	90	110	
Si	28	1	nogas	5062.906	2.230	30134301	1.05	5000	101.3	90	110	
Ca	43	1	nogas	9211.184	2.189	220363	1.63	10000	92.1	90	110	
Ca	44	1	nogas	9345.820	1.675	3651144	1.63	10000	93.5	90	110	
Fe	56	1	nogas	9639.559	1.269	173933941	1.13	10000	96.4	90	110	
Se	77	1	nogas	52.301	17.246	79289	3.63	100	52.3	90	110	ICV Main CR1 Failed
Se	82	1	nogas	93.575	4.025	15834	3.92	100	93.6	90	110	
Mo	95	1	nogas	96.660	0.952	411189	0.28	100	96.7	90	110	
Sn	118	1	nogas	93.069	2.365	638080	1.88	100	93.1	90	110	
Ba	137	1	nogas	90.443	0.685	297647	0.76	100	90.4	90	110	
Sb	121	2	He	91.607	0.153	111609	0.70	100	91.6	90	110	
Li	7	1	nogas	98.649	1.781	844977	3.66	100	98.6	90	110	
P	31	1	nogas	451.517	2.517	451179	0.90	500	90.3	90	110	
La	139	1	nogas	88.308	34.888	453	21.20	100	88.3	90	110	ICV Main CR1 Failed
Au	197	1	nogas	61.930	158.949	27	78.06	100	61.9	90	110	ICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	418046	3.90	424595	98.46	70	125	
Ge	72	1	nogas	1829049	1.23	1760485	103.89	70	125	
In	115	1	nogas	1978315	1.08	1841567	107.43	70	125	
Bi	209	1	nogas	1763532	2.17	1714556	102.86	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	147743	0.55	144534	102.22	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV2
Data File Name	028LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:34:14-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	2.017	9.018	7705	7.68	5	40.3	70	130	LLICV Main CR1 Failed
Na	23	1	nogas	199.568	2.710	4622808	0.92	500	39.9	70	130	LLICV Main CR1 Failed
Mg	24	1	nogas	216.333	3.540	2282867	2.63	500	43.3	70	130	LLICV Main CR1 Failed
Al	27	1	nogas	1.829	4.049	58347	0.43	5	36.6	70	130	LLICV Main CR1 Failed
K	39	1	nogas	193.881	10.949	7897216	1.33	500	38.8	70	130	LLICV Main CR1 Failed
Ti	47	1	nogas	2.165	8.269	2854	8.70	5	43.3	70	130	LLICV Main CR1 Failed
V	51	1	nogas	0.114	2327.250	1292124	4.74	5	2.3	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	2.051	3.811	68299	1.57	5	41.0	70	130	LLICV Main CR1 Failed
Mn	55	1	nogas	2.155	0.911	51843	1.47	5	43.1	70	130	LLICV Main CR1 Failed
Co	59	1	nogas	2.137	1.655	35882	2.15	5	42.7	70	130	LLICV Main CR1 Failed
Ni	60	1	nogas	2.026	7.547	9456	4.38	5	40.5	70	130	LLICV Main CR1 Failed
Cu	63	1	nogas	2.133	3.513	24139	2.59	5	42.7	70	130	LLICV Main CR1 Failed
Zn	66	1	nogas	1.942	4.054	8119	3.52	5	38.8	70	130	LLICV Main CR1 Failed
As	75	1	nogas	-1.125	-122.470	209579	3.19	5	-22.5	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	2.063	8.497	42999	6.39	5	41.3	70	130	LLICV Main CR1 Failed
Ag	107	1	nogas	2.132	3.380	25669	4.69	5	42.6	70	130	LLICV Main CR1 Failed
Cd	111	1	nogas	2.124	2.697	5311	1.69	5	42.5	70	130	LLICV Main CR1 Failed
Sb	121	1	nogas	3.556	10.115	36813	7.65	5	71.1	70	130	
Tl	205	1	nogas	2.233	5.046	45056	3.37	5	44.7	70	130	LLICV Main CR1 Failed
Pb	208	1	nogas	2.276	0.627	62905	0.61	5	45.5	70	130	LLICV Main CR1 Failed
U	238	1	nogas	2.217	1.043	61921	0.98	5	44.3	70	130	LLICV Main CR1 Failed
[Pb]	206	1	nogas	2.138	5.252	15087	4.97	5	42.8	70	130	LLICV Main CR1 Failed
[Pb]	207	1	nogas	2.229	2.704	14030	3.75	5	44.6	70	130	LLICV Main CR1 Failed
Na	23	2	He	206.451	1.459	104401	1.66	500	41.3	70	130	LLICV Main CR1 Failed
Mg	24	2	He	218.112	2.003	30659	1.83	500	43.6	70	130	LLICV Main CR1 Failed
Al	27	2	He	2.043	41.988	217	16.21	5	40.9	70	130	LLICV Main CR1 Failed
K	39	2	He	192.858	6.636	28442	3.33	500	38.6	70	130	LLICV Main CR1 Failed
Ca	43	2	He	317.298	62.035	87	59.21	500	63.5	70	130	LLICV Main CR1 Failed
Ca	44	2	He	182.415	24.319	1000	18.08	500	36.5	70	130	LLICV Main CR1 Failed
V	51	2	He	2.939	3.089	3939	3.68	5	58.8	70	130	LLICV Main CR1 Failed
Cr	52	2	He	2.082	8.919	5724	5.66	5	41.6	70	130	LLICV Main CR1 Failed
Mn	55	2	He	2.296	13.296	2000	11.53	5	45.9	70	130	LLICV Main CR1 Failed
Fe	56	2	He	209.211	2.669	350905	1.60	500	41.8	70	130	LLICV Main CR1 Failed
Co	59	2	He	2.166	3.768	7682	2.98	5	43.3	70	130	LLICV Main CR1 Failed
Ni	60	2	He	2.882	2.389	2454	3.87	5	57.6	70	130	LLICV Main CR1 Failed
Cu	63	2	He	2.924	4.921	7165	4.54	5	58.5	70	130	LLICV Main CR1 Failed
Zn	66	2	He	2.966	3.386	1147	4.80	5	59.3	70	130	LLICV Main CR1 Failed
As	75	2	He	2.205	8.583	639	7.12	5	44.1	70	130	LLICV Main CR1 Failed
Se	78	2	He	2.616	37.658	22	50.62	5	52.3	70	130	LLICV Main CR1 Failed
B	11	1	nogas	24.551	4.444	175283	3.01	25	98.2	70	130	
Si	28	1	nogas	105.560	12.258	2467989	1.17	25	422.2	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	210.438	3.643	6008	4.38	500	42.1	70	130	LLICV Main CR1 Failed
Ca	44	1	nogas	180.224	9.312	198218	1.40	500	36.0	70	130	LLICV Main CR1 Failed
Fe	56	1	nogas	213.201	4.025	4858426	1.72	500	42.6	70	130	LLICV Main CR1 Failed
Se	77	1	nogas	1.132	848.082	67736	4.74	5	22.6	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	2.962	26.109	983	13.81	5	59.2	70	130	LLICV Main CR1 Failed
Mo	95	1	nogas	2.210	6.158	9649	4.41	5	44.2	70	130	LLICV Main CR1 Failed
Sn	118	1	nogas	1.995	3.908	15197	3.15	5	39.9	70	130	LLICV Main CR1 Failed
Ba	137	1	nogas	2.239	2.410	7642	3.82	5	44.8	70	130	LLICV Main CR1 Failed
Sb	121	2	He	3.506	5.527	4084	6.32	5	70.1	70	130	
Li	7	1	nogas	2.077	11.834	61828	3.23	5	41.5	70	130	LLICV Main CR1 Failed
P	31	1	nogas	7.369	33.890	77101	1.17	25	29.5	70	130	LLICV Main CR1 Failed
La	139	1	nogas	-22.626	-47.284	100	34.64	5	-452.5	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	13.282	555.995	17	91.65	5	265.6	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	469731	1.49	424595	110.63	70	125	
Ge	72	1	nogas	1843689	1.78	1760485	104.73	70	125	

Low Level Initial Calibration Verification (LLICV) Report

In	115	1	nogas	1984177	1.63	1841567	107.74	70	125	
Bi	209	1	nogas	1762764	1.76	1714556	102.81	70	125	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	144824	1.16	144534	100.20	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	029LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:36:13-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	5.122	1.934	18429	3.27	5	102.4	70	130	
Na	23	1	nogas	511.022	1.832	9255039	1.68	500	102.2	70	130	
Mg	24	1	nogas	537.808	0.438	5555298	2.50	500	107.6	70	130	
Al	27	1	nogas	5.470	2.352	107518	1.01	5	109.4	70	130	
K	39	1	nogas	492.367	4.878	11181464	0.88	500	98.5	70	130	
Ti	47	1	nogas	5.180	2.828	6405	2.50	5	103.6	70	130	
V	51	1	nogas	6.464	45.795	1385747	5.42	5	129.3	70	130	
Cr	52	1	nogas	5.185	6.487	114583	2.21	5	103.7	70	130	
Mn	55	1	nogas	5.170	1.984	107208	1.16	5	103.4	70	130	
Co	59	1	nogas	5.302	2.548	86940	0.77	5	106.0	70	130	
Ni	60	1	nogas	5.329	4.627	21169	1.87	5	106.6	70	130	
Cu	63	1	nogas	5.406	3.177	52910	0.64	5	108.1	70	130	
Zn	66	1	nogas	5.016	3.416	16731	4.77	5	100.3	70	130	
As	75	1	nogas	5.734	33.079	228958	4.20	5	114.7	70	130	
Sr	88	1	nogas	5.243	3.430	105390	1.07	5	104.9	70	130	
Ag	107	1	nogas	5.297	2.300	61752	1.75	5	105.9	70	130	
Cd	111	1	nogas	5.220	2.306	12388	1.37	5	104.4	70	130	
Sb	121	1	nogas	5.819	3.750	57876	1.60	5	116.4	70	130	
Tl	205	1	nogas	4.942	0.963	101512	0.95	5	98.8	70	130	
Pb	208	1	nogas	5.404	0.494	147617	0.49	5	108.1	70	130	
U	238	1	nogas	5.211	1.757	148645	1.95	5	104.2	70	130	
[Pb]	206	1	nogas	5.043	0.594	35850	0.81	5	100.9	70	130	
[Pb]	207	1	nogas	5.146	1.001	32730	0.86	5	102.9	70	130	
Na	23	2	He	501.756	1.676	195442	1.58	500	100.4	70	130	
Mg	24	2	He	500.981	2.669	72010	1.84	500	100.2	70	130	
Al	27	2	He	3.993	32.816	310	19.62	5	79.9	70	130	
K	39	2	He	504.590	3.460	51534	2.51	500	100.9	70	130	
Ca	43	2	He	319.384	12.120	90	11.11	500	63.9	70	130	LLICV Main CR1 Failed
Ca	44	2	He	490.081	8.940	2390	8.82	500	98.0	70	130	
V	51	2	He	5.748	0.345	8571	1.10	5	115.0	70	130	
Cr	52	2	He	5.069	5.995	12284	4.59	5	101.4	70	130	
Mn	55	2	He	5.092	6.803	4401	6.40	5	101.8	70	130	
Fe	56	2	He	511.690	0.692	875290	0.81	500	102.3	70	130	
Co	59	2	He	5.198	1.740	18867	1.11	5	104.0	70	130	
Ni	60	2	He	5.527	8.866	5254	8.57	5	110.5	70	130	
Cu	63	2	He	5.734	3.024	15450	2.16	5	114.7	70	130	
Zn	66	2	He	6.520	3.626	2700	4.12	5	130.4	70	130	LLICV Main CR1 Failed
As	75	2	He	5.339	5.265	1550	4.09	5	106.8	70	130	
Se	78	2	He	5.675	9.470	59	9.84	5	113.5	70	130	
B	11	1	nogas	31.233	2.819	182991	2.22	25	124.9	70	130	
Si	28	1	nogas	265.210	3.702	3307450	0.81	25	1060.8	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	518.952	4.292	13175	3.66	500	103.8	70	130	
Ca	44	1	nogas	497.670	3.722	313163	0.24	500	99.5	70	130	
Fe	56	1	nogas	512.056	2.607	10080442	1.07	500	102.4	70	130	
Se	77	1	nogas	18.877	44.777	70680	3.86	5	377.5	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	4.742	38.332	1250	21.57	5	94.8	70	130	
Mo	95	1	nogas	5.320	4.391	22565	2.47	5	106.4	70	130	
Sn	118	1	nogas	5.178	1.685	35309	0.68	5	103.6	70	130	
Ba	137	1	nogas	5.243	3.447	16725	2.99	5	104.9	70	130	
Sb	121	2	He	5.987	1.957	6965	2.44	5	119.7	70	130	
Li	7	1	nogas	4.787	1.380	82473	2.04	5	95.7	70	130	
P	31	1	nogas	24.311	12.255	89879	0.49	25	97.2	70	130	
La	139	1	nogas	148.438	26.901	617	18.80	5	2968.8	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	92.356	130.587	33	75.50	5	1847.1	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	446564	1.65	424595	105.17	70	125	
Ge	72	1	nogas	1811148	2.37	1760485	102.88	70	125	
In	115	1	nogas	1891680	0.93	1841567	102.72	70	125	
Bi	209	1	nogas	1801365	0.22	1714556	105.06	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	148869	1.09	144534	103.00	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	030_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:38:12-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.009	168.8	150	35.3	1	
Na	23	1	nogas	-6.591	-40.3	1401700	1.1	100	
Mg	24	1	nogas	0.244	67.6	11439	15.7	100	
Al	27	1	nogas	0.146	55.4	33854	1.5	5	
K	39	1	nogas	-4.703	-228.3	5441072	0.3	100	
Ti	47	1	nogas	0.011	633.9	223	33.9	2.5	
V	51	1	nogas	0.071	2815.5	1259395	4.1	2.5	
Cr	52	1	nogas	-0.007	-696.5	35608	1.1	2.5	
Mn	55	1	nogas	0.001	1351.6	10623	4.5	2.5	
Co	59	1	nogas	0.003	233.4	367	25.9	2.5	
Ni	60	1	nogas	-0.211	-17.5	1237	9.5	2.5	
Cu	63	1	nogas	-0.037	-55.5	4321	2.2	2.5	
Zn	66	1	nogas	-0.330	-28.0	1493	16.0	2.5	
As	75	1	nogas	-2.272	-82.4	200574	4.1	2.5	
Sr	88	1	nogas	0.005	283.7	1393	17.7	2.5	
Ag	107	1	nogas	0.004	81.9	633	8.1	2.5	
Cd	111	1	nogas	0.001	870.6	40	43.3	1	
Sb	121	1	nogas	0.013	70.6	2217	4.6	2.5	
Tl	205	1	nogas	0.037	19.4	1080	11.6	1	
Pb	208	1	nogas	0.026	39.3	1960	14.0	2.5	
U	238	1	nogas	0.008	51.3	303	35.6	2.5	
[Pb]	206	1	nogas	0.020	42.8	513	12.7	2.5	
[Pb]	207	1	nogas	0.028	46.4	440	17.2	2.5	
Na	23	2	He	-9.097	-30.0	42628	1.9	100	
Mg	24	2	He	0.171	101.4	307	8.2	100	
Al	27	2	He	-0.705	-95.5	100	30.0	5	
K	39	2	He	-4.097	-179.5	13852	3.9	100	
Ca	43	2	He	37.053	58.5	13	43.3	100	
Ca	44	2	He	-28.371	-17.0	97	21.5	100	
V	51	2	He	0.798	0.7	595	1.1	2.5	
Cr	52	2	He	0.038	153.1	1493	8.2	2.5	
Mn	55	2	He	-0.083	-30.4	63	32.9	2.5	
Fe	56	2	He	0.374	70.7	5481	7.8	100	
Co	59	2	He	-0.002	-376.6	57	50.9	2.5	
Ni	60	2	He	0.598	7.3	157	28.8	2.5	
Cu	63	2	He	0.708	3.6	983	6.9	2.5	
Zn	66	2	He	0.520	4.4	130	7.7	2.5	
As	75	2	He	-0.002	-1656.7	28	36.7	2.5	
Se	78	2	He	1.890	31.4	14	49.5	2.5	
B	11	1	nogas	5.648	9.3	118105	1.7	10	

Initial Calibration Blank (ICB) Report

Si	28	1	nogas	0.182	4195.6	1828623	0.7	5	
Ca	43	1	nogas	1.244	545.5	960	18.3	100	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ca	44	1	nogas	-32.665	-28.1	114468	1.4	100	
Fe	56	1	nogas	-2.264	-8.5	939612	2.2	100	
Se	77	1	nogas	2.446	583.6	66348	5.3	2.5	
Se	82	1	nogas	-0.544	-136.5	393	30.3	2.5	
Mo	95	1	nogas	0.001	453.8	183	13.7	2.5	
Sn	118	1	nogas	-0.011	-319.3	1390	14.4	5	
Ba	137	1	nogas	-0.013	-27.6	203	5.7	2.5	
Sb	121	2	He	0.017	74.5	303	5.0	2.5	
P	31	1	nogas	-1.230	-190.7	68059	1.0	10	
La	139	1	nogas	-10.420	-211.7	133	49.9	2.5	
Au	197	1	nogas	-18.257	-266.8	10	100.0	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	nogas	438407	0.85	424595	103.25	70	125	
Ge	72	1	nogas	1798107	2.03	1760485	102.14	70	125	
In	115	1	nogas	1915003	2.25	1841567	103.99	70	125	
Bi	209	1	nogas	1741101	1.77	1714556	101.55	70	125	
Ge	72	2	He	147627	0.41	144534	102.14	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	031ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:40:11-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	-0.006	-336.4	97	76.3	0	ICSA Main CR1 Failed
Na	23	1	nogas	99615.128	1.0	1412027332	1.7	0	
Mg	24	1	nogas	103397.211	3.0	995830056	1.6	0	
Al	27	1	nogas	83497.102	2.7	1094983664	1.5	0	
K	39	1	nogas	96688.249	1.6	1060165390	0.4	0	
Ti	47	1	nogas	2044.532	2.6	2324759	2.8	0	
V	51	1	nogas	-7.338	-67.1	1076427	6.6	0	ICSA Main CR1 Failed
Cr	52	1	nogas	0.400	7.7	39990	0.5	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.400	8.1	17272	4.7	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.127	3.5	2287	2.6	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.594	2.8	3940	2.6	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.028	5.3	13175	2.4	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.363	6.8	6014	2.9	0	ICSA Main CR1 Failed
As	75	1	nogas	-2.266	-42.2	192107	0.2	0	ICSA Main CR1 Failed
Sr	88	1	nogas	1.039	3.4	20859	1.9	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.050	43.7	1113	21.9	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.350	4.9	3060	4.9	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.058	19.4	2537	2.8	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.012	33.1	527	12.4	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.133	3.8	4864	2.8	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.144	8.9	1240	6.9	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.141	8.3	1033	7.4	0	ICSA Main CR1 Failed
Na	23	2	He	96108.743	0.5	26820361	1.4	0	
Mg	24	2	He	95183.080	0.4	12724783	1.3	0	
Al	27	2	He	81496.876	1.2	3382391	1.9	0	
K	39	2	He	91126.831	0.9	6764619	0.9	0	
Ca	43	2	He	89999.639	5.1	22784	4.0	0	
Ca	44	2	He	93112.242	1.6	384446	0.9	0	
V	51	2	He	0.819	1.1	593	2.1	0	ICSA Main CR1 Failed
Cr	52	2	He	0.262	31.0	1853	7.8	0	ICSA Main CR1 Failed
Mn	55	2	He	0.373	17.3	417	13.2	0	ICSA Main CR1 Failed
Fe	56	2	He	95151.555	1.6	151134721	2.8	0	
Co	59	2	He	0.008	40.1	87	13.3	0	ICSA Main CR1 Failed
Ni	60	2	He	0.787	3.1	330	8.0	0	ICSA Main CR1 Failed
Cu	63	2	He	1.174	1.8	2177	3.7	0	ICSA Main CR1 Failed
Zn	66	2	He	-0.045	-682.7	347	34.4	0	ICSA Main CR1 Failed
As	75	2	He	0.137	80.6	63	47.4	0	ICSA Main CR1 Failed
Se	78	2	He	1.722	5.9	11	10.2	0	ICSA Main CR1 Failed
B	11	1	nogas	7.772	35.5	120545	2.5	0	ICSA Main CR1 Failed
Si	28	1	nogas	94.464	6.3	2248315	2.6	0	
Ca	43	1	nogas	98661.493	1.5	2214306	1.8	0	
Ca	44	1	nogas	96671.810	4.1	34434494	4.3	0	
Fe	56	1	nogas	95839.624	2.3	1620033736	1.9	0	
Se	77	1	nogas	5.515	91.0	64250	3.1	0	
Se	82	1	nogas	0.509	77.8	540	12.8	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2063.374	0.7	8262646	0.9	0	
Sn	118	1	nogas	0.043	83.5	1640	16.0	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.155	18.4	693	13.4	0	ICSA Main CR1 Failed
Sb	121	2	He	0.069	99.1	340	22.2	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	91316.561	1.8	72610291	0.4	0	
La	139	1	nogas	76.453	25.5	377	15.1	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	429467	3.89	424595	101.15	70	125	
Ge	72	1	nogas	1722437	1.42	1760485	97.84	70	125	
In	115	1	nogas	1791541	2.28	1841567	97.28	70	125	
Bi	209	1	nogas	1593575	1.11	1714556	92.94	70	125	
Ge	72	2	He	138983	1.17	144534	96.16	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	032ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:42:16-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	86.775	0.985	281607	1.91	100	86.8	80	120	
Na	23	1	nogas	108644.032	2.452	1507372434	0.60	100	108644.0	80	120	
Mg	24	1	nogas	113853.732	3.980	1073580824	2.65	100	113853.7	80	120	
Al	27	1	nogas	83465.691	5.670	1094598944	3.89	100	83465.7	80	120	ICSB Main CR1 Failed
K	39	1	nogas	104915.738	1.215	1150998459	3.72	100	104915.7	80	120	
Ti	47	1	nogas	2028.511	4.250	2306538	2.50	100	2028.5	80	120	ICSB Main CR1 Failed
V	51	1	nogas	77.152	4.961	2548726	1.04	100	77.2	80	120	
Cr	52	1	nogas	84.445	5.263	1252531	2.59	100	84.4	80	120	
Mn	55	1	nogas	84.979	5.494	1518831	2.69	100	85.0	80	120	
Co	59	1	nogas	84.704	2.752	1317135	1.57	100	84.7	80	120	
Ni	60	1	nogas	84.387	1.691	290778	1.21	100	84.4	80	120	
Cu	63	1	nogas	84.333	2.678	720426	0.76	100	84.3	80	120	
Zn	66	1	nogas	86.725	0.493	237268	2.35	100	86.7	80	120	
As	75	1	nogas	80.275	5.461	456172	2.67	100	80.3	80	120	
Sr	88	1	nogas	83.080	3.367	1571188	3.39	100	83.1	80	120	
Ag	107	1	nogas	78.747	1.928	865706	1.09	100	78.7	80	120	ICSB Main CR1 Failed
Cd	111	1	nogas	85.005	3.901	187449	2.82	100	85.0	80	120	
Sb	121	1	nogas	90.213	3.279	824660	1.22	100	90.2	80	120	
Tl	205	1	nogas	83.196	2.271	1481594	2.36	100	83.2	80	120	
Pb	208	1	nogas	79.283	0.504	2148343	0.50	100	79.3	80	120	ICSB Main CR1 Failed
U	238	1	nogas	96.426	1.970	2391140	2.21	100	96.4	80	120	
[Pb]	206	1	nogas	84.488	0.590	517090	0.19	100	84.5	80	120	
[Pb]	207	1	nogas	86.813	0.532	476439	0.25	100	86.8	80	120	
Na	23	2	He	104868.267	1.331	28843163	0.92	100	104868.3	80	120	
Mg	24	2	He	105588.518	2.238	13913796	1.76	100	105588.5	80	120	
Al	27	2	He	81417.463	1.806	3330608	0.85	100	81417.5	80	120	ICSB Main CR1 Failed
K	39	2	He	97870.434	1.104	7264170	1.10	100	97870.4	80	120	ICSB Main CR1 Failed
Ca	43	2	He	95779.750	3.762	23906	2.60	100	95779.7	80	120	ICSB Main CR1 Failed
Ca	44	2	He	101163.911	3.343	411679	2.16	100	101163.9	80	120	
V	51	2	He	84.461	0.845	124528	0.64	100	84.5	80	120	
Cr	52	2	He	82.472	1.415	163980	1.60	100	82.5	80	120	
Mn	55	2	He	83.338	0.479	64403	1.28	100	83.3	80	120	
Fe	56	2	He	105811.900	1.440	165642858	0.50	100	105811.9	80	120	
Co	59	2	He	84.529	1.124	281434	0.16	100	84.5	80	120	
Ni	60	2	He	81.940	2.736	77580	1.48	100	81.9	80	120	
Cu	63	2	He	82.460	3.012	217394	2.21	100	82.5	80	120	
Zn	66	2	He	89.807	3.038	33100	2.00	100	89.8	80	120	
As	75	2	He	85.099	2.487	22348	1.22	100	85.1	80	120	
Se	78	2	He	80.514	10.636	865	9.45	100	80.5	80	120	ICSB Main CR1 Failed
B	11	1	nogas	420.254	2.955	1031070	1.90	100	420.3	80	120	
Si	28	1	nogas	4542.844	4.532	25644792	2.11	100	4542.8	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	100049.215	3.363	2246099	2.80	100	100049.2	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	100214.920	2.138	35706674	2.40	100	100214.9	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	105751.557	5.432	1787030507	2.69	100	105751.6	80	120	
Se	77	1	nogas	78.759	9.997	80581	2.48	100	78.8	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	83.724	3.601	13395	3.37	100	83.7	80	120	
Mo	95	1	nogas	2134.575	2.255	8550180	0.75	100	2134.6	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	84.107	6.961	513287	2.12	100	84.1	80	120	
Ba	137	1	nogas	86.991	6.957	254729	1.13	100	87.0	80	120	
Sb	121	2	He	94.771	0.530	97549	1.69	100	94.8	80	120	
La	139	1	nogas	164.747	29.742	627	27.19	100	164.7	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	nogas	405318	1.07	424595	95.46	70	125	
Ge	72	1	nogas	1723548	2.84	1760485	97.90	70	125	
In	115	1	nogas	1765605	6.80	1841567	95.88	70	125	
Bi	209	1	nogas	1566927	0.40	1714556	91.39	70	125	
Ge	72	2	He	137011	1.28	144534	94.79	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	044_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:07:25-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.223	3.426	313751	1.31	100	100.2	90	110	
Na	23	1	nogas	9680.103	4.408	141794587	3.13	10000	96.8	90	110	
Mg	24	1	nogas	9598.537	3.486	94702175	2.81	10000	96.0	90	110	
Al	27	1	nogas	94.002	3.751	1297778	1.43	100	94.0	90	110	
K	39	1	nogas	9384.652	2.226	110624998	1.79	10000	93.8	90	110	
Ti	47	1	nogas	94.130	3.410	110158	2.61	100	94.1	90	110	
V	51	1	nogas	81.326	2.784	2692976	1.50	100	81.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.767	4.956	1424801	2.66	100	93.8	90	110	
Mn	55	1	nogas	95.822	2.647	1758655	0.42	100	95.8	90	110	
Co	59	1	nogas	94.220	4.583	1504153	1.93	100	94.2	90	110	
Ni	60	1	nogas	94.426	4.386	333789	1.72	100	94.4	90	110	
Cu	63	1	nogas	94.944	4.295	832261	1.93	100	94.9	90	110	
Zn	66	1	nogas	96.267	3.254	270184	2.83	100	96.3	90	110	
As	75	1	nogas	78.598	1.961	463125	2.29	100	78.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.282	3.081	1830917	2.24	100	94.3	90	110	
Ag	107	1	nogas	92.911	2.890	1048789	0.20	100	92.9	90	110	
Cd	111	1	nogas	96.192	2.074	218404	0.75	100	96.2	90	110	
Sb	121	1	nogas	99.177	2.917	930994	0.34	100	99.2	90	110	
Tl	205	1	nogas	97.708	4.999	1824330	4.21	100	97.7	90	110	
Pb	208	1	nogas	92.931	1.677	2517945	1.68	100	92.9	90	110	
U	238	1	nogas	99.144	1.645	2578397	1.83	100	99.1	90	110	
[Pb]	206	1	nogas	95.777	1.167	614757	1.78	100	95.8	90	110	
[Pb]	207	1	nogas	97.216	1.426	559549	1.86	100	97.2	90	110	
Na	23	2	He	9435.705	3.681	2714621	0.50	10000	94.4	90	110	
Mg	24	2	He	9310.473	4.230	1264806	1.15	10000	93.1	90	110	
Al	27	2	He	94.197	6.141	4097	4.58	100	94.2	90	110	
K	39	2	He	9204.642	0.806	696014	0.79	10000	92.0	90	110	
Ca	43	2	He	9887.324	2.149	2550	5.13	10000	98.9	90	110	
Ca	44	2	He	9778.659	2.813	41226	0.85	10000	97.8	90	110	
V	51	2	He	94.764	1.980	144150	1.32	100	94.8	90	110	
Cr	52	2	He	94.335	0.674	193275	2.88	100	94.3	90	110	
Mn	55	2	He	97.921	1.494	78016	2.14	100	97.9	90	110	
Fe	56	2	He	9581.540	2.941	15468622	0.78	10000	95.8	90	110	
Co	59	2	He	95.877	3.896	329025	0.76	100	95.9	90	110	
Ni	60	2	He	95.014	4.175	92801	0.93	100	95.0	90	110	
Cu	63	2	He	94.609	4.021	257259	0.77	100	94.6	90	110	
Zn	66	2	He	101.885	1.373	38695	3.54	100	101.9	90	110	
As	75	2	He	97.497	2.997	26398	1.71	100	97.5	90	110	
Se	78	2	He	91.433	2.505	1015	3.53	100	91.4	90	110	
B	11	1	nogas	488.143	4.207	1140483	1.81	500	97.6	90	110	
Si	28	1	nogas	4760.625	3.541	27521836	1.77	5000	95.2	90	110	
Ca	43	1	nogas	9307.655	1.701	215495	2.40	10000	93.1	90	110	
Ca	44	1	nogas	9278.101	1.707	3508613	2.25	10000	92.8	90	110	
Fe	56	1	nogas	9177.060	3.732	160209787	0.86	10000	91.8	90	110	
Se	77	1	nogas	28.539	45.387	71299	5.26	100	28.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.085	4.676	15076	1.77	100	92.1	90	110	
Mo	95	1	nogas	95.627	2.551	393565	0.57	100	95.6	90	110	
Sn	118	1	nogas	96.045	2.329	604198	2.84	100	96.0	90	110	
Ba	137	1	nogas	96.399	0.996	291049	0.53	100	96.4	90	110	
Sb	121	2	He	105.046	1.126	111482	2.56	100	105.0	90	110	
Li	7	1	nogas	99.041	2.734	793873	3.28	100	99.0	90	110	
P	31	1	nogas	437.848	1.880	425487	1.77	500	87.6	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	82.538	30.156	400	19.53	100	82.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	19.565	302.115	17	69.28	100	19.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	391312	3.38	424595	92.16	70	125	
Ge	72	1	nogas	1770293	2.93	1760485	100.56	70	125	
In	115	1	nogas	1815112	1.33	1841567	98.56	70	125	
Bi	209	1	nogas	1643545	1.99	1714556	95.86	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	141330	3.24	144534	97.78	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	045_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:09:20-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.102	48.8	470	34.8	1	
Na	23	1	nogas	78.003	1.9	2614456	1.8	100	
Mg	24	1	nogas	10.747	25.0	116362	23.5	100	
Al	27	1	nogas	1.758	4.4	53506	2.3	5	
K	39	1	nogas	26.412	64.6	5542628	0.5	100	
Ti	47	1	nogas	0.178	29.8	403	12.5	2.5	
V	51	1	nogas	-10.199	-33.3	1026764	7.8	2.5	
Cr	52	1	nogas	-0.208	-18.4	31187	3.7	2.5	
Mn	55	1	nogas	0.525	10.8	19440	3.2	2.5	
Co	59	1	nogas	0.091	37.6	1720	27.8	2.5	
Ni	60	1	nogas	0.005	1724.1	1917	11.6	2.5	
Cu	63	1	nogas	0.206	36.3	6184	7.4	2.5	
Zn	66	1	nogas	0.170	10.6	2784	4.3	2.5	
As	75	1	nogas	-11.097	-9.5	163678	3.1	2.5	
Sr	88	1	nogas	0.165	21.0	4341	12.1	2.5	
Ag	107	1	nogas	0.087	20.7	1513	10.7	2.5	
Cd	111	1	nogas	0.082	57.9	227	47.2	1	
Sb	121	1	nogas	1.137	34.9	12301	26.4	2.5	
Tl	205	1	nogas	0.212	35.2	4224	30.1	1	
Pb	208	1	nogas	0.125	26.5	4644	19.3	2.5	
U	238	1	nogas	0.091	37.9	2420	34.5	2.5	
[Pb]	206	1	nogas	0.142	40.7	1247	27.3	2.5	
[Pb]	207	1	nogas	0.122	14.9	947	9.6	2.5	
Na	23	2	He	77.547	6.1	65917	0.6	100	
Mg	24	2	He	7.720	8.7	1330	4.6	100	
Al	27	2	He	3.143	17.5	260	6.7	5	
K	39	2	He	9.818	77.0	14883	3.8	100	
Ca	43	2	He	13.281	337.1	7	173.2	100	
Ca	44	2	He	4.040	343.3	230	24.2	100	
V	51	2	He	0.837	4.2	637	10.2	2.5	
Cr	52	2	He	0.037	65.5	1440	5.5	2.5	
Mn	55	2	He	0.356	56.9	417	41.9	2.5	
Fe	56	2	He	6.039	4.6	14529	4.9	100	
Co	59	2	He	0.047	11.6	223	6.8	2.5	
Ni	60	2	He	0.627	1.2	180	5.6	2.5	
Cu	63	2	He	0.830	4.0	1283	5.5	2.5	
Zn	66	2	He	-0.249	-73.6	277	23.2	2.5	
As	75	2	He	0.039	178.6	38	48.6	2.5	
Se	78	2	He	1.168	23.7	5	57.3	2.5	
B	11	1	nogas	5.945	29.7	117183	1.8	10	
Si	28	1	nogas	19.942	68.4	1852433	1.2	5	CCB Main CR1 Failed
Ca	43	1	nogas	16.925	33.9	1267	8.7	100	
Ca	44	1	nogas	-43.695	-34.9	105539	2.3	100	
Fe	56	1	nogas	17.992	29.9	1239143	4.8	100	
Se	77	1	nogas	-34.582	-19.3	55244	4.0	2.5	
Se	82	1	nogas	0.106	308.5	477	11.6	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.224	34.3	1060	25.9	2.5	
Sn	118	1	nogas	0.126	46.7	2220	16.4	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.130	13.3	640	10.2	2.5	
Sb	121	2	He	0.838	17.7	1170	14.6	2.5	
P	31	1	nogas	-0.586	-435.1	65611	0.6	10	
La	139	1	nogas	-1.192	-1676.7	157	36.3	2.5	
Au	197	1	nogas	5.463	2314.7	13	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	432567	1.76	424595	101.88	70	125	
Ge	72	1	nogas	1720222	2.77	1760485	97.71	70	125	
In	115	1	nogas	1853717	3.11	1841567	100.66	70	125	
Bi	209	1	nogas	1627948	3.86	1714556	94.95	70	125	
Ge	72	2	He	142587	2.52	144534	98.65	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	056_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:31:22-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.720	0.470	306532	1.02	100	98.7	90	110	
Na	23	1	nogas	10079.423	3.562	139722791	0.44	10000	100.8	90	110	
Mg	24	1	nogas	10083.811	5.325	94133963	1.66	10000	100.8	90	110	
Al	27	1	nogas	97.294	3.931	1278004	1.12	100	97.3	90	110	
K	39	1	nogas	9464.174	5.663	106149963	3.86	10000	94.6	90	110	
Ti	47	1	nogas	93.244	3.895	103892	1.70	100	93.2	90	110	
V	51	1	nogas	80.602	5.609	2551570	1.28	100	80.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.989	4.384	1388238	1.74	100	96.0	90	110	
Mn	55	1	nogas	96.076	2.485	1679225	0.36	100	96.1	90	110	
Co	59	1	nogas	96.645	1.844	1470232	2.38	100	96.6	90	110	
Ni	60	1	nogas	97.062	2.960	326777	0.51	100	97.1	90	110	
Cu	63	1	nogas	97.806	3.082	816501	1.24	100	97.8	90	110	
Zn	66	1	nogas	100.834	1.913	269423	2.19	100	100.8	90	110	
As	75	1	nogas	80.973	6.501	448267	2.03	100	81.0	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.387	3.044	1763764	0.94	100	95.4	90	110	
Ag	107	1	nogas	92.713	2.991	996680	1.28	100	92.7	90	110	
Cd	111	1	nogas	96.255	3.720	209340	3.29	100	96.3	90	110	
Sb	121	1	nogas	101.314	2.960	905641	0.51	100	101.3	90	110	
Tl	205	1	nogas	99.041	1.747	1739346	2.28	100	99.0	90	110	
Pb	208	1	nogas	88.732	0.948	2404237	0.95	100	88.7	90	110	CCV Main CR1-2 Failed
U	238	1	nogas	103.584	3.958	2531684	1.08	100	103.6	90	110	
[Pb]	206	1	nogas	98.137	5.414	591721	1.52	100	98.1	90	110	
[Pb]	207	1	nogas	99.603	4.141	538727	0.92	100	99.6	90	110	
Na	23	2	He	9400.320	4.288	2605207	2.05	10000	94.0	90	110	
Mg	24	2	He	9414.782	3.554	1232258	1.50	10000	94.1	90	110	
Al	27	2	He	95.858	5.182	4014	2.73	100	95.9	90	110	
K	39	2	He	8737.705	2.324	661424	2.27	10000	87.4	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8638.310	7.531	2147	8.99	10000	86.4	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9470.416	0.728	38484	2.56	10000	94.7	90	110	
V	51	2	He	94.148	1.093	137962	1.27	100	94.1	90	110	
Cr	52	2	He	93.369	1.232	184239	1.42	100	93.4	90	110	
Mn	55	2	He	95.606	2.230	73366	1.72	100	95.6	90	110	
Fe	56	2	He	9559.284	4.796	14861644	2.54	10000	95.6	90	110	
Co	59	2	He	94.872	4.590	313603	2.27	100	94.9	90	110	
Ni	60	2	He	96.362	4.797	90668	2.62	100	96.4	90	110	
Cu	63	2	He	95.073	2.633	249170	2.83	100	95.1	90	110	
Zn	66	2	He	106.339	3.264	38872	2.89	100	106.3	90	110	
As	75	2	He	94.779	3.472	24717	1.18	100	94.8	90	110	
Se	78	2	He	92.332	3.476	987	2.24	100	92.3	90	110	
B	11	1	nogas	475.320	1.399	1103955	1.45	500	95.1	90	110	
Si	28	1	nogas	5064.433	4.353	27766868	1.74	5000	101.3	90	110	
Ca	43	1	nogas	9392.875	3.202	207005	1.19	10000	93.9	90	110	
Ca	44	1	nogas	9342.809	1.925	3363167	0.93	10000	93.4	90	110	
Fe	56	1	nogas	9420.456	1.774	156650599	1.27	10000	94.2	90	110	
Se	77	1	nogas	39.560	39.503	70239	2.82	100	39.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.036	2.806	15267	3.25	100	98.0	90	110	
Mo	95	1	nogas	96.686	4.394	378808	1.64	100	96.7	90	110	
Sn	118	1	nogas	97.580	2.002	587930	2.27	100	97.6	90	110	
Ba	137	1	nogas	96.965	1.565	280436	1.97	100	97.0	90	110	
Sb	121	2	He	105.366	2.659	107672	0.89	100	105.4	90	110	
Li	7	1	nogas	97.562	2.147	775855	2.50	100	97.6	90	110	
P	31	1	nogas	457.939	4.282	420627	0.89	500	91.6	90	110	
La	139	1	nogas	118.433	13.587	483	9.56	100	118.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-13.030	-414.523	10	100.00	100	-13.0	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	nogas	387843	0.55	424595	91.34	70	125	
Ge	72	1	nogas	1685809	2.80	1760485	95.76	70	125	
In	115	1	nogas	1738585	1.15	1841567	94.41	70	125	
Bi	209	1	nogas	1545953	3.86	1714556	90.17	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	136118	2.38	144534	94.18	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	057_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:33:19-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.050	36.1	277	22.1	1	
Na	23	1	nogas	68.335	5.1	2399837	1.2	100	
Mg	24	1	nogas	5.504	46.3	61889	39.3	100	
Al	27	1	nogas	-0.497	-6.5	23198	2.1	5	
K	39	1	nogas	33.170	44.7	5435102	0.5	100	
Ti	47	1	nogas	0.169	84.7	380	39.5	2.5	
V	51	1	nogas	-14.939	-24.2	912024	4.1	2.5	
Cr	52	1	nogas	-0.299	-28.6	28879	1.1	2.5	
Mn	55	1	nogas	0.291	1.9	14803	2.6	2.5	
Co	59	1	nogas	0.057	32.5	1167	26.8	2.5	
Ni	60	1	nogas	-0.036	-77.6	1727	7.0	2.5	
Cu	63	1	nogas	0.161	20.5	5618	1.8	2.5	
Zn	66	1	nogas	1.652	4.2	6571	3.1	2.5	
As	75	1	nogas	-10.550	-33.2	159895	4.3	2.5	
Sr	88	1	nogas	0.040	45.8	1937	20.1	2.5	
Ag	107	1	nogas	0.054	24.7	1117	15.8	2.5	
Cd	111	1	nogas	0.038	36.9	120	25.0	1	
Sb	121	1	nogas	1.705	15.2	16999	16.0	2.5	
Tl	205	1	nogas	0.169	34.1	3564	31.9	1	
Pb	208	1	nogas	0.081	49.0	3464	31.2	2.5	
U	238	1	nogas	0.060	42.1	1670	41.0	2.5	
[Pb]	206	1	nogas	0.079	52.1	877	31.6	2.5	
[Pb]	207	1	nogas	0.088	47.2	773	32.5	2.5	
Na	23	2	He	63.655	6.7	60339	2.0	100	
Mg	24	2	He	3.408	37.7	720	23.2	100	
Al	27	2	He	-0.723	-116.7	93	37.6	5	
K	39	2	He	-1.079	-403.5	14076	2.3	100	
Ca	43	2	He	27.048	146.2	10	100.0	100	
Ca	44	2	He	-18.878	-34.7	130	20.4	100	
V	51	2	He	0.775	6.0	526	12.9	2.5	
Cr	52	2	He	-0.008	-598.6	1313	7.4	2.5	
Mn	55	2	He	0.220	5.8	297	3.9	2.5	
Fe	56	2	He	2.572	17.7	8642	8.3	100	
Co	59	2	He	0.017	28.3	117	13.1	2.5	
Ni	60	2	He	0.683	12.5	230	35.6	2.5	
Cu	63	2	He	0.843	8.7	1287	14.9	2.5	
Zn	66	2	He	1.897	2.1	1063	2.0	2.5	
As	75	2	He	0.092	42.3	51	19.9	2.5	
Se	78	2	He	1.055	17.2	4	50.0	2.5	
B	11	1	nogas	6.932	40.7	114026	3.7	10	
Si	28	1	nogas	25.966	27.0	1823952	2.0	5	CCB Main CR1 Failed
Ca	43	1	nogas	1.753	224.5	900	12.6	100	
Ca	44	1	nogas	-73.701	-5.9	91904	1.5	100	
Fe	56	1	nogas	4.537	18.1	980959	3.6	100	
Se	77	1	nogas	-42.959	-42.9	51587	5.4	2.5	
Se	82	1	nogas	0.223	230.9	480	18.5	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.143	48.6	723	40.6	2.5	
Sn	118	1	nogas	0.064	35.4	1747	6.4	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.021	140.3	290	29.9	2.5	
Sb	121	2	He	1.236	8.0	1553	7.2	2.5	
P	31	1	nogas	-1.100	-288.9	63085	1.3	10	
La	139	1	nogas	-16.608	-13.0	107	5.4	2.5	
Au	197	1	nogas	18.058	435.8	17	91.7	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	412860	2.94	424595	97.24	70	125	
Ge	72	1	nogas	1664684	3.08	1760485	94.56	70	125	
In	115	1	nogas	1775830	1.47	1841567	96.43	70	125	
Bi	209	1	nogas	1677200	0.97	1714556	97.82	70	125	
Ge	72	2	He	138837	0.61	144534	96.06	70	125	

Sample Report

Sample Table

Sample Name	MBLK-123627
Data File Name	058SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:35:20-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.004	0.004	325.94	137	0.00	2000	
Na	23	1	nogas	56.114	56.114	13.13	2349370	0.00	200000	
Mg	24	1	nogas	12.482	12.482	8.05	136921	0.01	200000	
Al	27	1	nogas	2.791	2.791	3.63	70248	0.00	2000	
K	39	1	nogas	384.074	384.074	1.43	9894583	0.00	200000	
Ti	47	1	nogas	-0.013	-0.013	-309.05	197	-0.01	2000	
V	51	1	nogas	-24.449	-24.449	-5.06	815443	0.00	2000	
Cr	52	1	nogas	-0.497	-0.497	-4.92	28299	0.00	2000	
Mn	55	1	nogas	-0.079	-0.079	-49.29	9162	0.00	2000	
Co	59	1	nogas	0.005	0.005	113.93	413	0.00	2000	
Ni	60	1	nogas	-0.137	-0.137	-12.76	1507	-0.01	2000	
Cu	63	1	nogas	0.195	0.195	22.67	6391	0.00	2000	
Zn	66	1	nogas	1.368	1.368	6.30	6311	0.02	2000	
As	75	1	nogas	-20.802	-20.802	-8.80	139037	-0.01	2000	
Sr	88	1	nogas	0.174	0.174	13.74	4737	0.00	2000	
Ag	107	1	nogas	0.003	0.003	107.71	617	0.00	2000	
Cd	111	1	nogas	-0.006	-0.006	-31.98	23	-0.03	2000	
Sb	121	1	nogas	0.423	0.423	12.72	6141	0.01	2000	
Tl	205	1	nogas	0.013	0.013	49.82	593	0.00	2000	
Pb	208	1	nogas	0.136	0.136	16.43	4714	0.00	2000	
U	238	1	nogas	0.005	0.005	10.45	220	0.00	2000	
[Pb]	206	1	nogas	0.125	0.125	11.69	1227	0.01	2000	
[Pb]	207	1	nogas	0.116	0.116	12.97	973	0.01	2000	
Na	23	2	He	59.169	59.169	6.71	61884	0.10	200000	
Mg	24	2	He	13.934	13.934	4.56	2227	0.63	200000	
Al	27	2	He	1.941	1.941	17.78	213	0.91	2000	
K	39	2	He	379.816	379.816	1.56	42291	0.90	200000	
Ca	43	2	He	50.359	50.359	43.35	17	302.15	200000	
Ca	44	2	He	22.923	22.923	33.02	317	7.24	200000	
V	51	2	He	0.721	0.721	2.39	466	0.15	2000	
Cr	52	2	He	0.039	0.039	193.80	1473	0.00	2000	
Mn	55	2	He	0.024	0.024	183.87	150	0.02	2000	
Fe	56	2	He	1.965	1.965	10.73	8042	0.02	200000	
Co	59	2	He	-0.001	-0.001	-1635.84	60	0.00	2000	
Ni	60	2	He	0.729	0.729	6.74	287	0.25	2000	
Cu	63	2	He	0.888	0.888	9.92	1473	0.06	2000	
Zn	66	2	He	0.872	0.872	19.53	717	0.12	2000	
As	75	2	He	-0.033	-0.033	-76.92	19	-0.17	2000	
Se	78	2	He	1.271	1.271	20.87	7	19.06	2000	
B	11	1	nogas	53.071	53.071	7.49	235553	0.02	2000	

Sample Report

Si	28	1	nogas	25.762	25.762	26.48	1974178	0.00	2000	
Ca	43	1	nogas	36.008	36.008	9.98	1777	2.03	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ca	44	1	nogas	-64.852	-64.852	-6.18	102821	-0.06	200000	
Fe	56	1	nogas	-1.932	-1.932	-43.11	947656	0.00	200000	
Se	77	1	nogas	-86.020	-86.020	-10.58	45895	-0.19	2000	
Se	82	1	nogas	0.027	0.027	3074.40	487	0.01	2000	
Mo	95	1	nogas	0.120	0.120	23.21	680	0.02	2000	
Sn	118	1	nogas	-0.109	-0.109	-3.98	750	-0.01	2000	
Ba	137	1	nogas	0.037	0.037	36.56	370	0.01	2000	
Sb	121	2	He	0.429	0.429	20.06	747	0.06	2000	
La	139	1	nogas	-34.683	-34.683	-24.91	60	-57.81	2000	
Au	197	1	nogas	131.826	131.826	101.72	40	329.56	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	445100	2.80	424595	104.83	70	125	
Ge	72	1	nogas	1802318	0.27	1760485	102.38	70	125	
In	115	1	nogas	1945063	3.10	1841567	105.62	70	125	
Bi	209	1	nogas	1743618	2.91	1714556	101.69	70	125	
Ge	72	2	He	145400	0.23	144534	100.60	70	125	

Sample Report

Sample Table

Sample Name	LCS-123627
Data File Name	059SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:37:21-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	46.007	46.007	4.43	165238	0.03	2000	
Na	23	1	nogas	4366.000	4366.000	3.92	72986816	0.01	200000	
Mg	24	1	nogas	4520.256	4520.256	3.56	50277700	0.01	200000	
Al	27	1	nogas	83.408	83.408	2.73	1248101	0.01	2000	
K	39	1	nogas	4425.086	4425.086	5.55	59403337	0.01	200000	
Ti	47	1	nogas	44.707	44.707	1.45	56657	0.08	2000	
V	51	1	nogas	22.617	22.617	15.46	1774965	0.00	2000	
Cr	52	1	nogas	44.064	44.064	2.54	743980	0.01	2000	
Mn	55	1	nogas	46.469	46.469	2.93	927262	0.01	2000	
Co	59	1	nogas	45.833	45.833	3.45	790841	0.01	2000	
Ni	60	1	nogas	47.316	47.316	3.29	181800	0.03	2000	
Cu	63	1	nogas	46.728	46.728	4.62	444977	0.01	2000	
Zn	66	1	nogas	48.666	48.666	2.30	148836	0.03	2000	
As	75	1	nogas	22.867	22.867	14.00	302421	0.01	2000	
Sr	88	1	nogas	0.033	0.033	24.51	2080	0.00	2000	
Ag	107	1	nogas	45.604	45.604	5.50	556171	0.01	2000	
Cd	111	1	nogas	46.917	46.917	1.92	117562	0.04	2000	
Sb	121	1	nogas	51.381	51.381	4.31	522021	0.01	2000	
Tl	205	1	nogas	45.797	45.797	0.49	947025	0.00	2000	
Pb	208	1	nogas	52.482	52.482	0.79	1337985	0.00	2000	
U	238	1	nogas	0.002	0.002	50.63	160	0.00	2000	
[Pb]	206	1	nogas	46.484	46.484	1.12	330492	0.01	2000	
[Pb]	207	1	nogas	46.656	46.656	0.81	297400	0.02	2000	
Na	23	2	He	4588.859	4588.859	1.36	1471254	0.31	200000	
Mg	24	2	He	4480.047	4480.047	0.37	667277	0.67	200000	
Al	27	2	He	74.228	74.228	10.06	3567	2.08	2000	
K	39	2	He	4695.127	4695.127	1.93	361960	1.30	200000	
Ca	43	2	He	3698.130	3698.130	5.57	1047	353.31	200000	
Ca	44	2	He	4390.403	4390.403	1.83	20411	21.51	200000	
V	51	2	He	45.611	45.611	0.96	75650	0.06	2000	
Cr	52	2	He	45.827	45.827	0.89	103604	0.04	2000	
Mn	55	2	He	45.706	45.706	6.84	39944	0.11	2000	
Fe	56	2	He	4399.724	4399.724	5.05	7783346	0.06	200000	
Co	59	2	He	44.811	44.811	4.65	168528	0.03	2000	
Ni	60	2	He	46.030	46.030	2.06	49033	0.09	2000	
Cu	63	2	He	46.966	46.966	1.55	139429	0.03	2000	
Zn	66	2	He	51.525	51.525	4.18	21636	0.24	2000	
As	75	2	He	46.084	46.084	3.60	13685	0.34	2000	
Se	78	2	He	47.789	47.789	8.04	577	8.29	2000	
B	11	1	nogas	431.916	431.916	4.62	1169614	0.04	2000	
Si	28	1	nogas	4801.975	4801.975	2.93	29976329	0.02	2000	>LDR
Ca	43	1	nogas	4341.448	4341.448	3.04	109081	3.98	200000	
Ca	44	1	nogas	4346.321	4346.321	3.02	1846706	0.24	200000	
Fe	56	1	nogas	4507.211	4507.211	5.02	85516716	0.01	200000	

Sample Report

Se	77	1	nogas	-52.310	-52.310	-25.95	56983	-0.09	2000	
Se	82	1	nogas	45.676	45.676	6.31	8345	0.55	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	46.914	46.914	2.72	208709	0.02	2000	
Sn	118	1	nogas	-0.112	-0.112	-11.15	757	-0.01	2000	
Ba	137	1	nogas	46.491	46.491	2.77	154982	0.03	2000	
Sb	121	2	He	52.445	52.445	1.63	61114	0.09	2000	
La	139	1	nogas	-14.444	-14.444	-93.97	127	-11.40	2000	
Au	197	1	nogas	43.320	43.320	126.83	23	185.66	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	448685	2.05	424595	105.67	70	125	
Ge	72	1	nogas	1912747	3.26	1760485	108.65	70	125	
In	115	1	nogas	2003113	2.58	1841567	108.77	70	125	
Bi	209	1	nogas	1819215	0.85	1714556	106.10	70	125	
Ge	72	2	He	154782	1.28	144534	107.09	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-04
Data File Name	060SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:39:20-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.095	0.095	30.92	427	0.02	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	>LDR
Mg	24	1	nogas	17887.864	17887.864	4.11	183039775	0.01	200000	
Al	27	1	nogas	49.161	49.161	7.24	721468	0.01	2000	
K	39	1	nogas	2791.420	2791.420	1.90	38157052	0.01	200000	
Ti	47	1	nogas	2.218	2.218	7.71	2910	0.08	2000	
V	51	1	nogas	-28.246	-28.246	-5.42	761612	0.00	2000	
Cr	52	1	nogas	1.941	1.941	5.83	66460	0.00	2000	
Mn	55	1	nogas	1971.101	1971.101	2.63	37398974	0.01	2000	>LDR
Co	59	1	nogas	17.927	17.927	1.92	297926	0.01	2000	
Ni	60	1	nogas	49.761	49.761	2.35	183917	0.03	2000	
Cu	63	1	nogas	8.362	8.362	9.40	80526	0.01	2000	
Zn	66	1	nogas	11.562	11.562	1.31	35929	0.03	2000	
As	75	1	nogas	-10.860	-10.860	-9.28	175862	-0.01	2000	
Sr	88	1	nogas	479.408	479.408	2.46	9673125	0.00	2000	
Ag	107	1	nogas	0.019	0.019	29.76	820	0.00	2000	
Cd	111	1	nogas	0.731	0.731	11.25	1753	0.04	2000	
Sb	121	1	nogas	0.406	0.406	8.63	6098	0.01	2000	
Tl	205	1	nogas	0.170	0.170	46.71	3641	0.00	2000	
Pb	208	1	nogas	0.288	0.288	4.50	8584	0.00	2000	
U	238	1	nogas	0.073	0.073	4.95	2040	0.00	2000	
[Pb]	206	1	nogas	0.263	0.263	6.84	2110	0.01	2000	
[Pb]	207	1	nogas	0.266	0.266	4.37	1847	0.01	2000	
Na	23	2	He	275801.765	275801.765	4.21	82608619	0.33	200000	>LDR
Mg	24	2	He	16899.586	16899.586	6.31	2426806	0.70	200000	
Al	27	2	He	46.805	46.805	7.53	2220	2.11	2000	
K	39	2	He	2942.139	2942.139	1.34	232102	1.27	200000	
Ca	43	2	He	35084.716	35084.716	5.39	9546	367.53	200000	
Ca	44	2	He	33824.005	33824.005	1.45	150279	22.51	200000	
V	51	2	He	1.522	1.522	1.98	1773	0.09	2000	
Cr	52	2	He	2.595	2.595	4.36	7008	0.04	2000	
Mn	55	2	He	2011.066	2011.066	4.17	1690666	0.12	2000	>LDR
Fe	56	2	He	29246.593	29246.593	2.58	49912629	0.06	200000	
Co	59	2	He	18.406	18.406	3.56	66845	0.03	2000	
Ni	60	2	He	47.764	47.764	2.70	49109	0.10	2000	
Cu	63	2	He	1.650	1.650	3.61	3717	0.04	2000	
Zn	66	2	He	12.136	12.136	4.18	5217	0.23	2000	
As	75	2	He	7.393	7.393	4.10	2143	0.34	2000	
Se	78	2	He	1.526	1.526	65.78	10	15.26	2000	
B	11	1	nogas	34.399	34.399	11.98	175562	0.02	2000	
Si	28	1	nogas	15320.947	15320.947	3.81	87933005	0.02	2000	>LDR
Ca	43	1	nogas	31855.728	31855.728	3.04	764394	4.17	200000	
Ca	44	1	nogas	31833.568	31833.568	2.61	12199205	0.26	200000	
Fe	56	1	nogas	28604.085	28604.085	3.88	517086728	0.01	200000	
Se	77	1	nogas	-72.541	-72.541	-9.59	50046	-0.14	2000	
Se	82	1	nogas	1.084	1.084	64.36	670	0.16	2000	

Sample Report

Mo	95	1	nogas	0.745	0.745	5.70	3370	0.02	2000	
Sn	118	1	nogas	-0.104	-0.104	-15.28	760	-0.01	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	414.065	414.065	3.27	1292763	0.03	2000	
Sb	121	2	He	0.432	0.432	15.88	770	0.06	2000	
La	139	1	nogas	7567.244	7567.244	3.45	23096	32.76	2000	>LDR
Au	197	1	nogas	32.197	32.197	536.54	20	160.98	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	411267	2.53	424595	96.86	70	125	
Ge	72	1	nogas	1839941	1.29	1760485	104.51	70	125	
In	115	1	nogas	1878086	0.25	1841567	101.98	70	125	
Bi	209	1	nogas	1701063	2.34	1714556	99.21	70	125	
Ge	72	2	He	149390	2.04	144534	103.36	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-07
Data File Name	061SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:41:23-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.002	0.002	790.14	93	0.00	2000	
Na	23	1	nogas	158304.342	158304.342	0.60	2430203254	0.01	200000	
Mg	24	1	nogas	3560.973	3560.973	3.66	37168038	0.01	200000	
Al	27	1	nogas	11.055	11.055	28.37	188875	0.01	2000	
K	39	1	nogas	76238.711	76238.711	2.71	899289153	0.01	200000	
Ti	47	1	nogas	0.474	0.474	3.16	797	0.06	2000	
V	51	1	nogas	-34.978	-34.978	-6.22	639920	-0.01	2000	
Cr	52	1	nogas	-0.744	-0.744	-7.53	25228	0.00	2000	
Mn	55	1	nogas	5.467	5.467	7.04	115242	0.00	2000	
Co	59	1	nogas	0.051	0.051	24.05	1187	0.00	2000	
Ni	60	1	nogas	1.083	1.083	14.38	6028	0.02	2000	
Cu	63	1	nogas	2.920	2.920	11.52	31421	0.01	2000	
Zn	66	1	nogas	2.920	2.920	6.94	10990	0.03	2000	
As	75	1	nogas	-23.255	-23.255	-4.36	134307	-0.02	2000	
Sr	88	1	nogas	713.131	713.131	2.12	14472829	0.00	2000	
Ag	107	1	nogas	0.001	0.001	400.25	617	0.00	2000	
Cd	111	1	nogas	-0.006	-0.006	-40.62	23	-0.03	2000	
Sb	121	1	nogas	0.433	0.433	9.28	6401	0.01	2000	
Tl	205	1	nogas	0.009	0.009	17.36	500	0.00	2000	
Pb	208	1	nogas	0.034	0.034	7.71	2123	0.00	2000	
U	238	1	nogas	0.012	0.012	38.97	413	0.00	2000	
[Pb]	206	1	nogas	0.033	0.033	8.76	583	0.01	2000	
[Pb]	207	1	nogas	0.030	0.030	85.19	437	0.01	2000	
Na	23	2	He	154629.582	154629.582	6.51	45883569	0.34	200000	
Mg	24	2	He	3372.670	3372.670	7.38	479893	0.70	200000	
Al	27	2	He	11.993	11.993	37.10	657	1.83	2000	
K	39	2	He	76761.069	76761.069	0.74	5700437	1.35	200000	
Ca	43	2	He	8061.946	8061.946	4.18	2177	370.35	200000	
Ca	44	2	He	6021.531	6021.531	5.28	26669	22.58	200000	
V	51	2	He	0.734	0.734	2.58	495	0.15	2000	
Cr	52	2	He	0.088	0.088	39.90	1603	0.01	2000	
Mn	55	2	He	5.167	5.167	8.29	4434	0.12	2000	
Fe	56	2	He	211.146	211.146	6.85	361547	0.06	200000	
Co	59	2	He	0.032	0.032	24.75	180	0.02	2000	
Ni	60	2	He	1.236	1.236	12.21	810	0.15	2000	
Cu	63	2	He	1.000	1.000	5.14	1820	0.05	2000	
Zn	66	2	He	3.049	3.049	17.31	1587	0.19	2000	
As	75	2	He	1.390	1.390	16.02	423	0.33	2000	
Se	78	2	He	1.260	1.260	7.37	7	18.90	2000	
B	11	1	nogas	146.928	146.928	6.61	332883	0.04	2000	
Si	28	1	nogas	3193.266	3193.266	3.40	19923232	0.02	2000	>LDR
Ca	43	1	nogas	3697.533	3697.533	4.64	90046	4.11	200000	
Ca	44	1	nogas	3600.064	3600.064	5.16	1502453	0.24	200000	
Fe	56	1	nogas	211.184	211.184	6.93	4841862	0.00	200000	

Sample Report

Se	77	1	nogas	-101.539	-101.539	-3.62	43409	-0.23	2000	
Se	82	1	nogas	0.893	0.893	70.08	643	0.14	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	1.784	1.784	2.59	7862	0.02	2000	
Sn	118	1	nogas	-0.085	-0.085	-36.07	900	-0.01	2000	
Ba	137	1	nogas	74.336	74.336	2.31	237013	0.03	2000	
Sb	121	2	He	0.501	0.501	17.53	840	0.06	2000	
La	139	1	nogas	118.073	118.073	33.01	533	22.14	2000	
Au	197	1	nogas	70.254	70.254	169.87	27	263.45	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	319128	4.16	424595	75.16	70	125	
Ge	72	1	nogas	1850904	2.13	1760485	105.14	70	125	
In	115	1	nogas	1916595	2.35	1841567	104.07	70	125	
Bi	209	1	nogas	1694113	2.36	1714556	98.81	70	125	
Ge	72	2	He	148163	4.87	144534	102.51	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-07SD
Data File Name	062SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:43:26-06:00
Sample Type	Sample
Dilution	5
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	-0.004	-0.018	-504.33	100	0.00	2000	
Na	23	1	nogas	33738.809	168694.046	6.24	497417144	0.01	200000	
Mg	24	1	nogas	737.307	3686.533	4.09	7384578	0.01	200000	
Al	27	1	nogas	3.629	18.143	85.44	81402	0.00	2000	
K	39	1	nogas	15662.891	78314.455	2.11	182508258	0.01	200000	
Ti	47	1	nogas	0.135	0.674	39.70	370	0.04	2000	
V	51	1	nogas	-26.861	-134.303	-5.07	764482	0.00	2000	
Cr	52	1	nogas	-0.587	-2.936	-12.87	26700	0.00	2000	
Mn	55	1	nogas	1.132	5.661	4.91	31344	0.00	2000	
Co	59	1	nogas	0.010	0.048	74.38	473	0.00	2000	
Ni	60	1	nogas	0.329	1.646	26.12	3144	0.01	2000	
Cu	63	1	nogas	0.333	1.663	7.99	7535	0.00	2000	
Zn	66	1	nogas	1.351	6.754	16.48	6191	0.02	2000	
As	75	1	nogas	-20.383	-101.917	-3.25	139120	-0.01	2000	
Sr	88	1	nogas	149.193	745.965	1.26	2921452	0.01	2000	
Ag	107	1	nogas	-0.013	-0.065	-28.33	433	0.00	2000	
Cd	111	1	nogas	-0.002	-0.010	-147.07	33	-0.01	2000	
Sb	121	1	nogas	0.244	1.222	4.70	4394	0.01	2000	
Tl	205	1	nogas	0.004	0.020	143.18	410	0.00	2000	
Pb	208	1	nogas	-0.016	-0.081	-43.44	847	0.00	2000	
U	238	1	nogas	0.003	0.014	38.30	163	0.00	2000	
[Pb]	206	1	nogas	-0.028	-0.142	-41.11	177	-0.02	2000	
[Pb]	207	1	nogas	-0.015	-0.074	-85.78	173	-0.01	2000	
Na	23	2	He	32588.586	162942.932	2.97	9694066	0.34	200000	
Mg	24	2	He	698.757	3493.785	2.78	99548	0.70	200000	
Al	27	2	He	1.941	9.703	9.49	217	0.90	2000	
K	39	2	He	15470.817	77354.083	0.43	1160198	1.33	200000	
Ca	43	2	He	1547.326	7736.630	12.77	420	368.40	200000	
Ca	44	2	He	1200.914	6004.572	6.88	5488	21.88	200000	
V	51	2	He	0.712	3.562	4.88	460	0.15	2000	
Cr	52	2	He	-0.019	-0.097	-315.67	1373	0.00	2000	
Mn	55	2	He	1.048	5.238	8.05	1003	0.10	2000	
Fe	56	2	He	43.407	217.037	0.58	78129	0.06	200000	
Co	59	2	He	0.010	0.050	47.48	100	0.01	2000	
Ni	60	2	He	0.785	3.927	9.33	350	0.22	2000	
Cu	63	2	He	0.812	4.061	3.23	1280	0.06	2000	
Zn	66	2	He	1.154	5.770	24.41	840	0.14	2000	
As	75	2	He	0.289	1.444	18.14	110	0.26	2000	
Se	78	2	He	0.749	3.746	13.39	1	112.37	2000	
B	11	1	nogas	24.603	123.015	4.44	153583	0.02	2000	
Si	28	1	nogas	639.386	3196.930	4.30	5297444	0.01	2000	
Ca	43	1	nogas	713.675	3568.376	3.36	17522	4.07	200000	
Ca	44	1	nogas	624.376	3121.882	5.90	355127	0.18	200000	
Fe	56	1	nogas	49.603	248.014	5.69	1840181	0.00	200000	

Sample Report

Se	77	1	nogas	-83.027	-415.133	-5.18	46162	-0.18	2000	
Se	82	1	nogas	0.158	0.788	190.76	503	0.03	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.373	1.865	9.99	1723	0.02	2000	
Sn	118	1	nogas	-0.047	-0.236	-48.38	1143	0.00	2000	
Ba	137	1	nogas	14.721	73.603	2.62	46861	0.03	2000	
Sb	121	2	He	0.271	1.355	30.78	583	0.05	2000	
La	139	1	nogas	-4.201	-21.006	-405.97	153	-2.74	2000	
Au	197	1	nogas	0.204	1.021	37601.53	13	1.53	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	411338	0.92	424595	96.88	70	125	
Ge	72	1	nogas	1784943	2.64	1760485	101.39	70	125	
In	115	1	nogas	1905985	2.54	1841567	103.50	70	125	
Bi	209	1	nogas	1707882	2.62	1714556	99.61	70	125	
Ge	72	2	He	147728	1.36	144534	102.21	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-07MS
Data File Name	063SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:45:27-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	59.725	59.725	6.08	149530	0.04	2000	
Na	23	1	nogas	163022.264	163022.264	5.75	2394400987	0.01	200000	
Mg	24	1	nogas	7862.412	7862.412	3.88	78548179	0.01	200000	
Al	27	1	nogas	85.631	85.631	3.24	1157066	0.01	2000	
K	39	1	nogas	81214.627	81214.627	1.58	893982320	0.01	200000	
Ti	47	1	nogas	45.459	45.459	0.54	52037	0.09	2000	
V	51	1	nogas	17.420	17.420	7.62	1512526	0.00	2000	
Cr	52	1	nogas	42.107	42.107	2.37	643685	0.01	2000	
Mn	55	1	nogas	47.713	47.713	2.29	859952	0.01	2000	
Co	59	1	nogas	44.400	44.400	2.71	692334	0.01	2000	
Ni	60	1	nogas	46.165	46.165	2.59	160333	0.03	2000	
Cu	63	1	nogas	46.183	46.183	0.65	397604	0.01	2000	
Zn	66	1	nogas	48.218	48.218	1.26	133258	0.04	2000	
As	75	1	nogas	22.435	22.435	6.98	271893	0.01	2000	
Sr	88	1	nogas	738.959	738.959	1.32	13999160	0.01	2000	
Ag	107	1	nogas	42.771	42.771	1.35	471697	0.01	2000	
Cd	111	1	nogas	45.603	45.603	2.41	102579	0.04	2000	
Sb	121	1	nogas	49.413	49.413	1.15	453851	0.01	2000	
Tl	205	1	nogas	43.431	43.431	2.77	792142	0.01	2000	
Pb	208	1	nogas	44.762	44.762	2.15	1141366	0.00	2000	
U	238	1	nogas	0.011	0.011	33.50	363	0.00	2000	
[Pb]	206	1	nogas	45.241	45.241	1.81	283751	0.02	2000	
[Pb]	207	1	nogas	45.121	45.121	0.51	253780	0.02	2000	
Na	23	2	He	166764.590	166764.590	2.55	46160268	0.36	200000	
Mg	24	2	He	7761.244	7761.244	2.24	1030105	0.75	200000	
Al	27	2	He	88.175	88.175	2.61	3754	2.35	2000	
K	39	2	He	77067.159	77067.159	0.87	5723112	1.35	200000	
Ca	43	2	He	11848.982	11848.982	5.45	2980	397.58	200000	
Ca	44	2	He	10114.066	10114.066	1.80	41631	24.29	200000	
V	51	2	He	45.088	45.088	1.06	66637	0.07	2000	
Cr	52	2	He	44.367	44.367	0.48	89429	0.05	2000	
Mn	55	2	He	48.195	48.195	1.77	37552	0.13	2000	
Fe	56	2	He	4561.081	4561.081	1.35	7193916	0.06	200000	
Co	59	2	He	44.963	44.963	4.31	150757	0.03	2000	
Ni	60	2	He	45.543	45.543	2.20	43228	0.11	2000	
Cu	63	2	He	46.242	46.242	4.56	122322	0.04	2000	
Zn	66	2	He	51.574	51.574	2.61	19297	0.27	2000	
As	75	2	He	47.617	47.617	2.68	12606	0.38	2000	
Se	78	2	He	44.221	44.221	6.01	475	9.30	2000	
B	11	1	nogas	735.453	735.453	7.82	1335701	0.06	2000	
Si	28	1	nogas	7977.300	7977.300	2.16	43836281	0.02	2000	>LDR
Ca	43	1	nogas	7910.043	7910.043	2.72	178862	4.42	200000	
Ca	44	1	nogas	7875.481	7875.481	1.86	2924948	0.27	200000	
Fe	56	1	nogas	4407.196	4407.196	3.15	75608654	0.01	200000	

Sample Report

Se	77	1	nogas	-55.837	-55.837	-10.85	50724	-0.11	2000	
Se	82	1	nogas	46.960	46.960	0.36	7735	0.61	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	46.884	46.884	1.86	188447	0.02	2000	
Sn	118	1	nogas	-0.094	-0.094	-24.20	790	-0.01	2000	
Ba	137	1	nogas	119.511	119.511	1.03	357242	0.03	2000	
Sb	121	2	He	52.718	52.718	1.24	54746	0.10	2000	
La	139	1	nogas	105.854	105.854	8.61	463	22.85	2000	
Au	197	1	nogas	22.790	22.790	280.72	17	136.74	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	313160	4.03	424595	73.75	70	125	
Ge	72	1	nogas	1727375	0.55	1760485	98.12	70	125	
In	115	1	nogas	1797274	1.21	1841567	97.59	70	125	
Bi	209	1	nogas	1604995	1.63	1714556	93.61	70	125	
Ge	72	2	He	137941	0.96	144534	95.44	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-07MSD
Data File Name	064SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:47:27-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	58.824	58.824	2.16	143220	0.04	2000	
Na	23	1	nogas	162296.712	162296.712	5.29	2244155317	0.01	200000	
Mg	24	1	nogas	7681.339	7681.339	1.18	72278220	0.01	200000	
Al	27	1	nogas	85.668	85.668	1.33	1125856	0.01	2000	
K	39	1	nogas	76969.749	76969.749	2.25	824447918	0.01	200000	
Ti	47	1	nogas	43.831	43.831	3.58	48799	0.09	2000	
V	51	1	nogas	17.026	17.026	14.57	1464342	0.00	2000	
Cr	52	1	nogas	41.501	41.501	1.42	617594	0.01	2000	
Mn	55	1	nogas	46.923	46.923	1.69	822838	0.01	2000	
Co	59	1	nogas	43.683	43.683	1.62	662667	0.01	2000	
Ni	60	1	nogas	46.225	46.225	1.46	156154	0.03	2000	
Cu	63	1	nogas	45.768	45.768	0.63	383310	0.01	2000	
Zn	66	1	nogas	47.690	47.690	1.33	128221	0.04	2000	
As	75	1	nogas	21.837	21.837	8.70	262579	0.01	2000	
Sr	88	1	nogas	684.402	684.402	3.56	12609024	0.01	2000	
Ag	107	1	nogas	42.066	42.066	2.22	451244	0.01	2000	
Cd	111	1	nogas	44.465	44.465	1.38	97111	0.05	2000	
Sb	121	1	nogas	50.308	50.308	1.25	449428	0.01	2000	
Tl	205	1	nogas	41.796	41.796	1.35	752546	0.01	2000	
Pb	208	1	nogas	43.496	43.496	0.98	1109099	0.00	2000	
U	238	1	nogas	0.009	0.009	38.59	310	0.00	2000	
[Pb]	206	1	nogas	43.510	43.510	1.43	269351	0.02	2000	
[Pb]	207	1	nogas	44.252	44.252	1.23	245601	0.02	2000	
Na	23	2	He	153620.728	153620.728	4.60	42620830	0.36	200000	
Mg	24	2	He	7403.072	7403.072	3.26	984928	0.75	200000	
Al	27	2	He	91.835	91.835	7.56	3914	2.35	2000	
K	39	2	He	73125.952	73125.952	1.45	5431156	1.35	200000	
Ca	43	2	He	11024.924	11024.924	4.88	2784	396.07	200000	
Ca	44	2	He	10025.069	10025.069	1.20	41387	24.22	200000	
V	51	2	He	44.284	44.284	2.84	65603	0.07	2000	
Cr	52	2	He	43.271	43.271	1.24	87494	0.05	2000	
Mn	55	2	He	47.704	47.704	2.43	37278	0.13	2000	
Fe	56	2	He	4560.332	4560.332	1.33	7212839	0.06	200000	
Co	59	2	He	43.914	43.914	2.85	147638	0.03	2000	
Ni	60	2	He	44.619	44.619	6.93	42423	0.11	2000	
Cu	63	2	He	44.382	44.382	5.15	117624	0.04	2000	
Zn	66	2	He	49.936	49.936	4.23	18740	0.27	2000	
As	75	2	He	47.484	47.484	1.08	12604	0.38	2000	
Se	78	2	He	44.081	44.081	4.57	475	9.29	2000	
B	11	1	nogas	702.599	702.599	3.90	1244509	0.06	2000	
Si	28	1	nogas	7568.025	7568.025	2.52	40534248	0.02	2000	>LDR
Ca	43	1	nogas	7663.001	7663.001	2.14	168553	4.55	200000	
Ca	44	1	nogas	7489.935	7489.935	0.08	2711648	0.28	200000	
Fe	56	1	nogas	4350.064	4350.064	1.86	72617993	0.01	200000	

Sample Report

Se	77	1	nogas	-69.097	-69.097	-10.56	46466	-0.15	2000	
Se	82	1	nogas	45.573	45.573	5.48	7315	0.62	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	45.904	45.904	1.44	179472	0.03	2000	
Sn	118	1	nogas	-0.081	-0.081	-20.94	843	-0.01	2000	
Ba	137	1	nogas	114.759	114.759	1.18	333144	0.03	2000	
Sb	121	2	He	51.790	51.790	3.74	53924	0.10	2000	
La	139	1	nogas	115.357	115.357	15.06	477	24.20	2000	
Au	197	1	nogas	41.559	41.559	2.12	20	207.79	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	304121	1.68	424595	71.63	70	125	
Ge	72	1	nogas	1680238	1.15	1760485	95.44	70	125	
In	115	1	nogas	1745326	0.55	1841567	94.77	70	125	
Bi	209	1	nogas	1583926	0.81	1714556	92.38	70	125	
Ge	72	2	He	138356	2.62	144534	95.73	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-07PDS
Data File Name	065SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:49:29-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	101.401	101.401	2.25	249347	0.04	2000	
Na	23	1	nogas	166789.006	166789.006	2.57	2343738119	0.01	200000	
Mg	24	1	nogas	11489.754	11489.754	1.24	109802415	0.01	200000	
Al	27	1	nogas	76.613	76.613	5.63	1020499	0.01	2000	
K	39	1	nogas	82089.824	82089.824	2.73	888482787	0.01	200000	
Ti	47	1	nogas	77.315	77.315	1.51	86884	0.09	2000	
V	51	1	nogas	43.818	43.818	3.19	1940319	0.00	2000	
Cr	52	1	nogas	75.518	75.518	2.02	1108171	0.01	2000	
Mn	55	1	nogas	81.677	81.677	0.74	1440291	0.01	2000	
Co	59	1	nogas	78.000	78.000	1.45	1195758	0.01	2000	
Ni	60	1	nogas	80.044	80.044	1.57	271931	0.03	2000	
Cu	63	1	nogas	79.012	79.012	2.97	665550	0.01	2000	
Zn	66	1	nogas	82.237	82.237	2.38	221806	0.04	2000	
As	75	1	nogas	52.165	52.165	2.53	361069	0.01	2000	
Sr	88	1	nogas	713.294	713.294	5.08	13281906	0.01	2000	
Ag	107	1	nogas	74.220	74.220	2.04	804208	0.01	2000	
Cd	111	1	nogas	79.040	79.040	0.54	173097	0.05	2000	
Sb	121	1	nogas	82.372	82.372	1.22	742504	0.01	2000	
Tl	205	1	nogas	76.387	76.387	5.01	1385340	0.01	2000	
Pb	208	1	nogas	76.249	76.249	0.59	1943336	0.00	2000	
U	238	1	nogas	0.012	0.012	35.55	373	0.00	2000	
[Pb]	206	1	nogas	74.980	74.980	4.87	467384	0.02	2000	
[Pb]	207	1	nogas	76.426	76.426	3.95	427269	0.02	2000	
Na	23	2	He	163160.671	163160.671	1.02	44295438	0.37	200000	
Mg	24	2	He	10991.038	10991.038	3.18	1430363	0.77	200000	
Al	27	2	He	80.015	80.015	5.13	3354	2.39	2000	
K	39	2	He	76982.338	76982.338	1.14	5716828	1.35	200000	
Ca	43	2	He	15051.279	15051.279	1.85	3714	405.28	200000	
Ca	44	2	He	13614.969	13614.969	1.90	54908	24.80	200000	
V	51	2	He	79.565	79.565	2.39	115800	0.07	2000	
Cr	52	2	He	78.312	78.312	1.02	153829	0.05	2000	
Mn	55	2	He	82.026	82.026	0.85	62603	0.13	2000	
Fe	56	2	He	7898.757	7898.757	1.34	12217069	0.06	200000	
Co	59	2	He	78.899	78.899	2.34	259474	0.03	2000	
Ni	60	2	He	78.573	78.573	0.65	73464	0.11	2000	
Cu	63	2	He	78.340	78.340	2.67	203906	0.04	2000	
Zn	66	2	He	86.135	86.135	3.68	31364	0.27	2000	
As	75	2	He	84.218	84.218	2.25	21842	0.39	2000	
Se	78	2	He	75.666	75.666	3.32	803	9.43	2000	
B	11	1	nogas	159.036	159.036	2.38	341232	0.05	2000	
Si	28	1	nogas	3205.507	3205.507	4.43	18347018	0.02	2000	>LDR
Ca	43	1	nogas	11037.122	11037.122	2.38	244993	4.51	200000	
Ca	44	1	nogas	10876.076	10876.076	1.91	3925690	0.28	200000	
Fe	56	1	nogas	7776.527	7776.527	1.12	130482482	0.01	200000	

Sample Report

Se	77	1	nogas	-50.251	-50.251	-6.74	51109	-0.10	2000	
Se	82	1	nogas	78.491	78.491	2.03	12404	0.63	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	81.292	81.292	2.02	321124	0.03	2000	
Sn	118	1	nogas	-0.094	-0.094	-10.32	767	-0.01	2000	
Ba	137	1	nogas	153.748	153.748	1.71	447505	0.03	2000	
Sb	121	2	He	83.847	83.847	2.41	85241	0.10	2000	
La	139	1	nogas	148.358	148.358	39.96	570	26.03	2000	
Au	197	1	nogas	-31.126	-31.126	-202.63	7	-466.89	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	307166	0.65	424595	72.34	70	125	
Ge	72	1	nogas	1698383	1.38	1760485	96.47	70	125	
In	115	1	nogas	1750428	1.05	1841567	95.05	70	125	
Bi	209	1	nogas	1597615	3.78	1714556	93.18	70	125	
Ge	72	2	He	135307	1.40	144534	93.62	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-08
Data File Name	066SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:51:30-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.062	0.062	46.81	277	0.02	2000	
Na	23	1	nogas	209501.149	209501.149	0.71	2969556066	0.01	200000	>LDR
Mg	24	1	nogas	33394.634	33394.634	1.05	321889116	0.01	200000	
Al	27	1	nogas	8.414	8.414	3.82	133860	0.01	2000	
K	39	1	nogas	33781.210	33781.210	2.16	355227683	0.01	200000	
Ti	47	1	nogas	0.935	0.935	20.64	1200	0.08	2000	
V	51	1	nogas	-30.325	-30.325	-2.38	643618	0.00	2000	
Cr	52	1	nogas	1.963	1.963	4.95	59429	0.00	2000	
Mn	55	1	nogas	1110.909	1110.909	2.09	18755632	0.01	2000	
Co	59	1	nogas	13.617	13.617	3.24	201344	0.01	2000	
Ni	60	1	nogas	9.999	9.999	3.31	34329	0.03	2000	
Cu	63	1	nogas	0.959	0.959	5.61	11961	0.01	2000	
Zn	66	1	nogas	16.799	16.799	1.68	45430	0.04	2000	
As	75	1	nogas	-19.896	-19.896	-3.91	129057	-0.02	2000	
Sr	88	1	nogas	1503.947	1503.947	4.04	26987408	0.01	2000	
Ag	107	1	nogas	0.043	0.043	48.01	987	0.00	2000	
Cd	111	1	nogas	0.127	0.127	41.08	310	0.04	2000	
Sb	121	1	nogas	1.457	1.457	21.91	14496	0.01	2000	
Tl	205	1	nogas	0.149	0.149	29.82	2914	0.01	2000	
Pb	208	1	nogas	0.052	0.052	40.68	2580	0.00	2000	
U	238	1	nogas	0.114	0.114	5.83	2864	0.00	2000	
[Pb]	206	1	nogas	0.055	0.055	38.34	663	0.01	2000	
[Pb]	207	1	nogas	0.058	0.058	43.14	550	0.01	2000	
Na	23	2	He	209689.383	209689.383	3.94	56996269	0.37	200000	>LDR
Mg	24	2	He	33067.320	33067.320	3.35	4309818	0.77	200000	
Al	27	2	He	6.583	6.583	31.49	387	1.70	2000	
K	39	2	He	31087.629	31087.629	1.66	2317055	1.34	200000	
Ca	43	2	He	56450.493	56450.493	3.78	13939	404.99	200000	
Ca	44	2	He	54227.668	54227.668	2.38	218407	24.83	200000	
V	51	2	He	0.804	0.804	2.68	557	0.14	2000	
Cr	52	2	He	2.603	2.603	3.02	6375	0.04	2000	
Mn	55	2	He	1109.094	1109.094	0.79	846291	0.13	2000	
Fe	56	2	He	3375.965	3375.965	1.98	5232716	0.06	200000	
Co	59	2	He	13.265	13.265	2.80	43743	0.03	2000	
Ni	60	2	He	9.580	9.580	9.68	8605	0.11	2000	
Cu	63	2	He	1.057	1.057	5.40	1817	0.06	2000	
Zn	66	2	He	17.114	17.114	6.00	6525	0.26	2000	
As	75	2	He	2.054	2.054	15.10	559	0.37	2000	
Se	78	2	He	1.562	1.562	24.88	9	16.74	2000	
B	11	1	nogas	69.165	69.165	3.27	223464	0.03	2000	
Si	28	1	nogas	16287.078	16287.078	2.77	83051747	0.02	2000	>LDR
Ca	43	1	nogas	50633.212	50633.212	2.94	1080301	4.69	200000	
Ca	44	1	nogas	49985.838	49985.838	1.97	16974106	0.29	200000	
Fe	56	1	nogas	3333.008	3333.008	2.25	54396024	0.01	200000	

Sample Report

Se	77	1	nogas	-88.661	-88.661	-2.40	41124	-0.22	2000	
Se	82	1	nogas	1.399	1.399	7.09	643	0.22	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.318	0.318	13.07	1370	0.02	2000	
Sn	118	1	nogas	-0.092	-0.092	-7.37	773	-0.01	2000	
Ba	137	1	nogas	774.941	774.941	6.00	2230870	0.03	2000	
Sb	121	2	He	1.171	1.171	5.23	1450	0.08	2000	
La	139	1	nogas	650.447	650.447	7.81	1967	33.07	2000	
Au	197	1	nogas	249.429	249.429	46.20	57	440.17	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	361656	0.20	424595	85.18	70	125	
Ge	72	1	nogas	1637068	2.50	1760485	92.99	70	125	
In	115	1	nogas	1733256	3.17	1841567	94.12	70	125	
Bi	209	1	nogas	1542991	0.75	1714556	89.99	70	125	
Ge	72	2	He	135518	0.87	144534	93.76	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-09
Data File Name	067SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:53:34-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.002	0.002	480.62	93	0.00	2000	
Na	23	1	nogas	161069.569	161069.569	1.18	2286944584	0.01	200000	
Mg	24	1	nogas	4009.207	4009.207	4.97	38693973	0.01	200000	
Al	27	1	nogas	8.890	8.890	4.02	141574	0.01	2000	
K	39	1	nogas	80065.571	80065.571	3.92	845005652	0.01	200000	
Ti	47	1	nogas	0.541	0.541	22.38	787	0.07	2000	
V	51	1	nogas	-20.931	-20.931	-13.13	808424	0.00	2000	
Cr	52	1	nogas	10.361	10.361	2.88	176716	0.01	2000	
Mn	55	1	nogas	52.164	52.164	2.15	900836	0.01	2000	
Co	59	1	nogas	0.124	0.124	5.57	2147	0.01	2000	
Ni	60	1	nogas	0.924	0.924	4.52	4877	0.02	2000	
Cu	63	1	nogas	0.667	0.667	7.32	9729	0.01	2000	
Zn	66	1	nogas	2.902	2.902	5.52	9789	0.03	2000	
As	75	1	nogas	-17.724	-17.724	-12.11	137253	-0.01	2000	
Sr	88	1	nogas	671.956	671.956	5.24	12200283	0.01	2000	
Ag	107	1	nogas	0.002	0.002	196.28	557	0.00	2000	
Cd	111	1	nogas	0.063	0.063	66.07	173	0.04	2000	
Sb	121	1	nogas	0.609	0.609	1.66	7278	0.01	2000	
Tl	205	1	nogas	0.019	0.019	6.36	637	0.00	2000	
Pb	208	1	nogas	0.008	0.008	112.42	1453	0.00	2000	
U	238	1	nogas	0.028	0.028	14.76	773	0.00	2000	
[Pb]	206	1	nogas	0.015	0.015	142.57	427	0.00	2000	
[Pb]	207	1	nogas	0.011	0.011	53.43	297	0.00	2000	
Na	23	2	He	152354.384	152354.384	2.56	42833867	0.36	200000	
Mg	24	2	He	3736.520	3736.520	4.19	503568	0.74	200000	
Al	27	2	He	10.276	10.276	24.30	557	1.85	2000	
K	39	2	He	74141.249	74141.249	1.59	5506367	1.35	200000	
Ca	43	2	He	10708.777	10708.777	9.62	2744	390.32	200000	
Ca	44	2	He	8549.601	8549.601	1.70	35785	23.89	200000	
V	51	2	He	0.864	0.864	4.91	665	0.13	2000	
Cr	52	2	He	10.831	10.831	0.51	23198	0.05	2000	
Mn	55	2	He	49.685	49.685	3.54	39309	0.13	2000	
Fe	56	2	He	1420.080	1420.080	3.70	2277358	0.06	200000	
Co	59	2	He	0.109	0.109	7.77	433	0.03	2000	
Ni	60	2	He	1.113	1.113	17.08	647	0.17	2000	
Cu	63	2	He	1.031	1.031	1.75	1807	0.06	2000	
Zn	66	2	He	2.543	2.543	13.59	1317	0.19	2000	
As	75	2	He	3.325	3.325	5.86	919	0.36	2000	
Se	78	2	He	1.354	1.354	28.28	7	18.46	2000	
B	11	1	nogas	181.597	181.597	3.22	405002	0.04	2000	
Si	28	1	nogas	5586.685	5586.685	4.89	29947732	0.02	2000	>LDR
Ca	43	1	nogas	6615.129	6615.129	4.58	143555	4.61	200000	
Ca	44	1	nogas	6482.056	6482.056	4.07	2328851	0.28	200000	
Fe	56	1	nogas	1511.318	1511.318	4.36	25455066	0.01	200000	

Sample Report

Se	77	1	nogas	-86.294	-86.294	-12.71	42123	-0.20	2000	
Se	82	1	nogas	0.739	0.739	13.90	553	0.13	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	1.327	1.327	8.23	5271	0.03	2000	
Sn	118	1	nogas	-0.085	-0.085	-14.82	827	-0.01	2000	
Ba	137	1	nogas	119.079	119.079	2.05	348077	0.03	2000	
Sb	121	2	He	0.508	0.508	27.89	807	0.06	2000	
La	139	1	nogas	172.110	172.110	26.26	640	26.89	2000	
Au	197	1	nogas	-11.675	-11.675	-483.06	10	-116.75	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	328142	2.66	424595	77.28	70	125	
Ge	72	1	nogas	1657446	3.48	1760485	94.15	70	125	
In	115	1	nogas	1757797	1.67	1841567	95.45	70	125	
Bi	209	1	nogas	1558215	1.48	1714556	90.88	70	125	
Ge	72	2	He	140157	3.30	144534	96.97	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	068_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:55:38-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	103.457	4.507	300707	1.02	100	103.5	90	110	
Na	23	1	nogas	9919.951	2.202	134606807	1.70	10000	99.2	90	110	
Mg	24	1	nogas	10099.219	2.642	92330404	3.34	10000	101.0	90	110	
Al	27	1	nogas	96.050	3.196	1229660	4.31	100	96.1	90	110	
K	39	1	nogas	9796.191	1.170	106857486	1.89	10000	98.0	90	110	
Ti	47	1	nogas	93.335	2.107	101291	2.30	100	93.3	90	110	
V	51	1	nogas	80.897	5.301	2489207	1.42	100	80.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	98.465	0.614	1386334	0.85	100	98.5	90	110	
Mn	55	1	nogas	101.104	1.573	1720656	2.96	100	101.1	90	110	
Co	59	1	nogas	98.860	2.229	1464330	3.08	100	98.9	90	110	
Ni	60	1	nogas	99.256	0.678	325396	0.92	100	99.3	90	110	
Cu	63	1	nogas	96.880	0.237	787714	1.29	100	96.9	90	110	
Zn	66	1	nogas	99.137	1.782	257899	0.42	100	99.1	90	110	
As	75	1	nogas	77.858	1.242	427114	1.72	100	77.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	97.603	1.682	1757510	1.44	100	97.6	90	110	
Ag	107	1	nogas	93.489	0.727	978717	0.74	100	93.5	90	110	
Cd	111	1	nogas	94.533	2.886	205376	0.60	100	94.5	90	110	
Sb	121	1	nogas	102.954	1.754	896150	0.54	100	103.0	90	110	
Tl	205	1	nogas	95.582	1.168	1699644	0.19	100	95.6	90	110	
Pb	208	1	nogas	94.088	3.699	2397691	3.70	100	94.1	90	110	
U	238	1	nogas	99.758	0.518	2470266	0.67	100	99.8	90	110	
[Pb]	206	1	nogas	95.706	2.727	584836	2.15	100	95.7	90	110	
[Pb]	207	1	nogas	97.337	4.094	533379	3.74	100	97.3	90	110	
Na	23	2	He	9523.253	5.938	2627269	2.29	10000	95.2	90	110	
Mg	24	2	He	9541.520	3.968	1243860	0.91	10000	95.4	90	110	
Al	27	2	He	94.169	9.588	3927	6.63	100	94.2	90	110	
K	39	2	He	8627.518	2.066	653262	2.02	10000	86.3	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9639.377	9.251	2380	5.88	10000	96.4	90	110	
Ca	44	2	He	9572.276	4.233	38734	3.87	10000	95.7	90	110	
V	51	2	He	92.419	6.573	134742	3.04	100	92.4	90	110	
Cr	52	2	He	93.205	3.253	183253	4.30	100	93.2	90	110	
Mn	55	2	He	94.793	0.929	72496	3.53	100	94.8	90	110	
Fe	56	2	He	9573.615	2.484	14833750	1.93	10000	95.7	90	110	
Co	59	2	He	94.952	5.036	312600	1.70	100	95.0	90	110	
Ni	60	2	He	95.953	7.375	89864	3.89	100	96.0	90	110	
Cu	63	2	He	95.646	7.834	249354	4.46	100	95.6	90	110	
Zn	66	2	He	102.741	5.791	37392	2.35	100	102.7	90	110	
As	75	2	He	95.927	3.474	24938	4.94	100	95.9	90	110	
Se	78	2	He	90.926	8.117	967	4.85	100	90.9	90	110	
B	11	1	nogas	510.131	4.786	1102771	0.53	500	102.0	90	110	
Si	28	1	nogas	4988.472	1.847	26666535	2.07	5000	99.8	90	110	
Ca	43	1	nogas	9420.336	2.264	202158	0.84	10000	94.2	90	110	
Ca	44	1	nogas	9302.730	0.440	3261210	1.04	10000	93.0	90	110	
Fe	56	1	nogas	9884.800	1.942	160004162	2.28	10000	98.8	90	110	
Se	77	1	nogas	29.691	23.214	66344	3.62	100	29.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.540	2.980	14933	1.54	100	98.5	90	110	
Mo	95	1	nogas	96.857	1.279	369657	0.92	100	96.9	90	110	
Sn	118	1	nogas	96.761	1.016	582479	1.34	100	96.8	90	110	
Ba	137	1	nogas	96.109	2.832	277656	1.78	100	96.1	90	110	
Sb	121	2	He	103.515	4.086	105344	0.59	100	103.5	90	110	
Li	7	1	nogas	101.595	0.889	755740	3.85	100	101.6	90	110	
P	31	1	nogas	450.528	1.462	404100	1.66	500	90.1	90	110	
La	139	1	nogas	98.306	20.505	427	13.73	100	98.3	90	110	
Au	197	1	nogas	135.018	155.337	37	103.25	100	135.0	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	nogas	363487	3.95	424595	85.61	70	125	
Ge	72	1	nogas	1640992	1.44	1760485	93.21	70	125	
In	115	1	nogas	1737269	2.36	1841567	94.34	70	125	
Bi	209	1	nogas	1564792	1.01	1714556	91.27	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	135624	3.51	144534	93.84	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	069_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:57:34-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.057	6.5	303	5.0	1	
Na	23	1	nogas	130.355	3.5	3268508	2.1	100	CCB Main CR1 Failed
Mg	24	1	nogas	6.551	32.2	71791	28.8	100	
Al	27	1	nogas	-0.502	-6.4	23365	2.6	5	
K	39	1	nogas	56.913	10.1	5744261	0.3	100	
Ti	47	1	nogas	0.114	60.8	323	22.8	2.5	
V	51	1	nogas	-16.713	-13.5	891868	3.7	2.5	
Cr	52	1	nogas	-0.331	-16.6	28739	2.0	2.5	
Mn	55	1	nogas	0.355	9.3	16057	2.4	2.5	
Co	59	1	nogas	0.054	52.3	1120	38.6	2.5	
Ni	60	1	nogas	0.062	106.1	2067	9.9	2.5	
Cu	63	1	nogas	0.262	28.4	6518	9.6	2.5	
Zn	66	1	nogas	0.204	73.7	2814	15.1	2.5	
As	75	1	nogas	-11.544	-17.6	158564	4.0	2.5	
Sr	88	1	nogas	0.098	31.5	3024	19.1	2.5	
Ag	107	1	nogas	0.051	32.2	1093	15.7	2.5	
Cd	111	1	nogas	0.042	69.1	130	50.4	1	
Sb	121	1	nogas	1.260	15.1	13182	13.3	2.5	
Tl	205	1	nogas	0.195	42.7	3801	40.4	1	
Pb	208	1	nogas	0.058	50.0	2737	27.0	2.5	
U	238	1	nogas	0.061	51.3	1600	50.0	2.5	
[Pb]	206	1	nogas	0.061	59.4	713	32.5	2.5	
[Pb]	207	1	nogas	0.062	58.1	583	35.1	2.5	
Na	23	2	He	128.804	3.2	78200	0.9	100	CCB Main CR1 Failed
Mg	24	2	He	3.501	25.6	730	15.6	100	
Al	27	2	He	-0.955	-114.2	83	54.1	5	
K	39	2	He	41.119	14.4	17201	2.6	100	
Ca	43	2	He	40.387	113.6	13	86.6	100	
Ca	44	2	He	-9.791	-145.1	167	34.1	100	
V	51	2	He	0.813	2.8	581	5.2	2.5	
Cr	52	2	He	-0.089	-32.0	1147	4.5	2.5	
Mn	55	2	He	0.200	7.8	280	3.6	2.5	
Fe	56	2	He	2.946	9.3	9202	4.0	100	
Co	59	2	He	0.021	44.3	130	23.1	2.5	
Ni	60	2	He	0.646	5.0	193	15.8	2.5	
Cu	63	2	He	0.842	8.0	1280	14.5	2.5	
Zn	66	2	He	-0.175	-115.3	297	25.3	2.5	
As	75	2	He	0.025	264.3	33	52.9	2.5	
Se	78	2	He	1.422	46.2	8	90.1	2.5	
B	11	1	nogas	8.611	31.9	119019	3.5	10	
Si	28	1	nogas	36.386	10.6	1896021	1.7	5	CCB Main CR1 Failed
Ca	43	1	nogas	4.346	154.7	963	14.8	100	
Ca	44	1	nogas	-87.938	-3.3	87905	1.1	100	
Fe	56	1	nogas	6.030	40.7	1015106	3.8	100	
Se	77	1	nogas	-38.006	-35.2	53235	5.3	2.5	
Se	82	1	nogas	0.464	86.5	520	12.6	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.138	44.5	707	34.8	2.5	
Sn	118	1	nogas	0.067	84.1	1787	20.2	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.059	66.6	407	29.3	2.5	
Sb	121	2	He	1.052	8.6	1357	6.3	2.5	
P	31	1	nogas	-2.995	-36.8	62280	0.5	10	
La	139	1	nogas	-28.454	-25.5	73	28.4	2.5	
Au	197	1	nogas	-12.094	-458.0	10	100.0	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	nogas	417158	4.26	424595	98.25	70	125	
Ge	72	1	nogas	1681109	1.31	1760485	95.49	70	125	
In	115	1	nogas	1791228	0.75	1841567	97.27	70	125	
Bi	209	1	nogas	1567931	1.17	1714556	91.45	70	125	
Ge	72	2	He	138365	0.79	144534	95.73	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	080_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:19:53-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.654	5.445	319561	1.51	100	97.7	90	110	
Na	23	1	nogas	9655.094	8.204	140190299	1.08	10000	96.6	90	110	
Mg	24	1	nogas	9814.395	7.169	96014121	1.50	10000	98.1	90	110	
Al	27	1	nogas	98.116	7.600	1310189	3.16	100	98.1	90	110	
K	39	1	nogas	9434.639	5.540	107673632	0.30	10000	94.3	90	110	
Ti	47	1	nogas	93.532	5.949	105993	1.32	100	93.5	90	110	
V	51	1	nogas	89.165	6.075	2746028	3.23	100	89.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.403	10.144	1401815	4.98	100	95.4	90	110	
Mn	55	1	nogas	97.707	4.884	1737230	2.20	100	97.7	90	110	
Co	59	1	nogas	94.420	2.114	1462879	4.95	100	94.4	90	110	
Ni	60	1	nogas	96.039	5.115	328921	0.04	100	96.0	90	110	
Cu	63	1	nogas	96.174	2.972	817393	2.41	100	96.2	90	110	
Zn	66	1	nogas	97.632	3.958	265456	1.12	100	97.6	90	110	
As	75	1	nogas	83.282	7.067	463611	2.80	100	83.3	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.237	3.502	1794027	5.56	100	95.2	90	110	
Ag	107	1	nogas	94.700	4.481	1035757	1.01	100	94.7	90	110	
Cd	111	1	nogas	97.402	6.826	216941	1.49	100	97.4	90	110	
Sb	121	1	nogas	100.941	6.752	917365	1.78	100	100.9	90	110	
Tl	205	1	nogas	96.612	3.737	1782105	0.69	100	96.6	90	110	
Pb	208	1	nogas	97.410	1.697	2482312	1.70	100	97.4	90	110	
U	238	1	nogas	103.017	8.280	2642486	4.02	100	103.0	90	110	
[Pb]	206	1	nogas	96.136	3.823	609410	0.63	100	96.1	90	110	
[Pb]	207	1	nogas	96.834	3.868	550505	1.92	100	96.8	90	110	
Na	23	2	He	9677.776	2.475	2703880	3.02	10000	96.8	90	110	
Mg	24	2	He	9373.028	1.652	1237308	2.94	10000	93.7	90	110	
Al	27	2	He	91.394	5.378	3864	3.68	100	91.4	90	110	
K	39	2	He	8912.986	0.337	674409	0.33	10000	89.1	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9585.240	4.104	2400	5.73	10000	95.9	90	110	
Ca	44	2	He	9530.243	0.617	39031	1.68	10000	95.3	90	110	
V	51	2	He	94.646	1.697	139796	0.85	100	94.6	90	110	
Cr	52	2	He	94.838	1.717	188629	2.30	100	94.8	90	110	
Mn	55	2	He	96.319	0.875	74517	1.93	100	96.3	90	110	
Fe	56	2	He	9672.432	3.729	15162952	2.63	10000	96.7	90	110	
Co	59	2	He	95.750	4.047	319103	2.42	100	95.7	90	110	
Ni	60	2	He	95.301	3.670	90405	2.05	100	95.3	90	110	
Cu	63	2	He	95.644	2.932	252664	2.75	100	95.6	90	110	
Zn	66	2	He	104.494	0.970	38514	1.67	100	104.5	90	110	
As	75	2	He	97.049	2.804	25515	1.25	100	97.0	90	110	
Se	78	2	He	95.127	9.603	1025	8.99	100	95.1	90	110	
B	11	1	nogas	480.982	8.972	1176118	6.09	500	96.2	90	110	
Si	28	1	nogas	4997.581	6.419	27892684	1.67	5000	100.0	90	110	
Ca	43	1	nogas	9622.001	4.391	215743	0.72	10000	96.2	90	110	
Ca	44	1	nogas	9568.090	4.259	3501216	1.12	10000	95.7	90	110	
Fe	56	1	nogas	9528.074	5.103	161123504	0.23	10000	95.3	90	110	
Se	77	1	nogas	41.135	41.371	71879	5.37	100	41.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.909	5.503	14743	4.24	100	92.9	90	110	
Mo	95	1	nogas	94.619	6.158	377073	1.36	100	94.6	90	110	
Sn	118	1	nogas	96.259	5.997	594083	1.12	100	96.3	90	110	
Ba	137	1	nogas	97.645	7.562	289058	0.81	100	97.6	90	110	
Sb	121	2	He	105.552	3.424	108724	2.11	100	105.6	90	110	
Li	7	1	nogas	98.453	2.908	825385	1.70	100	98.5	90	110	
P	31	1	nogas	448.817	7.081	420610	1.56	500	89.8	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	116.407	30.861	487	15.42	100	116.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	164.307	85.598	43	58.08	100	164.3	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	nogas	409345	4.03	424595	96.41	70	125	
Ge	72	1	nogas	1716851	5.02	1760485	97.52	70	125	
In	115	1	nogas	1785507	6.60	1841567	96.96	70	125	
Bi	209	1	nogas	1624912	4.50	1714556	94.77	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	137196	1.64	144534	94.92	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	081_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:21:48-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.047	97.4	293	58.3	1	
Na	23	1	nogas	86.796	6.2	2699560	2.1	100	
Mg	24	1	nogas	8.076	27.5	88264	26.0	100	
Al	27	1	nogas	-0.437	-14.2	24670	1.0	5	
K	39	1	nogas	66.638	23.8	5961795	0.4	100	
Ti	47	1	nogas	0.049	75.6	257	15.7	2.5	
V	51	1	nogas	2.165	200.1	1235725	3.6	2.5	
Cr	52	1	nogas	-0.070	-204.5	33020	3.9	2.5	
Mn	55	1	nogas	0.516	8.1	19220	3.2	2.5	
Co	59	1	nogas	0.057	33.1	1197	26.7	2.5	
Ni	60	1	nogas	-0.042	-62.5	1757	4.2	2.5	
Cu	63	1	nogas	0.159	38.0	5778	10.6	2.5	
Zn	66	1	nogas	0.096	25.9	2574	2.4	2.5	
As	75	1	nogas	-6.888	-48.9	176369	3.6	2.5	
Sr	88	1	nogas	0.109	11.7	3294	9.1	2.5	
Ag	107	1	nogas	0.065	22.3	1273	14.7	2.5	
Cd	111	1	nogas	0.070	36.3	200	30.0	1	
Sb	121	1	nogas	1.141	13.9	12375	14.0	2.5	
Tl	205	1	nogas	0.221	35.3	4481	30.2	1	
Pb	208	1	nogas	0.067	47.2	2970	27.2	2.5	
U	238	1	nogas	0.065	56.7	1773	51.6	2.5	
[Pb]	206	1	nogas	0.064	51.0	770	24.7	2.5	
[Pb]	207	1	nogas	0.064	34.2	627	17.9	2.5	
Na	23	2	He	80.943	2.8	68185	1.2	100	
Mg	24	2	He	5.296	27.1	1017	18.8	100	
Al	27	2	He	-0.517	-89.0	107	19.5	5	
K	39	2	He	39.137	3.2	17055	0.5	100	
Ca	43	2	He	63.155	60.9	20	50.0	100	
Ca	44	2	He	-4.115	-137.2	200	13.2	100	
V	51	2	He	0.830	3.1	636	5.5	2.5	
Cr	52	2	He	-0.024	-125.9	1340	4.5	2.5	
Mn	55	2	He	0.298	38.2	373	24.2	2.5	
Fe	56	2	He	2.739	7.7	9323	4.0	100	
Co	59	2	He	0.018	37.9	127	18.2	2.5	
Ni	60	2	He	0.650	6.2	207	19.6	2.5	
Cu	63	2	He	0.807	5.2	1247	10.2	2.5	
Zn	66	2	He	-0.153	-73.9	320	13.6	2.5	
As	75	2	He	0.019	163.8	33	26.5	2.5	
Se	78	2	He	1.444	18.0	9	35.3	2.5	
B	11	1	nogas	22.003	8.3	162553	4.3	10	CCB Main CR1 Failed
Si	28	1	nogas	25.339	17.1	1875495	1.3	5	CCB Main CR1 Failed
Ca	43	1	nogas	11.680	5.1	1147	1.3	100	
Ca	44	1	nogas	-99.661	-4.5	85504	2.3	100	
Fe	56	1	nogas	27.109	6.3	1390016	3.6	100	
Se	77	1	nogas	-18.020	-95.1	58668	4.1	2.5	
Se	82	1	nogas	0.161	99.7	483	4.8	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.192	36.4	937	32.1	2.5	
Sn	118	1	nogas	0.119	35.0	2177	11.2	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.058	38.6	417	17.4	2.5	
Sb	121	2	He	0.818	4.6	1170	4.4	2.5	
P	31	1	nogas	1.194	213.9	66805	0.6	10	
La	139	1	nogas	-22.779	-58.0	93	43.3	2.5	
Au	197	1	nogas	19.537	159.8	17	34.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	452530	1.79	424595	106.58	70	125	
Ge	72	1	nogas	1714531	2.48	1760485	97.39	70	125	
In	115	1	nogas	1855819	1.42	1841567	100.77	70	125	
Bi	209	1	nogas	1660382	2.44	1714556	96.84	70	125	
Ge	72	2	He	145307	1.12	144534	100.54	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	092_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:43:43-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.772	3.532	311403	2.00	100	98.8	90	110	
Na	23	1	nogas	9730.520	2.084	135287220	2.04	10000	97.3	90	110	
Mg	24	1	nogas	10103.671	0.769	94607938	0.75	10000	101.0	90	110	
Al	27	1	nogas	100.248	1.722	1290921	2.29	100	100.2	90	110	
K	39	1	nogas	9687.709	1.683	106470211	1.64	10000	96.9	90	110	
Ti	47	1	nogas	94.213	2.727	102942	1.09	100	94.2	90	110	
V	51	1	nogas	88.615	8.717	2635021	3.23	100	88.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	97.745	1.929	1386015	0.44	100	97.7	90	110	
Mn	55	1	nogas	101.429	1.948	1738038	2.05	100	101.4	90	110	
Co	59	1	nogas	96.664	1.555	1441696	1.29	100	96.7	90	110	
Ni	60	1	nogas	97.942	1.833	323348	0.71	100	97.9	90	110	
Cu	63	1	nogas	98.072	2.438	802865	1.62	100	98.1	90	110	
Zn	66	1	nogas	99.913	2.346	261739	1.56	100	99.9	90	110	
As	75	1	nogas	87.282	3.157	459053	2.50	100	87.3	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.088	0.940	1742607	1.45	100	96.1	90	110	
Ag	107	1	nogas	94.875	3.036	999969	0.81	100	94.9	90	110	
Cd	111	1	nogas	96.096	4.560	209131	1.82	100	96.1	90	110	
Sb	121	1	nogas	104.227	1.362	913730	1.59	100	104.2	90	110	
Tl	205	1	nogas	95.272	2.115	1740606	0.97	100	95.3	90	110	
Pb	208	1	nogas	94.907	1.065	2418563	1.06	100	94.9	90	110	
U	238	1	nogas	98.828	3.401	2513753	1.62	100	98.8	90	110	
[Pb]	206	1	nogas	94.288	2.606	591993	1.58	100	94.3	90	110	
[Pb]	207	1	nogas	95.892	2.572	539865	1.01	100	95.9	90	110	
Na	23	2	He	9316.381	1.843	2581150	0.83	10000	93.2	90	110	
Mg	24	2	He	9342.176	2.286	1222022	1.20	10000	93.4	90	110	
Al	27	2	He	90.203	11.246	3780	9.86	100	90.2	90	110	
K	39	2	He	8728.193	1.361	660720	1.33	10000	87.3	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9645.638	13.802	2394	14.00	10000	96.5	90	110	
Ca	44	2	He	9242.436	2.275	37525	2.48	10000	92.4	90	110	
V	51	2	He	93.358	1.552	136678	0.95	100	93.4	90	110	
Cr	52	2	He	92.435	2.561	182255	2.48	100	92.4	90	110	
Mn	55	2	He	92.091	1.751	70615	1.11	100	92.1	90	110	
Fe	56	2	He	9406.688	1.319	14619854	0.33	10000	94.1	90	110	
Co	59	2	He	94.281	1.762	311540	0.82	100	94.3	90	110	
Ni	60	2	He	95.218	2.769	89552	2.07	100	95.2	90	110	
Cu	63	2	He	95.802	2.669	250834	1.61	100	95.8	90	110	
Zn	66	2	He	103.482	1.895	37809	2.16	100	103.5	90	110	
As	75	2	He	97.362	0.706	25379	1.29	100	97.4	90	110	
Se	78	2	He	91.914	4.483	981	3.56	100	91.9	90	110	
B	11	1	nogas	484.546	7.962	1139857	4.34	500	96.9	90	110	
Si	28	1	nogas	5108.524	2.552	27455857	1.13	5000	102.2	90	110	
Ca	43	1	nogas	9506.739	2.500	205436	0.35	10000	95.1	90	110	
Ca	44	1	nogas	9373.025	3.404	3307139	1.30	10000	93.7	90	110	
Fe	56	1	nogas	9713.663	1.908	158371920	2.60	10000	97.1	90	110	
Se	77	1	nogas	61.894	17.968	73685	3.88	100	61.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.237	5.178	14996	4.94	100	98.2	90	110	
Mo	95	1	nogas	97.564	1.885	374965	0.81	100	97.6	90	110	
Sn	118	1	nogas	97.470	4.071	587634	1.36	100	97.5	90	110	
Ba	137	1	nogas	95.405	4.001	276106	1.47	100	95.4	90	110	
Sb	121	2	He	101.608	1.956	103767	0.86	100	101.6	90	110	
Li	7	1	nogas	98.419	4.157	794338	2.66	100	98.4	90	110	
P	31	1	nogas	470.188	2.954	421843	0.37	500	94.0	90	110	
La	139	1	nogas	92.519	36.313	410	21.12	100	92.5	90	110	
Au	197	1	nogas	95.466	115.778	30	66.67	100	95.5	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	nogas	394043	3.13	424595	92.80	70	125	
Ge	72	1	nogas	1652771	2.25	1760485	93.88	70	125	
In	115	1	nogas	1741060	3.10	1841567	94.54	70	125	
Bi	209	1	nogas	1608211	2.90	1714556	93.80	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	135986	1.12	144534	94.09	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	093_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:45:39-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.062	45.6	327	30.7	1	
Na	23	1	nogas	53.572	10.4	2138553	1.5	100	
Mg	24	1	nogas	6.581	23.7	70649	19.7	100	
Al	27	1	nogas	-0.535	-12.5	23355	3.3	5	
K	39	1	nogas	53.343	17.0	5808200	1.1	100	
Ti	47	1	nogas	0.088	83.8	300	26.0	2.5	
V	51	1	nogas	-13.752	-24.6	958920	5.4	2.5	
Cr	52	1	nogas	-0.323	-9.6	29370	2.3	2.5	
Mn	55	1	nogas	0.452	5.2	18062	1.0	2.5	
Co	59	1	nogas	0.053	37.5	1123	26.5	2.5	
Ni	60	1	nogas	-0.140	-10.1	1420	4.4	2.5	
Cu	63	1	nogas	0.038	73.6	4741	3.1	2.5	
Zn	66	1	nogas	0.097	62.0	2570	5.2	2.5	
As	75	1	nogas	-8.940	-23.4	169659	3.6	2.5	
Sr	88	1	nogas	0.060	44.2	2354	20.0	2.5	
Ag	107	1	nogas	0.061	54.0	1223	28.1	2.5	
Cd	111	1	nogas	0.034	83.1	113	53.9	1	
Sb	121	1	nogas	1.046	19.5	11464	15.2	2.5	
Tl	205	1	nogas	0.230	36.0	4651	34.8	1	
Pb	208	1	nogas	0.066	40.6	2947	23.3	2.5	
U	238	1	nogas	0.062	34.8	1713	34.4	2.5	
[Pb]	206	1	nogas	0.060	40.8	747	22.8	2.5	
[Pb]	207	1	nogas	0.071	22.7	663	15.3	2.5	
Na	23	2	He	53.126	11.5	57326	3.4	100	
Mg	24	2	He	3.960	33.6	793	22.6	100	
Al	27	2	He	-1.283	-31.9	70	24.7	5	
K	39	2	He	35.400	21.8	16778	3.4	100	
Ca	43	2	He	13.735	165.8	7	86.6	100	
Ca	44	2	He	-8.308	-47.6	173	8.8	100	
V	51	2	He	0.828	2.6	604	4.9	2.5	
Cr	52	2	He	-0.074	-73.7	1180	9.8	2.5	
Mn	55	2	He	0.311	20.8	367	13.7	2.5	
Fe	56	2	He	4.007	12.7	10900	7.0	100	
Co	59	2	He	0.029	41.1	157	25.8	2.5	
Ni	60	2	He	0.698	2.5	243	6.3	2.5	
Cu	63	2	He	0.734	7.6	993	15.4	2.5	
Zn	66	2	He	-0.032	-520.3	350	17.8	2.5	
As	75	2	He	0.029	193.3	34	43.6	2.5	
Se	78	2	He	1.118	41.4	5	107.9	2.5	
B	11	1	nogas	18.880	12.8	145884	5.0	10	CCB Main CR1 Failed
Si	28	1	nogas	13.335	16.1	1809539	1.8	5	CCB Main CR1 Failed
Ca	43	1	nogas	3.862	136.1	970	11.5	100	
Ca	44	1	nogas	-115.023	-7.4	79896	1.7	100	
Fe	56	1	nogas	18.881	11.6	1248773	1.6	100	
Se	77	1	nogas	-27.799	-45.1	56441	4.4	2.5	
Se	82	1	nogas	0.877	54.4	593	14.3	2.5	
Mo	95	1	nogas	0.171	44.4	847	34.6	2.5	
Sn	118	1	nogas	0.113	31.3	2100	7.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.009	321.3	260	30.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.747	23.3	1043	17.7	2.5	
P	31	1	nogas	0.099	1984.9	65832	1.5	10	
La	139	1	nogas	-26.691	-33.4	80	33.1	2.5	
Au	197	1	nogas	-32.826	-183.2	7	173.2	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	nogas	426461	1.28	424595	100.44	70	125	
Ge	72	1	nogas	1711353	2.20	1760485	97.21	70	125	
In	115	1	nogas	1824777	3.17	1841567	99.09	70	125	
Bi	209	1	nogas	1652255	1.56	1714556	96.37	70	125	
Ge	72	2	He	138625	0.64	144534	95.91	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	104_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:07:43-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	95.476	3.754	310539	2.03	100	95.5	90	110	
Na	23	1	nogas	9675.637	0.945	135824786	2.38	10000	96.8	90	110	
Mg	24	1	nogas	9949.774	1.132	94064204	2.59	10000	99.5	90	110	
Al	27	1	nogas	97.597	1.218	1279079	2.72	100	97.6	90	110	
K	39	1	nogas	9541.533	3.847	106697725	2.57	10000	95.4	90	110	
Ti	47	1	nogas	94.111	1.603	104596	1.22	100	94.1	90	110	
V	51	1	nogas	90.105	4.544	2705885	1.17	100	90.1	90	110	
Cr	52	1	nogas	95.530	1.631	1378548	1.76	100	95.5	90	110	
Mn	55	1	nogas	99.421	3.869	1732363	2.82	100	99.4	90	110	
Co	59	1	nogas	95.007	4.496	1440851	3.85	100	95.0	90	110	
Ni	60	1	nogas	95.288	1.108	320025	1.47	100	95.3	90	110	
Cu	63	1	nogas	94.826	0.613	789764	1.48	100	94.8	90	110	
Zn	66	1	nogas	97.755	2.249	260525	2.52	100	97.8	90	110	
As	75	1	nogas	84.539	7.596	458085	2.88	100	84.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.965	3.287	1751018	1.81	100	95.0	90	110	
Ag	107	1	nogas	95.853	2.599	1027611	1.83	100	95.9	90	110	
Cd	111	1	nogas	95.732	2.536	213758	1.17	100	95.7	90	110	
Sb	121	1	nogas	101.944	2.596	908822	1.82	100	101.9	90	110	
Tl	205	1	nogas	92.782	4.164	1726771	3.50	100	92.8	90	110	
Pb	208	1	nogas	96.418	0.471	2457040	0.47	100	96.4	90	110	
U	238	1	nogas	101.332	2.894	2625830	0.44	100	101.3	90	110	
[Pb]	206	1	nogas	92.319	4.123	590373	2.54	100	92.3	90	110	
[Pb]	207	1	nogas	94.354	2.779	541131	0.20	100	94.4	90	110	
Na	23	2	He	9291.881	0.036	2573070	0.57	10000	92.9	90	110	
Mg	24	2	He	9221.895	1.017	1205720	1.50	10000	92.2	90	110	
Al	27	2	He	84.292	7.426	3540	6.75	100	84.3	90	110	CCV Main CR1-2 Failed
K	39	2	He	8627.329	0.902	653248	0.88	10000	86.3	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9113.573	7.159	2260	7.68	10000	91.1	90	110	
Ca	44	2	He	9377.371	1.582	38046	2.02	10000	93.8	90	110	
V	51	2	He	92.885	1.695	135896	1.25	100	92.9	90	110	
Cr	52	2	He	94.031	2.014	185266	2.13	100	94.0	90	110	
Mn	55	2	He	95.694	3.015	73332	3.11	100	95.7	90	110	
Fe	56	2	He	9413.225	2.741	14621550	2.79	10000	94.1	90	110	
Co	59	2	He	93.713	1.833	309488	1.85	100	93.7	90	110	
Ni	60	2	He	95.621	2.197	89880	1.68	100	95.6	90	110	
Cu	63	2	He	96.125	1.773	251557	1.64	100	96.1	90	110	
Zn	66	2	He	103.568	4.031	37813	3.78	100	103.6	90	110	
As	75	2	He	94.793	2.472	24691	2.04	100	94.8	90	110	
Se	78	2	He	94.441	5.861	1008	5.56	100	94.4	90	110	
B	11	1	nogas	455.731	2.947	1112964	1.91	500	91.1	90	110	
Si	28	1	nogas	4997.846	1.670	27356595	0.58	5000	100.0	90	110	
Ca	43	1	nogas	9270.646	1.336	203789	0.20	10000	92.7	90	110	
Ca	44	1	nogas	9176.811	1.264	3296403	1.28	10000	91.8	90	110	
Fe	56	1	nogas	9549.305	2.833	158311420	1.78	10000	95.5	90	110	
Se	77	1	nogas	53.739	24.765	73130	2.43	100	53.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.750	2.161	14880	3.11	100	95.7	90	110	
Mo	95	1	nogas	95.112	3.660	371688	2.28	100	95.1	90	110	
Sn	118	1	nogas	94.359	1.319	583764	1.44	100	94.4	90	110	
Ba	137	1	nogas	95.516	1.671	283601	0.13	100	95.5	90	110	
Sb	121	2	He	103.369	0.952	105507	1.42	100	103.4	90	110	
Li	7	1	nogas	96.341	1.620	803200	1.17	100	96.3	90	110	
P	31	1	nogas	455.324	2.887	417509	1.09	500	91.1	90	110	
La	139	1	nogas	119.850	23.629	500	15.87	100	119.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	39.641	241.388	20	86.60	100	39.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	406444	1.73	424595	95.72	70	125	
Ge	72	1	nogas	1680701	1.53	1760485	95.47	70	125	
In	115	1	nogas	1785193	1.72	1841567	96.94	70	125	
Bi	209	1	nogas	1638325	2.76	1714556	95.55	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	135894	0.54	144534	94.02	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	105_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:09:42-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.047	23.9	280	12.4	1	
Na	23	1	nogas	45.888	16.3	2093728	1.1	100	
Mg	24	1	nogas	6.862	25.8	75772	22.6	100	
Al	27	1	nogas	-0.543	-9.5	23365	1.7	5	
K	39	1	nogas	47.753	20.1	5778185	0.8	100	
Ti	47	1	nogas	0.092	80.6	307	26.4	2.5	
V	51	1	nogas	-4.981	-120.6	1117118	9.8	2.5	
Cr	52	1	nogas	-0.250	-37.5	30576	5.2	2.5	
Mn	55	1	nogas	0.646	5.1	21599	1.5	2.5	
Co	59	1	nogas	0.049	50.4	1073	35.3	2.5	
Ni	60	1	nogas	-0.130	-19.4	1460	5.2	2.5	
Cu	63	1	nogas	0.024	68.5	4647	2.3	2.5	
Zn	66	1	nogas	-0.015	-211.2	2284	3.6	2.5	
As	75	1	nogas	-9.225	-29.4	169690	5.5	2.5	
Sr	88	1	nogas	0.054	31.5	2267	13.7	2.5	
Ag	107	1	nogas	0.071	50.9	1340	29.6	2.5	
Cd	111	1	nogas	0.064	38.2	180	29.4	1	
Sb	121	1	nogas	0.914	16.4	10323	12.5	2.5	
Tl	205	1	nogas	0.203	36.6	4147	32.9	1	
Pb	208	1	nogas	0.062	39.7	2837	22.0	2.5	
U	238	1	nogas	0.057	28.0	1570	25.5	2.5	
[Pb]	206	1	nogas	0.060	60.4	747	30.4	2.5	
[Pb]	207	1	nogas	0.063	46.5	620	26.9	2.5	
Na	23	2	He	43.943	13.3	54829	0.3	100	
Mg	24	2	He	4.280	16.9	837	11.1	100	
Al	27	2	He	0.479	54.0	143	10.7	5	
K	39	2	He	29.319	15.3	16327	2.0	100	
Ca	43	2	He	26.987	4.8	10	0.0	100	
Ca	44	2	He	-2.451	-616.7	197	29.4	100	
V	51	2	He	0.876	2.1	677	4.2	2.5	
Cr	52	2	He	-0.010	-496.4	1310	9.0	2.5	
Mn	55	2	He	0.448	38.8	473	26.6	2.5	
Fe	56	2	He	3.381	6.0	9933	5.9	100	
Co	59	2	He	0.038	45.0	187	29.5	2.5	
Ni	60	2	He	0.630	9.0	180	33.8	2.5	
Cu	63	2	He	0.723	2.8	963	2.4	2.5	
Zn	66	2	He	-0.191	-98.6	290	20.7	2.5	
As	75	2	He	0.037	118.8	37	32.8	2.5	
Se	78	2	He	1.110	33.8	5	89.2	2.5	
B	11	1	nogas	12.005	23.1	132045	2.3	10	CCB Main CR1 Failed
Si	28	1	nogas	20.592	31.1	1857004	0.6	5	CCB Main CR1 Failed
Ca	43	1	nogas	3.500	190.0	967	14.7	100	
Ca	44	1	nogas	-120.657	-3.7	78350	1.0	100	
Fe	56	1	nogas	18.516	2.7	1249672	1.9	100	
Se	77	1	nogas	-26.101	-26.3	57136	3.3	2.5	
Se	82	1	nogas	0.152	418.9	483	19.7	2.5	
Mo	95	1	nogas	0.154	30.4	787	23.5	2.5	
Sn	118	1	nogas	0.094	47.9	1963	15.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.050	82.6	380	31.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.782	2.6	1080	2.4	2.5	
P	31	1	nogas	-1.090	-135.2	65263	3.2	10	
La	139	1	nogas	-23.853	-48.2	87	37.1	2.5	
Au	197	1	nogas	-33.743	-173.5	7	173.2	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	nogas	434387	2.83	424595	102.31	70	125	
Ge	72	1	nogas	1720357	1.39	1760485	97.72	70	125	
In	115	1	nogas	1799359	1.79	1841567	97.71	70	125	
Bi	209	1	nogas	1661463	2.26	1714556	96.90	70	125	
Ge	72	2	He	138868	3.29	144534	96.08	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	116_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:31:53-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.857	3.687	320461	0.80	100	97.9	90	110	
Na	23	1	nogas	9754.273	4.198	141760262	2.74	10000	97.5	90	110	
Mg	24	1	nogas	9932.861	2.969	97233617	1.41	10000	99.3	90	110	
Al	27	1	nogas	97.615	0.839	1314273	1.25	100	97.6	90	110	
K	39	1	nogas	9261.123	1.520	106598394	2.09	10000	92.6	90	110	
Ti	47	1	nogas	92.665	1.246	105836	1.92	100	92.7	90	110	
V	51	1	nogas	82.066	2.062	2640639	1.79	100	82.1	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.076	0.637	1380933	0.29	100	93.1	90	110	
Mn	55	1	nogas	99.967	1.040	1790078	0.43	100	100.0	90	110	
Co	59	1	nogas	93.311	1.282	1454324	1.46	100	93.3	90	110	
Ni	60	1	nogas	93.424	1.761	322443	2.32	100	93.4	90	110	
Cu	63	1	nogas	94.192	1.078	806072	1.59	100	94.2	90	110	
Zn	66	1	nogas	98.175	2.177	268846	2.81	100	98.2	90	110	
As	75	1	nogas	76.728	4.143	445871	2.98	100	76.7	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.477	1.797	1790575	2.52	100	94.5	90	110	
Ag	107	1	nogas	92.903	0.599	1023496	0.22	100	92.9	90	110	
Cd	111	1	nogas	95.270	1.148	214068	0.16	100	95.3	90	110	
Sb	121	1	nogas	100.532	1.099	920986	0.49	100	100.5	90	110	
Tl	205	1	nogas	94.487	2.736	1759100	0.20	100	94.5	90	110	
Pb	208	1	nogas	99.401	1.275	2533009	1.27	100	99.4	90	110	
U	238	1	nogas	101.273	2.589	2625668	1.41	100	101.3	90	110	
[Pb]	206	1	nogas	94.494	2.087	604660	0.81	100	94.5	90	110	
[Pb]	207	1	nogas	97.672	1.909	560470	1.06	100	97.7	90	110	
Na	23	2	He	9411.172	1.369	2613126	2.20	10000	94.1	90	110	
Mg	24	2	He	9328.722	0.566	1223077	0.83	10000	93.3	90	110	
Al	27	2	He	91.181	3.859	3830	2.73	100	91.2	90	110	
K	39	2	He	8645.602	2.004	654602	1.96	10000	86.5	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8726.758	1.998	2170	2.80	10000	87.3	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9143.472	0.961	37204	0.81	10000	91.4	90	110	
V	51	2	He	93.012	1.994	136456	0.81	100	93.0	90	110	
Cr	52	2	He	94.899	2.621	187499	2.95	100	94.9	90	110	
Mn	55	2	He	98.030	1.889	75340	2.84	100	98.0	90	110	
Fe	56	2	He	9499.354	0.973	14797851	1.84	10000	95.0	90	110	
Co	59	2	He	93.392	0.920	309288	0.56	100	93.4	90	110	
Ni	60	2	He	92.719	4.115	87378	3.64	100	92.7	90	110	
Cu	63	2	He	94.022	2.699	246689	1.71	100	94.0	90	110	
Zn	66	2	He	103.932	1.283	38053	1.33	100	103.9	90	110	
As	75	2	He	95.002	1.990	24821	3.07	100	95.0	90	110	
Se	78	2	He	89.083	2.790	953	3.57	100	89.1	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	467.898	6.528	1147135	3.12	500	93.6	90	110	
Si	28	1	nogas	4831.573	0.413	27234188	0.37	5000	96.6	90	110	
Ca	43	1	nogas	9426.856	1.565	212926	1.83	10000	94.3	90	110	
Ca	44	1	nogas	9200.837	1.902	3395843	2.34	10000	92.0	90	110	
Fe	56	1	nogas	9179.567	0.859	156437383	1.58	10000	91.8	90	110	
Se	77	1	nogas	23.565	51.169	68442	4.47	100	23.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.514	3.451	15097	3.80	100	94.5	90	110	
Mo	95	1	nogas	94.554	0.826	379786	1.20	100	94.6	90	110	
Sn	118	1	nogas	94.364	1.334	587368	0.60	100	94.4	90	110	
Ba	137	1	nogas	95.870	1.008	286428	0.30	100	95.9	90	110	
Sb	121	2	He	104.072	1.095	106521	1.36	100	104.1	90	110	
Li	7	1	nogas	94.067	2.121	790564	1.71	100	94.1	90	110	
P	31	1	nogas	428.323	0.973	407566	1.27	500	85.7	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	121.203	32.743	507	21.74	100	121.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	55.398	53.661	23	24.74	100	55.4	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	nogas	409383	3.41	424595	96.42	70	125	
Ge	72	1	nogas	1726822	0.72	1760485	98.09	70	125	
In	115	1	nogas	1796143	1.24	1841567	97.53	70	125	
Bi	209	1	nogas	1638925	2.57	1714556	95.59	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	136282	1.24	144534	94.29	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	117_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:33:50-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.050	10.8	307	5.0	1	
Na	23	1	nogas	35.047	5.9	1976669	0.6	100	
Mg	24	1	nogas	9.086	19.0	99624	19.1	100	
Al	27	1	nogas	-0.513	-10.2	24169	2.1	5	
K	39	1	nogas	31.831	29.6	5701549	0.9	100	
Ti	47	1	nogas	0.030	271.0	240	38.2	2.5	
V	51	1	nogas	-1.846	-143.8	1191807	4.6	2.5	
Cr	52	1	nogas	-0.246	-10.9	31157	1.3	2.5	
Mn	55	1	nogas	1.177	1.7	31551	0.6	2.5	
Co	59	1	nogas	0.060	36.7	1257	26.5	2.5	
Ni	60	1	nogas	-0.162	-17.0	1377	6.9	2.5	
Cu	63	1	nogas	-0.016	-268.7	4381	8.6	2.5	
Zn	66	1	nogas	-0.064	-124.5	2187	9.0	2.5	
As	75	1	nogas	-10.023	-16.9	170032	3.8	2.5	
Sr	88	1	nogas	0.088	38.1	2944	20.8	2.5	
Ag	107	1	nogas	0.061	26.8	1250	13.6	2.5	
Cd	111	1	nogas	0.047	52.9	147	39.4	1	
Sb	121	1	nogas	0.971	24.8	11027	19.4	2.5	
Tl	205	1	nogas	0.231	29.9	4724	29.6	1	
Pb	208	1	nogas	0.067	52.0	2970	29.9	2.5	
U	238	1	nogas	0.069	40.2	1907	40.3	2.5	
[Pb]	206	1	nogas	0.059	76.4	750	41.6	2.5	
[Pb]	207	1	nogas	0.070	23.1	670	15.8	2.5	
Na	23	2	He	35.227	4.8	51410	1.8	100	
Mg	24	2	He	6.969	7.9	1173	7.1	100	
Al	27	2	He	-0.843	-92.7	87	37.1	5	
K	39	2	He	11.664	65.0	15020	3.7	100	
Ca	43	2	He	54.539	42.1	17	34.6	100	
Ca	44	2	He	-19.897	-29.8	123	18.7	100	
V	51	2	He	0.932	2.9	747	5.5	2.5	
Cr	52	2	He	-0.039	-147.8	1227	10.2	2.5	
Mn	55	2	He	0.994	13.0	883	10.5	2.5	
Fe	56	2	He	3.914	8.4	10563	5.2	100	
Co	59	2	He	0.035	56.6	173	36.6	2.5	
Ni	60	2	He	0.649	9.2	193	30.3	2.5	
Cu	63	2	He	0.726	5.2	953	10.5	2.5	
Zn	66	2	He	-0.337	-46.0	233	25.1	2.5	
As	75	2	He	0.019	173.6	31	27.0	2.5	
Se	78	2	He	1.496	7.4	9	13.3	2.5	
B	11	1	nogas	6.818	36.3	125262	3.5	10	
Si	28	1	nogas	1.740	293.1	1788473	1.2	5	
Ca	43	1	nogas	2.440	60.6	960	3.6	100	
Ca	44	1	nogas	-131.520	-2.2	75803	2.3	100	
Fe	56	1	nogas	18.288	6.3	1267172	1.1	100	
Se	77	1	nogas	-37.783	-16.9	55478	3.0	2.5	
Se	82	1	nogas	0.057	957.4	477	17.1	2.5	
Mo	95	1	nogas	0.178	46.8	893	36.7	2.5	
Sn	118	1	nogas	0.077	27.1	1933	8.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.045	13.6	383	8.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.799	19.7	1077	14.4	2.5	
P	31	1	nogas	-1.674	-111.5	65898	1.5	10	
La	139	1	nogas	-31.924	-13.8	67	22.9	2.5	
Au	197	1	nogas	34.525	256.0	20	86.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	454400	1.82	424595	107.02	70	125	
Ge	72	1	nogas	1750026	0.98	1760485	99.41	70	125	
In	115	1	nogas	1877551	3.23	1841567	101.95	70	125	
Bi	209	1	nogas	1672626	2.29	1714556	97.55	70	125	
Ge	72	2	He	136135	0.96	144534	94.19	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	128_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:55:55-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	95.879	0.496	317026	0.95	100	95.9	90	110	
Na	23	1	nogas	9738.510	5.492	143241545	1.45	10000	97.4	90	110	
Mg	24	1	nogas	9869.066	5.165	97771765	1.10	10000	98.7	90	110	
Al	27	1	nogas	100.336	1.357	1346176	2.02	100	100.3	90	110	
K	39	1	nogas	9634.824	3.168	110324161	0.75	10000	96.3	90	110	
Ti	47	1	nogas	92.243	3.072	105007	0.02	100	92.2	90	110	
V	51	1	nogas	87.926	5.475	2734242	1.93	100	87.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.020	4.171	1418858	2.28	100	96.0	90	110	
Mn	55	1	nogas	101.432	2.584	1810742	1.93	100	101.4	90	110	
Co	59	1	nogas	98.068	5.438	1523015	3.22	100	98.1	90	110	
Ni	60	1	nogas	97.456	4.752	335052	1.71	100	97.5	90	110	
Cu	63	1	nogas	95.878	2.704	817803	0.48	100	95.9	90	110	
Zn	66	1	nogas	98.477	0.792	268935	3.21	100	98.5	90	110	
As	75	1	nogas	82.978	7.588	464254	1.80	100	83.0	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.156	2.296	1816895	2.43	100	96.2	90	110	
Ag	107	1	nogas	94.846	3.853	1041383	1.23	100	94.8	90	110	
Cd	111	1	nogas	98.478	1.801	217944	1.78	100	98.5	90	110	
Sb	121	1	nogas	102.139	2.768	932818	1.56	100	102.1	90	110	
Tl	205	1	nogas	97.286	1.240	1816862	1.20	100	97.3	90	110	
Pb	208	1	nogas	99.743	1.023	2541738	1.02	100	99.7	90	110	
U	238	1	nogas	100.927	2.443	2624623	2.40	100	100.9	90	110	
[Pb]	206	1	nogas	96.475	0.454	619180	0.41	100	96.5	90	110	
[Pb]	207	1	nogas	98.226	0.674	565319	0.67	100	98.2	90	110	
Na	23	2	He	9672.711	3.805	2683106	2.68	10000	96.7	90	110	
Mg	24	2	He	9657.392	1.944	1265728	0.81	10000	96.6	90	110	
Al	27	2	He	89.884	14.730	3777	14.16	100	89.9	90	110	CCV Main CR1-2 Failed
K	39	2	He	8809.439	1.551	666738	1.52	10000	88.1	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9827.677	7.286	2440	4.65	10000	98.3	90	110	
Ca	44	2	He	9534.160	3.340	38764	1.17	10000	95.3	90	110	
V	51	2	He	94.483	2.776	138577	1.01	100	94.5	90	110	
Cr	52	2	He	95.354	4.227	188255	2.12	100	95.4	90	110	
Mn	55	2	He	95.776	3.318	73561	1.26	100	95.8	90	110	
Fe	56	2	He	9711.117	2.743	15119924	1.17	10000	97.1	90	110	
Co	59	2	He	95.639	1.507	316663	1.51	100	95.6	90	110	
Ni	60	2	He	96.351	3.608	90774	1.24	100	96.4	90	110	
Cu	63	2	He	96.179	3.674	252263	1.71	100	96.2	90	110	
Zn	66	2	He	102.582	2.995	37549	1.94	100	102.6	90	110	
As	75	2	He	97.488	2.608	25454	0.67	100	97.5	90	110	
Se	78	2	He	94.100	7.653	1006	5.30	100	94.1	90	110	
B	11	1	nogas	496.728	1.268	1224125	1.63	500	99.3	90	110	
Si	28	1	nogas	5002.015	4.890	28033998	1.71	5000	100.0	90	110	
Ca	43	1	nogas	9485.144	2.559	213580	1.70	10000	94.9	90	110	
Ca	44	1	nogas	9277.857	4.744	3411092	1.96	10000	92.8	90	110	
Fe	56	1	nogas	9699.489	5.399	164644583	2.96	10000	97.0	90	110	
Se	77	1	nogas	43.042	47.498	72538	5.17	100	43.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.801	4.296	15247	3.41	100	95.8	90	110	
Mo	95	1	nogas	95.309	1.284	381723	2.08	100	95.3	90	110	
Sn	118	1	nogas	97.048	2.602	595001	3.06	100	97.0	90	110	
Ba	137	1	nogas	99.825	2.384	293687	0.59	100	99.8	90	110	
Sb	121	2	He	105.590	2.862	108024	1.58	100	105.6	90	110	
Li	7	1	nogas	95.839	0.600	812204	0.36	100	95.8	90	110	
P	31	1	nogas	452.611	6.166	425332	2.17	500	90.5	90	110	
La	139	1	nogas	106.462	22.924	457	13.38	100	106.5	90	110	
Au	197	1	nogas	20.066	400.198	17	91.65	100	20.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	413005	0.48	424595	97.27	70	125	
Ge	72	1	nogas	1722308	3.12	1760485	97.83	70	125	
In	115	1	nogas	1769215	2.18	1841567	96.07	70	125	
Bi	209	1	nogas	1643279	0.06	1714556	95.84	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	136275	2.60	144534	94.29	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	129_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:57:52-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.036	62.8	257	33.1	1	
Na	23	1	nogas	74.185	5.7	2576872	1.1	100	
Mg	24	1	nogas	7.260	29.7	81967	26.1	100	
Al	27	1	nogas	-0.525	-13.5	24510	2.1	5	
K	39	1	nogas	26.559	26.1	5760338	0.6	100	
Ti	47	1	nogas	0.097	83.5	323	28.1	2.5	
V	51	1	nogas	-9.170	-45.6	1084568	7.9	2.5	
Cr	52	1	nogas	-0.240	-23.0	31914	4.4	2.5	
Mn	55	1	nogas	0.659	5.3	22668	1.0	2.5	
Co	59	1	nogas	0.054	45.6	1190	32.2	2.5	
Ni	60	1	nogas	-0.126	-1.2	1533	2.1	2.5	
Cu	63	1	nogas	-0.016	-147.6	4477	5.8	2.5	
Zn	66	1	nogas	-0.090	-68.2	2163	9.8	2.5	
As	75	1	nogas	-12.957	-14.3	163895	5.5	2.5	
Sr	88	1	nogas	0.058	44.2	2424	19.1	2.5	
Ag	107	1	nogas	0.054	46.9	1193	22.6	2.5	
Cd	111	1	nogas	0.055	58.9	167	45.0	1	
Sb	121	1	nogas	0.888	19.8	10463	14.7	2.5	
Tl	205	1	nogas	0.243	40.4	5038	37.0	1	
Pb	208	1	nogas	0.076	37.5	3197	22.7	2.5	
U	238	1	nogas	0.069	49.2	1937	46.4	2.5	
[Pb]	206	1	nogas	0.073	34.6	853	19.7	2.5	
[Pb]	207	1	nogas	0.068	51.2	667	30.3	2.5	
Na	23	2	He	63.992	2.9	60389	1.6	100	
Mg	24	2	He	5.303	6.8	973	6.3	100	
Al	27	2	He	-0.315	-209.4	110	24.1	5	
K	39	2	He	13.600	39.9	15163	2.7	100	
Ca	43	2	He	27.364	252.7	10	173.2	100	
Ca	44	2	He	-15.725	-66.6	143	31.5	100	
V	51	2	He	0.865	0.9	661	2.9	2.5	
Cr	52	2	He	-0.070	-153.0	1187	17.1	2.5	
Mn	55	2	He	0.460	20.5	483	14.7	2.5	
Fe	56	2	He	3.740	8.0	10487	4.2	100	
Co	59	2	He	0.030	87.7	160	54.1	2.5	
Ni	60	2	He	0.687	7.6	233	21.1	2.5	
Cu	63	2	He	0.753	3.7	1043	6.4	2.5	
Zn	66	2	He	-0.321	-42.2	243	20.7	2.5	
As	75	2	He	0.033	119.2	36	30.1	2.5	
Se	78	2	He	0.996	21.3	3	69.3	2.5	
B	11	1	nogas	17.372	24.8	152699	4.4	10	CCB Main CR1 Failed
Si	28	1	nogas	-1.073	-715.3	1810023	1.1	5	
Ca	43	1	nogas	1.216	556.6	950	15.2	100	
Ca	44	1	nogas	-145.951	-0.7	72062	1.8	100	
Fe	56	1	nogas	20.608	9.0	1334009	1.6	100	
Se	77	1	nogas	-50.886	-3.9	53609	2.5	2.5	
Se	82	1	nogas	-0.406	-177.9	413	28.4	2.5	
Mo	95	1	nogas	0.169	44.1	877	34.2	2.5	
Sn	118	1	nogas	0.135	30.5	2304	11.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.042	116.6	370	40.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.667	9.5	960	6.5	2.5	
P	31	1	nogas	-2.950	-6.6	66229	2.1	10	
La	139	1	nogas	-28.498	-36.8	77	41.9	2.5	
Au	197	1	nogas	-16.958	-2.1	10	0.0	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	nogas	458212	3.12	424595	107.92	70	125	
Ge	72	1	nogas	1786471	1.88	1760485	101.48	70	125	
In	115	1	nogas	1871050	0.81	1841567	101.60	70	125	
Bi	209	1	nogas	1708134	0.70	1714556	99.63	70	125	
Ge	72	2	He	138736	1.31	144534	95.99	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	140_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:20:11-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.418	1.988	322110	0.68	100	97.4	90	110	
Na	23	1	nogas	10178.875	3.933	152401841	3.12	10000	101.8	90	110	
Mg	24	1	nogas	9562.408	2.850	96478979	2.51	10000	95.6	90	110	
Al	27	1	nogas	103.813	3.189	1378759	3.56	100	103.8	90	110	
K	39	1	nogas	9666.316	2.514	109655211	1.98	10000	96.7	90	110	
Ti	47	1	nogas	94.222	2.224	106289	2.47	100	94.2	90	110	
V	51	1	nogas	90.078	3.261	2746028	1.14	100	90.1	90	110	
Cr	52	1	nogas	94.614	3.702	1385991	3.62	100	94.6	90	110	
Mn	55	1	nogas	100.899	1.815	1784458	1.15	100	100.9	90	110	
Co	59	1	nogas	96.541	1.108	1486129	0.32	100	96.5	90	110	
Ni	60	1	nogas	98.483	2.958	335571	2.25	100	98.5	90	110	
Cu	63	1	nogas	96.936	1.905	819155	1.12	100	96.9	90	110	
Zn	66	1	nogas	98.385	2.200	266060	1.43	100	98.4	90	110	
As	75	1	nogas	82.713	5.691	459232	2.46	100	82.7	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.461	2.411	1861460	1.67	100	99.5	90	110	
Ag	107	1	nogas	94.307	1.248	1026284	1.79	100	94.3	90	110	
Cd	111	1	nogas	94.807	0.759	217480	1.17	100	94.8	90	110	
Sb	121	1	nogas	104.025	2.065	941183	1.28	100	104.0	90	110	
Tl	205	1	nogas	97.967	2.918	1803018	1.16	100	98.0	90	110	
Pb	208	1	nogas	96.956	0.762	2470753	0.76	100	97.0	90	110	
U	238	1	nogas	99.522	1.387	2551063	1.13	100	99.5	90	110	
[Pb]	206	1	nogas	96.850	1.064	612735	1.59	100	96.8	90	110	
[Pb]	207	1	nogas	96.703	0.646	548667	1.91	100	96.7	90	110	
Na	23	2	He	9788.898	3.914	2754600	3.68	10000	97.9	90	110	
Mg	24	2	He	9423.185	5.144	1252282	2.85	10000	94.2	90	110	
Al	27	2	He	97.902	0.213	4164	2.07	100	97.9	90	110	
K	39	2	He	8842.238	1.509	669168	1.48	10000	88.4	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9051.611	8.462	2280	6.33	10000	90.5	90	110	
Ca	44	2	He	9382.743	2.069	38728	3.65	10000	93.8	90	110	
V	51	2	He	93.462	2.987	139061	1.89	100	93.5	90	110	
Cr	52	2	He	94.911	1.596	190176	1.39	100	94.9	90	110	
Mn	55	2	He	96.264	2.192	75017	0.68	100	96.3	90	110	
Fe	56	2	He	9618.614	2.980	15192158	1.35	10000	96.2	90	110	
Co	59	2	He	95.596	4.012	320990	2.37	100	95.6	90	110	
Ni	60	2	He	94.494	3.055	90313	0.81	100	94.5	90	110	
Cu	63	2	He	93.130	4.018	247750	1.76	100	93.1	90	110	
Zn	66	2	He	103.077	3.145	38270	1.27	100	103.1	90	110	
As	75	2	He	96.200	3.090	25480	1.10	100	96.2	90	110	
Se	78	2	He	92.283	9.312	1001	7.51	100	92.3	90	110	
B	11	1	nogas	542.606	0.526	1328286	1.47	500	108.5	90	110	
Si	28	1	nogas	5141.269	1.847	28516334	2.47	5000	102.8	90	110	
Ca	43	1	nogas	9678.984	2.317	215892	1.67	10000	96.8	90	110	
Ca	44	1	nogas	9556.358	3.117	3478654	2.58	10000	95.6	90	110	
Fe	56	1	nogas	9668.546	2.279	162675416	1.49	10000	96.7	90	110	
Se	77	1	nogas	34.858	55.573	70061	5.33	100	34.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.632	1.987	15233	1.79	100	96.6	90	110	
Mo	95	1	nogas	96.304	3.640	381998	2.91	100	96.3	90	110	
Sn	118	1	nogas	94.351	2.732	599468	1.85	100	94.4	90	110	
Ba	137	1	nogas	95.365	3.444	290833	2.97	100	95.4	90	110	
Sb	121	2	He	101.848	1.659	105729	1.43	100	101.8	90	110	
Li	7	1	nogas	96.838	1.578	820444	2.11	100	96.8	90	110	
P	31	1	nogas	465.589	1.926	431923	2.43	500	93.1	90	110	
La	139	1	nogas	123.067	12.797	523	8.83	100	123.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	22.245	373.260	17	91.65	100	22.2	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	nogas	413104	1.93	424595	97.29	70	125	
Ge	72	1	nogas	1705655	0.80	1760485	96.89	70	125	
In	115	1	nogas	1833507	0.95	1841567	99.56	70	125	
Bi	209	1	nogas	1620028	2.02	1714556	94.49	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	138239	2.28	144534	95.64	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	141_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:22:10-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.039	46.7	270	25.9	1	
Na	23	1	nogas	301.961	5.7	5976477	3.5	100	CCB Main CR1 Failed
Mg	24	1	nogas	9.910	27.7	108982	24.3	100	
Al	27	1	nogas	-0.462	-20.1	24904	4.4	5	
K	39	1	nogas	59.744	5.7	6022209	0.1	100	
Ti	47	1	nogas	0.052	134.3	267	30.1	2.5	
V	51	1	nogas	-0.878	-334.9	1210908	4.4	2.5	
Cr	52	1	nogas	-0.186	-34.8	32098	3.4	2.5	
Mn	55	1	nogas	0.682	6.4	22668	3.6	2.5	
Co	59	1	nogas	0.063	55.2	1307	41.5	2.5	
Ni	60	1	nogas	0.133	28.8	2407	6.2	2.5	
Cu	63	1	nogas	0.103	33.2	5421	5.5	2.5	
Zn	66	1	nogas	0.102	82.6	2650	8.7	2.5	
As	75	1	nogas	-9.166	-28.5	173115	5.1	2.5	
Sr	88	1	nogas	0.167	3.6	4471	2.4	2.5	
Ag	107	1	nogas	0.081	43.0	1480	26.3	2.5	
Cd	111	1	nogas	0.042	85.6	140	62.3	1	
Sb	121	1	nogas	0.832	15.3	9766	11.8	2.5	
Tl	205	1	nogas	0.224	46.3	4731	43.3	1	
Pb	208	1	nogas	0.053	54.9	2600	28.3	2.5	
U	238	1	nogas	0.068	33.1	1947	32.0	2.5	
[Pb]	206	1	nogas	0.049	60.4	700	28.7	2.5	
[Pb]	207	1	nogas	0.053	58.3	587	32.3	2.5	
Na	23	2	He	286.438	3.2	124134	1.2	100	CCB Main CR1 Failed
Mg	24	2	He	7.320	22.4	1260	16.6	100	
Al	27	2	He	-0.758	-98.1	93	34.4	5	
K	39	2	He	31.705	16.9	16504	2.4	100	
Ca	43	2	He	65.590	118.7	20	100.0	100	
Ca	44	2	He	-4.270	-185.6	193	18.2	100	
V	51	2	He	0.876	2.1	688	3.6	2.5	
Cr	52	2	He	-0.073	-67.7	1200	7.9	2.5	
Mn	55	2	He	0.534	13.3	550	11.1	2.5	
Fe	56	2	He	3.926	1.1	10950	0.6	100	
Co	59	2	He	0.027	84.2	153	50.7	2.5	
Ni	60	2	He	0.694	2.0	243	4.7	2.5	
Cu	63	2	He	0.688	5.8	883	12.4	2.5	
Zn	66	2	He	-0.331	-13.9	243	6.3	2.5	
As	75	2	He	0.043	138.8	39	42.3	2.5	
Se	78	2	He	1.232	29.6	6	66.7	2.5	
B	11	1	nogas	40.462	5.0	214055	3.7	10	CCB Main CR1 Failed
Si	28	1	nogas	-0.547	-352.7	1779541	1.1	5	
Ca	43	1	nogas	13.900	19.7	1223	5.0	100	
Ca	44	1	nogas	-132.613	-2.8	75532	1.3	100	
Fe	56	1	nogas	24.797	18.5	1381255	5.3	100	
Se	77	1	nogas	-30.639	-24.3	57190	2.7	2.5	
Se	82	1	nogas	0.389	87.7	530	9.8	2.5	
Mo	95	1	nogas	0.165	16.4	847	12.6	2.5	
Sn	118	1	nogas	0.092	36.5	2080	10.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.029	42.7	340	12.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.590	7.5	893	5.3	2.5	
P	31	1	nogas	1.676	89.8	68728	1.3	10	
La	139	1	nogas	-30.092	-41.1	73	51.6	2.5	
Au	197	1	nogas	49.458	155.8	23	65.5	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	464863	1.87	424595	109.48	70	125	
Ge	72	1	nogas	1753136	0.66	1760485	99.58	70	125	
In	115	1	nogas	1919974	1.25	1841567	104.26	70	125	
Bi	209	1	nogas	1725646	0.41	1714556	100.65	70	125	
Ge	72	2	He	140886	1.02	144534	97.48	70	125	

Sample Report

Sample Table

Sample Name	MBLK-123627
Data File Name	144SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:28:10-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	-0.021	-0.021	-42.22	53	-0.04	2000	
Na	23	1	nogas	214.650	214.650	4.63	4991769	0.00	200000	
Mg	24	1	nogas	11.539	11.539	6.70	134163	0.01	200000	
Al	27	1	nogas	2.701	2.701	5.79	72236	0.00	2000	
K	39	1	nogas	49.495	49.495	33.08	6357023	0.00	200000	
Ti	47	1	nogas	0.028	0.028	93.30	257	0.01	2000	
V	51	1	nogas	-13.246	-13.246	-12.59	1068062	0.00	2000	
Cr	52	1	nogas	-0.613	-0.613	-6.38	27794	0.00	2000	
Mn	55	1	nogas	0.148	0.148	15.55	13995	0.00	2000	
Co	59	1	nogas	-0.005	-0.005	-92.99	260	0.00	2000	
Ni	60	1	nogas	-0.067	-0.067	-49.16	1840	0.00	2000	
Cu	63	1	nogas	-0.118	-0.118	-10.03	3777	0.00	2000	
Zn	66	1	nogas	-0.160	-0.160	-13.92	2073	-0.01	2000	
As	75	1	nogas	-21.846	-21.846	-3.96	141945	-0.02	2000	
Sr	88	1	nogas	0.042	0.042	30.54	2240	0.00	2000	
Ag	107	1	nogas	-0.005	-0.005	-240.53	550	0.00	2000	
Cd	111	1	nogas	-0.013	-0.013	-17.62	7	-0.20	2000	
Sb	121	1	nogas	-0.038	-0.038	-79.37	1813	0.00	2000	
Tl	205	1	nogas	-0.003	-0.003	-111.45	293	0.00	2000	
Pb	208	1	nogas	-0.026	-0.026	-7.09	593	0.00	2000	
U	238	1	nogas	0.001	0.001	144.11	130	0.00	2000	
[Pb]	206	1	nogas	-0.034	-0.034	-24.40	147	-0.02	2000	
[Pb]	207	1	nogas	-0.019	-0.019	-29.15	160	-0.01	2000	
Na	23	2	He	207.342	207.342	2.07	108677	0.19	200000	
Mg	24	2	He	10.715	10.715	6.89	1837	0.58	200000	
Al	27	2	He	2.290	2.290	60.99	237	0.97	2000	
K	39	2	He	55.171	55.171	15.23	18242	0.30	200000	
Ca	43	2	He	-12.565	-12.565	0.00	0	#DIV/0!	200000	
Ca	44	2	He	-16.080	-16.080	-82.18	153	-10.49	200000	
V	51	2	He	0.788	0.788	1.44	591	0.13	2000	
Cr	52	2	He	-0.147	-0.147	-23.11	1120	-0.01	2000	
Mn	55	2	He	0.203	0.203	13.65	307	0.07	2000	
Fe	56	2	He	-0.039	-0.039	-255.92	4874	0.00	200000	
Co	59	2	He	-0.009	-0.009	-80.40	33	-0.03	2000	
Ni	60	2	He	0.614	0.614	2.67	177	0.35	2000	
Cu	63	2	He	0.631	0.631	1.49	777	0.08	2000	
Zn	66	2	He	-0.448	-0.448	-20.84	213	-0.21	2000	
As	75	2	He	-0.035	-0.035	-71.81	19	-0.18	2000	
Se	78	2	He	1.084	1.084	9.09	5	23.22	2000	
B	11	1	nogas	25.697	25.697	10.24	188850	0.01	2000	
Si	28	1	nogas	26.980	26.980	41.29	2073131	0.00	2000	
Ca	43	1	nogas	-8.573	-8.573	-59.13	767	-1.12	200000	
Ca	44	1	nogas	-167.884	-167.884	-2.47	67572	-0.25	200000	
Fe	56	1	nogas	14.865	14.865	21.74	1302180	0.00	200000	

Sample Report

Se	77	1	nogas	-91.599	-91.599	-8.69	46700	-0.20	2000	
Se	82	1	nogas	-0.146	-0.146	-188.74	480	-0.03	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	-0.004	-0.004	-80.08	167	0.00	2000	
Sn	118	1	nogas	-0.113	-0.113	-19.01	750	-0.02	2000	
Ba	137	1	nogas	0.291	0.291	20.54	1227	0.02	2000	
Sb	121	2	He	-0.055	-0.055	-53.52	227	-0.02	2000	
La	139	1	nogas	-41.421	-41.421	-13.70	40	-103.55	2000	
Au	197	1	nogas	-51.658	-51.658	-53.25	3	-1549.73	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	497990	1.73	424595	117.29	70	125	
Ge	72	1	nogas	1887219	2.69	1760485	107.20	70	125	
In	115	1	nogas	2009300	2.86	1841567	109.11	70	125	
Bi	209	1	nogas	1801840	1.56	1714556	105.09	70	125	
Ge	72	2	He	150375	1.36	144534	104.04	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-04
Data File Name	145SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:30:31-06:00
Sample Type	Sample
Dilution	10
Comment	B123627 TWNaMn
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	-0.002	-0.017	-845.52	120	0.00	2000	
Na	23	1	nogas	30784.058	307840.578	2.16	454932860	0.01	200000	
Mg	24	1	nogas	1884.281	18842.805	1.51	18891497	0.01	200000	
Al	27	1	nogas	4.583	45.825	5.75	93352	0.00	2000	
K	39	1	nogas	340.355	3403.553	2.41	9250204	0.00	200000	
Ti	47	1	nogas	0.472	4.715	52.22	763	0.06	2000	
V	51	1	nogas	-3.416	-34.156	-84.03	1179794	0.00	2000	
Cr	52	1	nogas	-0.012	-0.119	-1141.79	35070	0.00	2000	
Mn	55	1	nogas	204.479	2044.793	2.14	3751780	0.01	2000	
Co	59	1	nogas	1.936	19.356	5.81	31300	0.01	2000	
Ni	60	1	nogas	5.140	51.396	5.92	20078	0.03	2000	
Cu	63	1	nogas	-0.002	-0.019	-2311.10	4567	0.00	2000	
Zn	66	1	nogas	1.006	10.056	6.69	5201	0.02	2000	
As	75	1	nogas	-14.417	-144.173	-23.91	157842	-0.01	2000	
Sr	88	1	nogas	50.367	503.666	2.05	981463	0.01	2000	
Ag	107	1	nogas	0.003	0.025	298.65	607	0.00	2000	
Cd	111	1	nogas	0.051	0.505	49.90	157	0.03	2000	
Sb	121	1	nogas	-0.022	-0.220	-34.44	1863	0.00	2000	
Tl	205	1	nogas	-0.002	-0.021	-317.57	297	0.00	2000	
Pb	208	1	nogas	-0.009	-0.094	-50.51	1020	0.00	2000	
U	238	1	nogas	0.007	0.067	41.31	270	0.00	2000	
[Pb]	206	1	nogas	-0.017	-0.169	-61.94	257	-0.01	2000	
[Pb]	207	1	nogas	-0.007	-0.067	-93.61	223	0.00	2000	
Na	23	2	He	28183.695	281836.948	3.24	8227768	0.34	200000	
Mg	24	2	He	1701.323	17013.226	2.26	237341	0.72	200000	
Al	27	2	He	3.250	32.503	52.61	270	1.20	2000	
K	39	2	He	299.147	2991.467	1.94	36316	0.82	200000	
Ca	43	2	He	3077.216	30772.164	17.45	813	378.33	200000	
Ca	44	2	He	3265.557	32655.567	1.93	14262	22.90	200000	
V	51	2	He	0.892	8.917	2.44	732	0.12	2000	
Cr	52	2	He	0.196	1.956	17.84	1793	0.01	2000	
Mn	55	2	He	196.231	1962.310	2.47	160156	0.12	2000	
Fe	56	2	He	2887.183	28871.826	2.97	4783051	0.06	200000	
Co	59	2	He	1.886	18.855	3.24	6698	0.03	2000	
Ni	60	2	He	5.398	53.975	6.37	4987	0.11	2000	
Cu	63	2	He	0.713	7.131	7.78	980	0.07	2000	
Zn	66	2	He	0.580	5.795	41.62	600	0.10	2000	
As	75	2	He	0.789	7.886	3.70	247	0.32	2000	
Se	78	2	He	1.268	12.682	47.15	7	19.02	2000	
B	11	1	nogas	27.411	274.114	3.22	180264	0.02	2000	
Si	28	1	nogas	1525.707	15257.069	1.36	10072004	0.02	2000	
Ca	43	1	nogas	3302.285	33022.849	1.99	77244	4.28	200000	
Ca	44	1	nogas	3309.586	33095.862	0.55	1335183	0.25	200000	
Fe	56	1	nogas	3010.933	30109.327	4.47	53361171	0.01	200000	

Sample Report

Se	77	1	nogas	-57.996	-579.956	-33.34	51584	-0.11	2000	
Se	82	1	nogas	0.136	1.364	136.96	497	0.03	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.044	0.441	30.07	357	0.01	2000	
Sn	118	1	nogas	-0.042	-0.420	-23.23	1167	0.00	2000	
Ba	137	1	nogas	40.340	403.397	3.13	126594	0.03	2000	
Sb	121	2	He	-0.032	-0.325	-32.80	243	-0.01	2000	
La	139	1	nogas	699.689	6996.887	13.54	2290	30.55	2000	
Au	197	1	nogas	33.471	334.715	153.25	20	167.36	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	463643	1.52	424595	109.20	70	125	
Ge	72	1	nogas	1774598	1.25	1760485	100.80	70	125	
In	115	1	nogas	1885388	2.53	1841567	102.38	70	125	
Bi	209	1	nogas	1717152	1.22	1714556	100.15	70	125	
Ge	72	2	He	144884	2.44	144534	100.24	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-08
Data File Name	146SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:32:30-06:00
Sample Type	Sample
Dilution	10
Comment	B123627 TW Na
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	-0.018	-0.176	-24.74	60	-0.03	2000	
Na	23	1	nogas	23087.241	230872.411	2.27	348910791	0.01	200000	
Mg	24	1	nogas	3575.544	35755.435	4.14	36587385	0.01	200000	
Al	27	1	nogas	0.599	5.988	6.10	40194	0.00	2000	
K	39	1	nogas	3380.093	33800.935	1.95	44132303	0.01	200000	
Ti	47	1	nogas	0.119	1.185	21.84	353	0.03	2000	
V	51	1	nogas	-2.622	-26.216	-128.78	1213717	0.00	2000	
Cr	52	1	nogas	-0.098	-0.982	-96.73	34345	0.00	2000	
Mn	55	1	nogas	116.525	1165.246	1.29	2177867	0.01	2000	
Co	59	1	nogas	1.372	13.716	1.51	22648	0.01	2000	
Ni	60	1	nogas	0.848	8.477	18.32	5031	0.02	2000	
Cu	63	1	nogas	-0.067	-0.671	-30.69	4067	0.00	2000	
Zn	66	1	nogas	1.576	15.764	11.38	6901	0.02	2000	
As	75	1	nogas	-14.334	-143.344	-20.11	160753	-0.01	2000	
Sr	88	1	nogas	146.439	1464.393	3.49	2897377	0.01	2000	
Ag	107	1	nogas	-0.015	-0.152	-18.25	413	0.00	2000	
Cd	111	1	nogas	0.006	0.058	201.17	50	0.01	2000	
Sb	121	1	nogas	-0.079	-0.791	-11.23	1350	-0.01	2000	
Tl	205	1	nogas	-0.002	-0.023	-45.28	290	0.00	2000	
Pb	208	1	nogas	-0.032	-0.317	-4.69	453	-0.01	2000	
U	238	1	nogas	0.009	0.091	46.62	330	0.00	2000	
[Pb]	206	1	nogas	-0.039	-0.386	-10.13	110	-0.04	2000	
[Pb]	207	1	nogas	-0.027	-0.271	-26.89	100	-0.03	2000	
Na	23	2	He	21608.481	216084.805	6.63	6232833	0.35	200000	
Mg	24	2	He	3420.911	34209.110	4.23	470592	0.73	200000	
Al	27	2	He	-0.095	-0.948	-893.94	123	-0.08	2000	
K	39	2	He	3317.942	33179.416	0.68	259941	1.28	200000	
Ca	43	2	He	5126.736	51267.359	6.66	1340	382.57	200000	
Ca	44	2	He	5393.150	53931.501	4.64	23105	23.34	200000	
V	51	2	He	0.852	8.521	3.42	661	0.13	2000	
Cr	52	2	He	0.204	2.044	32.26	1790	0.01	2000	
Mn	55	2	He	111.936	1119.362	1.82	90234	0.12	2000	
Fe	56	2	He	323.265	3232.653	4.97	532601	0.06	200000	
Co	59	2	He	1.414	14.136	9.10	4967	0.03	2000	
Ni	60	2	He	1.425	14.253	7.97	973	0.15	2000	
Cu	63	2	He	0.633	6.332	6.96	747	0.08	2000	
Zn	66	2	He	1.698	16.976	31.75	1020	0.17	2000	
As	75	2	He	0.185	1.848	44.93	78	0.24	2000	
Se	78	2	He	1.402	14.020	38.89	8	17.52	2000	
B	11	1	nogas	26.793	267.931	11.40	176782	0.02	2000	
Si	28	1	nogas	1531.955	15319.552	1.34	10271806	0.01	2000	
Ca	43	1	nogas	4941.193	49411.934	3.93	116985	4.22	200000	
Ca	44	1	nogas	4810.528	48105.278	3.72	1914551	0.25	200000	
Fe	56	1	nogas	355.634	3556.335	1.00	7275397	0.00	200000	

Sample Report

Se	77	1	nogas	-55.092	-550.921	-18.26	53144	-0.10	2000	
Se	82	1	nogas	0.326	3.263	261.74	537	0.06	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	-0.015	-0.146	-18.02	117	-0.01	2000	
Sn	118	1	nogas	-0.029	-0.291	-74.36	1227	0.00	2000	
Ba	137	1	nogas	74.989	749.885	3.16	230549	0.03	2000	
Sb	121	2	He	-0.068	-0.678	-62.51	203	-0.03	2000	
La	139	1	nogas	52.374	523.744	16.22	317	16.54	2000	
Au	197	1	nogas	50.887	508.868	252.02	23	218.09	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	458945	1.90	424595	108.09	70	125	
Ge	72	1	nogas	1803803	1.51	1760485	102.46	70	125	
In	115	1	nogas	1847844	1.65	1841567	100.34	70	125	
Bi	209	1	nogas	1703233	0.69	1714556	99.34	70	125	
Ge	72	2	He	143032	2.58	144534	98.96	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	152_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:44:38-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	94.481	4.294	320442	2.19	100	94.5	90	110	
Na	23	1	nogas	10029.553	0.696	145707724	0.97	10000	100.3	90	110	
Mg	24	1	nogas	10224.635	1.845	100077150	2.42	10000	102.2	90	110	
Al	27	1	nogas	100.938	5.106	1359164	3.57	100	100.9	90	110	
K	39	1	nogas	9476.640	4.378	109033261	1.43	10000	94.8	90	110	
Ti	47	1	nogas	92.560	0.649	105862	2.23	100	92.6	90	110	
V	51	1	nogas	90.646	2.576	2793831	1.38	100	90.6	90	110	
Cr	52	1	nogas	94.537	4.521	1403109	1.66	100	94.5	90	110	
Mn	55	1	nogas	97.662	0.558	1751635	2.30	100	97.7	90	110	
Co	59	1	nogas	96.755	1.591	1509891	1.40	100	96.8	90	110	
Ni	60	1	nogas	96.774	4.142	334181	1.51	100	96.8	90	110	
Cu	63	1	nogas	95.964	4.324	821769	1.84	100	96.0	90	110	
Zn	66	1	nogas	97.805	3.490	268069	1.29	100	97.8	90	110	
As	75	1	nogas	80.616	2.206	458962	2.70	100	80.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.023	3.475	1802706	2.42	100	95.0	90	110	
Ag	107	1	nogas	92.769	3.927	1022928	1.70	100	92.8	90	110	
Cd	111	1	nogas	95.761	1.321	214721	1.96	100	95.8	90	110	
Sb	121	1	nogas	101.248	2.427	928633	1.22	100	101.2	90	110	
Tl	205	1	nogas	95.265	1.679	1771265	2.86	100	95.3	90	110	
Pb	208	1	nogas	97.640	1.357	2488172	1.36	100	97.6	90	110	
U	238	1	nogas	99.614	3.917	2577327	1.14	100	99.6	90	110	
[Pb]	206	1	nogas	94.334	1.898	602724	2.59	100	94.3	90	110	
[Pb]	207	1	nogas	95.848	3.275	548959	1.75	100	95.8	90	110	
Na	23	2	He	9441.419	1.227	2658426	1.52	10000	94.4	90	110	
Mg	24	2	He	9310.084	0.359	1237975	0.80	10000	93.1	90	110	
Al	27	2	He	91.191	7.235	3887	7.50	100	91.2	90	110	
K	39	2	He	8656.606	1.789	655417	1.75	10000	86.6	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8919.428	11.846	2250	12.39	10000	89.2	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9255.666	2.437	38190	1.80	10000	92.6	90	110	
V	51	2	He	93.113	1.300	138566	1.73	100	93.1	90	110	
Cr	52	2	He	93.079	1.684	186517	1.08	100	93.1	90	110	
Mn	55	2	He	93.359	0.742	72764	0.50	100	93.4	90	110	
Fe	56	2	He	9286.622	1.052	14670602	0.84	10000	92.9	90	110	
Co	59	2	He	92.679	1.691	311276	1.07	100	92.7	90	110	
Ni	60	2	He	91.775	1.776	87723	1.66	100	91.8	90	110	
Cu	63	2	He	94.473	0.318	251440	0.84	100	94.5	90	110	
Zn	66	2	He	102.354	3.507	38010	3.07	100	102.4	90	110	
As	75	2	He	92.253	0.977	24442	1.11	100	92.3	90	110	
Se	78	2	He	85.058	2.744	923	2.59	100	85.1	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	495.049	8.048	1250664	3.90	500	99.0	90	110	
Si	28	1	nogas	4976.657	4.069	28022960	1.08	5000	99.5	90	110	
Ca	43	1	nogas	9194.553	3.668	207889	1.55	10000	91.9	90	110	
Ca	44	1	nogas	9038.918	2.676	3341818	1.44	10000	90.4	90	110	
Fe	56	1	nogas	9482.468	1.911	161753758	0.91	10000	94.8	90	110	
Se	77	1	nogas	38.721	34.303	71939	5.48	100	38.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.951	4.695	14710	2.28	100	92.0	90	110	
Mo	95	1	nogas	93.512	3.892	375948	2.08	100	93.5	90	110	
Sn	118	1	nogas	94.908	2.663	589346	0.81	100	94.9	90	110	
Ba	137	1	nogas	96.717	4.958	288147	2.32	100	96.7	90	110	
Sb	121	2	He	102.027	1.747	105907	1.12	100	102.0	90	110	
Li	7	1	nogas	94.580	1.466	823141	2.17	100	94.6	90	110	
P	31	1	nogas	448.042	4.789	423609	1.45	500	89.6	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	117.789	30.391	497	21.53	100	117.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-14.329	-643.212	10	173.21	100	-14.3	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	nogas	424005	3.49	424595	99.86	70	125	
Ge	72	1	nogas	1729494	2.83	1760485	98.24	70	125	
In	115	1	nogas	1792493	2.59	1841567	97.34	70	125	
Bi	209	1	nogas	1636344	3.41	1714556	95.44	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	138212	0.63	144534	95.63	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	153_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:46:35-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.058	7.1	343	6.7	1	
Na	23	1	nogas	92.211	5.9	2839368	1.0	100	
Mg	24	1	nogas	7.108	29.0	80125	23.9	100	
Al	27	1	nogas	-0.473	-13.5	24624	3.5	5	
K	39	1	nogas	42.241	42.1	5795618	0.4	100	
Ti	47	1	nogas	0.056	186.2	270	45.1	2.5	
V	51	1	nogas	-1.393	-447.2	1193744	6.1	2.5	
Cr	52	1	nogas	-0.194	-67.9	31794	3.6	2.5	
Mn	55	1	nogas	0.590	7.2	20889	1.4	2.5	
Co	59	1	nogas	0.070	29.7	1417	25.5	2.5	
Ni	60	1	nogas	-0.116	-16.0	1530	3.0	2.5	
Cu	63	1	nogas	-0.039	-57.4	4171	4.6	2.5	
Zn	66	1	nogas	-0.143	-63.7	1960	10.0	2.5	
As	75	1	nogas	-9.852	-41.8	169777	4.7	2.5	
Sr	88	1	nogas	0.065	32.9	2504	15.5	2.5	
Ag	107	1	nogas	0.080	12.1	1457	10.0	2.5	
Cd	111	1	nogas	0.039	65.0	130	46.8	1	
Sb	121	1	nogas	0.815	20.3	9570	16.9	2.5	
Tl	205	1	nogas	0.262	40.3	5391	37.2	1	
Pb	208	1	nogas	0.063	59.5	2860	33.3	2.5	
U	238	1	nogas	0.072	29.3	2030	27.0	2.5	
[Pb]	206	1	nogas	0.048	65.8	683	30.7	2.5	
[Pb]	207	1	nogas	0.074	36.1	700	22.9	2.5	
Na	23	2	He	101.016	6.6	69483	1.4	100	CCB Main CR1 Failed
Mg	24	2	He	4.296	20.1	823	12.2	100	
Al	27	2	He	-1.344	-53.6	67	45.8	5	
K	39	2	He	12.790	30.4	15103	1.9	100	
Ca	43	2	He	13.839	330.5	7	173.2	100	
Ca	44	2	He	-16.073	-104.5	140	50.0	100	
V	51	2	He	0.886	2.9	680	3.6	2.5	
Cr	52	2	He	-0.108	-36.4	1093	8.5	2.5	
Mn	55	2	He	0.383	8.7	417	7.7	2.5	
Fe	56	2	He	4.286	17.9	11148	8.8	100	
Co	59	2	He	0.029	52.4	153	30.8	2.5	
Ni	60	2	He	0.743	8.1	283	21.3	2.5	
Cu	63	2	He	0.724	5.5	950	12.1	2.5	
Zn	66	2	He	-0.329	-15.5	237	8.8	2.5	
As	75	2	He	0.014	308.5	30	38.5	2.5	
Se	78	2	He	1.242	39.2	6	88.2	2.5	
B	11	1	nogas	21.386	21.7	165778	3.9	10	CCB Main CR1 Failed
Si	28	1	nogas	-7.690	-158.4	1731490	0.8	5	
Ca	43	1	nogas	4.246	72.7	997	4.1	100	
Ca	44	1	nogas	-155.425	-5.8	66903	1.8	100	
Fe	56	1	nogas	21.069	14.6	1309962	1.9	100	
Se	77	1	nogas	-36.362	-43.7	55558	3.8	2.5	
Se	82	1	nogas	0.012	5439.9	467	19.8	2.5	
Mo	95	1	nogas	0.155	46.7	803	37.8	2.5	
Sn	118	1	nogas	0.092	50.9	2030	16.3	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.038	27.1	360	9.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.565	9.8	840	7.1	2.5	
P	31	1	nogas	1.662	170.0	68340	0.3	10	
La	139	1	nogas	-35.180	-32.4	57	62.0	2.5	
Au	197	1	nogas	-50.024	-60.6	3	173.2	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	nogas	466980	5.14	424595	109.98	70	125	
Ge	72	1	nogas	1744752	3.44	1760485	99.11	70	125	
In	115	1	nogas	1873594	1.29	1841567	101.74	70	125	
Bi	209	1	nogas	1700473	4.07	1714556	99.18	70	125	
Ge	72	2	He	136413	1.86	144534	94.38	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	164_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:08:49-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	93.075	4.488	322816	1.97	100	93.1	90	110	
Na	23	1	nogas	9961.984	2.909	148906087	0.91	10000	99.6	90	110	
Mg	24	1	nogas	9737.615	4.060	98034438	2.05	10000	97.4	90	110	
Al	27	1	nogas	101.592	6.498	1378355	3.39	100	101.6	90	110	
K	39	1	nogas	9515.667	2.369	110420844	1.66	10000	95.2	90	110	
Ti	47	1	nogas	94.188	1.186	108639	3.41	100	94.2	90	110	
V	51	1	nogas	92.727	5.954	2852760	0.88	100	92.7	90	110	
Cr	52	1	nogas	97.189	2.882	1453969	0.69	100	97.2	90	110	
Mn	55	1	nogas	99.984	4.415	1806620	1.22	100	100.0	90	110	
Co	59	1	nogas	97.017	7.183	1524832	4.01	100	97.0	90	110	
Ni	60	1	nogas	95.961	6.741	333957	3.52	100	96.0	90	110	
Cu	63	1	nogas	94.590	5.848	816500	2.64	100	94.6	90	110	
Zn	66	1	nogas	98.859	1.875	273272	1.46	100	98.9	90	110	
As	75	1	nogas	79.923	9.132	460125	2.13	100	79.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.614	6.923	1827326	3.78	100	95.6	90	110	
Ag	107	1	nogas	93.149	4.419	1035501	1.35	100	93.1	90	110	
Cd	111	1	nogas	96.380	0.500	216630	0.84	100	96.4	90	110	
Sb	121	1	nogas	103.718	3.506	958924	0.48	100	103.7	90	110	
Tl	205	1	nogas	96.413	4.816	1782606	3.14	100	96.4	90	110	
Pb	208	1	nogas	98.015	2.107	2497714	2.11	100	98.0	90	110	
U	238	1	nogas	102.491	0.786	2640217	2.09	100	102.5	90	110	
[Pb]	206	1	nogas	95.896	4.551	609360	2.93	100	95.9	90	110	
[Pb]	207	1	nogas	97.051	2.976	553108	1.38	100	97.1	90	110	
Na	23	2	He	9874.714	3.918	2765123	1.78	10000	98.7	90	110	
Mg	24	2	He	9658.410	2.314	1278464	1.37	10000	96.6	90	110	
Al	27	2	He	92.985	3.382	3944	4.31	100	93.0	90	110	
K	39	2	He	8835.563	1.098	668673	1.07	10000	88.4	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9222.933	2.473	2317	4.97	10000	92.2	90	110	
Ca	44	2	He	9386.656	2.880	38550	0.63	10000	93.9	90	110	
V	51	2	He	93.732	1.192	138884	1.98	100	93.7	90	110	
Cr	52	2	He	94.185	3.170	187878	2.65	100	94.2	90	110	
Mn	55	2	He	96.069	1.872	74538	1.05	100	96.1	90	110	
Fe	56	2	He	9504.277	1.564	14949266	2.00	10000	95.0	90	110	
Co	59	2	He	95.595	3.036	319587	1.03	100	95.6	90	110	
Ni	60	2	He	94.357	4.521	89759	2.06	100	94.4	90	110	
Cu	63	2	He	96.274	3.559	255024	1.19	100	96.3	90	110	
Zn	66	2	He	104.725	3.439	38728	4.69	100	104.7	90	110	
As	75	2	He	95.964	2.942	25309	2.17	100	96.0	90	110	
Se	78	2	He	88.833	5.258	961	7.46	100	88.8	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	478.807	5.374	1241124	1.36	500	95.8	90	110	
Si	28	1	nogas	5183.945	5.405	29352171	2.08	5000	103.7	90	110	
Ca	43	1	nogas	9354.586	1.517	213343	1.98	10000	93.5	90	110	
Ca	44	1	nogas	9271.929	0.709	3454596	2.59	10000	92.7	90	110	
Fe	56	1	nogas	9576.814	5.853	164583195	2.67	10000	95.8	90	110	
Se	77	1	nogas	30.293	70.166	70530	3.60	100	30.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.956	3.044	14836	0.41	100	92.0	90	110	
Mo	95	1	nogas	94.736	4.116	383970	0.95	100	94.7	90	110	
Sn	118	1	nogas	97.236	0.704	605399	0.98	100	97.2	90	110	
Ba	137	1	nogas	96.475	2.426	288284	1.56	100	96.5	90	110	
Sb	121	2	He	103.729	3.082	107185	2.13	100	103.7	90	110	
Li	7	1	nogas	93.423	4.197	831672	2.57	100	93.4	90	110	
P	31	1	nogas	451.817	3.786	430231	0.18	500	90.4	90	110	
La	139	1	nogas	127.865	29.694	527	20.92	100	127.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	232.836	69.594	57	53.91	100	232.8	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	nogas	433634	3.60	424595	102.13	70	125	
Ge	72	1	nogas	1744019	3.15	1760485	99.06	70	125	
In	115	1	nogas	1796564	0.85	1841567	97.56	70	125	
Bi	209	1	nogas	1627774	1.69	1714556	94.94	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	137632	2.54	144534	95.22	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	165_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:10:44-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.057	26.6	343	14.4	1	
Na	23	1	nogas	212.387	6.3	4818060	1.3	100	CCB Main CR1 Failed
Mg	24	1	nogas	8.174	30.8	94730	25.6	100	
Al	27	1	nogas	-0.402	-8.0	25882	0.4	5	
K	39	1	nogas	64.206	16.1	6112876	0.4	100	
Ti	47	1	nogas	0.088	79.4	310	26.4	2.5	
V	51	1	nogas	-4.050	-74.6	1162146	3.1	2.5	
Cr	52	1	nogas	-0.253	-36.8	31320	2.7	2.5	
Mn	55	1	nogas	0.520	6.7	19864	2.0	2.5	
Co	59	1	nogas	0.064	35.3	1340	28.4	2.5	
Ni	60	1	nogas	0.127	43.4	2400	6.5	2.5	
Cu	63	1	nogas	0.059	57.0	5077	7.3	2.5	
Zn	66	1	nogas	0.035	177.6	2480	5.6	2.5	
As	75	1	nogas	-11.327	-27.8	167116	4.6	2.5	
Sr	88	1	nogas	0.092	23.9	3067	15.5	2.5	
Ag	107	1	nogas	0.060	14.5	1253	8.5	2.5	
Cd	111	1	nogas	0.060	87.9	173	68.8	1	
Sb	121	1	nogas	0.727	16.5	8866	14.2	2.5	
Tl	205	1	nogas	0.278	35.1	5755	33.6	1	
Pb	208	1	nogas	0.054	42.0	2640	21.9	2.5	
U	238	1	nogas	0.076	41.5	2150	40.4	2.5	
[Pb]	206	1	nogas	0.046	43.3	677	20.1	2.5	
[Pb]	207	1	nogas	0.048	57.7	553	30.9	2.5	
Na	23	2	He	230.504	4.6	107618	0.8	100	CCB Main CR1 Failed
Mg	24	2	He	5.861	10.0	1057	7.6	100	
Al	27	2	He	-0.497	-148.6	103	29.6	5	
K	39	2	He	38.956	9.9	17041	1.7	100	
Ca	43	2	He	26.144	147.9	10	100.0	100	
Ca	44	2	He	-4.629	-278.8	190	27.4	100	
V	51	2	He	0.895	4.7	711	6.8	2.5	
Cr	52	2	He	-0.005	-762.2	1330	8.0	2.5	
Mn	55	2	He	0.264	25.0	333	14.2	2.5	
Fe	56	2	He	4.501	5.4	11794	1.1	100	
Co	59	2	He	0.023	87.2	140	50.0	2.5	
Ni	60	2	He	0.688	7.3	237	21.3	2.5	
Cu	63	2	He	0.740	5.8	1020	12.7	2.5	
Zn	66	2	He	-0.371	-18.5	227	10.2	2.5	
As	75	2	He	0.045	179.3	39	55.8	2.5	
Se	78	2	He	1.171	8.1	5	21.7	2.5	
B	11	1	nogas	19.967	16.1	163956	3.8	10	CCB Main CR1 Failed
Si	28	1	nogas	29.682	19.1	1955155	3.1	5	CCB Main CR1 Failed
Ca	43	1	nogas	4.451	138.3	1013	12.5	100	
Ca	44	1	nogas	-141.115	-1.1	72972	2.1	100	
Fe	56	1	nogas	25.255	8.0	1398818	2.4	100	
Se	77	1	nogas	-39.562	-40.0	55515	4.8	2.5	
Se	82	1	nogas	-0.228	-186.4	437	16.6	2.5	
Mo	95	1	nogas	0.178	32.6	907	27.7	2.5	
Sn	118	1	nogas	0.125	52.6	2197	18.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.036	39.1	347	13.3	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.503	26.0	797	17.8	2.5	
P	31	1	nogas	-0.963	-381.4	67029	2.8	10	
La	139	1	nogas	-29.069	-52.1	73	61.5	2.5	
Au	197	1	nogas	-0.298	-25875.3	13	114.6	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	nogas	471456	2.17	424595	111.04	70	125	
Ge	72	1	nogas	1765318	1.64	1760485	100.27	70	125	
In	115	1	nogas	1835714	1.26	1841567	99.68	70	125	
Bi	209	1	nogas	1712625	0.58	1714556	99.89	70	125	
Ge	72	2	He	139985	2.14	144534	96.85	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	176_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:32:46-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	104.704	3.542	350931	1.33	100	104.7	90	110	
Na	23	1	nogas	11102.214	3.638	198378746	1.92	10000	111.0	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	9361.491	4.638	112773015	2.27	10000	93.6	90	110	
Al	27	1	nogas	93.810	5.791	1520967	2.81	100	93.8	90	110	
K	39	1	nogas	9646.887	3.530	133377390	0.46	10000	96.5	90	110	
Ti	47	1	nogas	90.847	0.736	124983	3.55	100	90.8	90	110	
V	51	1	nogas	131.342	1.099	4216094	2.80	100	131.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.298	1.431	1684115	1.62	100	94.3	90	110	
Mn	55	1	nogas	96.830	4.757	2086909	1.88	100	96.8	90	110	
Co	59	1	nogas	96.613	5.303	1811720	2.39	100	96.6	90	110	
Ni	60	1	nogas	100.622	5.637	417638	2.86	100	100.6	90	110	
Cu	63	1	nogas	96.092	3.091	989736	1.00	100	96.1	90	110	
Zn	66	1	nogas	97.144	1.661	320345	2.38	100	97.1	90	110	
As	75	1	nogas	106.472	7.467	651205	1.92	100	106.5	90	110	
Sr	88	1	nogas	94.352	4.486	2152676	4.00	100	94.4	90	110	
Ag	107	1	nogas	90.984	4.929	1206459	3.32	100	91.0	90	110	
Cd	111	1	nogas	94.873	1.774	255257	1.75	100	94.9	90	110	
Sb	121	1	nogas	98.820	4.719	1089459	1.80	100	98.8	90	110	
Tl	205	1	nogas	96.028	1.721	1959494	0.32	100	96.0	90	110	
Pb	208	1	nogas	106.977	0.466	2725979	0.47	100	107.0	90	110	
U	238	1	nogas	95.730	1.111	2720251	0.63	100	95.7	90	110	
[Pb]	206	1	nogas	94.274	0.846	661176	0.85	100	94.3	90	110	
[Pb]	207	1	nogas	95.848	1.061	602810	1.44	100	95.8	90	110	
Na	23	2	He	11073.107	3.572	3815246	2.53	10000	110.7	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	8951.740	5.265	1459833	4.20	10000	89.5	90	110	CCV Main CR1-2 Failed
Al	27	2	He	90.591	9.667	4734	8.15	100	90.6	90	110	
K	39	2	He	10988.925	1.654	828189	1.63	10000	109.9	90	110	
Ca	43	2	He	8828.045	10.292	2734	11.44	10000	88.3	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9379.996	2.980	47478	2.30	10000	93.8	90	110	
V	51	2	He	93.575	1.032	170834	0.33	100	93.6	90	110	
Cr	52	2	He	92.871	0.692	228353	1.82	100	92.9	90	110	
Mn	55	2	He	93.341	0.715	89253	0.50	100	93.3	90	110	
Fe	56	2	He	9315.424	0.643	18054897	0.97	10000	93.2	90	110	
Co	59	2	He	92.635	3.980	381629	2.84	100	92.6	90	110	
Ni	60	2	He	92.816	4.155	108820	3.01	100	92.8	90	110	
Cu	63	2	He	92.759	3.054	302794	1.92	100	92.8	90	110	
Zn	66	2	He	100.424	0.917	45764	0.52	100	100.4	90	110	
As	75	2	He	95.555	0.852	31059	1.07	100	95.6	90	110	
Se	78	2	He	88.744	2.160	1181	1.19	100	88.7	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	527.615	5.391	1311641	3.22	500	105.5	90	110	
Si	28	1	nogas	4736.353	3.692	32175560	0.50	5000	94.7	90	110	
Ca	43	1	nogas	9379.327	2.060	255070	1.33	10000	93.8	90	110	
Ca	44	1	nogas	9302.453	1.974	4134117	4.22	10000	93.0	90	110	
Fe	56	1	nogas	9604.442	3.299	196951004	0.34	10000	96.0	90	110	
Se	77	1	nogas	153.239	10.395	117198	0.87	100	153.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.981	5.829	19181	3.19	100	100.0	90	110	
Mo	95	1	nogas	92.457	3.401	447110	2.92	100	92.5	90	110	
Sn	118	1	nogas	93.238	2.791	694949	2.82	100	93.2	90	110	
Ba	137	1	nogas	90.876	3.737	325001	1.98	100	90.9	90	110	
Sb	121	2	He	97.262	3.711	123858	2.62	100	97.3	90	110	
Li	7	1	nogas	101.919	4.692	873069	2.54	100	101.9	90	110	
P	31	1	nogas	448.712	3.486	510146	0.31	500	89.7	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	142.298	23.879	680	16.57	100	142.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	29.196	170.158	20	50.00	100	29.2	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	nogas	418934	2.99	424595	98.67	70	125	
Ge	72	1	nogas	2079855	3.00	1760485	118.14	70	125	
In	115	1	nogas	2150945	2.51	1841567	116.80	70	125	
Bi	209	1	nogas	1795810	1.56	1714556	104.74	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	169570	1.20	144534	117.32	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	177_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:34:46-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.054	9.7	333	4.6	1	
Na	23	1	nogas	1599.395	1.2	29609401	1.2	100	CCB Main CR1 Failed
Mg	24	1	nogas	31.464	20.0	383833	20.5	100	
Al	27	1	nogas	0.979	175.6	51794	51.1	5	
K	39	1	nogas	74.573	6.9	7282500	0.3	100	
Ti	47	1	nogas	0.049	105.7	310	23.3	2.5	
V	51	1	nogas	27.735	8.6	2022070	2.2	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.196	50.7	44373	2.9	2.5	
Mn	55	1	nogas	0.434	2.5	21403	0.5	2.5	
Co	59	1	nogas	0.062	33.3	1530	25.0	2.5	
Ni	60	1	nogas	3.490	2.7	16598	3.3	2.5	CCB Main CR1 Failed
Cu	63	1	nogas	1.309	5.4	18643	4.0	2.5	
Zn	66	1	nogas	0.357	6.7	3947	2.0	2.5	
As	75	1	nogas	6.317	16.1	263057	1.1	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.169	26.1	5311	18.8	2.5	
Ag	107	1	nogas	0.059	36.1	1457	20.0	2.5	
Cd	111	1	nogas	0.040	46.5	153	33.5	1	
Sb	121	1	nogas	0.609	16.0	9056	11.8	2.5	
Tl	205	1	nogas	0.234	37.6	5148	32.0	1	
Pb	208	1	nogas	0.036	49.0	2187	20.8	2.5	
U	238	1	nogas	0.067	31.3	2000	27.5	2.5	
[Pb]	206	1	nogas	0.033	51.5	623	16.5	2.5	
[Pb]	207	1	nogas	0.026	49.6	447	20.2	2.5	
Na	23	2	He	1615.957	2.1	595726	1.0	100	CCB Main CR1 Failed
Mg	24	2	He	24.686	3.4	4311	3.6	100	
Al	27	2	He	-0.516	-76.9	123	16.9	5	
K	39	2	He	142.251	2.6	24693	1.1	100	CCB Main CR1 Failed
Ca	43	2	He	30.689	161.1	13	114.6	100	
Ca	44	2	He	-7.721	-111.8	213	21.1	100	
V	51	2	He	1.144	2.6	1307	5.1	2.5	
Cr	52	2	He	-0.071	-32.2	1437	3.5	2.5	
Mn	55	2	He	0.200	20.1	340	10.2	2.5	
Fe	56	2	He	3.553	3.6	12341	2.2	100	
Co	59	2	He	0.021	19.6	160	10.8	2.5	
Ni	60	2	He	0.659	1.1	250	4.0	2.5	
Cu	63	2	He	0.625	1.5	850	4.2	2.5	
Zn	66	2	He	-0.154	-159.9	370	30.7	2.5	
As	75	2	He	0.058	102.0	51	37.7	2.5	
Se	78	2	He	0.942	18.4	3	69.3	2.5	
B	11	1	nogas	20.770	0.6	166155	1.4	10	CCB Main CR1 Failed
Si	28	1	nogas	-53.240	-12.8	1762687	2.8	5	
Ca	43	1	nogas	1.873	198.8	1117	8.8	100	
Ca	44	1	nogas	-156.776	-3.0	78631	2.0	100	
Fe	56	1	nogas	38.357	6.2	1900329	1.6	100	
Se	77	1	nogas	42.023	17.4	86699	2.1	2.5	CCB Main CR1 Failed
Se	82	1	nogas	1.341	23.6	800	7.0	2.5	
Mo	95	1	nogas	0.164	29.5	993	23.7	2.5	
Sn	118	1	nogas	0.085	54.7	2304	14.6	5	
Ba	137	1	nogas	0.043	41.1	437	14.7	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.328	3.5	737	2.8	2.5	
P	31	1	nogas	-4.206	-64.3	75290	2.4	10	
La	139	1	nogas	-27.294	-25.9	93	27.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	12.198	807.7	17	124.9	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	471560	1.48	424595	111.06	70	125	
Ge	72	1	nogas	2063655	1.01	1760485	117.22	70	125	
In	115	1	nogas	2176623	2.51	1841567	118.19	70	125	
Bi	209	1	nogas	1813218	3.24	1714556	105.75	70	125	
Ge	72	2	He	167997	1.00	144534	116.23	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	188_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:57:01-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	102.478	1.843	344956	1.90	100	102.5	90	110	
Na	23	1	nogas	10310.121	2.705	187207529	4.08	10000	103.1	90	110	
Mg	24	1	nogas	9246.265	1.504	113116182	2.44	10000	92.5	90	110	
Al	27	1	nogas	92.678	3.152	1492801	2.23	100	92.7	90	110	
K	39	1	nogas	9413.167	3.420	129332449	1.26	10000	94.1	90	110	
Ti	47	1	nogas	94.775	2.145	129390	3.78	100	94.8	90	110	
V	51	1	nogas	140.931	1.000	4384128	2.21	100	140.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.780	1.821	1679794	1.79	100	94.8	90	110	
Mn	55	1	nogas	97.118	2.314	2078855	2.70	100	97.1	90	110	
Co	59	1	nogas	92.568	6.505	1722999	4.73	100	92.6	90	110	
Ni	60	1	nogas	96.120	3.686	396233	1.78	100	96.1	90	110	
Cu	63	1	nogas	94.085	3.161	961908	1.11	100	94.1	90	110	
Zn	66	1	nogas	97.054	2.707	317635	2.86	100	97.1	90	110	
As	75	1	nogas	109.426	2.944	657973	0.71	100	109.4	90	110	
Sr	88	1	nogas	94.099	1.777	2131961	3.95	100	94.1	90	110	
Ag	107	1	nogas	90.881	2.791	1196278	0.74	100	90.9	90	110	
Cd	111	1	nogas	98.446	1.757	253074	0.67	100	98.4	90	110	
Sb	121	1	nogas	97.663	1.296	1069316	0.85	100	97.7	90	110	
Tl	205	1	nogas	97.229	0.823	1904591	2.83	100	97.2	90	110	
Pb	208	1	nogas	104.107	1.714	2652888	1.71	100	104.1	90	110	
U	238	1	nogas	98.099	2.136	2674805	0.47	100	98.1	90	110	
[Pb]	206	1	nogas	95.621	0.434	643608	1.58	100	95.6	90	110	
[Pb]	207	1	nogas	96.555	1.088	582730	0.95	100	96.6	90	110	
Na	23	2	He	10733.349	2.449	3535569	1.70	10000	107.3	90	110	
Mg	24	2	He	9241.801	4.882	1440112	3.77	10000	92.4	90	110	
Al	27	2	He	96.429	2.271	4811	3.90	100	96.4	90	110	
K	39	2	He	10857.006	1.547	818417	1.52	10000	108.6	90	110	
Ca	43	2	He	8619.999	10.013	2547	9.20	10000	86.2	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9347.428	0.992	45216	1.38	10000	93.5	90	110	
V	51	2	He	95.554	1.922	166688	0.46	100	95.6	90	110	
Cr	52	2	He	93.873	2.020	220558	3.24	100	93.9	90	110	
Mn	55	2	He	95.786	1.226	87515	1.35	100	95.8	90	110	
Fe	56	2	He	9601.220	0.759	17783498	2.35	10000	96.0	90	110	
Co	59	2	He	94.386	3.131	371541	1.35	100	94.4	90	110	
Ni	60	2	He	94.883	2.286	106318	0.53	100	94.9	90	110	
Cu	63	2	He	94.432	0.825	294636	1.49	100	94.4	90	110	
Zn	66	2	He	104.190	3.143	45353	3.12	100	104.2	90	110	
As	75	2	He	99.349	1.004	30859	2.52	100	99.3	90	110	
Se	78	2	He	95.931	8.560	1220	6.91	100	95.9	90	110	
B	11	1	nogas	541.760	5.388	1349215	2.35	500	108.4	90	110	
Si	28	1	nogas	4638.648	0.553	31334812	1.93	5000	92.8	90	110	
Ca	43	1	nogas	9405.245	1.617	253869	1.35	10000	94.1	90	110	
Ca	44	1	nogas	9282.802	2.822	4092233	1.65	10000	92.8	90	110	
Fe	56	1	nogas	9521.507	2.883	193826129	1.43	10000	95.2	90	110	
Se	77	1	nogas	170.249	6.000	120885	0.17	100	170.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.056	2.009	18330	3.41	100	96.1	90	110	
Mo	95	1	nogas	91.908	2.950	441421	5.12	100	91.9	90	110	
Sn	118	1	nogas	94.816	0.610	675302	1.31	100	94.8	90	110	
Ba	137	1	nogas	97.366	0.837	332835	1.07	100	97.4	90	110	
Sb	121	2	He	100.493	2.652	122280	1.72	100	100.5	90	110	
Li	7	1	nogas	100.596	3.522	865768	1.51	100	100.6	90	110	
P	31	1	nogas	433.800	0.632	492322	1.82	500	86.8	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	148.276	4.241	670	1.49	100	148.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-17.758	-282.102	10	100.00	100	-17.8	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	nogas	420661	3.77	424595	99.07	70	125	
Ge	72	1	nogas	2063971	2.16	1760485	117.24	70	125	
In	115	1	nogas	2055114	1.68	1841567	111.60	70	125	
Bi	209	1	nogas	1723448	2.02	1714556	100.52	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	162036	1.75	144534	112.11	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	189_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:59:00-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.067	29.6	353	18.8	1	
Na	23	1	nogas	1205.911	0.8	22397021	1.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	24.910	16.0	301287	16.7	100	
Al	27	1	nogas	-0.591	-15.2	26923	5.4	5	
K	39	1	nogas	36.184	26.7	6691332	0.4	100	
Ti	47	1	nogas	0.119	16.3	400	7.5	2.5	
V	51	1	nogas	35.459	11.8	2154067	2.7	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.354	40.1	46485	3.7	2.5	
Mn	55	1	nogas	0.436	3.5	21159	3.2	2.5	
Co	59	1	nogas	0.055	47.4	1377	36.0	2.5	
Ni	60	1	nogas	2.047	10.6	10530	6.8	2.5	
Cu	63	1	nogas	0.740	4.1	12695	4.0	2.5	
Zn	66	1	nogas	0.432	33.4	4137	12.4	2.5	
As	75	1	nogas	8.141	27.3	266462	2.0	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.127	16.7	4321	12.8	2.5	
Ag	107	1	nogas	0.054	39.7	1367	21.7	2.5	
Cd	111	1	nogas	0.040	24.3	143	17.6	1	
Sb	121	1	nogas	0.638	19.2	9266	15.8	2.5	
Tl	205	1	nogas	0.258	38.8	5611	36.0	1	
Pb	208	1	nogas	0.050	39.1	2530	19.6	2.5	
U	238	1	nogas	0.067	40.4	2007	38.4	2.5	
[Pb]	206	1	nogas	0.035	61.9	633	23.8	2.5	
[Pb]	207	1	nogas	0.054	36.4	613	19.7	2.5	
Na	23	2	He	1309.362	0.4	467206	0.7	100	CCB Main CR1 Failed
Mg	24	2	He	22.698	4.1	3784	3.7	100	
Al	27	2	He	-1.431	-9.1	73	7.9	5	
K	39	2	He	114.094	3.9	22607	1.5	100	CCB Main CR1 Failed
Ca	43	2	He	10.397	191.3	7	86.6	100	
Ca	44	2	He	-15.930	-66.1	163	30.8	100	
V	51	2	He	1.191	3.2	1321	5.5	2.5	
Cr	52	2	He	0.034	195.8	1603	9.7	2.5	
Mn	55	2	He	0.090	72.8	223	26.2	2.5	
Fe	56	2	He	4.153	4.9	12798	2.5	100	
Co	59	2	He	0.021	41.8	150	23.1	2.5	
Ni	60	2	He	0.713	11.7	297	30.6	2.5	
Cu	63	2	He	0.660	2.6	913	5.2	2.5	
Zn	66	2	He	0.073	185.1	447	12.3	2.5	
As	75	2	He	0.031	156.2	40	36.3	2.5	
Se	78	2	He	0.956	9.7	3	34.6	2.5	
B	11	1	nogas	19.789	6.1	151851	1.9	10	CCB Main CR1 Failed
Si	28	1	nogas	-74.790	-2.9	1605477	0.9	5	
Ca	43	1	nogas	2.287	114.5	1113	6.6	100	
Ca	44	1	nogas	-172.371	-1.1	71071	2.1	100	
Fe	56	1	nogas	45.522	4.0	2018873	2.0	100	
Se	77	1	nogas	54.771	19.8	88903	2.0	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.246	36.5	590	4.5	2.5	
Mo	95	1	nogas	0.174	41.6	1027	35.2	2.5	
Sn	118	1	nogas	0.109	33.7	2340	11.0	5	
Ba	137	1	nogas	0.039	41.2	397	13.9	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.467	24.7	863	15.4	2.5	
P	31	1	nogas	-8.804	-8.0	69999	1.0	10	
La	139	1	nogas	-23.635	-24.7	100	20.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	-19.629	-243.3	10	100.0	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	nogas	437657	1.12	424595	103.08	70	125	
Ge	72	1	nogas	2036775	1.72	1760485	115.69	70	125	
In	115	1	nogas	2049892	0.69	1841567	111.31	70	125	
Bi	209	1	nogas	1798290	0.51	1714556	104.88	70	125	
Ge	72	2	He	159355	0.65	144534	110.25	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	201_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T17:35:28-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.060	4.3	367	4.2	1	
Na	23	1	nogas	356.976	2.0	7267013	1.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	9.924	23.4	116393	18.2	100	
Al	27	1	nogas	-0.512	-9.8	27030	0.6	5	
K	39	1	nogas	26.366	54.9	6301774	1.0	100	
Ti	47	1	nogas	0.089	89.0	343	27.5	2.5	
V	51	1	nogas	44.703	8.3	2251716	3.9	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.478	15.3	46713	5.1	2.5	
Mn	55	1	nogas	0.483	16.5	21259	6.0	2.5	
Co	59	1	nogas	0.056	55.8	1333	39.9	2.5	
Ni	60	1	nogas	0.572	4.4	4391	4.4	2.5	
Cu	63	1	nogas	0.184	30.8	6821	6.8	2.5	
Zn	66	1	nogas	-0.139	-31.8	2214	4.4	2.5	
As	75	1	nogas	12.721	14.8	272532	3.1	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.077	18.9	3067	8.0	2.5	
Ag	107	1	nogas	0.052	36.2	1280	16.5	2.5	
Cd	111	1	nogas	0.036	39.1	130	26.6	1	
Sb	121	1	nogas	0.576	23.3	8225	15.2	2.5	
Tl	205	1	nogas	0.253	36.4	5474	33.6	1	
Pb	208	1	nogas	0.058	62.5	2737	33.7	2.5	
U	238	1	nogas	0.073	32.7	2162	31.0	2.5	
[Pb]	206	1	nogas	0.032	79.2	603	28.3	2.5	
[Pb]	207	1	nogas	0.051	57.1	590	30.1	2.5	
Na	23	2	He	409.345	3.0	167343	1.7	100	CCB Main CR1 Failed
Mg	24	2	He	7.121	6.4	1300	4.0	100	
Al	27	2	He	-0.946	-61.4	90	29.4	5	
K	39	2	He	59.946	12.2	18596	2.9	100	
Ca	43	2	He	36.743	153.0	13	114.6	100	
Ca	44	2	He	-16.480	-74.8	150	37.1	100	
V	51	2	He	1.227	2.7	1288	5.1	2.5	
Cr	52	2	He	0.050	91.2	1527	5.6	2.5	
Mn	55	2	He	0.167	37.6	273	20.2	2.5	
Fe	56	2	He	4.466	6.9	12448	3.3	100	
Co	59	2	He	0.038	18.7	200	13.2	2.5	
Ni	60	2	He	0.678	8.9	240	26.0	2.5	
Cu	63	2	He	0.686	6.9	923	14.9	2.5	
Zn	66	2	He	-0.414	-21.2	223	14.4	2.5	
As	75	2	He	0.118	50.7	62	27.5	2.5	
Se	78	2	He	1.317	15.5	7	31.5	2.5	
B	11	1	nogas	14.903	23.5	155926	2.7	10	CCB Main CR1 Failed
Si	28	1	nogas	-49.855	-8.3	1690265	1.5	5	
Ca	43	1	nogas	-1.002	-404.4	987	12.8	100	
Ca	44	1	nogas	-167.348	-3.3	70232	1.5	100	
Fe	56	1	nogas	33.963	9.7	1715859	1.3	100	
Se	77	1	nogas	70.026	15.8	89237	3.6	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.165	-514.7	493	29.3	2.5	
Mo	95	1	nogas	0.176	27.5	990	21.1	2.5	
Sn	118	1	nogas	0.064	57.9	1970	13.3	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.058	12.7	450	5.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.369	44.2	697	26.9	2.5	
P	31	1	nogas	-3.673	-56.3	71816	0.4	10	
La	139	1	nogas	-38.357	-7.9	50	20.0	2.5	
Au	197	1	nogas	12.884	779.6	17	124.9	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	487692	3.44	424595	114.86	70	125	
Ge	72	1	nogas	1955668	2.49	1760485	111.09	70	125	
In	115	1	nogas	2000141	0.46	1841567	108.61	70	125	
Bi	209	1	nogas	1786006	0.42	1714556	104.17	70	125	
Ge	72	2	He	148421	1.03	144534	102.69	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	203_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T17:39:30-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	96.088	1.534	335940	1.05	100	96.1	90	110	
Na	23	1	nogas	10103.452	5.715	159019691	3.29	10000	101.0	90	110	
Mg	24	1	nogas	9643.991	0.800	102344154	1.68	10000	96.4	90	110	
Al	27	1	nogas	98.069	0.825	1424636	0.94	100	98.1	90	110	
K	39	1	nogas	9396.858	0.292	116627061	1.00	10000	94.0	90	110	
Ti	47	1	nogas	92.074	1.432	113473	1.54	100	92.1	90	110	
V	51	1	nogas	130.209	3.366	3756361	2.59	100	130.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.009	2.007	1536120	2.69	100	96.0	90	110	
Mn	55	1	nogas	97.946	3.248	1893036	3.56	100	97.9	90	110	
Co	59	1	nogas	94.394	1.654	1587438	0.97	100	94.4	90	110	
Ni	60	1	nogas	94.475	0.490	351817	0.70	100	94.5	90	110	
Cu	63	1	nogas	93.041	1.943	859218	1.89	100	93.0	90	110	
Zn	66	1	nogas	99.150	1.367	292934	1.33	100	99.1	90	110	
As	75	1	nogas	105.114	2.436	579318	2.29	100	105.1	90	110	
Sr	88	1	nogas	97.038	3.674	1984011	2.95	100	97.0	90	110	
Ag	107	1	nogas	93.718	0.998	1114114	0.30	100	93.7	90	110	
Cd	111	1	nogas	96.505	1.023	234086	2.78	100	96.5	90	110	
Sb	121	1	nogas	102.530	2.063	1013620	2.34	100	102.5	90	110	
Tl	205	1	nogas	92.885	2.543	1818971	0.68	100	92.9	90	110	
Pb	208	1	nogas	101.342	1.435	2582448	1.43	100	101.3	90	110	
U	238	1	nogas	99.218	3.169	2705624	2.23	100	99.2	90	110	
[Pb]	206	1	nogas	92.597	2.758	623188	1.27	100	92.6	90	110	
[Pb]	207	1	nogas	95.277	2.398	575072	1.88	100	95.3	90	110	
Na	23	2	He	9741.950	2.300	2976003	2.27	10000	97.4	90	110	
Mg	24	2	He	9218.809	2.799	1330435	1.95	10000	92.2	90	110	
Al	27	2	He	91.141	3.934	4217	4.66	100	91.1	90	110	
K	39	2	He	9308.513	3.066	703708	3.00	10000	93.1	90	110	
Ca	43	2	He	8072.749	9.166	2210	9.24	10000	80.7	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	8888.146	5.001	39810	4.01	10000	88.9	90	110	CCV Main CR1-2 Failed
V	51	2	He	92.687	1.434	149713	1.30	100	92.7	90	110	
Cr	52	2	He	92.646	2.094	201525	1.57	100	92.6	90	110	
Mn	55	2	He	89.539	2.786	75750	2.06	100	89.5	90	110	CCV Main CR1-2 Failed
Fe	56	2	He	9046.156	3.366	15511575	3.01	10000	90.5	90	110	
Co	59	2	He	93.072	2.279	339307	1.52	100	93.1	90	110	
Ni	60	2	He	93.171	2.579	96666	1.63	100	93.2	90	110	
Cu	63	2	He	94.107	1.949	271846	1.07	100	94.1	90	110	
Zn	66	2	He	100.549	0.638	40542	0.76	100	100.5	90	110	
As	75	2	He	95.969	0.689	27601	1.62	100	96.0	90	110	
Se	78	2	He	87.831	8.726	1034	7.87	100	87.8	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	509.636	5.237	1324683	3.05	500	101.9	90	110	
Si	28	1	nogas	4878.872	2.070	29660815	2.68	5000	97.6	90	110	
Ca	43	1	nogas	9559.453	1.539	232966	0.80	10000	95.6	90	110	
Ca	44	1	nogas	9226.027	1.926	3673682	1.43	10000	92.3	90	110	
Fe	56	1	nogas	9531.159	1.746	175225921	1.65	10000	95.3	90	110	
Se	77	1	nogas	147.381	8.202	103681	3.56	100	147.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.273	2.361	16581	1.66	100	96.3	90	110	
Mo	95	1	nogas	94.193	2.196	408216	1.50	100	94.2	90	110	
Sn	118	1	nogas	94.467	1.431	634588	0.33	100	94.5	90	110	
Ba	137	1	nogas	95.613	1.772	308301	1.68	100	95.6	90	110	
Sb	121	2	He	98.470	2.585	110959	1.95	100	98.5	90	110	
Li	7	1	nogas	98.461	2.242	881174	1.31	100	98.5	90	110	
P	31	1	nogas	451.047	3.191	459385	3.38	500	90.2	90	110	
La	139	1	nogas	108.289	16.784	507	9.93	100	108.3	90	110	
Au	197	1	nogas	31.364	313.890	20	100.00	100	31.4	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	nogas	436785	2.17	424595	102.87	70	125	
Ge	72	1	nogas	1863409	0.76	1760485	105.85	70	125	
In	115	1	nogas	1938557	1.75	1841567	105.27	70	125	
Bi	209	1	nogas	1723716	2.08	1714556	100.53	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	150031	0.96	144534	103.80	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	213_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:00:25-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	99.171	6.183	344321	2.75	100	99.2	90	110	
Na	23	1	nogas	9968.301	2.234	159925729	1.30	10000	99.7	90	110	
Mg	24	1	nogas	9664.498	2.269	104446996	0.98	10000	96.6	90	110	
Al	27	1	nogas	99.111	3.733	1424135	2.48	100	99.1	90	110	
K	39	1	nogas	9457.656	3.162	116093953	1.18	10000	94.6	90	110	
Ti	47	1	nogas	92.687	2.859	113015	1.10	100	92.7	90	110	
V	51	1	nogas	120.667	5.015	3538316	1.41	100	120.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.498	0.991	1512258	1.90	100	95.5	90	110	
Mn	55	1	nogas	98.732	2.362	1887876	0.67	100	98.7	90	110	
Co	59	1	nogas	94.935	0.514	1580301	2.13	100	94.9	90	110	
Ni	60	1	nogas	93.960	2.123	346233	0.84	100	94.0	90	110	
Cu	63	1	nogas	91.456	2.005	835886	1.77	100	91.5	90	110	
Zn	66	1	nogas	96.919	1.043	283452	1.84	100	96.9	90	110	
As	75	1	nogas	98.287	3.793	549808	1.06	100	98.3	90	110	
Sr	88	1	nogas	95.860	4.084	1939159	2.24	100	95.9	90	110	
Ag	107	1	nogas	93.984	2.264	1105553	0.75	100	94.0	90	110	
Cd	111	1	nogas	96.041	1.910	232198	0.68	100	96.0	90	110	
Sb	121	1	nogas	102.778	1.938	1005366	0.50	100	102.8	90	110	
Tl	205	1	nogas	91.720	1.765	1799367	1.53	100	91.7	90	110	
Pb	208	1	nogas	100.270	0.855	2555160	0.85	100	100.3	90	110	
U	238	1	nogas	97.139	2.823	2653302	1.92	100	97.1	90	110	
[Pb]	206	1	nogas	92.679	1.742	624818	0.79	100	92.7	90	110	
[Pb]	207	1	nogas	94.794	1.221	573094	0.24	100	94.8	90	110	
Na	23	2	He	9956.600	0.788	2929289	0.54	10000	99.6	90	110	
Mg	24	2	He	9302.645	2.647	1293801	3.45	10000	93.0	90	110	
Al	27	2	He	93.388	6.282	4161	6.97	100	93.4	90	110	
K	39	2	He	9177.085	1.286	693973	1.26	10000	91.8	90	110	
Ca	43	2	He	9012.601	3.149	2377	3.43	10000	90.1	90	110	
Ca	44	2	He	9349.202	2.449	40345	2.66	10000	93.5	90	110	
V	51	2	He	93.408	1.733	145352	0.73	100	93.4	90	110	
Cr	52	2	He	94.828	1.422	198708	1.58	100	94.8	90	110	
Mn	55	2	He	91.692	2.394	74745	2.86	100	91.7	90	110	
Fe	56	2	He	9450.759	1.298	15613072	0.96	10000	94.5	90	110	
Co	59	2	He	94.164	1.696	330744	1.22	100	94.2	90	110	
Ni	60	2	He	93.728	2.440	93690	1.43	100	93.7	90	110	
Cu	63	2	He	95.113	3.112	264690	2.21	100	95.1	90	110	
Zn	66	2	He	103.175	1.491	40068	1.12	100	103.2	90	110	
As	75	2	He	97.121	3.526	26903	2.68	100	97.1	90	110	
Se	78	2	He	85.888	8.191	974	7.40	100	85.9	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	513.877	3.070	1327212	1.16	500	102.8	90	110	
Si	28	1	nogas	4969.624	2.405	29856255	0.68	5000	99.4	90	110	
Ca	43	1	nogas	9484.381	4.047	228675	2.29	10000	94.8	90	110	
Ca	44	1	nogas	9358.276	4.508	3684526	2.65	10000	93.6	90	110	
Fe	56	1	nogas	9328.447	0.427	169768637	2.17	10000	93.3	90	110	
Se	77	1	nogas	117.171	11.733	95385	3.25	100	117.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.607	3.440	16461	1.57	100	96.6	90	110	
Mo	95	1	nogas	93.562	4.833	401123	3.05	100	93.6	90	110	
Sn	118	1	nogas	94.417	1.985	632441	2.20	100	94.4	90	110	
Ba	137	1	nogas	94.687	2.158	304372	0.11	100	94.7	90	110	
Sb	121	2	He	100.098	0.977	108681	1.79	100	100.1	90	110	
Li	7	1	nogas	99.681	4.854	886299	4.44	100	99.7	90	110	
P	31	1	nogas	454.233	4.649	457113	2.31	500	90.8	90	110	
La	139	1	nogas	123.558	26.893	553	18.81	100	123.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	48.937	153.907	23	65.47	100	48.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	434319	3.71	424595	102.29	70	125	
Ge	72	1	nogas	1844258	1.87	1760485	104.76	70	125	
In	115	1	nogas	1932919	2.06	1841567	104.96	70	125	
Bi	209	1	nogas	1726309	0.99	1714556	100.69	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	144543	1.06	144534	100.01	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	214_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:02:23-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.086	69.0	470	51.6	1	
Na	23	1	nogas	355.925	1.9	7358965	0.6	100	CCB Main CR1 Failed
Mg	24	1	nogas	10.544	20.1	125445	18.6	100	
Al	27	1	nogas	-0.405	-17.7	27140	2.1	5	
K	39	1	nogas	46.126	15.5	6209574	0.9	100	
Ti	47	1	nogas	0.105	51.3	347	17.6	2.5	
V	51	1	nogas	30.060	13.7	1860145	3.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.287	20.6	41296	1.2	2.5	
Mn	55	1	nogas	0.474	1.3	20008	2.6	2.5	
Co	59	1	nogas	0.065	42.6	1430	33.1	2.5	
Ni	60	1	nogas	0.484	8.7	3840	5.2	2.5	
Cu	63	1	nogas	0.144	13.0	6111	1.4	2.5	
Zn	66	1	nogas	-0.175	-11.9	1997	4.5	2.5	
As	75	1	nogas	6.342	42.3	236437	3.4	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.108	27.8	3534	17.8	2.5	
Ag	107	1	nogas	0.051	50.6	1207	25.0	2.5	
Cd	111	1	nogas	0.058	29.0	183	22.0	1	
Sb	121	1	nogas	0.617	23.4	8222	17.6	2.5	
Tl	205	1	nogas	0.272	31.8	5715	30.3	1	
Pb	208	1	nogas	0.055	51.8	2670	27.3	2.5	
U	238	1	nogas	0.079	27.5	2270	26.4	2.5	
[Pb]	206	1	nogas	0.034	115.7	603	44.4	2.5	
[Pb]	207	1	nogas	0.051	37.2	580	20.3	2.5	
Na	23	2	He	399.137	2.4	161527	1.2	100	CCB Main CR1 Failed
Mg	24	2	He	7.308	9.8	1303	5.7	100	
Al	27	2	He	-1.507	-79.5	63	81.0	5	
K	39	2	He	46.164	3.9	17575	0.8	100	
Ca	43	2	He	25.091	152.0	10	100.0	100	
Ca	44	2	He	-11.149	-98.1	170	27.0	100	
V	51	2	He	1.095	4.1	1057	5.3	2.5	
Cr	52	2	He	0.001	7461.9	1400	12.2	2.5	
Mn	55	2	He	0.198	26.8	293	12.9	2.5	
Fe	56	2	He	4.681	10.3	12591	4.6	100	
Co	59	2	He	0.029	34.0	167	19.3	2.5	
Ni	60	2	He	0.768	9.3	327	20.4	2.5	
Cu	63	2	He	0.687	9.6	910	19.1	2.5	
Zn	66	2	He	-0.405	-0.6	223	2.6	2.5	
As	75	2	He	0.038	56.5	39	17.8	2.5	
Se	78	2	He	1.447	30.9	9	58.1	2.5	
B	11	1	nogas	19.636	6.0	168774	1.6	10	CCB Main CR1 Failed
Si	28	1	nogas	-33.432	-27.5	1695481	1.0	5	
Ca	43	1	nogas	4.761	103.2	1073	11.3	100	
Ca	44	1	nogas	-158.025	-3.2	70168	0.7	100	
Fe	56	1	nogas	28.071	7.8	1520869	3.2	100	
Se	77	1	nogas	41.386	23.9	77746	2.5	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.297	-36.5	447	3.4	2.5	
Mo	95	1	nogas	0.168	53.9	910	43.8	2.5	
Sn	118	1	nogas	0.099	18.3	2197	4.0	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.089	60.8	547	30.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.429	30.0	750	18.8	2.5	
P	31	1	nogas	2.946	87.9	73764	0.9	10	
La	139	1	nogas	-24.669	-21.2	93	16.4	2.5	
Au	197	1	nogas	31.835	155.2	20	50.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	487730	2.65	424595	114.87	70	125	
Ge	72	1	nogas	1854533	2.08	1760485	105.34	70	125	
In	115	1	nogas	1986217	1.79	1841567	107.85	70	125	
Bi	209	1	nogas	1740335	1.62	1714556	101.50	70	125	
Ge	72	2	He	145925	2.17	144534	100.96	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	217_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:08:27-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.833	5.378	349111	1.64	100	92.8	90	110	
Na	23	1	nogas	10302.266	1.518	160738741	1.67	10000	103.0	90	110	
Mg	24	1	nogas	10177.494	5.027	106932971	2.44	10000	101.8	90	110	
Al	27	1	nogas	96.584	3.383	1425060	1.17	100	96.6	90	110	
K	39	1	nogas	9085.024	2.311	114734494	3.32	10000	90.9	90	110	
Ti	47	1	nogas	91.445	1.832	114454	0.94	100	91.4	90	110	
V	51	1	nogas	106.924	5.788	3368758	2.42	100	106.9	90	110	
Cr	52	1	nogas	92.869	4.972	1509750	3.72	100	92.9	90	110	
Mn	55	1	nogas	95.218	4.242	1868436	2.09	100	95.2	90	110	
Co	59	1	nogas	91.605	4.290	1564095	2.36	100	91.6	90	110	
Ni	60	1	nogas	91.428	4.218	345722	2.32	100	91.4	90	110	
Cu	63	1	nogas	90.338	2.757	847263	0.60	100	90.3	90	110	
Zn	66	1	nogas	95.675	0.964	287222	2.19	100	95.7	90	110	
As	75	1	nogas	88.882	3.836	531272	1.72	100	88.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.374	3.053	2001211	1.78	100	96.4	90	110	
Ag	107	1	nogas	92.293	1.587	1114380	1.47	100	92.3	90	110	
Cd	111	1	nogas	95.289	0.894	240376	1.14	100	95.3	90	110	
Sb	121	1	nogas	101.062	1.940	1014643	0.97	100	101.1	90	110	
Tl	205	1	nogas	95.797	2.322	1875520	2.93	100	95.8	90	110	
Pb	208	1	nogas	101.158	2.620	2577765	2.62	100	101.2	90	110	
U	238	1	nogas	97.677	1.846	2662448	1.31	100	97.7	90	110	
[Pb]	206	1	nogas	94.262	2.622	634234	3.25	100	94.3	90	110	
[Pb]	207	1	nogas	94.986	0.992	573068	1.62	100	95.0	90	110	
Na	23	2	He	9591.490	2.423	2865014	0.93	10000	95.9	90	110	
Mg	24	2	He	9219.564	2.929	1300896	2.03	10000	92.2	90	110	
Al	27	2	He	85.114	6.316	3857	5.29	100	85.1	90	110	CCV Main CR1-2 Failed
K	39	2	He	9011.160	2.973	681681	2.91	10000	90.1	90	110	
Ca	43	2	He	8168.852	0.612	2187	2.11	10000	81.7	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	8977.411	2.834	39318	2.09	10000	89.8	90	110	CCV Main CR1-2 Failed
V	51	2	He	92.816	1.776	146572	0.59	100	92.8	90	110	
Cr	52	2	He	92.907	1.546	197594	1.18	100	92.9	90	110	
Mn	55	2	He	90.513	1.768	74869	0.37	100	90.5	90	110	
Fe	56	2	He	9245.734	1.191	15501741	1.14	10000	92.5	90	110	
Co	59	2	He	93.908	3.551	334687	2.43	100	93.9	90	110	
Ni	60	2	He	93.627	4.250	94959	2.85	100	93.6	90	110	
Cu	63	2	He	94.442	1.652	266742	0.64	100	94.4	90	110	
Zn	66	2	He	100.315	2.877	39560	4.19	100	100.3	90	110	
As	75	2	He	95.578	2.456	26870	0.98	100	95.6	90	110	
Se	78	2	He	81.442	1.334	937	1.60	100	81.4	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	467.275	4.317	1316765	0.77	500	93.5	90	110	
Si	28	1	nogas	4790.860	3.046	29605513	0.69	5000	95.8	90	110	
Ca	43	1	nogas	9058.664	2.268	224346	3.71	10000	90.6	90	110	
Ca	44	1	nogas	8980.379	2.524	3636571	3.77	10000	89.8	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	9159.978	5.000	170984766	2.87	10000	91.6	90	110	
Se	77	1	nogas	83.986	23.871	89750	4.42	100	84.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.809	5.208	16755	3.17	100	95.8	90	110	
Mo	95	1	nogas	93.090	1.944	409746	0.83	100	93.1	90	110	
Sn	118	1	nogas	93.113	2.412	650613	1.47	100	93.1	90	110	
Ba	137	1	nogas	91.404	0.222	306637	2.22	100	91.4	90	110	
Sb	121	2	He	98.533	1.582	108559	0.39	100	98.5	90	110	
Li	7	1	nogas	99.956	7.156	961534	4.26	100	100.0	90	110	
P	31	1	nogas	441.558	1.487	458240	1.52	500	88.3	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	99.163	31.017	497	18.60	100	99.2	90	110	
Au	197	1	nogas	49.584	234.033	23	98.97	100	49.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	470349	3.72	424595	110.78	70	125	
Ge	72	1	nogas	1892849	2.19	1760485	107.52	70	125	
In	115	1	nogas	2016530	2.01	1841567	109.50	70	125	
Bi	209	1	nogas	1722534	0.63	1714556	100.47	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	146697	1.59	144534	101.50	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	218_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:10:24-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.074	45.5	437	28.6	1	
Na	23	1	nogas	316.977	4.9	6776715	1.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	10.106	29.5	120918	24.5	100	
Al	27	1	nogas	-0.513	-14.9	26589	5.4	5	
K	39	1	nogas	35.135	62.6	6306326	0.1	100	
Ti	47	1	nogas	0.091	70.6	340	20.4	2.5	
V	51	1	nogas	21.794	14.0	1770191	3.6	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.050	149.6	39032	1.6	2.5	
Mn	55	1	nogas	0.455	11.4	20355	3.3	2.5	
Co	59	1	nogas	0.068	41.7	1513	29.4	2.5	
Ni	60	1	nogas	0.315	24.5	3330	5.9	2.5	
Cu	63	1	nogas	0.101	48.3	5918	3.8	2.5	
Zn	66	1	nogas	-0.129	-45.9	2207	4.1	2.5	
As	75	1	nogas	0.322	982.9	223863	4.6	2.5	
Sr	88	1	nogas	0.091	43.5	3290	21.3	2.5	
Ag	107	1	nogas	0.066	34.8	1443	20.0	2.5	
Cd	111	1	nogas	0.075	38.1	223	31.5	1	
Sb	121	1	nogas	0.624	22.2	8589	14.7	2.5	
Tl	205	1	nogas	0.275	43.2	5881	42.2	1	
Pb	208	1	nogas	0.060	45.5	2793	25.0	2.5	
U	238	1	nogas	0.088	38.3	2560	38.6	2.5	
[Pb]	206	1	nogas	0.046	71.1	700	34.0	2.5	
[Pb]	207	1	nogas	0.059	51.5	640	30.8	2.5	
Na	23	2	He	359.370	3.1	151664	1.1	100	CCB Main CR1 Failed
Mg	24	2	He	6.134	7.1	1153	5.2	100	
Al	27	2	He	-0.855	-67.7	93	27.0	5	
K	39	2	He	42.604	3.7	17312	0.7	100	
Ca	43	2	He	49.024	114.5	17	91.7	100	
Ca	44	2	He	-13.235	-51.3	163	19.7	100	
V	51	2	He	1.043	3.4	987	6.7	2.5	
Cr	52	2	He	-0.015	-321.4	1380	6.2	2.5	
Mn	55	2	He	0.145	37.8	253	17.8	2.5	
Fe	56	2	He	4.616	9.8	12631	4.7	100	
Co	59	2	He	0.025	74.1	153	44.4	2.5	
Ni	60	2	He	0.757	7.6	320	17.4	2.5	
Cu	63	2	He	0.717	5.5	1010	12.4	2.5	
Zn	66	2	He	-0.607	-4.0	147	7.9	2.5	
As	75	2	He	0.037	206.3	39	55.1	2.5	
Se	78	2	He	1.436	25.3	9	48.0	2.5	
B	11	1	nogas	13.696	32.6	158843	4.3	10	CCB Main CR1 Failed
Si	28	1	nogas	-46.641	-32.6	1680872	1.6	5	
Ca	43	1	nogas	0.956	434.3	1020	12.0	100	
Ca	44	1	nogas	-165.962	-4.2	69649	0.5	100	
Fe	56	1	nogas	23.250	25.7	1485424	4.8	100	
Se	77	1	nogas	3.157	457.9	71186	5.2	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.128	-271.7	493	13.5	2.5	
Mo	95	1	nogas	0.167	35.7	933	24.8	2.5	
Sn	118	1	nogas	0.242	92.0	3153	48.2	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.056	89.7	437	37.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.410	25.8	737	14.9	2.5	
P	31	1	nogas	0.317	564.7	74246	3.0	10	
La	139	1	nogas	-21.331	-74.5	103	48.7	2.5	
Au	197	1	nogas	13.792	199.6	17	34.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	507565	3.76	424595	119.54	70	125	
Ge	72	1	nogas	1925436	4.34	1760485	109.37	70	125	
In	115	1	nogas	1971070	0.22	1841567	107.03	70	125	
Bi	209	1	nogas	1766163	1.54	1714556	103.01	70	125	
Ge	72	2	He	147642	1.35	144534	102.15	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	219LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:12:24-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.683	4.982	19187	0.68	5	93.7	70	130	
Na	23	1	nogas	836.958	1.089	14830249	0.61	500	167.4	70	130	LLICV Main CR1 Failed
Mg	24	1	nogas	539.329	1.134	5819187	0.63	500	107.9	70	130	
Al	27	1	nogas	5.196	1.988	111233	1.40	5	103.9	70	130	
K	39	1	nogas	540.826	6.461	12582460	0.91	500	108.2	70	130	
Ti	47	1	nogas	4.874	5.492	6471	2.64	5	97.5	70	130	
V	51	1	nogas	34.889	3.370	2043610	3.18	5	697.8	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	5.339	1.813	125437	1.91	5	106.8	70	130	
Mn	55	1	nogas	5.479	3.940	121093	1.12	5	109.6	70	130	
Co	59	1	nogas	5.055	2.881	88896	0.81	5	101.1	70	130	
Ni	60	1	nogas	5.572	3.607	23636	0.67	5	111.4	70	130	
Cu	63	1	nogas	5.341	2.138	56117	0.81	5	106.8	70	130	
Zn	66	1	nogas	5.199	1.711	18493	2.61	5	104.0	70	130	
As	75	1	nogas	10.805	5.153	263772	3.20	5	216.1	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	5.091	2.718	109789	1.28	5	101.8	70	130	
Ag	107	1	nogas	5.081	3.192	63522	2.14	5	101.6	70	130	
Cd	111	1	nogas	5.178	2.772	12848	2.96	5	103.6	70	130	
Sb	121	1	nogas	5.628	4.919	60091	3.47	5	112.6	70	130	
Tl	205	1	nogas	5.117	1.060	102783	1.32	5	102.3	70	130	
Pb	208	1	nogas	5.653	4.057	145251	4.02	5	113.1	70	130	
U	238	1	nogas	5.127	1.338	143016	1.08	5	102.5	70	130	
[Pb]	206	1	nogas	5.144	2.100	35756	2.56	5	102.9	70	130	
[Pb]	207	1	nogas	5.254	2.486	32687	4.05	5	105.1	70	130	
Na	23	2	He	871.104	2.205	300742	0.60	500	174.2	70	130	LLICV Main CR1 Failed
Mg	24	2	He	512.557	1.370	72496	0.77	500	102.5	70	130	
Al	27	2	He	4.707	51.035	337	32.58	5	94.1	70	130	
K	39	2	He	539.244	3.185	54101	2.35	500	107.8	70	130	
Ca	43	2	He	462.787	29.502	127	27.73	500	92.6	70	130	
Ca	44	2	He	472.504	7.048	2274	5.00	500	94.5	70	130	
V	51	2	He	6.170	0.573	9102	1.05	5	123.4	70	130	
Cr	52	2	He	5.138	0.511	12238	1.33	5	102.8	70	130	
Mn	55	2	He	5.128	10.073	4357	8.73	5	102.6	70	130	
Fe	56	2	He	508.025	4.488	854825	2.89	500	101.6	70	130	
Co	59	2	He	5.283	6.589	18873	7.16	5	105.7	70	130	
Ni	60	2	He	5.880	3.833	5534	5.01	5	117.6	70	130	
Cu	63	2	He	5.994	1.496	15940	0.48	5	119.9	70	130	
Zn	66	2	He	4.793	11.732	2254	11.33	5	95.9	70	130	
As	75	2	He	5.382	13.118	1539	13.56	5	107.6	70	130	
Se	78	2	He	5.476	20.574	55	22.08	5	109.5	70	130	
B	11	1	nogas	29.600	10.483	203769	0.94	25	118.4	70	130	
Si	28	1	nogas	200.701	9.946	3162689	1.18	25	802.8	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	501.912	5.055	13689	2.24	500	100.4	70	130	
Ca	44	1	nogas	355.110	6.179	278705	0.81	500	71.0	70	130	
Fe	56	1	nogas	530.292	3.586	11154211	1.55	500	106.1	70	130	
Se	77	1	nogas	39.330	19.206	80953	5.04	5	786.6	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	5.071	6.803	1403	6.74	5	101.4	70	130	
Mo	95	1	nogas	4.989	4.120	22712	3.99	5	99.8	70	130	
Sn	118	1	nogas	5.201	0.602	37067	0.63	5	104.0	70	130	
Ba	137	1	nogas	5.154	1.857	17192	1.46	5	103.1	70	130	
Sb	121	2	He	5.711	1.927	6551	3.40	5	114.2	70	130	
Li	7	1	nogas	4.967	6.023	95715	1.54	5	99.3	70	130	
P	31	1	nogas	26.940	12.239	98720	0.85	25	107.8	70	130	
La	139	1	nogas	122.787	20.426	563	13.79	5	2455.7	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	-34.869	-81.209	7	86.60	5	-697.4	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	509032	4.45	424595	119.89	70	125	
Ge	72	1	nogas	1942055	2.75	1760485	110.31	70	125	
In	115	1	nogas	1977334	0.39	1841567	107.37	70	125	
Bi	209	1	nogas	1762024	2.34	1714556	102.77	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	146496	1.62	144534	101.36	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	220SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:14:23-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	1.924	1.924	5.91	7828	0.02	2000	
Na	23	1	nogas	486.580	486.580	2.73	9509504	0.01	200000	
Mg	24	1	nogas	223.109	223.109	1.94	2472055	0.01	200000	
Al	27	1	nogas	2.043	2.043	6.81	64788	0.00	2000	
K	39	1	nogas	227.083	227.083	7.32	8751703	0.00	200000	
Ti	47	1	nogas	2.237	2.237	2.92	3104	0.07	2000	
V	51	1	nogas	33.943	33.943	10.67	2030088	0.00	2000	
Cr	52	1	nogas	2.296	2.296	6.80	76137	0.00	2000	
Mn	55	1	nogas	2.415	2.415	2.95	59968	0.00	2000	
Co	59	1	nogas	2.053	2.053	3.53	36420	0.01	2000	
Ni	60	1	nogas	2.473	2.473	7.84	11717	0.02	2000	
Cu	63	1	nogas	2.111	2.111	3.33	25284	0.01	2000	
Zn	66	1	nogas	2.150	2.150	3.80	9216	0.02	2000	
As	75	1	nogas	8.905	8.905	27.00	257582	0.00	2000	
Sr	88	1	nogas	2.031	2.031	4.67	44757	0.00	2000	
Ag	107	1	nogas	1.996	1.996	4.55	25409	0.01	2000	
Cd	111	1	nogas	2.107	2.107	5.66	5388	0.04	2000	
Sb	121	1	nogas	2.124	2.124	1.21	24164	0.01	2000	
Tl	205	1	nogas	2.047	2.047	6.85	41493	0.00	2000	
Pb	208	1	nogas	2.208	2.208	1.68	57504	0.00	2000	
U	238	1	nogas	2.069	2.069	1.66	58074	0.00	2000	
[Pb]	206	1	nogas	2.036	2.036	7.53	14437	0.01	2000	
[Pb]	207	1	nogas	1.972	1.972	2.40	12498	0.02	2000	
Na	23	2	He	518.317	518.317	2.71	200446	0.26	200000	
Mg	24	2	He	205.872	205.872	2.66	29770	0.69	200000	
Al	27	2	He	1.288	1.288	100.93	190	0.68	2000	
K	39	2	He	249.103	249.103	3.22	32608	0.76	200000	
Ca	43	2	He	73.527	73.527	76.22	23	315.11	200000	
Ca	44	2	He	181.425	181.425	23.91	1027	17.67	200000	
V	51	2	He	3.014	3.014	1.12	4171	0.07	2000	
Cr	52	2	He	1.921	1.921	1.02	5544	0.03	2000	
Mn	55	2	He	2.017	2.017	7.69	1827	0.11	2000	
Fe	56	2	He	197.559	197.559	0.55	341108	0.06	200000	
Co	59	2	He	2.105	2.105	8.41	7675	0.03	2000	
Ni	60	2	He	2.744	2.744	2.34	2380	0.12	2000	
Cu	63	2	He	2.728	2.728	1.94	6808	0.04	2000	
Zn	66	2	He	1.930	1.930	8.74	1153	0.17	2000	
As	75	2	He	2.061	2.061	2.56	617	0.33	2000	
Se	78	2	He	2.681	2.681	30.90	23	11.49	2000	
B	11	1	nogas	14.517	14.517	13.97	158930	0.01	2000	

Sample Report

Si	28	1	nogas	40.964	40.964	14.43	2223134	0.00	2000	
Ca	43	1	nogas	210.945	210.945	1.95	6358	3.32	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ca	44	1	nogas	35.526	35.526	21.35	151372	0.02	200000	
Fe	56	1	nogas	224.432	224.432	1.33	5347216	0.00	200000	
Se	77	1	nogas	40.371	40.371	25.02	81391	0.05	2000	
Se	82	1	nogas	2.244	2.244	23.88	913	0.25	2000	
Mo	95	1	nogas	1.941	1.941	6.31	8982	0.02	2000	
Sn	118	1	nogas	1.975	1.975	5.31	15417	0.01	2000	
Ba	137	1	nogas	2.231	2.231	2.53	7789	0.03	2000	
Sb	121	2	He	2.200	2.200	14.55	2740	0.08	2000	
La	139	1	nogas	-19.322	-19.322	-36.51	113	-17.05	2000	
Au	197	1	nogas	79.036	79.036	162.03	30	263.45	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	499892	1.97	424595	117.73	70	125	
Ge	72	1	nogas	1947306	1.54	1760485	110.61	70	125	
In	115	1	nogas	2030022	1.75	1841567	110.23	70	125	
Bi	209	1	nogas	1771818	3.65	1714556	103.34	70	125	
Ge	72	2	He	148946	1.90	144534	103.05	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	221ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:16:22-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	-0.010	-154.3	87	63.5	0	ICSA Main CR1 Failed
Na	23	1	nogas	101975.274	4.4	1493946033	3.2	0	
Mg	24	1	nogas	101467.477	2.9	1010573623	2.6	0	
Al	27	1	nogas	84702.890	0.7	1133452730	0.6	0	
K	39	1	nogas	97283.054	2.1	1088207158	1.1	0	
Ti	47	1	nogas	2027.715	4.7	2351703	4.0	0	
V	51	1	nogas	20.828	13.1	1598940	2.0	0	
Cr	52	1	nogas	0.683	13.1	44955	1.9	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.662	9.6	22340	4.1	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.101	13.4	1910	10.6	0	ICSA Main CR1 Failed
Ni	60	1	nogas	1.233	7.8	6254	6.5	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.089	11.4	13975	8.0	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.564	6.4	6695	5.2	0	ICSA Main CR1 Failed
As	75	1	nogas	19.603	0.5	267349	1.0	0	
Sr	88	1	nogas	1.101	4.9	22488	5.0	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.022	26.1	817	8.3	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.303	7.1	2980	6.4	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.021	95.6	2247	8.8	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.042	7.6	1067	5.2	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.053	5.3	2613	2.8	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.060	9.0	720	5.0	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.063	18.7	597	11.4	0	ICSA Main CR1 Failed
Na	23	2	He	97261.662	2.5	26714470	3.1	0	
Mg	24	2	He	94049.643	1.0	12374675	1.5	0	
Al	27	2	He	75513.454	1.6	3084592	2.2	0	
K	39	2	He	86902.288	1.7	6451675	1.7	0	
Ca	43	2	He	83842.373	1.6	20899	2.0	0	
Ca	44	2	He	88572.271	1.2	359947	0.7	0	
V	51	2	He	0.938	1.1	760	2.1	0	ICSA Main CR1 Failed
Cr	52	2	He	0.322	22.3	1943	7.9	0	ICSA Main CR1 Failed
Mn	55	2	He	0.334	26.6	380	18.2	0	ICSA Main CR1 Failed
Fe	56	2	He	94111.301	2.9	147086458	2.4	0	
Co	59	2	He	-0.005	-95.4	43	35.3	0	ICSA Main CR1 Failed
Ni	60	2	He	0.747	6.8	287	16.5	0	ICSA Main CR1 Failed
Cu	63	2	He	0.974	0.8	1613	0.9	0	ICSA Main CR1 Failed
Zn	66	2	He	0.090	222.2	390	19.4	0	ICSA Main CR1 Failed
As	75	2	He	0.052	136.4	40	46.4	0	ICSA Main CR1 Failed
Se	78	2	He	1.000	10.8	3	34.6	0	ICSA Main CR1 Failed
B	11	1	nogas	11.679	12.0	138071	3.9	0	ICSA Main CR1 Failed
Si	28	1	nogas	32.829	30.6	1962462	2.0	0	
Ca	43	1	nogas	98868.400	1.3	2263842	1.6	0	
Ca	44	1	nogas	98104.099	2.7	35644552	2.3	0	
Fe	56	1	nogas	96109.726	1.5	1657459204	0.9	0	
Se	77	1	nogas	108.828	1.8	89004	1.2	0	
Se	82	1	nogas	-0.105	-626.0	453	22.5	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2035.125	0.8	8314172	0.4	0	
Sn	118	1	nogas	0.009	363.8	1440	15.6	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.203	16.9	840	11.7	0	ICSA Main CR1 Failed
Sb	121	2	He	-0.019	-185.4	243	15.6	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	94542.430	2.7	76689826	1.7	0	
La	139	1	nogas	65.119	17.4	347	8.8	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	456363	1.38	424595	107.48	70	125	
Ge	72	1	nogas	1757239	1.11	1760485	99.82	70	125	
In	115	1	nogas	1806845	0.74	1841567	98.11	70	125	
Bi	209	1	nogas	1595541	0.42	1714556	93.06	70	125	
Ge	72	2	He	136784	0.62	144534	94.64	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	222ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:18:26-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	85.948	2.771	296658	1.87	100	85.9	80	120	
Na	23	1	nogas	107087.627	2.629	1604297603	0.69	100	107087.6	80	120	ICSB Main CR1 Failed
Mg	24	1	nogas	106530.417	1.714	1084894824	0.60	100	106530.4	80	120	ICSB Main CR1 Failed
Al	27	1	nogas	83869.055	2.584	1106718330	3.36	100	83869.1	80	120	ICSB Main CR1 Failed
K	39	1	nogas	107129.861	2.135	1180991960	1.04	100	107129.9	80	120	
Ti	47	1	nogas	2099.394	1.959	2400860	0.40	100	2099.4	80	120	ICSB Main CR1 Failed
V	51	1	nogas	96.687	4.339	2904955	1.76	100	96.7	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	85.673	4.166	1277642	2.60	100	85.7	80	120	
Mn	55	1	nogas	87.111	2.186	1566179	0.73	100	87.1	80	120	
Co	59	1	nogas	82.853	2.224	1295777	2.95	100	82.9	80	120	
Ni	60	1	nogas	83.776	2.225	290275	2.10	100	83.8	80	120	
Cu	63	1	nogas	81.510	0.392	700516	1.95	100	81.5	80	120	
Zn	66	1	nogas	88.775	0.885	244144	2.29	100	88.8	80	120	
As	75	1	nogas	95.930	5.471	508940	2.15	100	95.9	80	120	ICSB Main CR1 Failed
Sr	88	1	nogas	88.045	0.927	1674093	0.86	100	88.0	80	120	
Ag	107	1	nogas	81.392	2.604	899587	1.38	100	81.4	80	120	
Cd	111	1	nogas	88.774	2.732	196847	1.58	100	88.8	80	120	
Sb	121	1	nogas	95.040	2.552	873535	0.94	100	95.0	80	120	
Tl	205	1	nogas	88.973	2.082	1572430	1.36	100	89.0	80	120	
Pb	208	1	nogas	84.769	0.667	2160349	0.67	100	84.8	80	120	
U	238	1	nogas	92.998	0.642	2288758	0.41	100	93.0	80	120	
[Pb]	206	1	nogas	88.003	1.757	534523	1.07	100	88.0	80	120	
[Pb]	207	1	nogas	88.917	1.240	484320	0.96	100	88.9	80	120	
Na	23	2	He	105919.913	1.353	28446757	1.34	100	105919.9	80	120	
Mg	24	2	He	102438.997	1.041	13182065	1.35	100	102439.0	80	120	
Al	27	2	He	77396.421	1.202	3091830	1.24	100	77396.4	80	120	ICSB Main CR1 Failed
K	39	2	He	94920.321	1.796	7045632	1.79	100	94920.3	80	120	
Ca	43	2	He	94323.065	3.694	22991	3.28	100	94323.1	80	120	
Ca	44	2	He	100886.093	1.770	400949	1.35	100	100886.1	80	120	ICSB Main CR1 Failed
V	51	2	He	86.908	0.464	125137	0.05	100	86.9	80	120	
Cr	52	2	He	85.284	1.141	165528	0.83	100	85.3	80	120	
Mn	55	2	He	82.339	2.489	62129	2.23	100	82.3	80	120	
Fe	56	2	He	105132.052	2.802	160713601	2.85	100	105132.1	80	120	
Co	59	2	He	84.311	2.346	274094	2.01	100	84.3	80	120	
Ni	60	2	He	83.458	2.663	77173	2.27	100	83.5	80	120	
Cu	63	2	He	84.487	3.392	217527	3.00	100	84.5	80	120	
Zn	66	2	He	93.146	1.583	33514	1.41	100	93.1	80	120	
As	75	2	He	89.129	2.294	22857	2.06	100	89.1	80	120	
Se	78	2	He	78.772	5.979	827	6.31	100	78.8	80	120	ICSB Main CR1 Failed
B	11	1	nogas	439.775	1.674	1143108	0.17	100	439.8	80	120	
Si	28	1	nogas	4516.055	1.377	25656879	1.94	100	4516.1	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	106458.697	3.881	2402521	2.38	100	106458.7	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	105304.602	2.874	37711503	1.87	100	105304.6	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	107084.630	2.644	1820452707	1.09	100	107084.6	80	120	
Se	77	1	nogas	141.297	7.922	95013	2.03	100	141.3	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	85.952	2.693	13812	0.98	100	86.0	80	120	
Mo	95	1	nogas	2164.440	1.589	8719419	2.37	100	2164.4	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	87.245	2.893	535992	1.65	100	87.2	80	120	
Ba	137	1	nogas	86.226	1.205	254273	0.41	100	86.2	80	120	
Sb	121	2	He	92.672	2.137	93135	1.71	100	92.7	80	120	
La	139	1	nogas	182.965	13.482	677	9.03	100	183.0	80	120	

QC ISTD Table

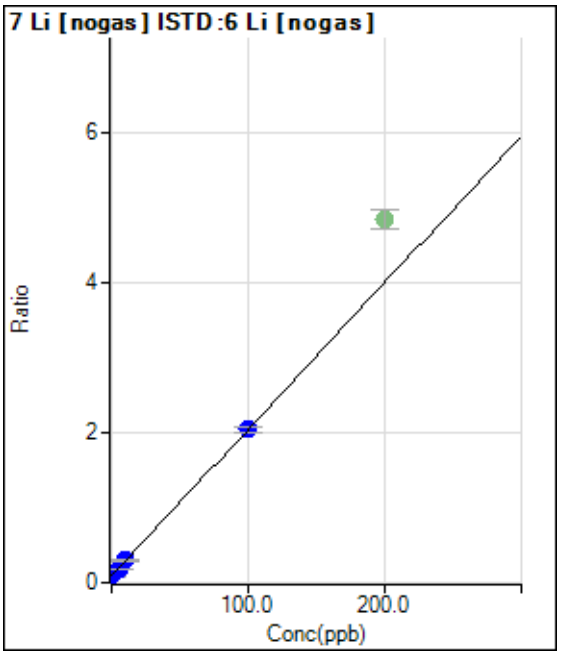
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	431210	1.59	424595	101.56	70	125	
Ge	72	1	nogas	1732664	1.61	1760485	98.42	70	125	
In	115	1	nogas	1772761	1.60	1841567	96.26	70	125	
Bi	209	1	nogas	1555206	0.72	1714556	90.71	70	125	
Ge	72	2	He	133778	0.42	144534	92.56	70	125	

Calibration for 027_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\122117A.b\
Analysis File: 122117A.batch.bin
DA Date-Time: 2017-12-21 12:34:57
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	020CALB.d	CAL BLK	2017-12-21 11:18:01
2	021CALS.d	2/10/200	2017-12-21 11:20:02
3	022CALS.d	5/25/500	2017-12-21 11:22:02
4	023CALS.d	10/50/1000	2017-12-21 11:24:00
5	024CALS.d	100/500/10K	2017-12-21 11:25:59
6	025CALS.d	200/1000/20K	2017-12-21 11:27:59
7			

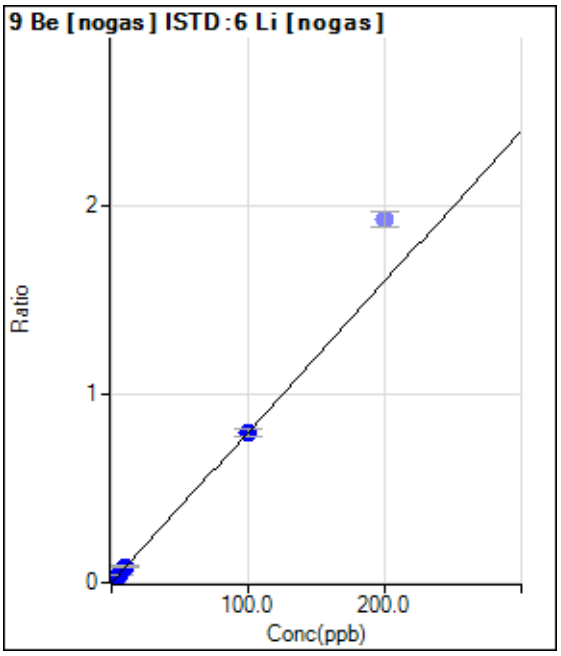
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38666.84	0.0910	P	3.5
2	☐	2.000	1.903	55077.86	0.1282	P	2.5
3	☐	5.000	4.659	78744.96	0.1822	P	2.3
4	☐	10.000	10.501	124245.63	0.2965	P	1.8
5	☐	100.000	99.969	837978.74	2.0474	P	3.3
6	☑	200.000		1762766.17	4.8413	A	5.2
7	☐	1.000					

y = 0.0196 * x + 0.0910
R = 1.0000
DL = 0.485
BEC = 4.65

Weight: <None>
Min Conc: <None>

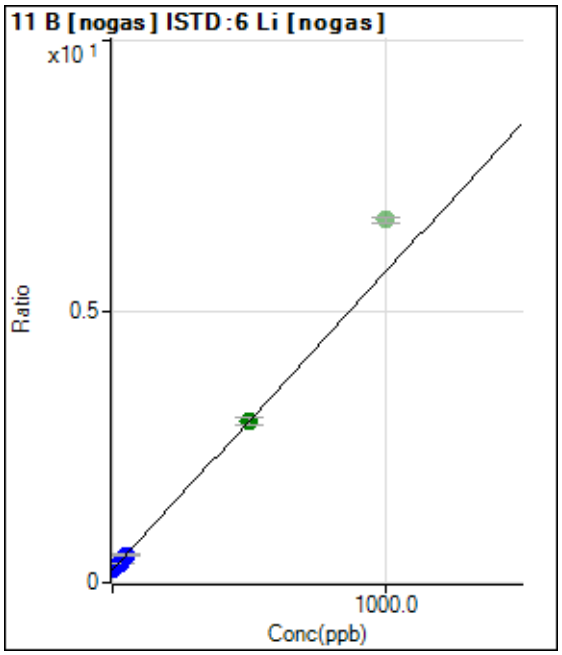


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0003	P	48.3
2	☐	2.000	1.996	6978.06	0.0162	P	3.9
3	☐	5.000	4.864	16944.48	0.0392	P	5.6
4	☐	10.000	10.740	36104.46	0.0862	P	5.1
5	☐	100.000	99.933	327291.36	0.8000	P	5.1
6	☑	200.000		701542.93	1.9277	P	4.2
7	☐	1.000					

y = 0.0080 * x + 2.7134E-004
R = 1.0000
DL = 0.04913
BEC = 0.0339

Weight: <None>
Min Conc: <None>

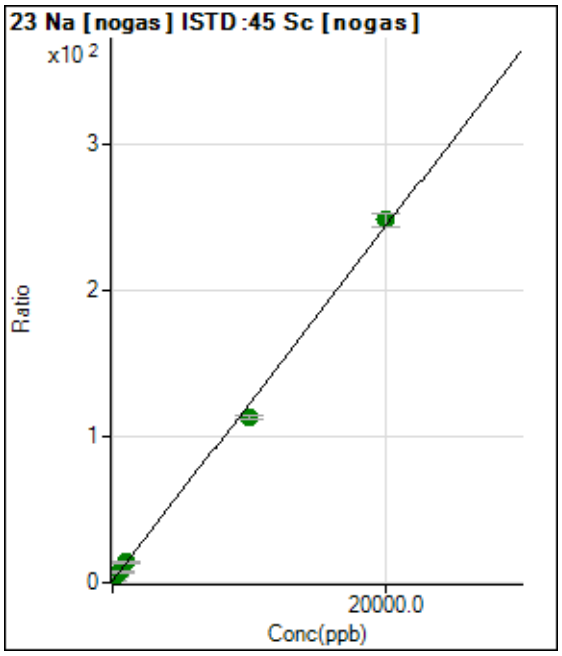
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	101110.97	0.2384	P	4.1
2	☐	10.000	7.401	119670.72	0.2790	P	4.7
3	☐	25.000	19.131	148427.07	0.3434	P	0.7
4	☐	50.000	49.073	212570.42	0.5076	P	5.5
5	☐	500.000	500.438	1220926.29	2.9842	A	4.8
6	☑	1000.000		2433030.69	6.6832	A	1.3
7	☐	5.000					

y = 0.0055 * x + 0.2384
R = 0.9999
DL = 5.348
BEC = 43.45

Weight: <None>
Min Conc: <None>

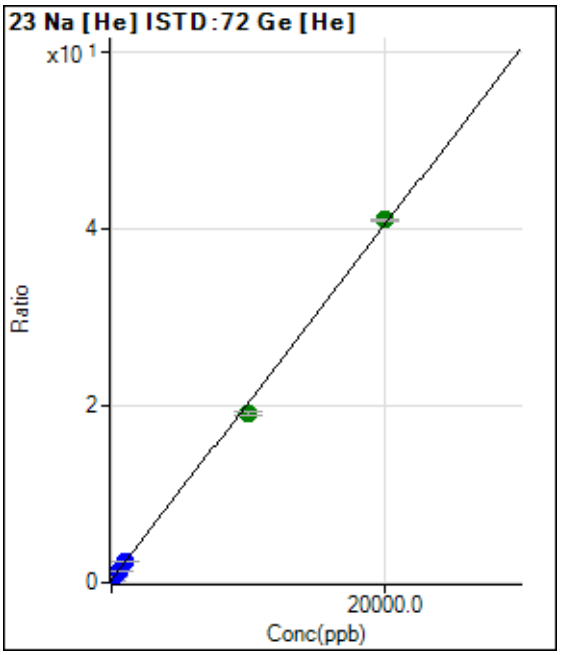


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1498728.03	1.2079	A	2.2
2	☐	200.000	208.239	4492718.33	3.7326	A	2.4
3	☐	500.000	500.701	8933324.16	7.2783	A	1.7
4	☐	1000.000	1046.375	16924985.80	13.8940	A	3.3
5	☐	10000.00	9231.759	143038415.7	113.132	A	2.8
6	☐	20000.00	20381.70	308088115.2	248.312	A	3.5
7	☐	100.000					

y = 0.0121 * x + 1.2079
R = 0.9989
DL = 6.685
BEC = 99.63

Weight: <None>
Min Conc: <None>

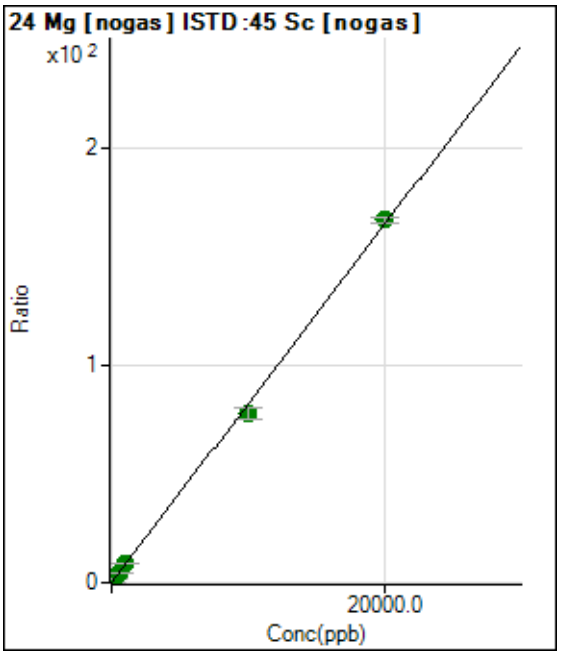
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	44372.24	0.3070	P	2.3
2	☐	200.000	207.345	104173.38	0.7227	P	5.3
3	☐	500.000	488.825	194442.57	1.2869	P	0.3
4	☐	1000.000	1071.237	356148.87	2.4545	P	2.9
5	☐	10000.00	9383.694	2850066.10	19.1184	A	2.8
6	☐	20000.00	20304.79	5903086.37	41.0118	A	0.2
7	☐	100.000					

y = 0.0020 * x + 0.3070
R = 0.9993
DL = 10.68
BEC = 153.1

Weight: <None>
Min Conc: <None>

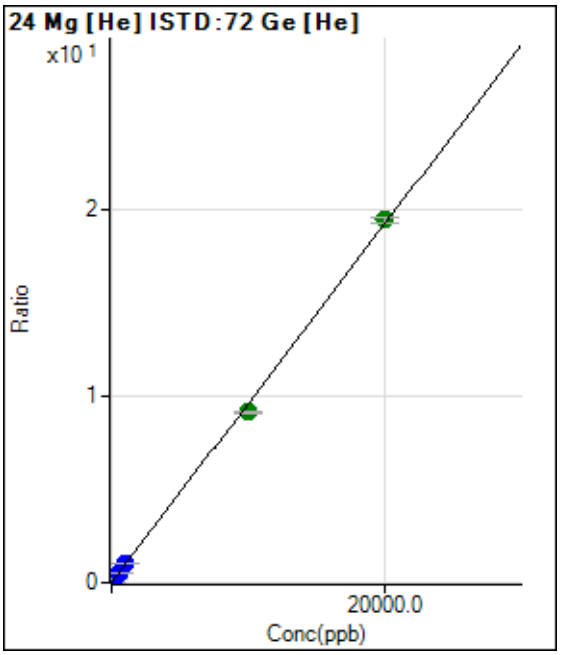


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8903.82	0.0072	P	6.9
2	☐	200.000	217.234	2165140.74	1.7990	A	2.9
3	☐	500.000	530.481	5379516.40	4.3826	A	1.4
4	☐	1000.000	1105.585	11116462.23	9.1262	A	3.8
5	☐	10000.00	9455.631	98573433.46	77.9983	A	5.9
6	☐	20000.00	20265.97	207464396.3	167.163	A	1.9
7	☐	100.000					

y = 0.0082 * x + 0.0072
R = 0.9994
DL = 0.1802
BEC = 0.8703

Weight: <None>
Min Conc: <None>

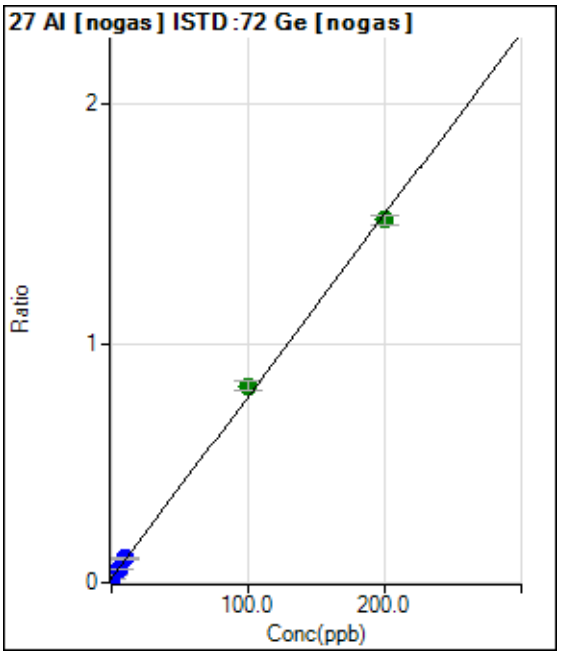
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0019	P	6.3
2	☐	200.000	208.176	29136.29	0.2022	P	6.4
3	☐	500.000	494.473	72150.95	0.4775	P	0.5
4	☐	1000.000	1079.637	150934.68	1.0404	P	3.7
5	☐	10000.00	9499.617	1362509.88	9.1393	A	0.9
6	☐	20000.00	20246.26	2803389.23	19.4763	A	1.6
7	☐	100.000					

y = 9.6187E-004 * x + 0.0019
R = 0.9995
DL = 0.3771
BEC = 1.988

Weight: <None>
Min Conc: <None>

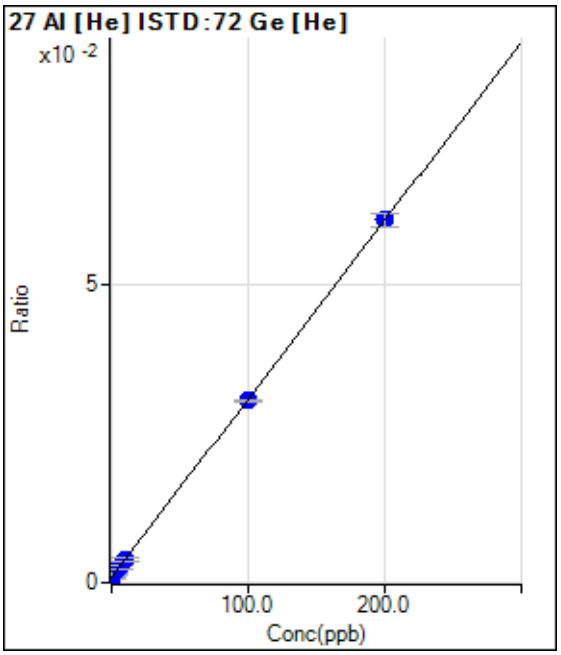


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31219.85	0.0177	P	4.7
2	☐	2.000	3.187	73551.95	0.0420	P	34.2
3	☐	5.000	5.197	104265.44	0.0573	P	2.7
4	☐	10.000	11.006	176767.63	0.1015	P	2.2
5	☐	100.000	105.839	1442442.79	0.8237	A	4.5
6	☐	200.000	197.013	2687610.59	1.5180	A	2.4
7	☐	1.000					

y = 0.0076 * x + 0.0177
R = 0.9994
DL = 0.328
BEC = 2.327

Weight: <None>
Min Conc: <None>

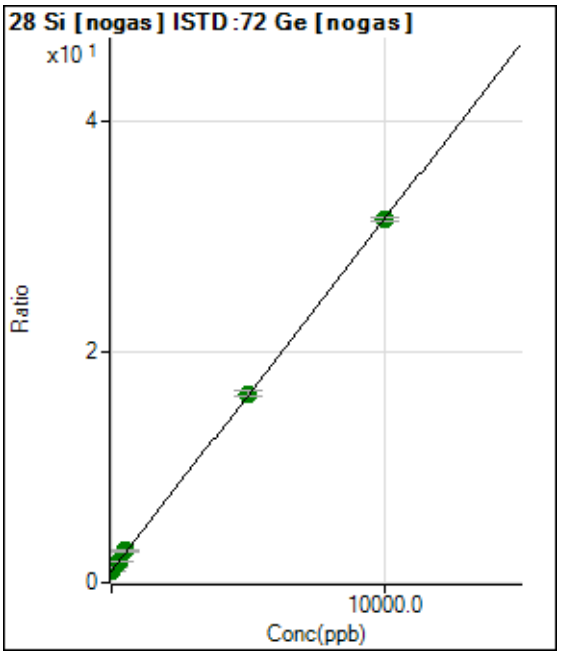
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.419	110.00	0.0008	P	25.2
2	☐	2.000	2.070	216.67	0.0015	P	23.3
3	☐	5.000	5.595	386.68	0.0026	P	17.9
4	☐	10.000	10.231	573.35	0.0039	P	17.7
5	☐	100.000	99.101	4543.97	0.0305	P	1.4
6	☐	200.000	200.422	8742.15	0.0607	P	4.0
7	☐	1.000					

y = 2.9860E-004 * x + 8.8769E-004
R = 1.0000
DL = 1.929
BEC = 2.973

Weight: <None>
Min Conc: <None>

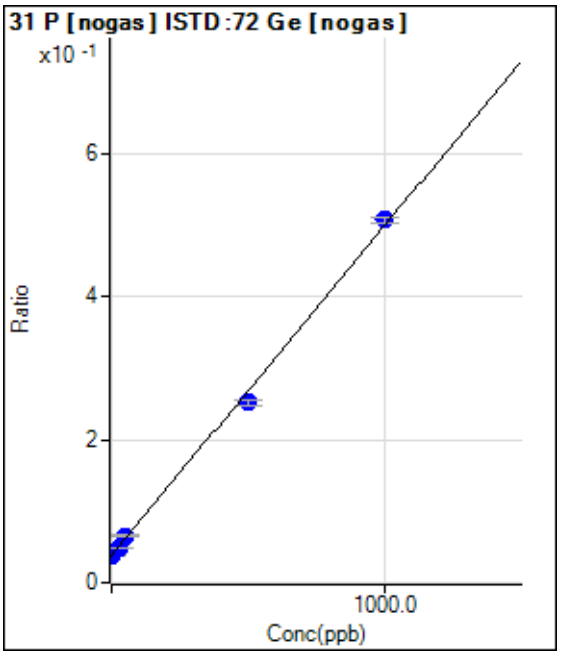


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1789417.68	1.0167	A	2.2
2	☐	100.000	113.592	2380442.93	1.3636	A	2.3
3	☐	250.000	254.831	3265665.16	1.7949	A	1.2
4	☐	500.000	576.907	4837054.82	2.7785	A	2.6
5	☐	5000.000	5031.504	28694221.24	16.3821	A	2.8
6	☐	10000.00	9980.146	55762210.84	31.4945	A	0.9
7	☐	5.000					

y = 0.0031 * x + 1.0167
R = 1.0000
DL = 22.45
BEC = 332.9

Weight: <None>
Min Conc: <None>

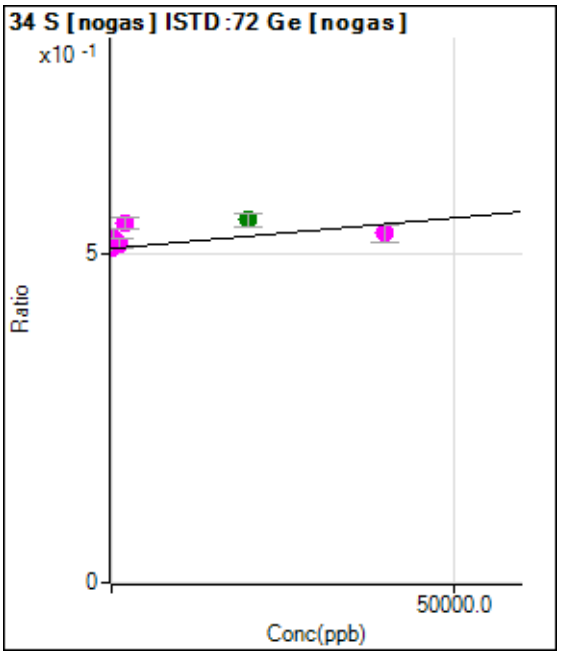
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67638.03	0.0384	P	2.5
2	☐	10.000	9.668	74871.92	0.0429	P	3.0
3	☐	25.000	19.914	86634.76	0.0476	P	1.6
4	☐	50.000	58.037	113515.52	0.0652	P	2.6
5	☐	500.000	463.406	441729.23	0.2522	P	2.8
6	☐	1000.000	1018.026	899499.00	0.5080	P	1.3
7	☐	5.000					

y = 4.6130E-004 * x + 0.0384
R = 0.9990
DL = 6.191
BEC = 83.31

Weight: <None>
Min Conc: <None>

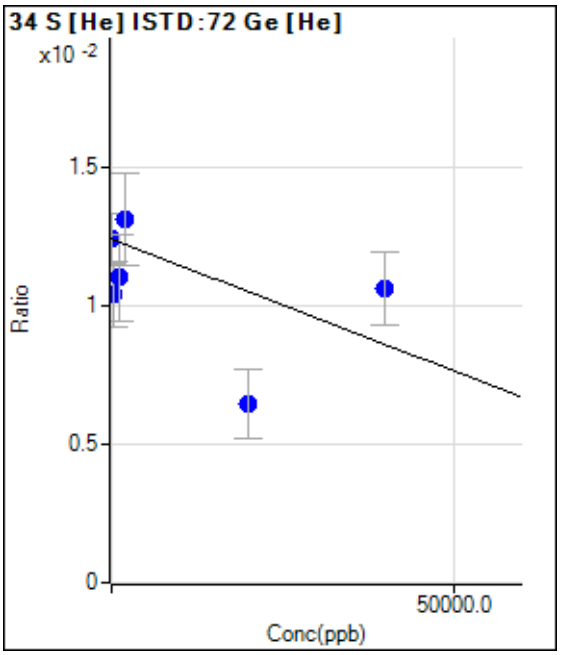


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	892724.86	0.5071	M	0.5
2	☐	400.000	16455.62	911696.11	0.5223	M	5.4
3	☐	1000.000	7779.748	935858.45	0.5143	M	2.5
4	☐	2000.000	42408.97	951127.27	0.5463	M	3.4
5	☐	20000.00	46732.64	963610.21	0.5503	A	3.8
6	☐	40000.00	24283.18	937583.09	0.5295	M	5.2
7	☐	100.000					

y = 9.2480E-007 * x + 0.5071
R = 0.3607
DL = 8604
BEC = 5.483E+05

Weight: <None>
Min Conc: <None>

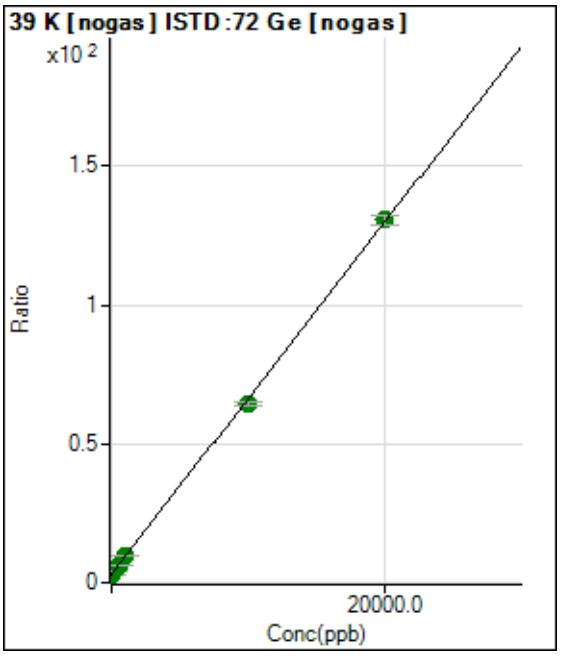
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1800.51	0.0124	P	14.7
2	☐	400.000	20992.77	1500.36	0.0104	P	22.0
3	☐	1000.000	14562.66	1667.09	0.0110	P	28.4
4	☐	2000.000	-7290.543	1900.53	0.0131	P	25.5
5	☐	20000.00	62507.79	966.84	0.0065	P	39.1
6	☐	40000.00	18665.63	1533.74	0.0107	P	24.7
7	☐	100.000					

y = -9.5131E-008 * x + 0.0124
R = -0.4265
DL = -5.75E+04
BEC = -1.307E+05

Weight: <None>
Min Conc: <None>

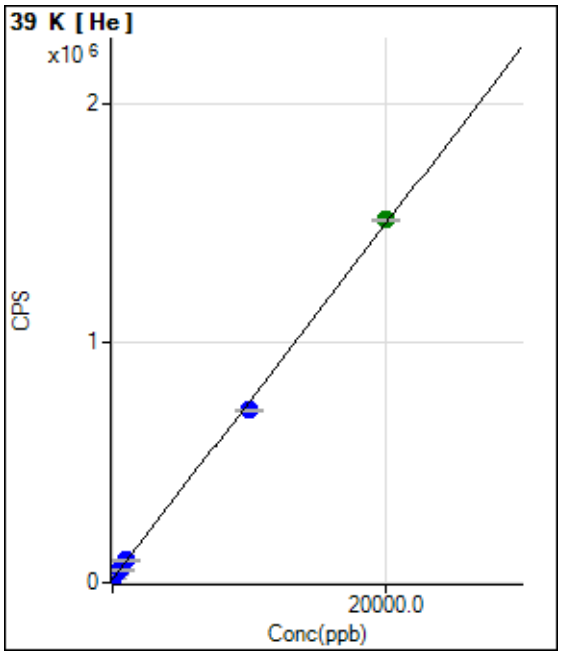


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5379792.05	3.0567	A	2.2
2	☐	200.000	214.655	7709881.16	4.4166	A	2.4
3	☐	500.000	485.684	11160045.56	6.1336	A	1.0
4	☐	1000.000	1069.478	17117587.88	9.8320	A	1.3
5	☐	10000.00	9700.353	113008235.8	64.5100	A	1.8
6	☐	20000.00	20146.56	231368621.8	130.688	A	2.6
7	☐	100.000					

y = 0.0063 * x + 3.0567
R = 0.9998
DL = 32.02
BEC = 482.5

Weight: <None>
Min Conc: <None>

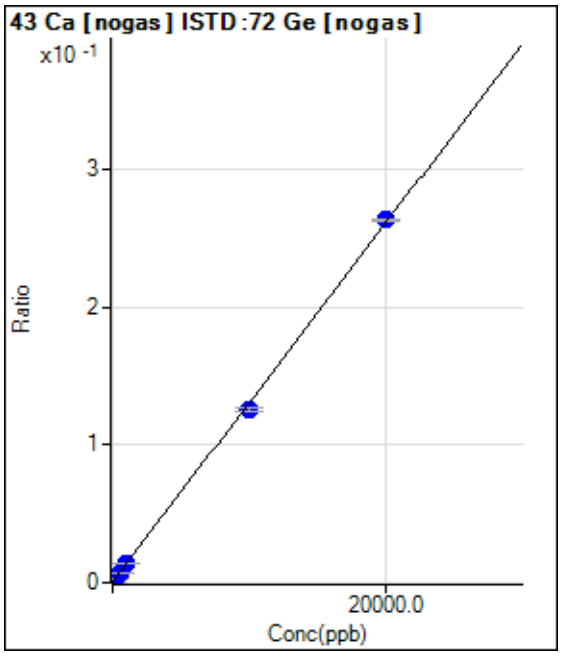
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14155.47		P	1.1
2	☐	200.000	199.302	28919.30		P	1.8
3	☐	500.000	516.185	52393.24		P	1.9
4	☐	1000.000	1058.290	92551.13		P	3.1
5	☐	10000.00	9517.568	719194.83		P	0.7
6	☐	20000.00	20237.90	1513332.37		A	0.6
7	☐	100.000					

y = 74.0777 * x + 14155.4733
R = 0.9996
DL = 6.434
BEC = 191.1

Weight: <None>
Min Conc: <None>

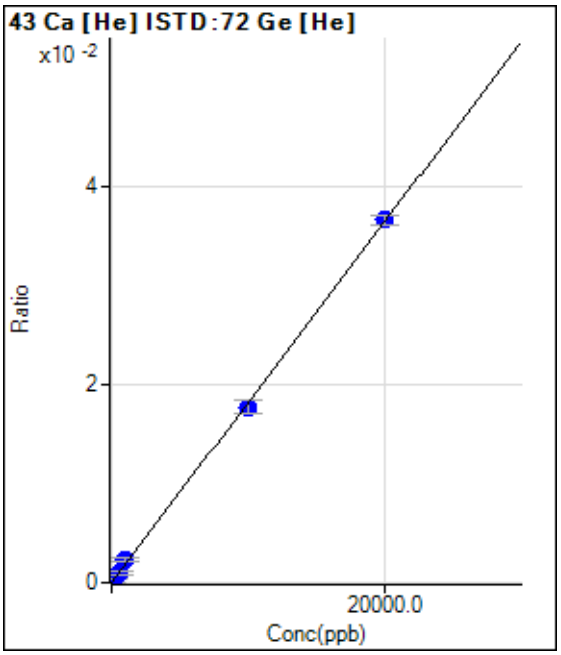


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	910.04	0.0005	P	2.4
2	☐	200.000	205.612	5577.61	0.0032	P	5.3
3	☐	500.000	516.734	13184.89	0.0072	P	2.0
4	☐	1000.000	1049.153	24693.42	0.0142	P	0.8
5	☐	10000.00	9602.613	220003.64	0.1256	P	1.6
6	☐	20000.00	20195.76	466670.86	0.2636	P	0.4
7	☐	100.000					

y = 1.3025E-005 * x + 5.1682E-004
R = 0.9997
DL = 2.808
BEC = 39.68

Weight: <None>
Min Conc: <None>

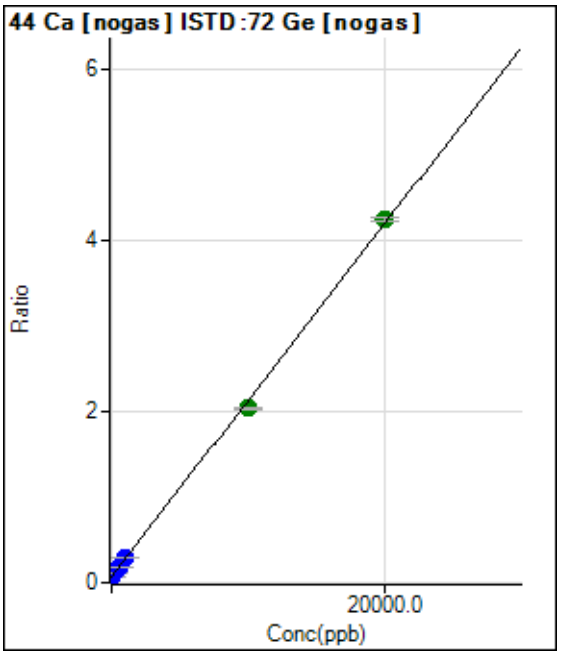
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	200.000	228.762	63.33	0.0004	P	51.6
3	☐	500.000	532.242	150.00	0.0010	P	29.0
4	☐	1000.000	1261.703	336.68	0.0023	P	20.6
5	☐	10000.00	9747.216	2650.25	0.0178	P	7.2
6	☐	20000.00	20112.21	5277.49	0.0367	P	2.8
7	☐	100.000					

y = 1.8220E-006 * x + 2.2893E-005
R = 0.9998
DL = 65.29
BEC = 12.57

Weight: <None>
Min Conc: <None>

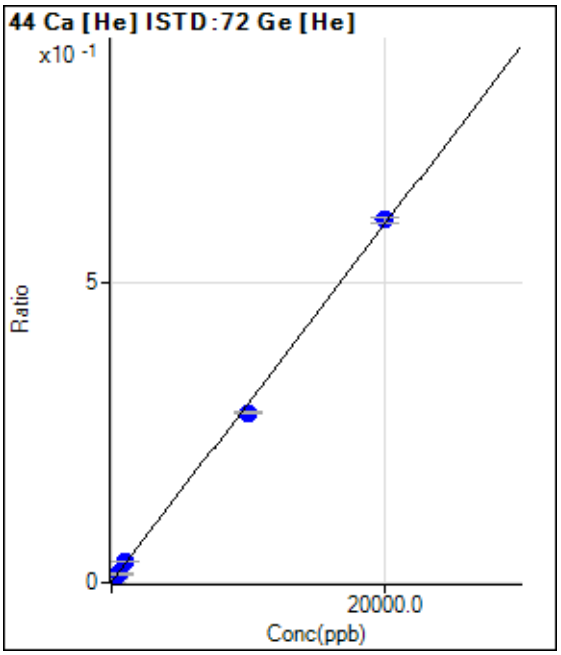


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	123923.64	0.0704	P	2.7
2	☐	200.000	211.380	198966.13	0.1140	P	2.0
3	☐	500.000	497.510	314681.80	0.1729	P	1.0
4	☐	1000.000	1086.310	512357.78	0.2943	P	0.4
5	☐	10000.00	9533.972	3565109.84	2.0351	A	1.9
6	☐	20000.00	20228.64	7505381.14	4.2389	A	1.0
7	☐	100.000					

y = 2.0607E-004 * x + 0.0704
R = 0.9996
DL = 27.57
BEC = 341.7

Weight: <None>
Min Conc: <None>

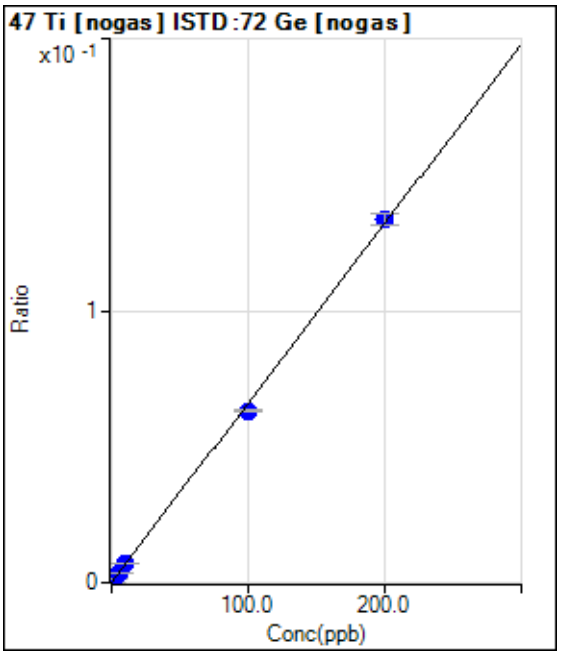
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	216.67	0.0015	P	10.0
2	☐	200.000	170.611	946.71	0.0066	P	14.2
3	☐	500.000	448.239	2236.84	0.0148	P	7.0
4	☐	1000.000	1139.466	5124.13	0.0353	P	7.4
5	☐	10000.00	9465.210	42128.03	0.2826	P	1.2
6	☐	20000.00	20262.01	86819.47	0.6032	P	1.4
7	☐	100.000					

y = 2.9695E-005 * x + 0.0015
R = 0.9995
DL = 15.19
BEC = 50.43

Weight: <None>
Min Conc: <None>

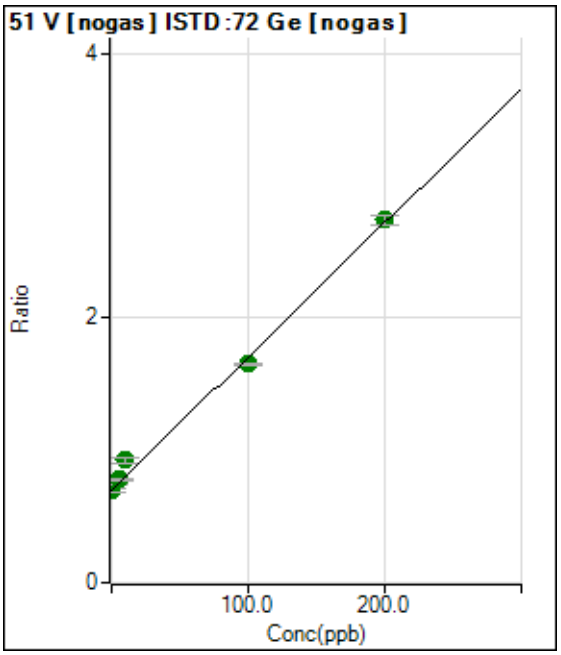


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	206.67	0.0001	P	23.2
2	☐	2.000	2.000	2510.22	0.0014	P	3.2
3	☐	5.000	4.981	6197.82	0.0034	P	5.8
4	☐	10.000	10.372	12124.20	0.0070	P	4.9
5	☐	100.000	95.638	110813.59	0.0632	P	1.0
6	☐	200.000	202.163	236499.16	0.1336	P	3.0
7	☐	1.000					

y = 6.6010E-004 * x + 1.1769E-004
R = 0.9997
DL = 0.1239
BEC = 0.1783

Weight: <None>
Min Conc: <None>

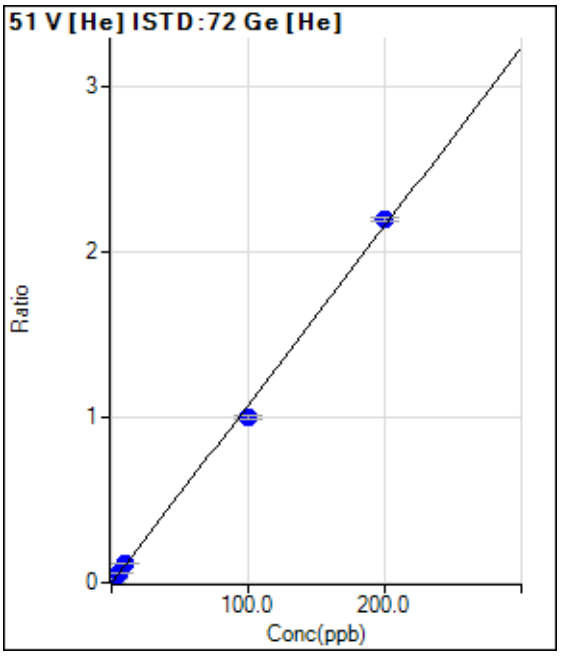
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1231065.78	0.6996	A	4.2
2	☐	2.000	5.797	1323171.84	0.7582	A	5.2
3	☐	5.000	7.735	1415124.61	0.7778	A	2.7
4	☐	10.000	22.573	1614937.05	0.9277	A	4.5
5	☐	100.000	94.272	2895141.80	1.6525	A	0.9
6	☐	200.000	202.129	4855654.15	2.7427	A	2.7
7	☐	1.000					

y = 0.0101 * x + 0.6996
R = 0.9975
DL = 8.708
BEC = 69.21

Weight: <None>
Min Conc: <None>

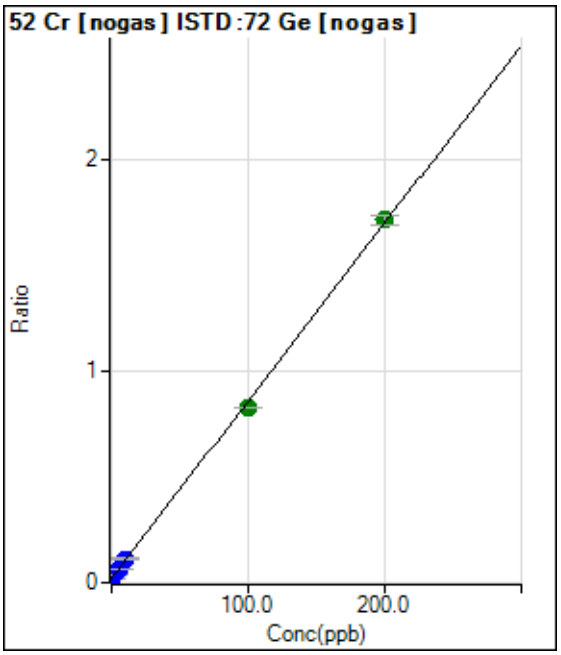


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.830	634.01	0.0044	P	8.8
2	☐	2.000	2.847	3779.07	0.0262	P	4.5
3	☐	5.000	5.771	8737.40	0.0578	P	0.9
4	☐	10.000	11.292	17052.50	0.1175	P	4.0
5	☐	100.000	92.704	148795.09	0.9981	P	2.3
6	☐	200.000	203.555	316246.36	2.1971	P	1.1
7	☐	1.000					

y = 0.0108 * x - 0.0046
R = 0.9990
DL = 0.1075
BEC = -0.4247

Weight: <None>
Min Conc: <None>

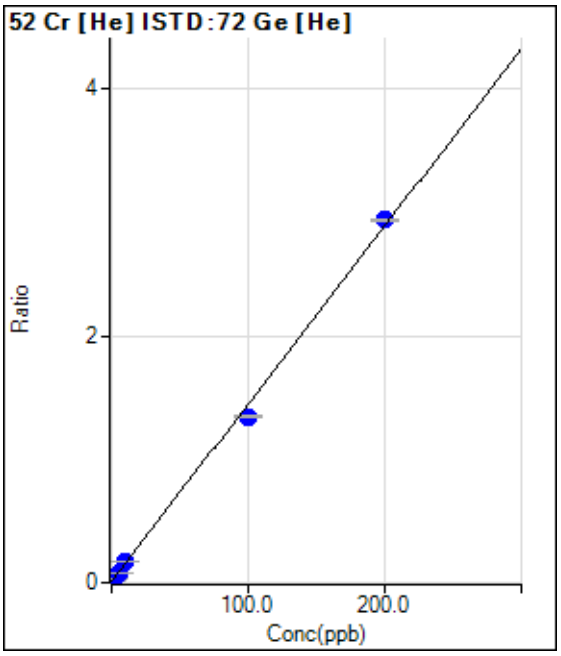
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34973.42	0.0199	P	5.3
2	☐	2.000	2.184	66622.78	0.0382	P	3.4
3	☐	5.000	5.026	112763.46	0.0620	P	0.8
4	☐	10.000	11.066	195990.92	0.1126	P	3.4
5	☐	100.000	96.066	1445140.50	0.8248	A	0.6
6	☐	200.000	201.911	3030192.04	1.7116	A	2.6
7	☐	1.000					

y = 0.0084 * x + 0.0199
R = 0.9997
DL = 0.3748
BEC = 2.371

Weight: <None>
Min Conc: <None>

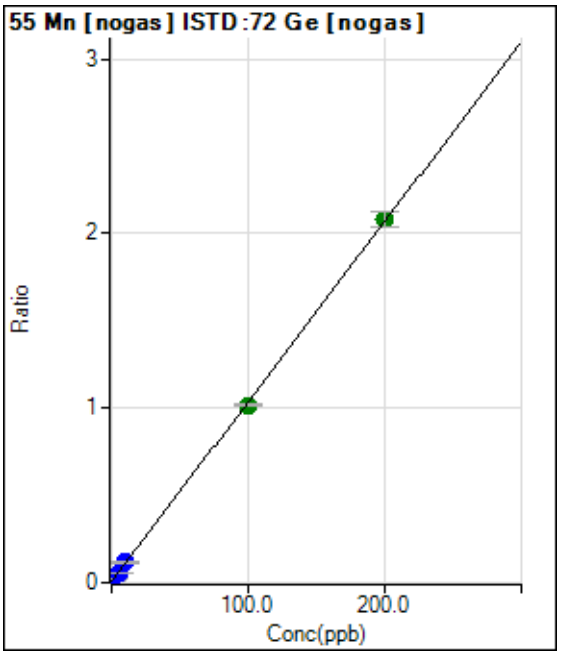


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1383.41	0.0096	P	11.1
2	☐	2.000	2.003	5537.59	0.0384	P	10.7
3	☐	5.000	5.209	12774.63	0.0846	P	1.7
4	☐	10.000	10.835	24029.34	0.1656	P	1.5
5	☐	100.000	92.631	200232.30	1.3431	P	1.3
6	☐	200.000	203.637	423356.39	2.9413	P	0.5
7	☐	1.000					

y = 0.0144 * x + 0.0096
R = 0.9990
DL = 0.2206
BEC = 0.6647

Weight: <None>
Min Conc: <None>

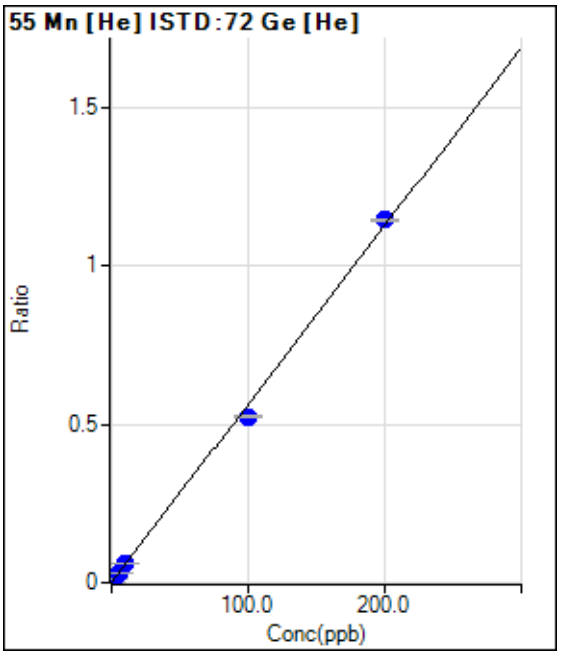
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10376.39	0.0059	P	4.5
2	☐	2.000	2.107	48223.25	0.0276	P	0.9
3	☐	5.000	4.939	103369.65	0.0568	P	4.7
4	☐	10.000	10.675	201897.12	0.1160	P	1.5
5	☐	100.000	97.839	1777671.74	1.0147	A	1.2
6	☐	200.000	201.047	3680173.69	2.0789	A	4.1
7	☐	1.000					

y = 0.0103 * x + 0.0059
R = 0.9999
DL = 0.07749
BEC = 0.5718

Weight: <None>
Min Conc: <None>

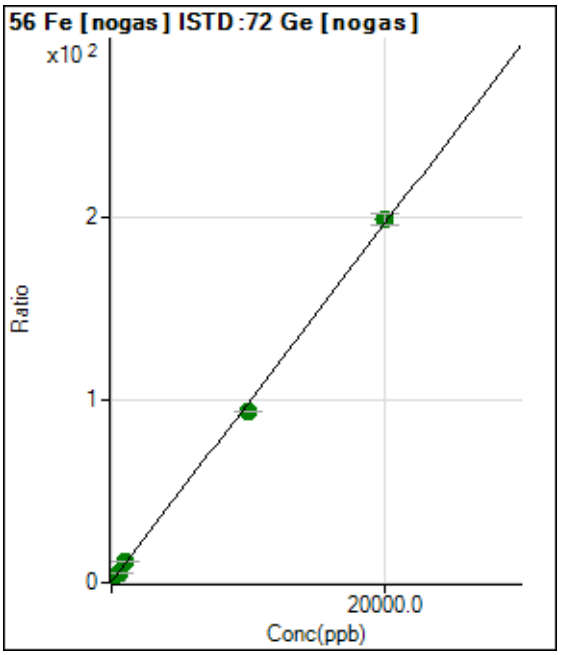


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0009	P	18.7
2	☐	2.000	2.002	1753.45	0.0122	P	7.6
3	☐	5.000	4.994	4383.92	0.0290	P	3.1
4	☐	10.000	10.610	8798.90	0.0606	P	5.8
5	☐	100.000	93.153	78313.00	0.5253	P	1.4
6	☐	200.000	203.393	164940.58	1.1459	P	0.7
7	☐	1.000					

y = 0.0056 * x + 8.9726E-004
R = 0.9992
DL = 0.08917
BEC = 0.1594

Weight: <None>
Min Conc: <None>

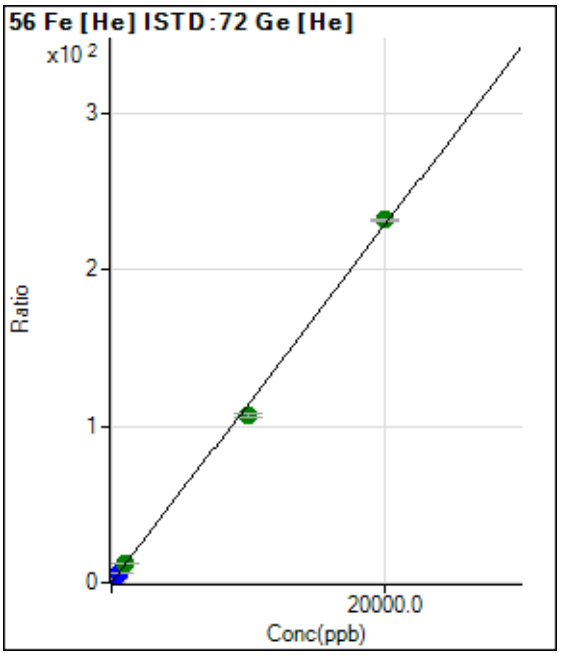
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	958603.70	0.5448	P	3.4
2	☐	200.000	218.251	4688239.04	2.6856	A	2.6
3	☐	500.000	504.584	9996389.55	5.4943	A	3.2
4	☐	1000.000	1083.936	19460497.83	11.1773	A	0.7
5	☐	10000.00	9534.106	164816512.0	94.0667	A	0.2
6	☐	20000.00	20228.45	352235741.2	198.969	A	3.2
7	☐	100.000					

y = 0.0098 * x + 0.5448
R = 0.9996
DL = 5.718
BEC = 55.53

Weight: <None>
Min Conc: <None>

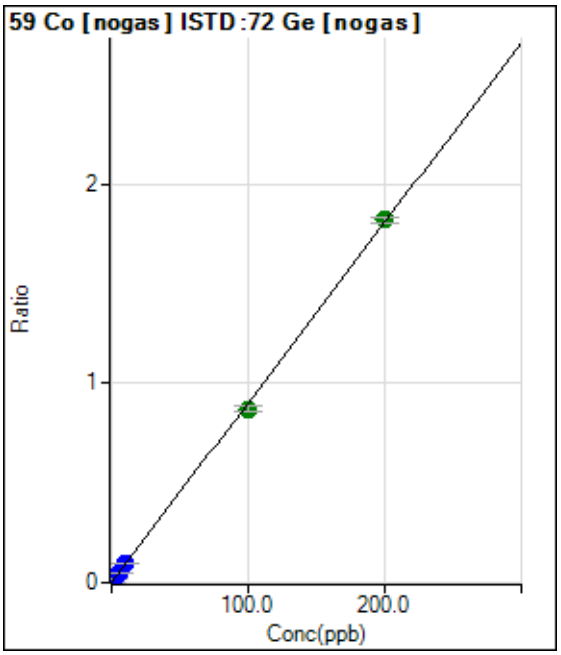


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4744.02	0.0329	P	7.7
2	☐	200.000	208.301	348074.00	2.4131	P	2.3
3	☐	500.000	493.137	856356.34	5.6678	P	0.3
4	☐	1000.000	1106.999	1840399.71	12.6822	A	1.2
5	☐	10000.00	9358.202	15945685.18	106.966	A	2.2
6	☐	20000.00	20315.63	33417998.67	232.173	A	0.6
7	☐	100.000					

y = 0.0114 * x + 0.0329
R = 0.9992
DL = 0.6621
BEC = 2.876

Weight: <None>
Min Conc: <None>

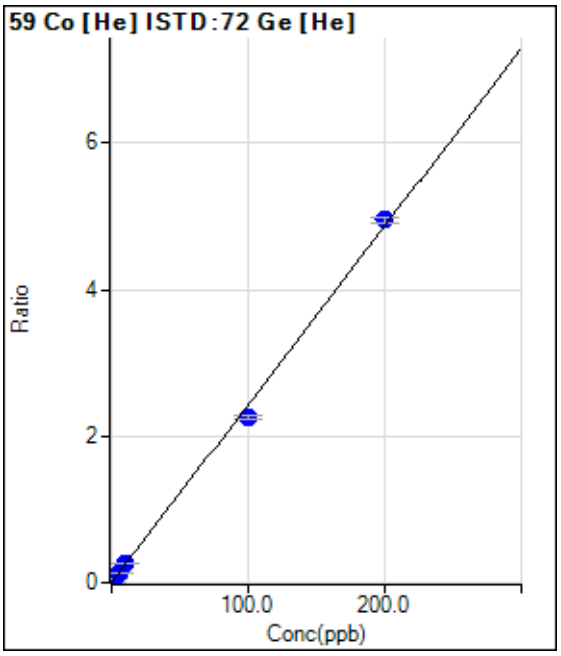
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	316.68	0.0002	P	25.3
2	☐	2.000	2.191	34833.51	0.0200	P	2.4
3	☐	5.000	5.035	82991.91	0.0456	P	2.5
4	☐	10.000	10.965	172583.23	0.0991	P	1.5
5	☐	100.000	96.664	1528113.52	0.8725	A	2.8
6	☐	200.000	201.617	3221336.83	1.8195	A	1.9
7	☐	1.000					

y = 0.0090 * x + 1.8044E-004
R = 0.9998
DL = 0.0152
BEC = 0.02

Weight: <None>
Min Conc: <None>

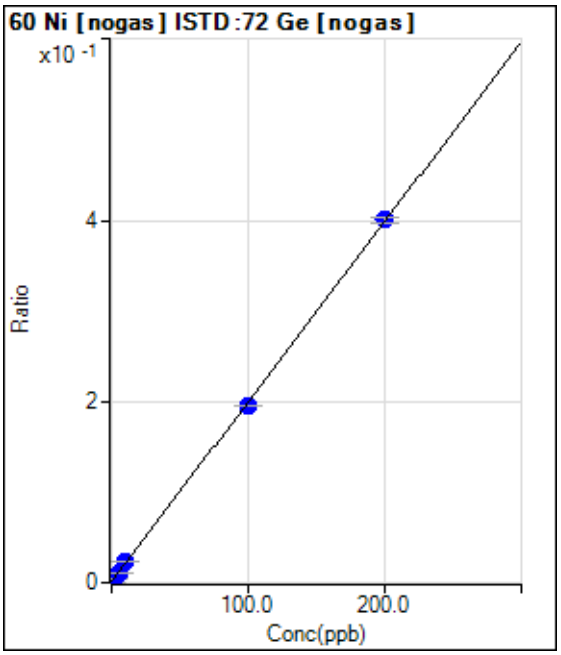


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0004	P	64.2
2	☐	2.000	2.129	7525.00	0.0522	P	2.4
3	☐	5.000	4.977	18336.12	0.1214	P	2.4
4	☐	10.000	10.731	37902.83	0.2612	P	1.5
5	☐	100.000	92.544	335278.89	2.2490	P	2.0
6	☐	200.000	203.691	712417.77	4.9496	P	1.5
7	☐	1.000					

y = 0.0243 * x + 4.3479E-004
R = 0.9990
DL = 0.03447
BEC = 0.01789

Weight: <None>
Min Conc: <None>

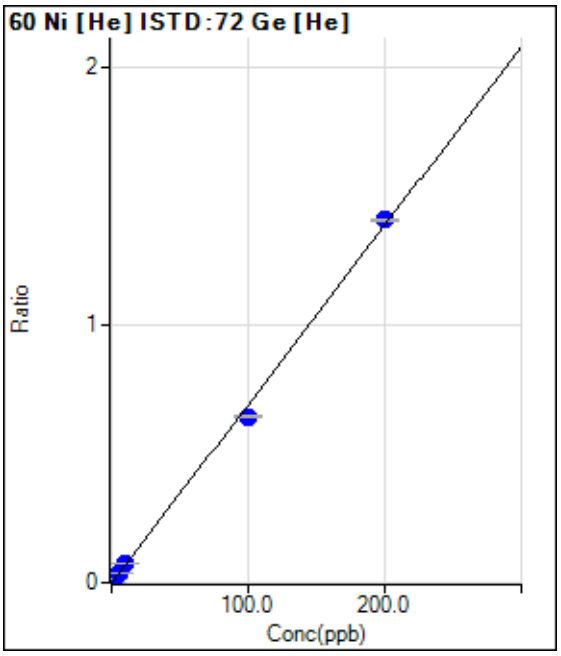
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.193	1273.40	0.0007	P	9.5
2	☐	2.000	2.091	9189.09	0.0053	P	3.9
3	☐	5.000	4.958	19941.16	0.0110	P	3.6
4	☐	10.000	11.357	41206.83	0.0237	P	3.0
5	☐	100.000	97.710	342109.72	0.1952	P	0.8
6	☐	200.000	201.078	709312.49	0.4006	P	1.3
7	☐	1.000					

y = 0.0020 * x + 0.0011
R = 0.9999
DL = 0.1035
BEC = 0.5576

Weight: <None>
Min Conc: <None>

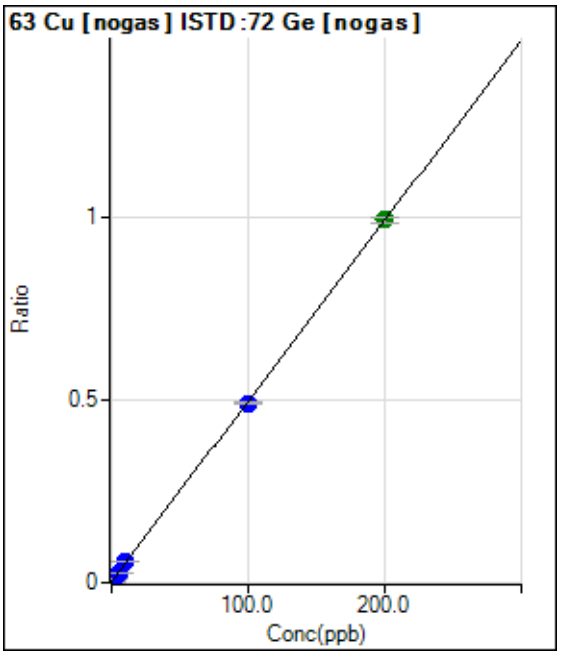


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.627	183.33	0.0013	P	18.7
2	☐	2.000	2.730	2293.52	0.0159	P	12.5
3	☐	5.000	5.566	5377.53	0.0356	P	8.3
4	☐	10.000	11.521	11170.22	0.0770	P	2.4
5	☐	100.000	93.307	96212.07	0.6454	P	1.1
6	☐	200.000	203.249	202867.59	1.4094	P	0.6
7	☐	1.000					

y = 0.0069 * x - 0.0031
R = 0.9991
DL = 0.1023
BEC = -0.445

Weight: <None>
Min Conc: <None>

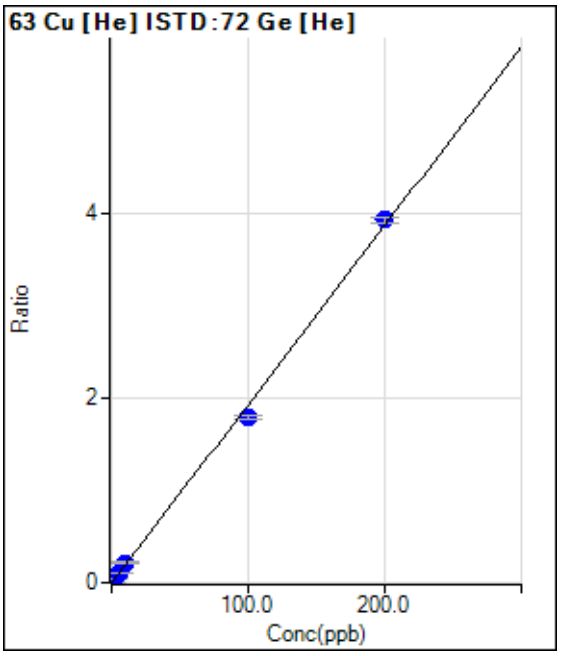
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4547.31	0.0026	P	8.0
2	☐	2.000	2.139	22907.99	0.0131	P	4.5
3	☐	5.000	5.248	51753.44	0.0284	P	1.4
4	☐	10.000	11.233	100868.97	0.0579	P	3.4
5	☐	100.000	98.883	858255.06	0.4899	P	1.6
6	☐	200.000	200.489	1753887.58	0.9906	A	1.5
7	☐	1.000					

y = 0.0049 * x + 0.0026
R = 1.0000
DL = 0.126
BEC = 0.5245

Weight: <None>
Min Conc: <None>

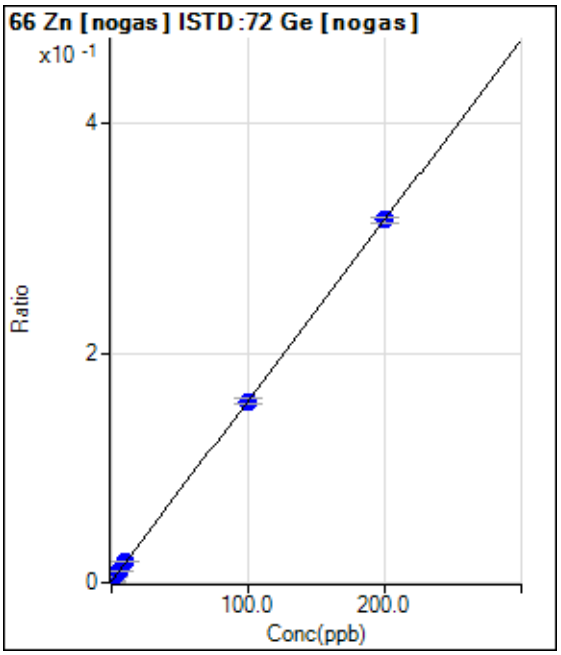


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.729	1020.05	0.0071	P	1.6
2	☐	2.000	2.776	6721.34	0.0466	P	6.2
3	☐	5.000	5.647	15426.72	0.1021	P	4.6
4	☐	10.000	11.372	30869.73	0.2128	P	5.6
5	☐	100.000	93.137	267366.07	1.7934	P	2.8
6	☐	200.000	203.339	564764.92	3.9237	P	1.7
7	☐	1.000					

y = 0.0193 * x - 0.0070
R = 0.9991
DL = 0.01778
BEC = -0.3638

Weight: <None>
Min Conc: <None>

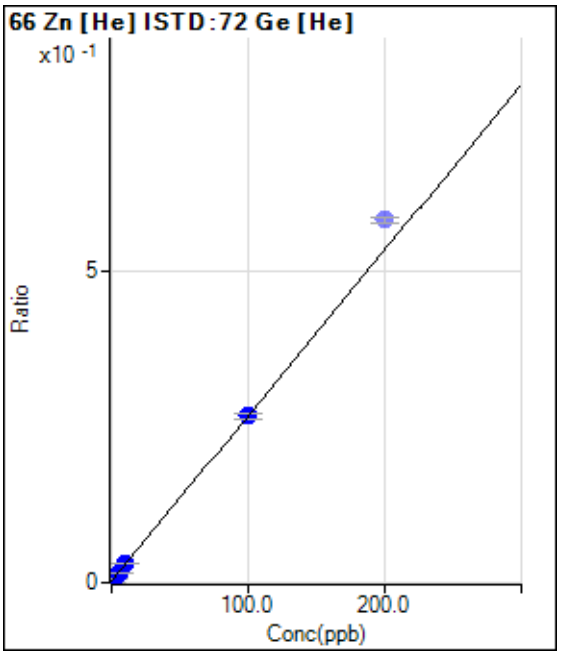
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.322	1486.75	0.0008	P	11.0
2	☐	2.000	1.930	7655.04	0.0044	P	3.2
3	☐	5.000	5.078	16984.78	0.0093	P	1.7
4	☐	10.000	10.553	31230.31	0.0179	P	2.4
5	☐	100.000	99.581	276527.54	0.1579	P	2.8
6	☐	200.000	200.181	559504.67	0.3160	P	1.4
7	☐	1.000					

y = 0.0016 * x + 0.0014
R = 1.0000
DL = 0.1778
BEC = 0.8594

Weight: <None>
Min Conc: <None>

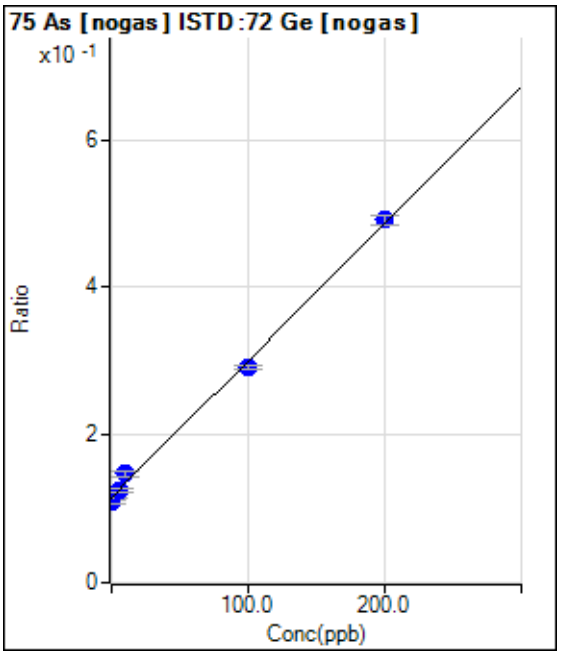


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.503	183.33	0.0013	P	7.9
2	☐	2.000	1.688	1026.71	0.0071	P	12.9
3	☐	5.000	5.045	2423.54	0.0160	P	5.7
4	☐	10.000	10.851	4567.31	0.0315	P	6.1
5	☐	100.000	99.919	40040.94	0.2686	P	3.1
6	☑	200.000		83999.97	0.5836	P	1.9
7	☐	1.000					

y = 0.0027 * x + 0.0026
R = 0.9999
DL = 0.1133
BEC = 0.9802

Weight: <None>
Min Conc: <None>

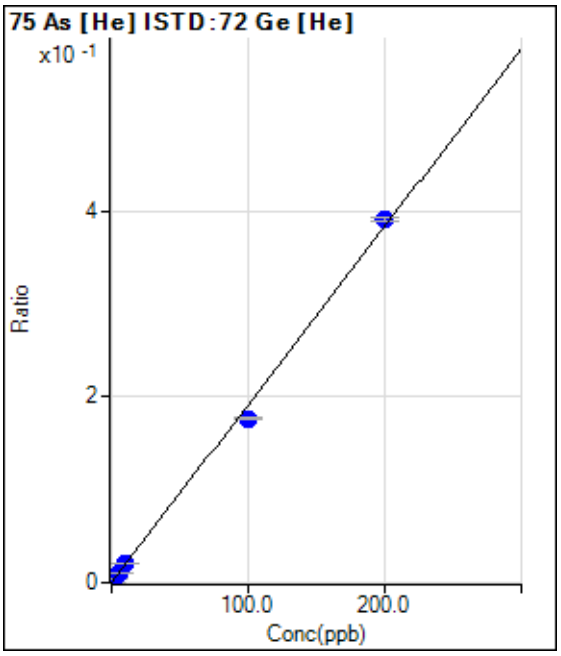
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-3.359	192746.51	0.1095	P	5.5
2	☐	2.000	1.872	208078.12	0.1192	P	5.6
3	☐	5.000	4.594	226169.18	0.1243	P	3.7
4	☐	10.000	16.997	256408.90	0.1473	P	5.1
5	☐	100.000	94.469	509941.15	0.2911	P	1.6
6	☐	200.000	202.427	870119.49	0.4915	P	3.0
7	☐	1.000					

y = 0.0019 * x + 0.1158
R = 0.9986
DL = 9.66
BEC = 62.36

Weight: <None>
Min Conc: <None>

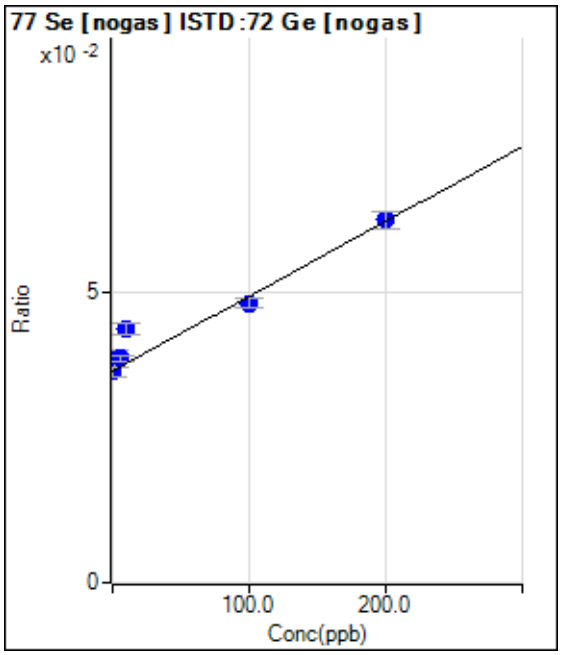


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	27.78	0.0002	P	15.3
2	☐	2.000	2.115	612.23	0.0042	P	3.5
3	☐	5.000	5.046	1488.96	0.0099	P	2.9
4	☐	10.000	11.081	3106.95	0.0214	P	2.4
5	☐	100.000	92.088	26316.83	0.1765	P	1.0
6	☐	200.000	203.900	56225.48	0.3906	P	1.2
7	☐	1.000					

y = 0.0019 * x + 1.9251E-004
R = 0.9989
DL = 0.0462
BEC = 0.1005

Weight: <None>
Min Conc: <None>

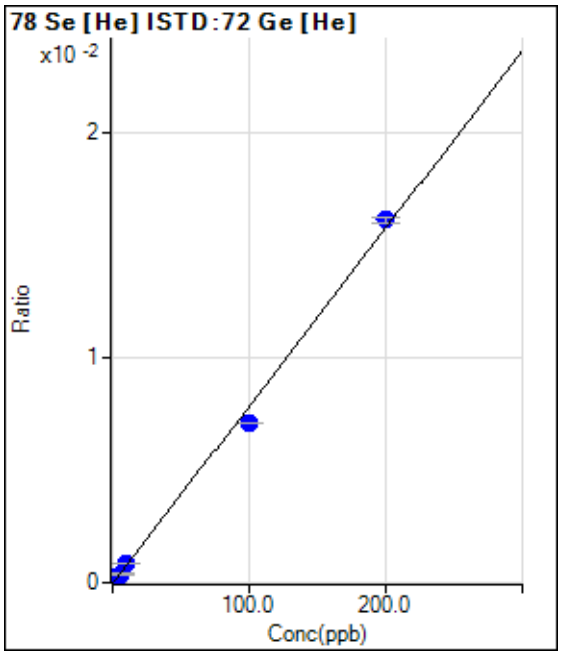
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64380.95	0.0366	P	6.3
2	☐	2.000	16.422	67532.37	0.0387	P	8.0
3	☐	5.000	16.959	70560.00	0.0388	P	2.7
4	☐	10.000	56.732	76443.55	0.0439	P	5.0
5	☐	100.000	90.770	84672.63	0.0483	P	3.1
6	☐	200.000	201.835	110943.03	0.0627	P	4.5
7	☐	1.000					

y = 1.2925E-004 * x + 0.0366
R = 0.9724
DL = 53.09
BEC = 283

Weight: <None>
Min Conc: <None>

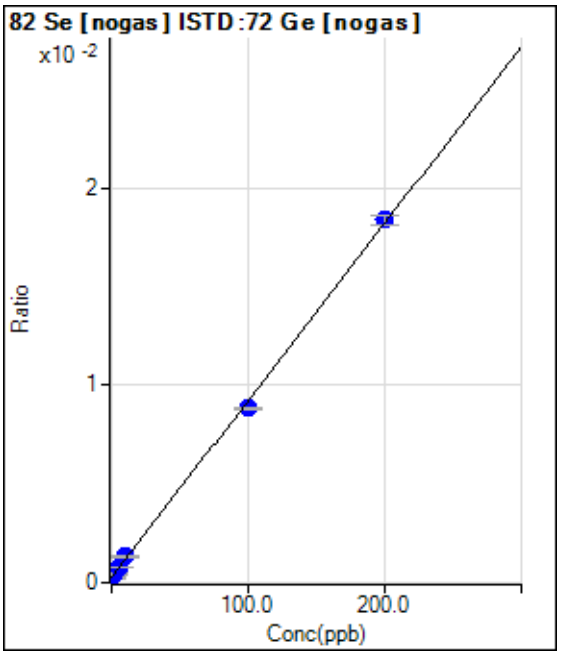


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	1.274	6.67	0.0000	P	45.4
2	☐	2.000	3.877	36.67	0.0003	P	37.9
3	☐	5.000	5.534	58.00	0.0004	P	35.8
4	☐	10.000	11.312	122.00	0.0008	P	3.4
5	☐	100.000	90.200	1056.03	0.0071	P	0.4
6	☐	200.000	204.802	2324.82	0.0162	P	1.5
7	☐	1.000					

y = 7.9134E-005 * x - 5.4697E-005
R = 0.9981
DL = 0.7949
BEC = -0.6912

Weight: <None>
Min Conc: <None>

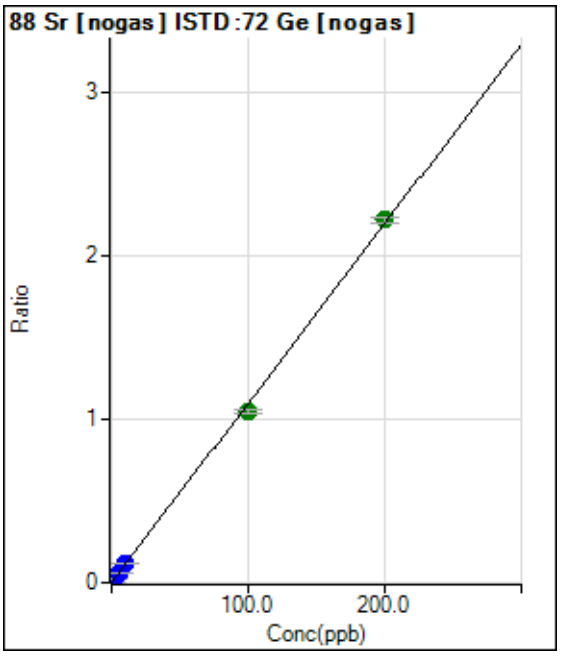
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	470.01	0.0003	P	21.5
2	☐	2.000	1.889	763.36	0.0004	P	8.9
3	☐	5.000	5.848	1440.08	0.0008	P	7.2
4	☐	10.000	11.756	2300.18	0.0013	P	6.7
5	☐	100.000	95.561	15480.22	0.0088	P	0.4
6	☐	200.000	202.112	32556.43	0.0184	P	2.9
7	☐	1.000					

y = 8.9659E-005 * x + 2.6753E-004
R = 0.9996
DL = 1.928
BEC = 2.984

Weight: <None>
Min Conc: <None>

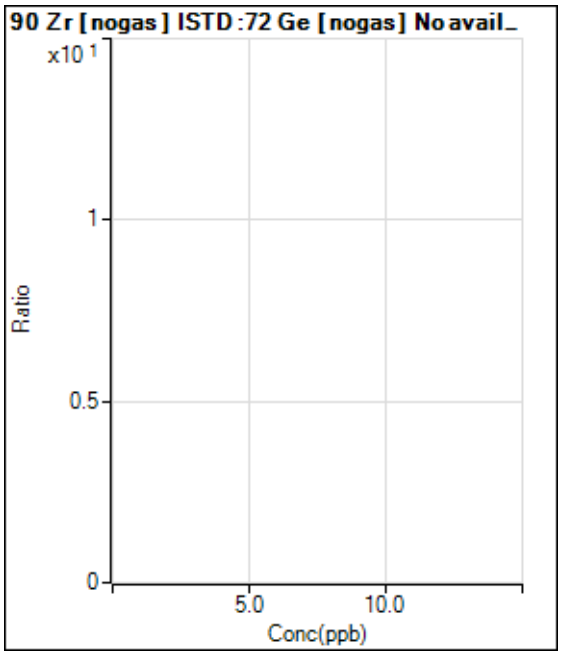


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1273.40	0.0007	P	6.3
2	☐	2.000	2.054	40582.99	0.0232	P	3.9
3	☐	5.000	5.030	101658.07	0.0559	P	2.9
4	☐	10.000	10.806	207559.33	0.1192	P	2.5
5	☐	100.000	95.405	1834085.65	1.0470	A	2.1
6	☐	200.000	202.256	3928264.32	2.2188	A	1.8
7	☐	1.000					

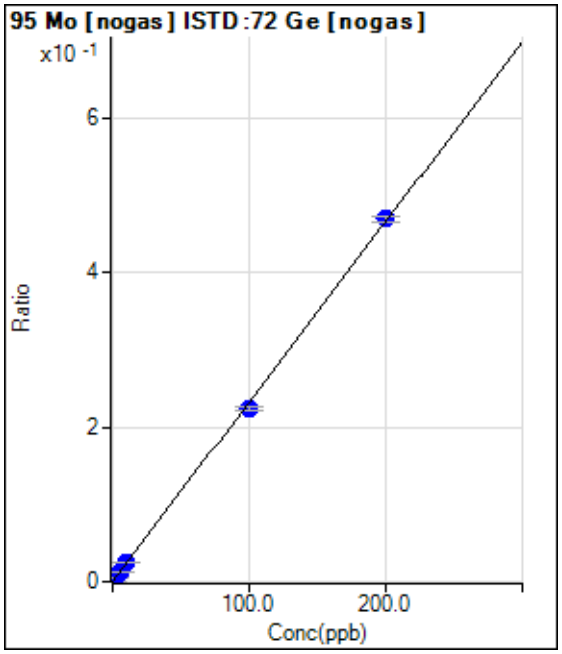
y = 0.0110 * x + 7.2391E-004
R = 0.9996
DL = 0.01253
BEC = 0.06601

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

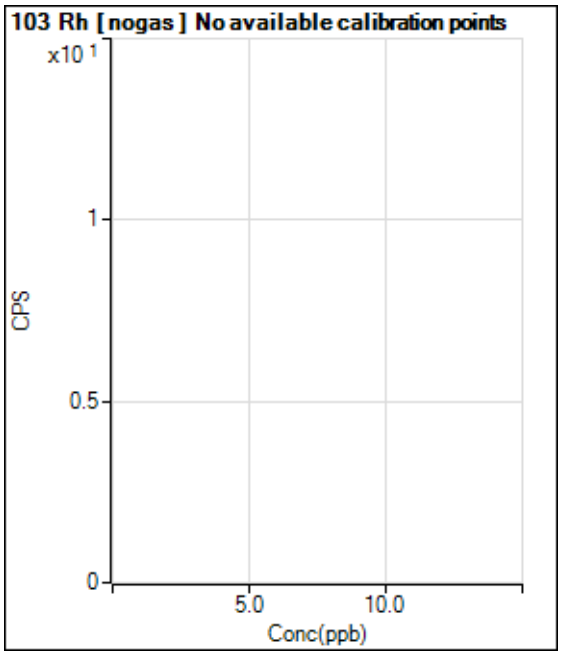


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	173.33	0.0001	P	24.7
2	☐	2.000	1.989	8245.36	0.0047	P	7.1
3	☐	5.000	4.933	21039.50	0.0116	P	4.9
4	☐	10.000	10.698	43480.41	0.0250	P	1.6
5	☐	100.000	96.490	393150.65	0.2244	P	2.5
6	☐	200.000	201.722	830542.91	0.4691	P	1.5
7	☐	1.000					

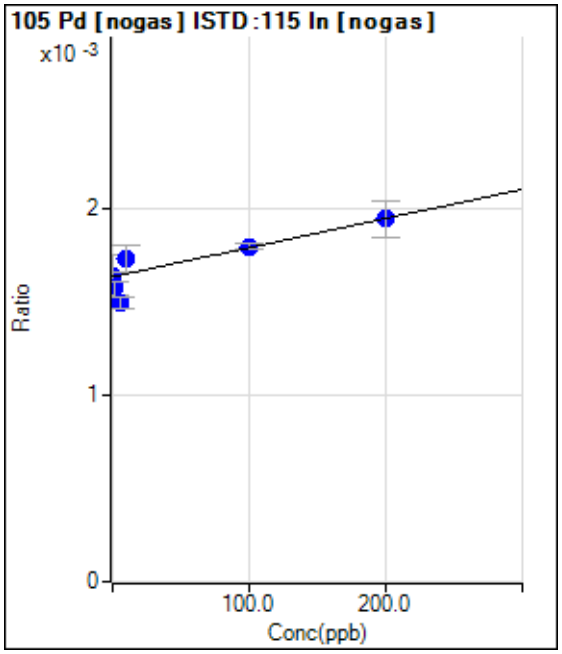
y = 0.0023 * x + 9.8668E-005
R = 0.9998
DL = 0.03143
BEC = 0.04244

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			46.67		P	44.6
2	☐			50.00		P	40.0
3	☐			26.67		P	21.7
4	☐			40.00		P	109.
5	☐			110.00		P	24.1
6	☐			280.01		P	14.3
7	☐						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3016.98	0.0016	P	13.8
2	☐	2.000	-38.248	2943.63	0.0016	P	4.6
3	☐	5.000	-88.586	2763.61	0.0015	P	4.0
4	☐	10.000	60.434	3143.68	0.0017	P	8.5
5	☐	100.000	103.890	3333.70	0.0018	P	1.9
6	☐	200.000	198.275	3600.44	0.0019	P	10.0
7	☐	1.000					

y = 1.5659E-006 * x + 0.0016

R = 0.8889

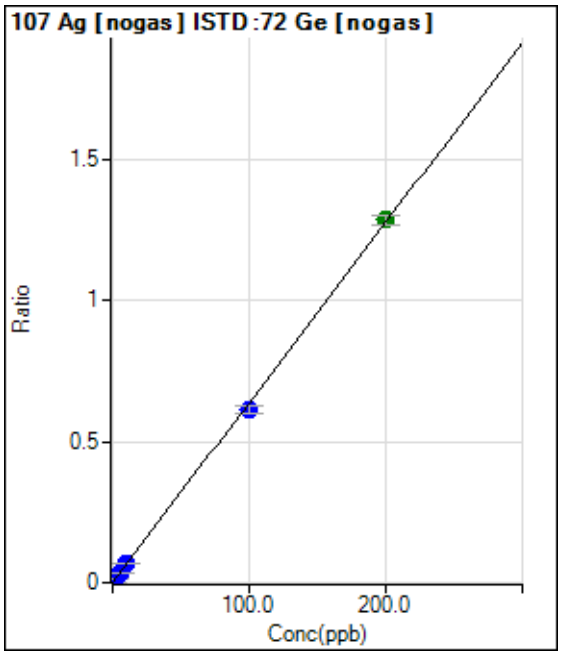
DL = 432.9

BEC = 1046

Weight: <None>

Min Conc: <None>

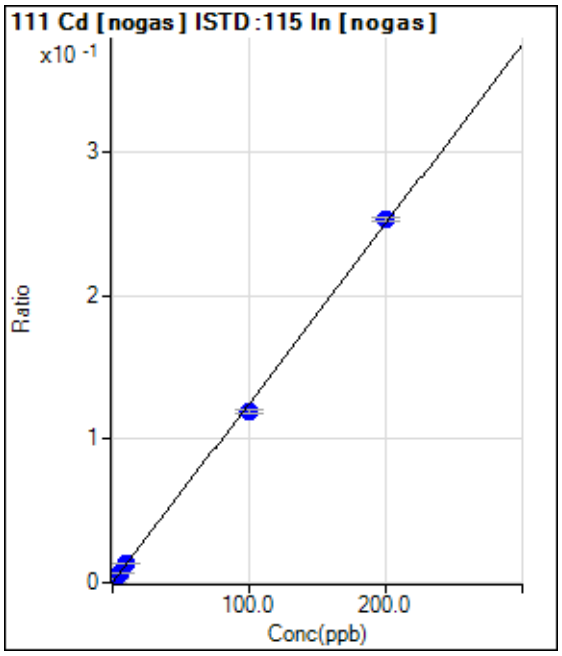
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.35	0.0003	P	15.5
2	☐	2.000	2.084	23769.77	0.0136	P	1.6
3	☐	5.000	5.044	59105.90	0.0325	P	1.5
4	☐	10.000	10.839	120892.34	0.0694	P	1.5
5	☐	100.000	96.669	1079929.65	0.6167	P	4.4
6	☐	200.000	201.622	2276724.60	1.2860	A	2.7
7	☐	1.000					

y = 0.0064 * x + 3.2588E-004
R = 0.9998
DL = 0.02375
BEC = 0.05111

Weight: <None>
Min Conc: <None>

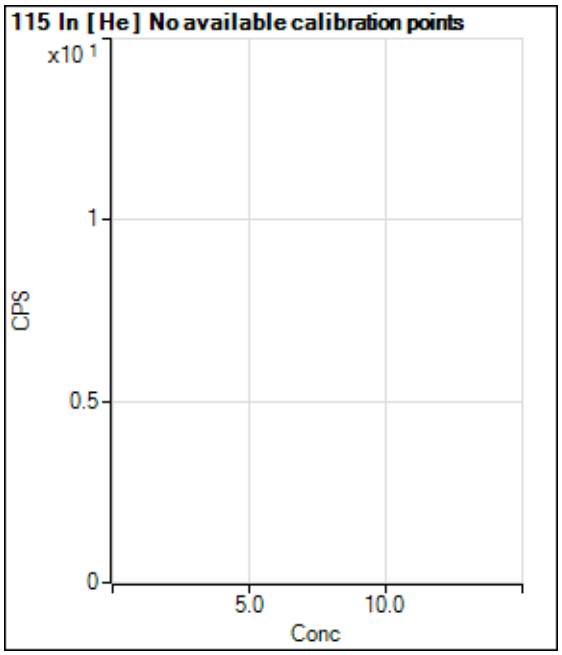


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	83.4
2	☐	2.000	1.983	4650.70	0.0025	P	5.2
3	☐	5.000	5.251	12154.37	0.0066	P	2.9
4	☐	10.000	10.657	24210.42	0.0134	P	3.1
5	☐	100.000	95.380	220717.35	0.1193	P	2.6
6	☐	200.000	202.271	467319.21	0.2530	P	0.9
7	☐	1.000					

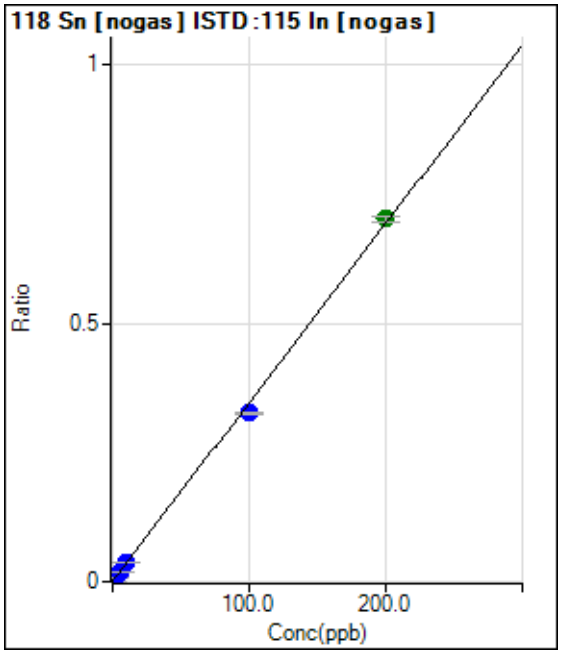
y = 0.0013 * x + 1.9944E-005
R = 0.9996
DL = 0.03989
BEC = 0.01594

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			179491.29		P	3.1
2	☐			178007.60		P	2.5
3	☐			183934.96		P	0.5
4	☐			183853.64		P	3.7
5	☐			181184.24		P	0.5
6	☐			176880.07		P	0.3
7	☐						

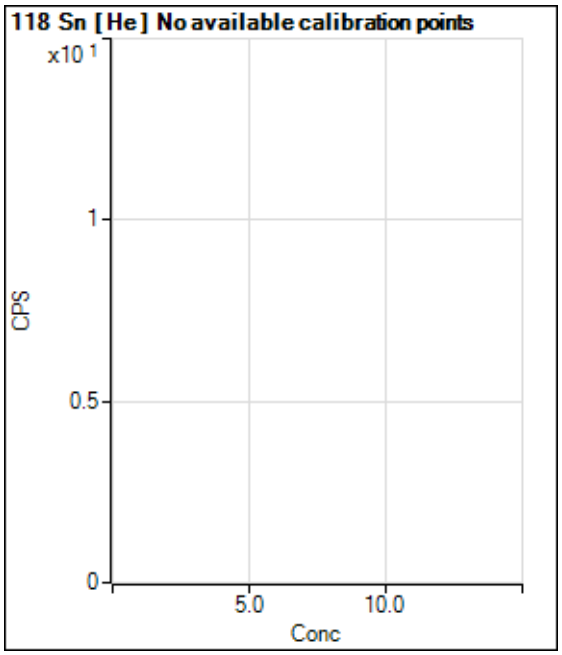


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1406.75	0.0008	P	7.0
2	☐	2.000	1.917	13752.34	0.0074	P	4.8
3	☐	5.000	5.066	33706.09	0.0183	P	1.9
4	☐	10.000	10.465	66995.97	0.0370	P	5.9
5	☐	100.000	94.402	605447.69	0.3272	P	1.1
6	☐	200.000	202.775	1296267.27	0.7019	A	1.5
7	☐	1.000					

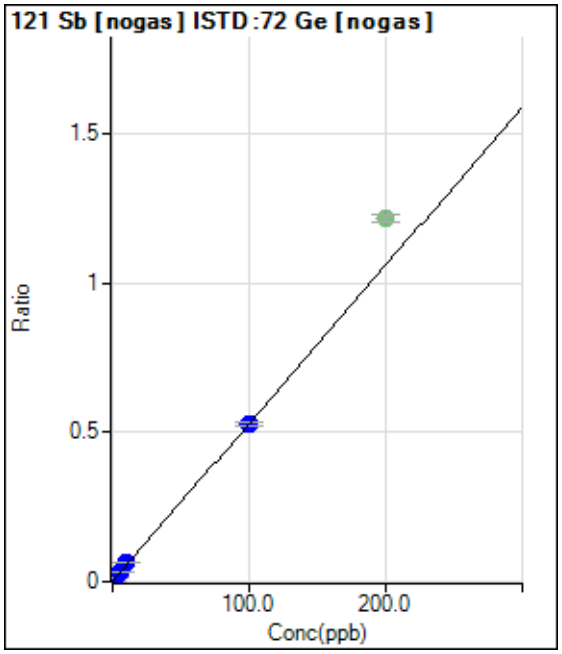
y = 0.0035 * x + 7.6383E-004
R = 0.9994
DL = 0.0466
BEC = 0.2209

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			206.67		P	22.4
2	☐			1800.12		P	8.3
3	☐			4550.68		P	5.2
4	☐			8982.49		P	2.1
5	☐			80607.60		P	5.2
6	☐			165436.03		P	1.9
7	☐						

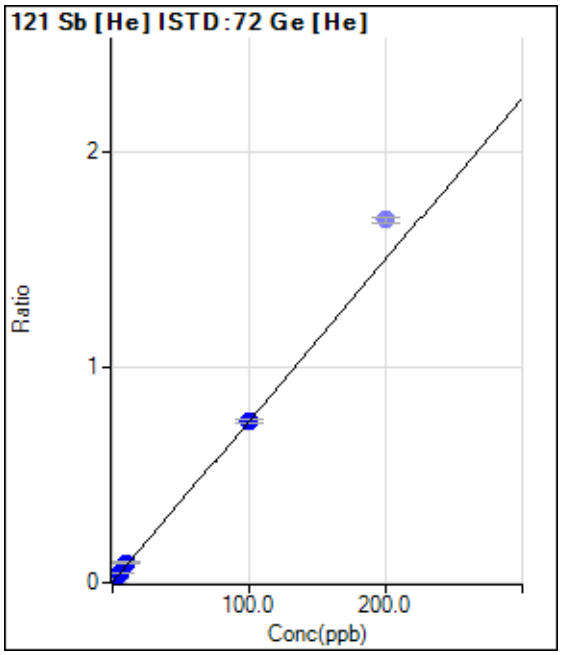


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2053.49	0.0012	P	7.6
2	☐	2.000	2.190	22277.92	0.0128	P	1.7
3	☐	5.000	5.464	54759.36	0.0301	P	2.1
4	☐	10.000	11.456	107610.08	0.0618	P	1.7
5	☐	100.000	99.827	927746.50	0.5296	P	2.5
6	☑	200.000		2151763.98	1.2154	A	2.0
7	☐	1.000					

y = 0.0053 * x + 0.0012
R = 0.9999
DL = 0.05013
BEC = 0.2204

Weight: <None>
Min Conc: <None>

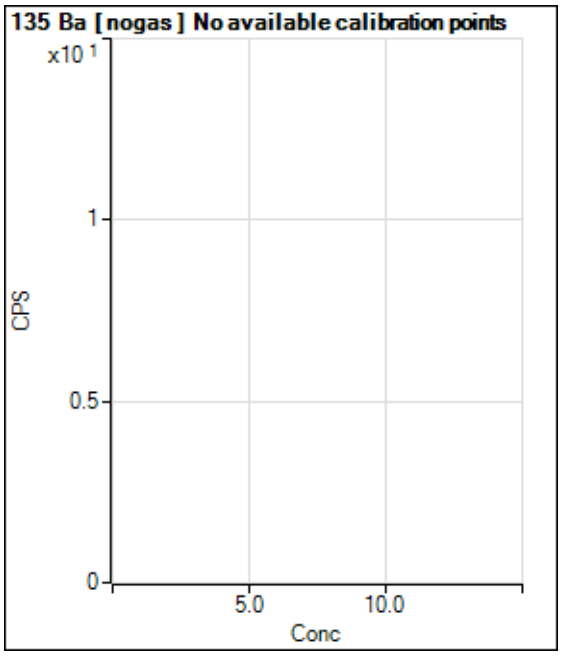
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0019	P	38.5
2	☐	2.000	2.504	2983.64	0.0207	P	7.6
3	☐	5.000	5.398	6401.29	0.0424	P	0.8
4	☐	10.000	11.897	13215.24	0.0911	P	8.0
5	☐	100.000	99.780	111739.25	0.7495	P	1.7
6	☑	200.000		242407.49	1.6841	P	1.5
7	☐	1.000					

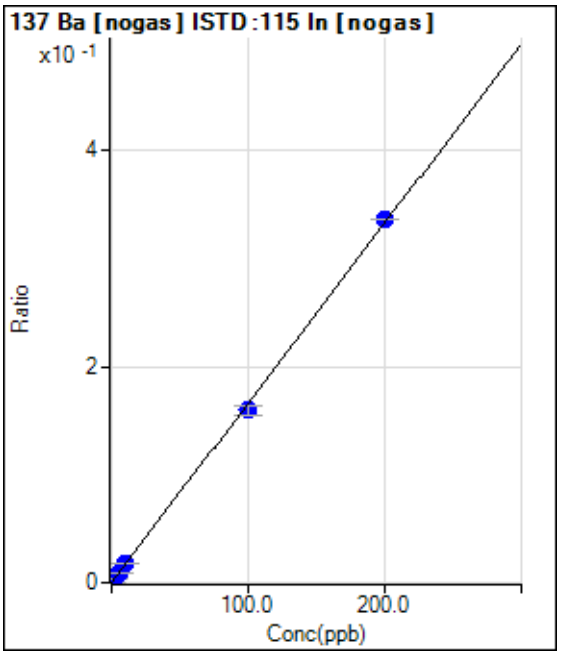
y = 0.0075 * x + 0.0019
R = 0.9998
DL = 0.2967
BEC = 0.2568

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			130.00		P	30.8
2	☐			3943.85		P	7.6
3	☐			9546.13		P	2.0
4	☐			19134.19		P	2.3
5	☐			167520.14		P	2.2
6	☐			351318.08		P	1.2
7	☐						

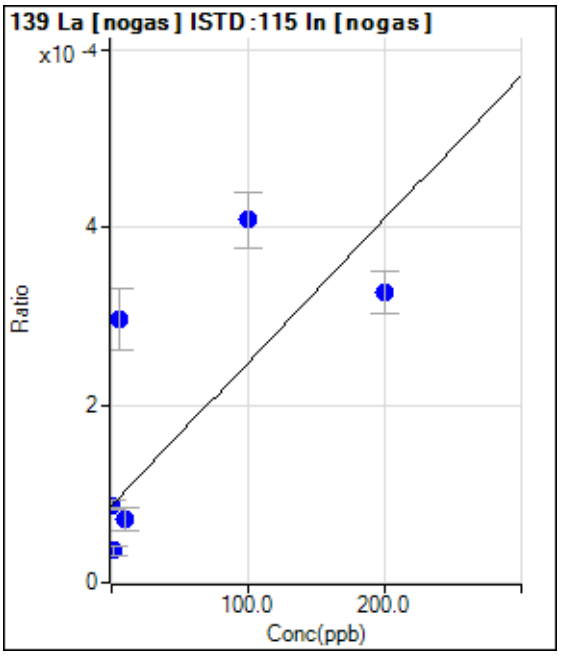
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	236.67	0.0001	P	37.7
2	☐	2.000	2.261	7238.30	0.0039	P	5.4
3	☐	5.000	5.307	16491.51	0.0089	P	4.1
4	☐	10.000	10.705	32510.86	0.0179	P	1.7
5	☐	100.000	95.849	294793.36	0.1594	P	4.8
6	☐	200.000	202.030	620387.59	0.3359	P	0.2
7	☐	1.000					

y = 0.0017 * x + 1.2839E-004
R = 0.9997
DL = 0.0873
BEC = 0.07724

Weight: <None>
Min Conc: <None>

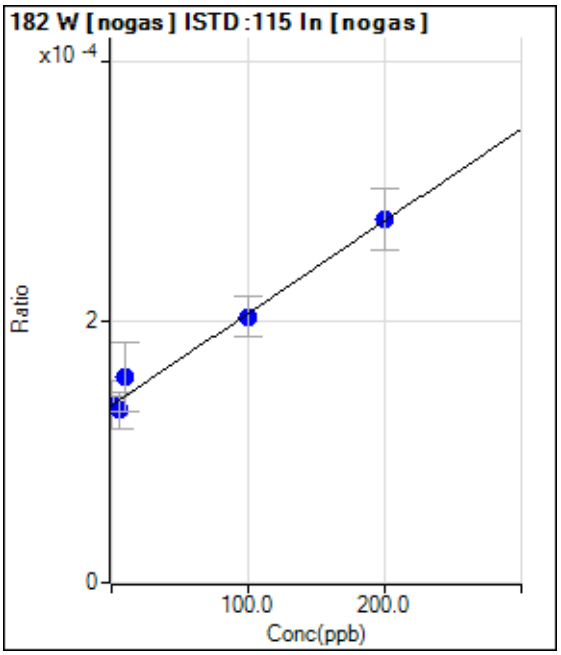


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	160.00	0.0001	P	12.4
2	☐	2.000	-31.420	66.67	0.0000	P	28.2
3	☐	5.000	129.498	543.36	0.0003	P	23.5
4	☐	10.000	-9.361	130.00	0.0001	P	36.1
5	☐	100.000	199.225	753.36	0.0004	P	15.6
6	☐	200.000	148.577	603.35	0.0003	P	14.8
7	☐	100.000					

y = 1.6136E-006 * x + 8.6877E-005
R = 0.6772
DL = 20.11
BEC = 53.84

Weight: <None>
Min Conc: <None>

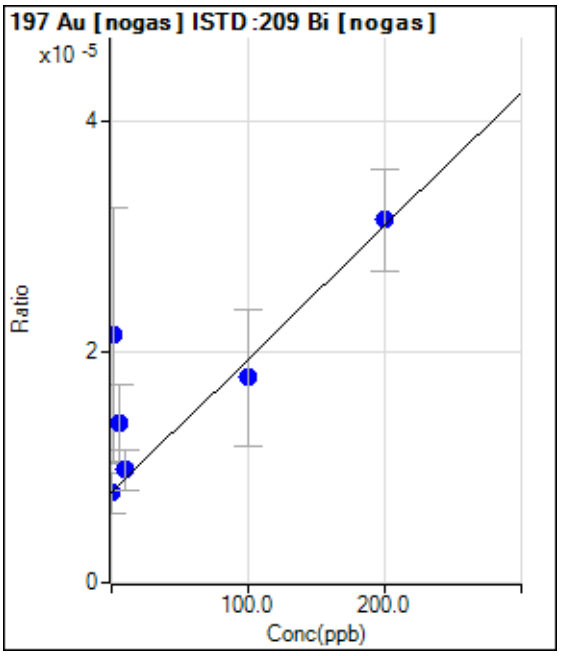
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	250.01	0.0001	P	26.7
2	☐	2.000	-0.630	253.34	0.0001	P	10.1
3	☐	5.000	-5.242	243.34	0.0001	P	21.4
4	☐	10.000	30.629	286.67	0.0002	P	33.5
5	☐	100.000	96.331	376.68	0.0002	P	14.8
6	☐	200.000	201.085	513.35	0.0003	P	17.1
7	☐	1.000					

y = 7.0674E-007 * x + 1.3587E-004
R = 0.9918
DL = 153.7
BEC = 192.3

Weight: <None>
Min Conc: <None>

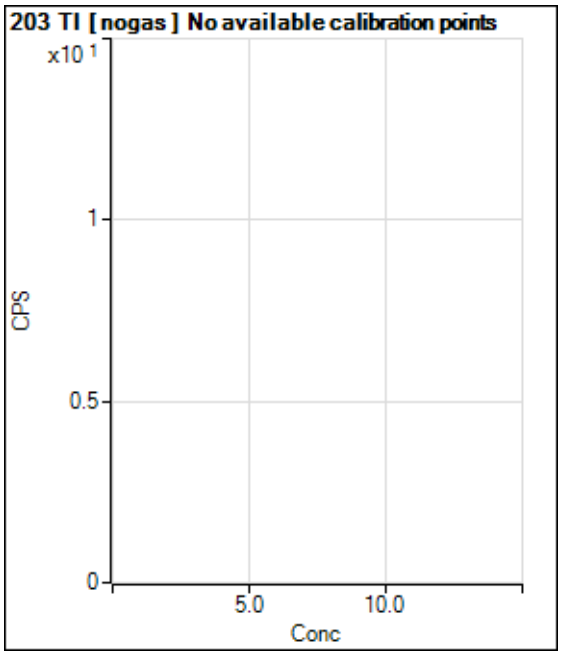


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	45.1
2	☐	2.000	117.774	36.67	0.0000	P	102.
3	☐	5.000	51.384	23.33	0.0000	P	49.3
4	☐	10.000	16.753	16.67	0.0000	P	35.5
5	☐	100.000	86.348	30.00	0.0000	P	66.5
6	☐	200.000	204.171	53.33	0.0000	P	28.2
7	☐	100.000					

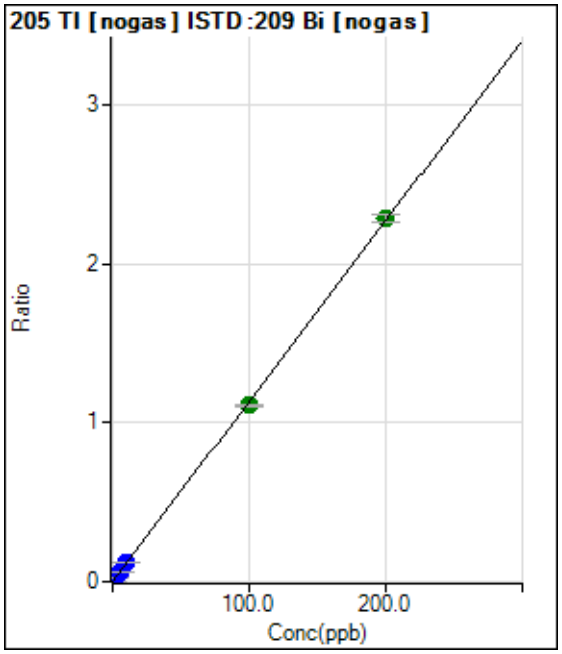
y = 1.1574E-007 * x + 7.8173E-006
R = 0.8149
DL = 91.46
BEC = 67.54

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			136.67		P	8.4
2	☐			16538.63		P	4.2
3	☐			41586.42		P	1.3
4	☐			84719.37		P	1.6
5	☐			781477.75		P	1.0
6	☐			1641909.20		A	4.0
7	☐						

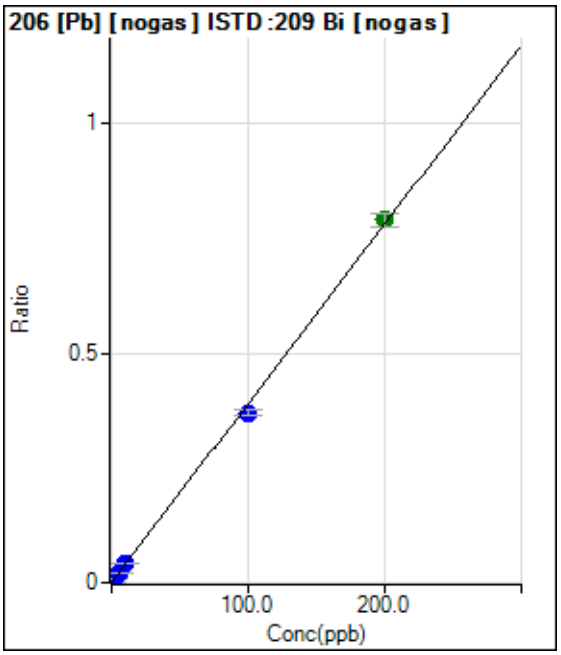


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	336.68	0.0002	P	8.0
2	☐	2.000	1.993	38639.37	0.0228	P	5.3
3	☐	5.000	5.029	97079.49	0.0573	P	0.5
4	☐	10.000	10.428	203270.19	0.1187	P	3.4
5	☐	100.000	97.764	1870902.89	1.1111	A	0.8
6	☐	200.000	201.096	3873621.08	2.2852	A	2.2
7	☐	1.000					

y = 0.0114 * x + 1.9646E-004
R = 0.9999
DL = 0.004145
BEC = 0.01729

Weight: <None>
Min Conc: <None>

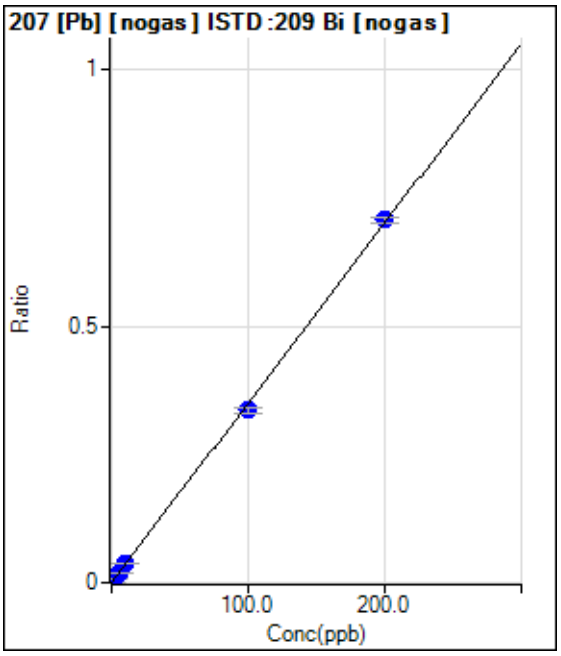
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	366.68	0.0002	P	31.3
2	☐	2.000	2.029	13776.03	0.0081	P	2.9
3	☐	5.000	5.181	34594.06	0.0204	P	3.8
4	☐	10.000	10.518	70697.07	0.0413	P	1.5
5	☐	100.000	94.892	624046.74	0.3706	P	2.6
6	☐	200.000	202.523	1340340.40	0.7907	A	3.7
7	☐	1.000					

y = 0.0039 * x + 2.1513E-004
R = 0.9995
DL = 0.05181
BEC = 0.05511

Weight: <None>
Min Conc: <None>

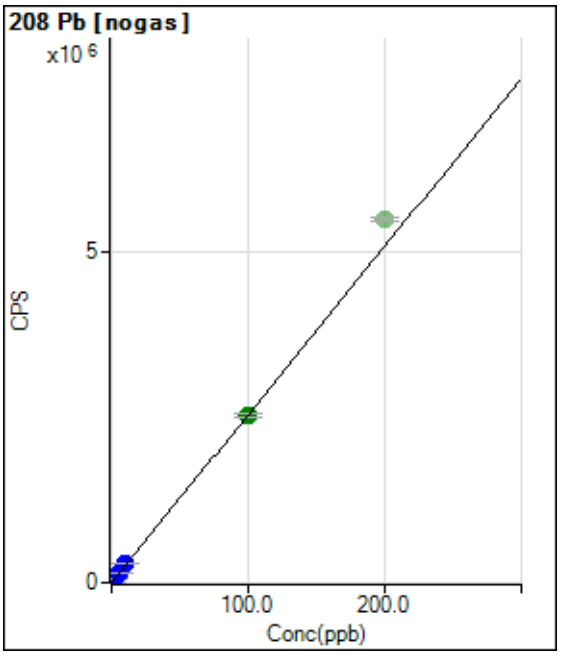


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	263.34	0.0002	P	6.4
2	☐	2.000	2.015	12204.77	0.0072	P	2.1
3	☐	5.000	5.296	31641.08	0.0187	P	3.1
4	☐	10.000	10.636	64043.23	0.0374	P	1.8
5	☐	100.000	95.958	565887.04	0.3361	P	3.2
6	☐	200.000	201.982	1198975.92	0.7072	P	1.4
7	☐	1.000					

y = 0.0035 * x + 1.5353E-004
R = 0.9997
DL = 0.00846
BEC = 0.04386

Weight: <None>
Min Conc: <None>

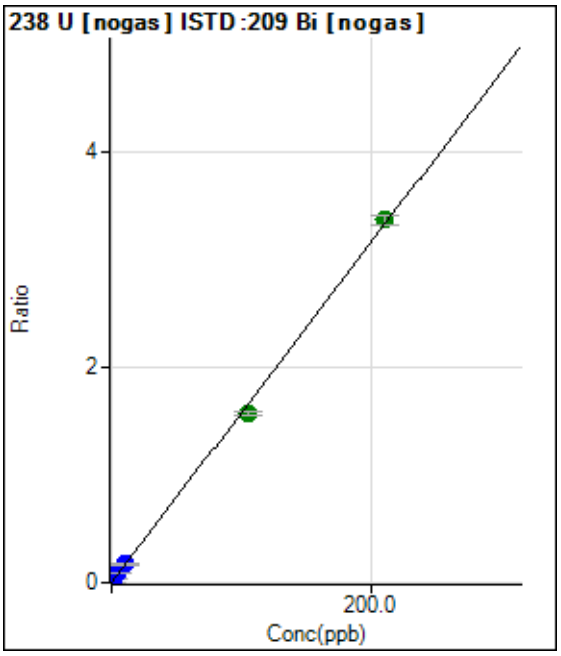
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1260.05		P	6.0
2	☐	2.000	2.149	55985.32		P	2.5
3	☐	5.000	5.450	140076.41		P	2.5
4	☐	10.000	11.180	286017.64		P	1.0
5	☐	100.000	99.857	2544622.03		A	2.2
6	☑	200.000		5499129.92		A	1.0
7	☐	1.000					

y = 25470.1655 * x + 1260.0500
R = 0.9999
DL = 0.008893
BEC = 0.04947

Weight: <None>
Min Conc: <None>

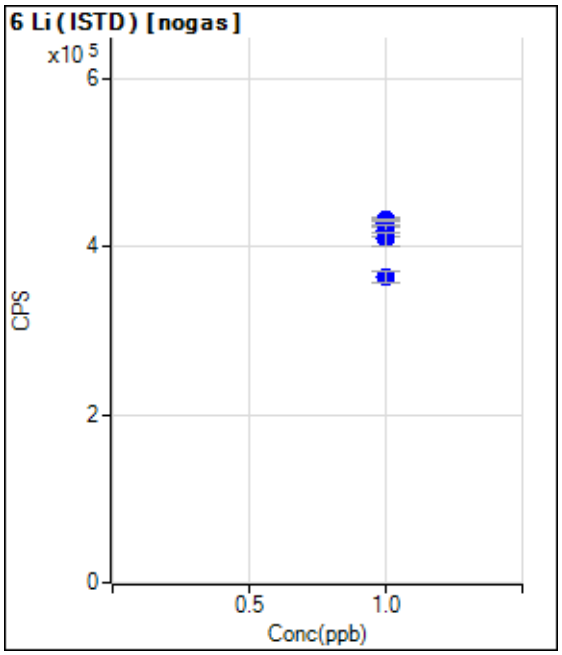


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	86.67	0.0001	P	40.4
2	☐	2.000	2.118	56842.10	0.0336	P	1.0
3	☐	5.000	5.304	142174.41	0.0840	P	2.5
4	☐	10.000	10.845	294015.22	0.1717	P	3.5
5	☐	105.000	99.237	2644507.15	1.5705	A	1.7
6	☐	210.000	212.833	5710875.75	3.3681	A	2.4
7	☐	1.000					

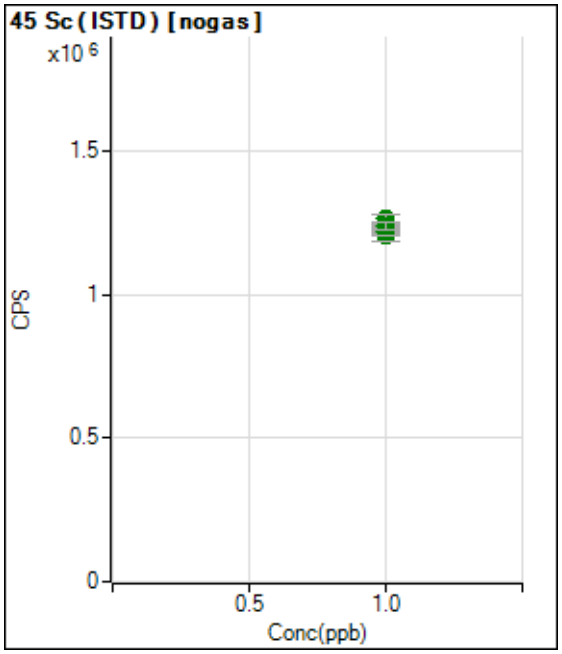
y = 0.0158 * x + 5.0144E-005
R = 0.9994
DL = 0.003839
BEC = 0.003169

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d

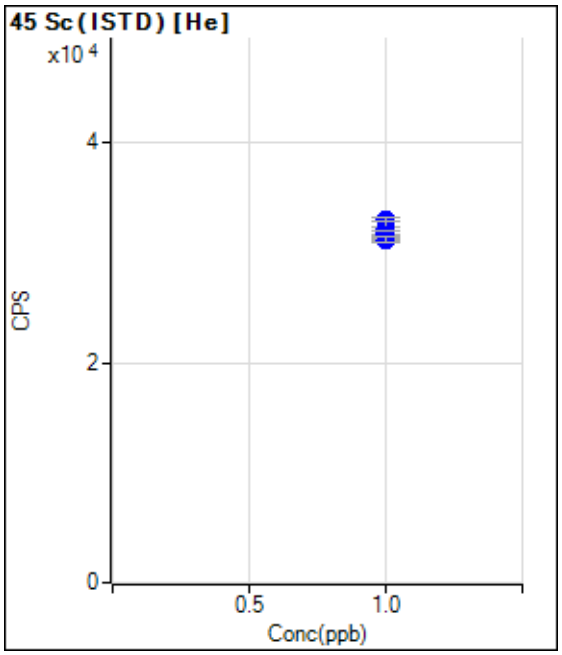


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		424595.35		P	4.0
2	☐	1.000		429307.55		P	2.9
3	☐	1.000		432280.17		P	0.2
4	☐	1.000		419151.45		P	2.9
5	☐	1.000		409608.19		P	3.7
6	☐	1.000		364162.60		P	3.5
7	☐	1.000					

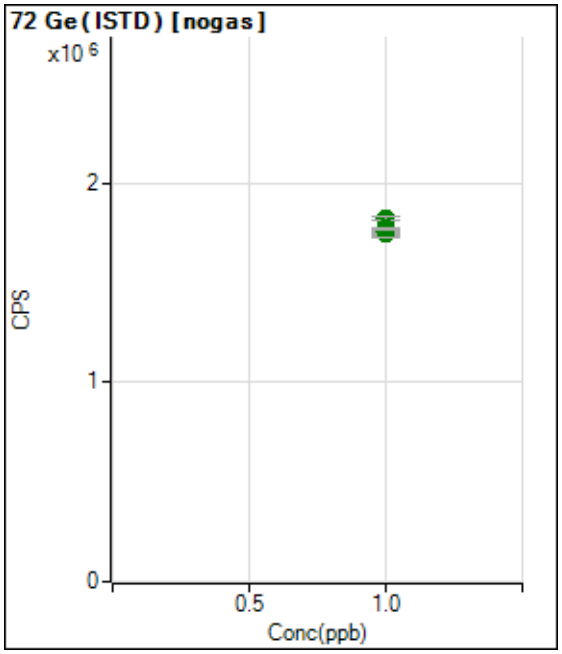


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1240671.23		A	0.7
2	☐	1.000		1204191.05		A	2.8
3	☐	1.000		1227555.71		A	1.8
4	☐	1.000		1218593.45		A	1.7
5	☐	1.000		1264890.95		A	2.4
6	☐	1.000		1241287.25		A	2.3
7	☐	1.000					

Calibration for 027_ICV.d

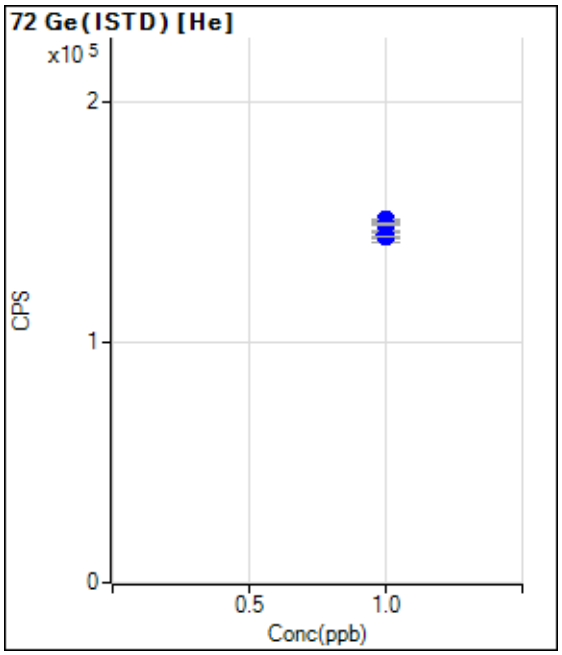


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		31907.86		P	3.0
2	☐	1.000		32989.58		P	0.9
3	☐	1.000		31851.18		P	0.9
4	☐	1.000		32128.22		P	4.8
5	☐	1.000		31600.60		P	2.6
6	☐	1.000		31166.54		P	1.8
7	☐	1.000					

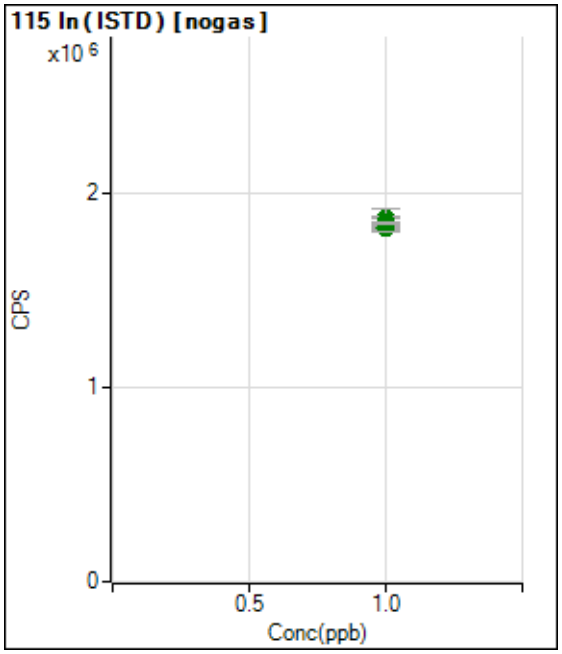


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1760484.97		A	1.9
2	☐	1.000		1746045.55		A	1.4
3	☐	1.000		1819539.45		A	1.1
4	☐	1.000		1741109.51		A	0.8
5	☐	1.000		1752179.50		A	2.4
6	☐	1.000		1770607.21		A	0.8
7	☐	1.000					

Calibration for 027_ICV.d

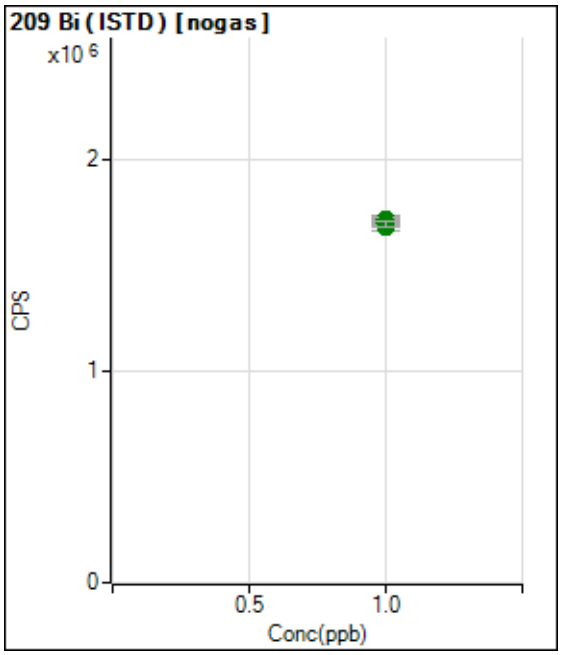


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		144533.93		P	2.2
2	☐	1.000		144315.56		P	3.2
3	☐	1.000		151091.52		P	0.7
4	☐	1.000		145136.01		P	1.7
5	☐	1.000		149086.60		P	0.7
6	☐	1.000		143936.35		P	0.3
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1841567.26		A	0.5
2	☐	1.000		1864100.62		A	6.1
3	☐	1.000		1844036.52		A	2.8
4	☐	1.000		1813998.23		A	1.5
5	☐	1.000		1850413.75		A	2.9
6	☐	1.000		1846738.48		A	0.6
7	☐	1.000					

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1714556.38		A	3.0
2	☐	1.000		1693793.93		A	3.3
3	☐	1.000		1692914.82		A	0.6
4	☐	1.000		1713069.92		A	1.2
5	☐	1.000		1683909.35		A	0.4
6	☐	1.000		1695597.26		A	2.0
7	☐	1.000					

Sub Contract Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17120868

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1734932; 1735426

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2015 (205572)

General Set Information: There were ten field samples in these Work Orders. The samples were analyzed for perchlorate.

Method Summary: Each sample was prepared as noted below and analyzed using an Agilent 1100 LC/MSD system in select ion monitoring (SIM) mode at m/z 83 and 85, which corresponds to the loss of one oxygen atom from the perchlorate molecule. ChemStation software was used for instrument control and data analysis. The ion ratio of m/z 83 to 85 was used to positively identify the response peak as perchlorate. Quantitation was performed using the m/z 83 peak area. An internal standard (ISTD) of ^{18}O labeled perchlorate was added to each sample to establish the perchlorate peak retention time and used in quantitation.

Sample Preparation: A 10.0mL aliquot of each sample was transferred into a 15-mL centrifuge tube. 50µL of an ^{18}O labeled perchlorate solution was added to each sample as an internal standard. The samples were then capped, vortexed, and filtered into autosampler vial using Phenex PES membrane 0.45µm Syringe filters.

Holding Times: Holding times were met for all analyses.

Dilutions: Sample 1735426005 was re-analyzed and reported at a 1:100 dilution. The reporting limit has been adjusted accordingly.

Method QC data: The method blank (LMB 580322) was less than 1/2 the CRDL. The recovery for the LCS (580323) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1734932001 (Client ID: LH18/24-SP650_121317). The MS/MSD percent recoveries and relative percent difference (RPD) were within the performance limits.

Instrument QC: Instrument initial and continuing calibrations were performed in accordance with published procedures.

NC/CAR(s): None were required for this set.

Sample Calculation: Samples were reported in µg/L. Results were calculated in µg/L by the equation (A)x(B),

where: A = Analyte concentration from the standard curve (µg/L)
B = Dilution performed at time of analysis

Miscellaneous Comments: These samples were analyzed in accordance with the requirements found in the DOD QSM Version 5.1. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01/02) along with datafiles 21DECD02/03/13/20.

Thomas Bosch December 27, 2017
Date

ANALYTICAL REPORT

Report Date: December 27, 2017

Sonia West
ALS Environmental
10450 Stancliff Rd.
Suite 210
Houston, TX 77099

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1735426**
Project ID: HS17120868 121117
Purchase Order: HS17120868
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
MW10-121117	1735426001	12/11/17	12/19/17	
MW17-121117	1735426002	12/11/17	12/19/17	
MW18-121117	1735426003	12/11/17	12/19/17	
MW19-121217	1735426004	12/12/17	12/19/17	
MW8-121217	1735426005	12/12/17	12/19/17	
18CPTMW10SW-121217	1735426006	12/12/17	12/19/17	
18CPTMW10DW-121217	1735426007	12/12/17	12/19/17	
18CPTMW12SW-121217	1735426008	12/12/17	12/19/17	
18CPTMW12DW-121217	1735426009	12/12/17	12/19/17	

ANALYTICAL REPORT

Workorder: 34-1735426
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **MW10-121117** | Sampling Site: NA | Collected: 12/11/2017
Lab ID: 1735426001 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2015 (HBN: 205572) | **Percent Solid:** NA
Analyzed: 12/21/2017 11:51 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	ND	1.0	2.0	4.0	1	U

Sample ID: **MW17-121117** | Sampling Site: NA | Collected: 12/11/2017
Lab ID: 1735426002 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2015 (HBN: 205572) | **Percent Solid:** NA
Analyzed: 12/21/2017 12:12 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	ND	1.0	2.0	4.0	1	U

Sample ID: **MW18-121117** | Sampling Site: NA | Collected: 12/11/2017
Lab ID: 1735426003 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2015 (HBN: 205572) | **Percent Solid:** NA
Analyzed: 12/21/2017 12:31 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	ND	1.0	2.0	4.0	1	U

Sample ID: **MW19-121217** | Sampling Site: NA | Collected: 12/12/2017
Lab ID: 1735426004 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2015 (HBN: 205572) | **Percent Solid:** NA
Analyzed: 12/21/2017 12:50 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	ND	1.0	2.0	4.0	1	U

ANALYTICAL REPORT

Workorder: 34-1735426
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **MW8-121217** | Sampling Site: NA | Collected: 12/12/2017
Lab ID: 1735426005 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2015 (HBN: 205572) | **Percent Solid:** NA
Analyzed: 12/21/2017 14:47 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**5500**	100	200	400	100	

Sample ID: **18CPTMW10SW-121217** | Sampling Site: NA | Collected: 12/12/2017
Lab ID: 1735426006 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2015 (HBN: 205572) | **Percent Solid:** NA
Analyzed: 12/21/2017 13:29 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	ND	1.0	2.0	4.0	1	U

Sample ID: **18CPTMW10DW-121217** | Sampling Site: NA | Collected: 12/12/2017
Lab ID: 1735426007 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2015 (HBN: 205572) | **Percent Solid:** NA
Analyzed: 12/21/2017 13:48 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**12**	1.0	2.0	4.0	1	

Sample ID: **18CPTMW12SW-121217** | Sampling Site: NA | Collected: 12/12/2017
Lab ID: 1735426008 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2015 (HBN: 205572) | **Percent Solid:** NA
Analyzed: 12/21/2017 14:07 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	ND	1.0	2.0	4.0	1	U

ANALYTICAL REPORT

Workorder: 34-1735426
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **18CPTMW12DW-121217**	Sampling Site: NA	Collected: 12/12/2017
Lab ID: 1735426009	Media: 125 mL Nalgene	Received: 12/19/2017
Matrix: Water	Sampling Parameter: NA	

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable	**Analysis:** EPA 6850, DoD QSM Water	**Instrument ID:** LCMS04
	Batch: ELMS/2015 (HBN: 205572)	**Percent Solid:** NA
	Analyzed: 12/21/2017 14:26	**Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	ND	1.0	2.0	4.0	1	U

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
EPA 6850, DoD QSM	/S/ Thomas Bosch 12/22/2017 15:44	/S/ Stephen Brose 12/27/2017 15:47

Laboratory Contact Information

ALS Environmental
960 W Levoy Drive
Salt Lake City, Utah 84123

Phone: (801) 266-7700
Email: alslt.lab@ALSGlobal.com
Web: www.alsslc.com

ANALYTICAL REPORT

Workorder: 34-1735426
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

General Lab Comments

The results provided in this report relate only to the items tested.
Samples were received in acceptable condition unless otherwise noted.
Samples have not been blank corrected unless otherwise noted.
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ANAB (DoD ELAP)	ADE-1420	http://www.anab.org/accredited-organizations/
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdw/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
	Kansas	E-10416	http://www.kdheks.gov/lipo/index.html
Industrial Hygiene	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
Lead Testing:			
CPSC	ANAB (ISO 17025, CPSC)	ADE-1420	http://www.anab.org/accredited-organizations/
Soil, Dust, Paint ,Air	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	http://www.aclasscorp.com

ANALYTICAL REPORT

Workorder: 34-1735426
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Result Symbol Definitions

MDL = Method Detection Limit, a statistical estimate of method/media/instrument sensitivity.
RL = Reporting Limit, a verified value of method/media/instrument sensitivity.
CRDL = Contract Required Detection Limit
Reg. Limit = Regulatory Limit.
ND = Not Detected, testing result not detected above the MDL or RL.
< This testing result is less than the numerical value.
** No result could be reported, see sample comments for details.

Qualifier Symbol Definitions

U = Qualifier indicates that the analyte was not detected above the MDL.
J = Qualifier Indicates that the analyte value is between the MDL and the RL. It is also used to indicate an estimated value for tentatively identified compounds in mass spectrometry where a 1:1 response is assumed.
B = Qualifier indicates that the analyte was detected in the blank.
E = Qualifier indicates that the analyte result exceeds calibration range.
P = Qualifier indicates that the RPD between the two columns is greater than 40%.

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1735426

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2015 (HBN: 205572)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 580322
Analyzed: 12/21/2017 09:49
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 580323
Analyzed: 12/21/2017 10:08
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	5.31	5.00	106	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1734932001	**MS:**	580324			**MSD:**	580325				
Analyzed:	12/21/2017 10:29	**Analyzed:**	12/21/2017 10:49			**Analyzed:**	12/21/2017 11:08				
Dilution:	1	**Dilution:**	1			**Dilution:**	1				
Units:	ug/L	**Units:**	ug/L			**Units:**	ug/L				

Analyte	Result	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Perchlorate	ND	5.09	5	102	78.8	123.8	5	100	1.68	0.0	20.0

Continuing Calibration Verification

CCV:	580319			**CCV:**	580326	
Analyzed:	12/21/2017 08:52			**Analyzed:**	12/21/2017 15:08	
Units:	ug/L			**Units:**	ug/L	
Criteria:	± 15%			**Criteria:**	± 15%	

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	27.1	25.0	109	26.5	25.0	106

Interference Check Sample

ICSA: 580321
Analyzed: 12/21/2017 09:30
Units: ug/L
Criteria: ± 30%

Analyte	Result	Target	% Rec.
Perchlorate	0.968	1.00	96.8

Limit of Detection Verification

LODV:	580320			**LODV:**	580327	
Analyzed:	12/21/2017 09:11			**Analyzed:**	12/21/2017 15:27	
Units:	ug/L			**Units:**	ug/L	
Criteria:	± 50%			**Criteria:**	± 50%	

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	1.10	1.00	110	1.10	1.00	110

Quality Control Sample
Batch Report

Analysis Information

Workorder: **1735426**

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2015 (HBN: 205572)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Thomas Bosch	/S/ Stephen Brose
12/22/2017 15:44	12/27/2017 15:47

Symbols and Definitions

* - Analyte above reporting limit or outside of control limits
▲ - Sample result is greater than 4 times the spike added
◆ - Sample and Matrix Duplicate less than 5 times the reporting limit
● - Result is above the calibration range
- The Matrix Spike, Matrix Spike duplicate or Matrix Duplicate is reported for your information only. The sample matrix may be inappropriate for the method selected.

RPD - Relative % Difference (Spike / Spike Duplicate)
ND - Not Detected (U - Qualifier also flags analyte as not detected)
NA - Not Applicable
QC results are not adjusted for moisture correction, where applicable

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

18698 | 2

Subcontract Chain of Custody

COC ID: 8255

1735426

SUBCONTRACT TO: W 1735426

ALS Laboratory Group
960 LeVoy Dr
Salt Lake City, UT 84123

Phone: +1 801 266 7700

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Sonia West
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Sonia.West@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:	HS17120868
TSR:	Houston House Acct

	LAB SAMPLE ID / ANALYSIS REQUESTED	CLIENT SAMPLE ID	MATRIX	COLLECT DATE / DUE DATE
1.	**HS17120868-01**	**MW10-121117**	**Groundwater**	**11 Dec 2017 09:30**
	SUB_Perch-6850			02 Jan 2018
2.	**HS17120868-02**	**MW17-121117**	**Groundwater**	**11 Dec 2017 10:30**
	SUB_Perch-6850			02 Jan 2018
3.	**HS17120868-03**	**MW18-121117**	**Groundwater**	**11 Dec 2017 11:30**
	SUB_Perch-6850			02 Jan 2018
4.	**HS17120868-04**	**MW19-121217**	**Groundwater**	**12 Dec 2017 08:10**
	SUB_Perch-6850			02 Jan 2018
5.	**HS17120868-05**	**MW8-121217**	**Groundwater**	**12 Dec 2017 09:15**
	SUB_Perch-6850			02 Jan 2018
6.	**HS17120868-06**	**18CPTMW10SW-121217**	**Groundwater**	**12 Dec 2017 10:20**
	SUB_Perch-6850			02 Jan 2018
7.	**HS17120868-07**	**18CPTMW10DW-121217**	**Groundwater**	**12 Dec 2017 11:20**
	SUB_Perch-6850			02 Jan 2018
8.	**HS17120868-08**	**18CPTMW12SW-121217**	**Groundwater**	**12 Dec 2017 13:30**
	SUB_Perch-6850			02 Jan 2018
9.	**HS17120868-09**	**18CPTMW12DW-121217**	**Groundwater**	**12 Dec 2017 14:25**

RIGHT SOLUTIONS | RIGHT PARTNER

Bhate DOD L4

Subcontract Chain of Custody

COC ID: 8255

LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
ANALYSIS REQUESTED			DUE DATE
SUB_Perch-6850			02 Jan 2018

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: Dec 10, 2017 1800

Received By: _____ Date/Time: 12/19/2017 11:40

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

ALS - Salt Lake City-Related Information Report (CRIR)

Cooler or Container Information Checklist (Fill In or Circle)

Client Name: ALS Houston — Project/Task/Site: 1735426

Date/Time of Receipt: 12/19/2017 11:40 — Number of Coolers Received: 1

Condition of Coolers:	Acceptable/Unacceptable
Cooler Custody Seals:	Present/Absent/NA
	Intact/Broken/NA
Container Custody Seals:	Present/Absent/NA
	Intact/Broken/NA
Ice Present:	Yes/No/NA
	Frozen/Melted/NA
Temperature Control:	Present/Not Included
Location Temp Taken:	Control/Between Samples
Are all temperatures within project specific guidelines?	Yes/No/NA
VOA Headspace Present?	Yes/No/NA

pH Check Performed:							
	Metals	Yes/No/NA	Total Phenolics	Yes/No/NA	NO3/NO2	Yes/No/NA
	Cyanide	Yes/No/NA	TPH – 418.1	Yes/No/NA	Oil & Grease	Yes/No/NA
	Sulfide	Yes/No/NA	COD	Yes/No/NA	Total Phosphorous	Yes/No/NA
	Ammonia	Yes/No/NA	TKN	Yes/No/NA	TOC Preserved	Yes/No/NA

Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALSL Cooler No.	Temp.
1	C17- 8119	3 °C	4	C17-	°C	7	C17-	°C
2	C17-	°C	5	C17-	°C	8	C17-	°C
3	C17-	°C	6	C17-	°C	9	C17-	°C

Taken By: M Schmidt (Signature) Marianne Schmidt (Printed Name) 12/19/2017 (Date)

Client-Related Information

☐ Missing Cooler	☐ Missing Samples/Bottles	☐ Incorrect Preservation	☐ Insufficient Sample Volume
☐ Cooler Conditions	☐ Broken/Leaking Samples	☐ pH Criteria Not Met	☐ Chain of Custody Problems
☐ Missing Paperwork	☐ Incorrect Bottle Type	☐ Residual Chlorine Present	☐ Other:
☐ Missing/Incorrect Bottle Labels	☐ Cooler Temperatures Out of Range	☐ Head Space in Bottles	

Briefly Describe the Problem and the Action Taken:

E-mailed to Client? Yes ☐ No ☐

Response Required Within 24 Hours

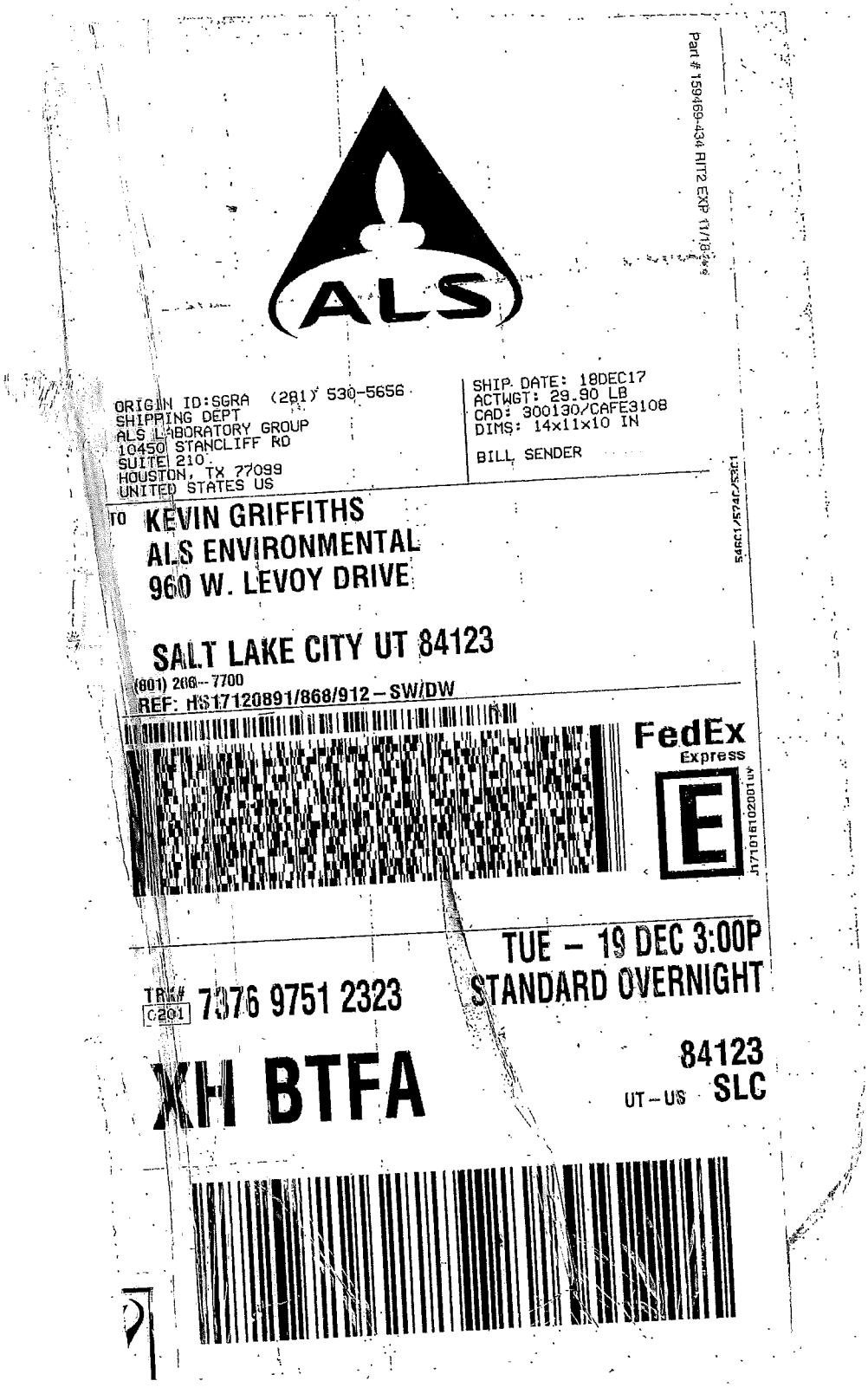
Project Management

Project Manager Comments:

ALS Project Manager: _____ (Printed Name) Returned to Sample Receipt by: _____ (Signature) Date: _____

Revised 1/1/15

CRIR.dot



Part # 159469-434 RIT2 EXP 11/18

ORIGIN ID:SGRA (281) 530-5656
SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 18DEC17
ACTWGT: 29.90 LB
CAD: 300130/CAFE3108
DIMS: 14x11x10 IN

BILL SENDER

TO KEVIN GRIFFITHS
ALS ENVIRONMENTAL
960 W. LEVOY DRIVE

SALT LAKE CITY UT 84123
(801) 266-7700
REF: HS17120891/868/912-SW/DW

FedEx Express

TUE - 19 DEC 3:00P
STANDARD OVERNIGHT

TRK# 7376 9751 2323
0201

XH BTFA

84123
UT-US SLC

00872485

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: HS17120868	Split:	Workorder ID: 1735426	Level: ENV_LVL4
Client: ALS Environmental (Houston)		Account: 8101	Type: 125Poly
Comments:			Preservatives: COOL

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	Containers ID(s)	Containers Count	Requested Analysis: EPA 6850, DoD QSM
1	12/11/2017 09:30	MW10-121117	1735426001		Water	A	1	A
2	12/11/2017 10:30	MW17-121117	1735426002		Water	A	1	A
3	12/11/2017 11:30	MW18-121117	1735426003		Water	A	1	A
4	12/12/2017 08:10	MW19-121217	1735426004		Water	A	1	A
5	12/12/2017 09:15	MW8-121217	1735426005		Water	A	1	A
6	12/12/2017 10:20	18CPTMW10SW-121217	1735426006		Water	A	1	A
7	12/12/2017 11:20	18CPTMW10DW-121217	1735426007		Water	A	1	A
8	12/12/2017 13:30	18CPTMW12SW-121217	1735426008		Water	A	1	A
9	12/12/2017 14:25	18CPTMW12DW-121217	1735426009		Water	A	1	A
10								

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ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Warath, Julie	12/19/2017 11:40	ALS Sample Receiving	Sample Login
Julie Warath R-33.1	12.21.17/11:30	T. Boyd	Storage 3C 6850

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep / Analysis for: _____ Lab Notebook No.: _____

Prepared / Analyzed by: _____ Date / Time: _____

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location

ch Worklist

Batch: ELMS/ 2015 **Created:** 12/21/2017 08:00 **Instrument:** LCMS04 **HBN:** 205572
Rule: EPA 6850, DoD QSM Water **Analyst:** T. Bosch **Status:** WP

Workorder: 1734932 [ENV_LVL4]
Workorder: 1735426 [ENV_LVL4]

Pos	Lab ID	Sample ID	Prep Initial	Prep Final	Dust Weight	Type	Mx	Container	Procedure	Mgr	Expire Date	Due Date	Run Date
1	580319	CCV for HBN 205572 [ELMS/2015]				CCV	3		E685041C3Q	5311		1/3/2018	12/21/2017
2	580320	LODV for HBN 205572 [ELMS/2015				LODV	3		E6850..D3Q	5311		1/3/2018	12/21/2017
3	580321	ICS for HBN 205572 [ELMS/2015]				ICS	3		E6850..D3Q	5311		1/3/2018	12/21/2017
4	580322	LMB for HBN 205572 [ELMS/2015]				LMB	3		E6850Q413Q	5311		1/3/2018	12/21/2017
5	580323	LCS for HBN 205572 [ELMS/2015]				LCS	3		E6850Q413Q	5311		1/3/2018	12/21/2017
6	1734932001	LH18/24-SP650_121317				SAMPLE	3	1734932001-A	E6850Q41.3	5480	1/10/2018	1/3/2018	12/21/2017
7	580324	LH18/24-SP650...(1734932001MS)				MS	3		E6850Q413Q	5311		1/3/2018	12/21/2017
8	580325	LH18/24-SP65...(1734932001MSD)				MSD	3		E6850Q413Q	5311		1/3/2018	12/21/2017
9	1735426001	MW10-121117				SAMPLE	3	1735426001-A	E6850Q41.3	5480	1/8/2018	1/5/2018	12/21/2017
10	1735426002	MW17-121117				SAMPLE	3	1735426002-A	E6850Q41.3	5480	1/8/2018	1/5/2018	12/21/2017
11	1735426003	MW18-121117				SAMPLE	3	1735426003-A	E6850Q41.3	5480	1/8/2018	1/5/2018	12/21/2017
12	1735426004	MW19-121217				SAMPLE	3	1735426004-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
13	1735426006	18CPTMW10SW-121217				SAMPLE	3	1735426006-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
14	1735426007	18CPTMW10DW-121217				SAMPLE	3	1735426007-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
15	1735426008	18CPTMW12SW-121217				SAMPLE	3	1735426008-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
16	1735426009	18CPTMW12DW-121217				SAMPLE	3	1735426009-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
17	1735426005	MW8-121217				SAMPLE	3	1735426005-A	E6850Q41.3	5480	1/9/2018	1/5/2018	12/21/2017
18	580326	CCV for HBN 205572 [ELMS/2015]				CCV	3		E685041C3Q	5311		1/3/2018	12/21/2017
19	580327	LODV for HBN 205572 [ELMS/2015				LODV	3		E6850..D3Q	5311		1/3/2018	12/21/2017

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

ALS Work Order #'s & Sample #( )'s: 1734932 (001); 1735426 (001-09)
ELMS Batch/HBN ID: 2015 (205572)
Prep Date: 12/21/2017 Analysis Date: 12/21/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\21DEC17D.s
Reported DL: **1.0µg/L** Reported LOD: **2.0µg/L** Reported LOQ: **4.0µg/L**

SAMPLE PREPARATION/ANALYSIS:

Water: Samples were prepared by TNB. 10.0mL of each sample was pipetted into a 15-mL centrifuge tube, and 50µL of an oxygen-18 labeled perchlorate solution was added as an internal standard. The samples were capped, vortexed, and filtered with Phenex PES membrane 0.45µm Syringe filters prior to analysis.

REAGENTS: Eluent A1: 95% ASTM Type II water (ALS)/ 5% ACN (B&J Lot DI735)/0.1% glacial acetic acid (JT-Baker Lot 04802).
Eluent B1: 95% ACN (B&J Lot DI735)/ 5% ASTM Type II water (ALS)/0.1% glacial acetic acid (JT-Baker Lot 04802).

STANDARDS: Internal Standard Spiking Solution Horizon# 38780. Dilutions of Working Standard Solution ID 32373 used for CCV's, LODV's, RLVS and IPC.

CALIBRATION CURVE: Used curve from 11/28/2017, sequence 28NOV17P.s Offline Quantitation Method: CLO4-DPR.M

INSTRUMENT CONDITIONS: Samples were analyzed with an Agilent 1100 LC/MSD system, in negative SIM mode, monitoring m/z 83, 85, and 89.
Instrument ID: LCMS04 Online Acquisition Method: CLO4-AQN.M Fragmentor: 160 Output Gain: 3 Injection Volume: 25µL
Column: KP-RPPX C8 separator, 250mm Mobile Phase: 70% Eluent A1; 30% Eluent B1

FLOW GRADIENT:

Time (min.)	Flow (mL/min)
0	0.65
4.0	0.65
5.0	0.25
14.5	0.25
15.0	0.65
17.5	0.65

QC DATA: 5.0µL of QC Solution Horizon ID 36749 was used for LCS 580323; Target = 5.0µg/L. ASTM type II water was used for LMB 580322.

MS/MSD: MS/MSD was performed on sample 1734932001 (Client ID: LH18/24-SP650_121317). 5.0µl of Working Standard Solution Horizon ID 36735 was added to 10.0mL of sample preparation. Spike target = 5.0µg/L.

COMMENTS:

1) Results reported in µg/L. Sample 1735426005 was re-analyzed and reported at a 1:100 dilution. The reporting limit has been adjusted accordingly.
2) All QC, Blank, CCV, and MS/MSD results were within method parameters.
3) Sample data can be viewed at two directories within the ALS system: \\ALSLTWS013\LCMS\LCMS04\2017\DEC\HBN# or through NuGenesis\Tree\PrintData\LCMS\DefaultView.
4) Due to limitations of the Chemstation Software, many of the chromatographic peaks require manual integration. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01,02) along with datafiles 21DECD02/03/13/20.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-205572-DOD-ALS-HSTN-LCMS4 or through \\ALSLTWS013\DATAREVIEW\HBN#

STANDARD REPORT

Working Standard - CLO4 WRK

CLO4 WRK — Description - 6850 WKG Std 100.ug/L

Standard: 36735
MFG: ALS/SLC
MFG Lot: TNB: 05/10/17
Part ID:

Created By: T. Bosch
Create Date: 05/10/2017
Lab Lot: CLO4 WRK

Amount: 10 mL
Expires: 05/10/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	0.1 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36734	CLO4 INT	6850 Intermdt AccStd 10.ug/mL	CLO4 INT	0.1 mL	05/10/2018

STANDARD REPORT

Constituent

Stock Standard - CLO4 STOCK

CLO4 STOCK — Description - 6850 Stock AccStd 1,000ug/mL

Standard: 36733
MFG: AccuStandard
MFG Lot: 216095148
Part ID: IC-PER-10X-1

Created By: T. Bosch
Create Date: 5/10/2017
Lab Lot: CLO4 STOCK

Amount: 100 mL
Expires: 10/4/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Working Standard - CLO4 INT

CLO4 INT — Description - 6850 Intermdt AccStd 10.ug/mL

Standard: 36734
MFG: ALS/SLC
MFG Lot: TNB: 05/10/17
Part ID:

Created By: T. Bosch
Create Date: 05/10/2017
Lab Lot: CLO4 INT

Amount: 10 mL
Expires: 05/10/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36733	CLO4 STOCK	6850 Stock AccStd 1,000ug/mL	CLO4 STOCK	0.1 mL	10/04/2018

STANDARD REPORT

Working Standard - CLO4 QC WRK

CLO4 QC WRK — Description - 6850 QC WKG STD 100ug/L

Standard: 36750
MFG: ALS/SLC
MFG Lot: TNB: 05/11/17
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC WRK 100.ug/L

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	100 ug/L

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36749	CLO4 QC INT	6850 QC Intrmdt Std-QC 10ug/mL	CLO4 QC INT 10.ug/mL	0.1 mL	05/11/2018

STANDARD REPORT

Constituent

Working Standard - CLO4 QC INT

CLO4 QC INT Description - 6850 QC Intrmdt Std-QC 10ug/mL

Standard: 36749
MFG: ALS/SLC
MFG Lot: TNB: 05/11/2017
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC INT 10.ug/mL

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36748	CLO4 QCSTOCK	6850 QC Stock STD 1,000ug/mL	CLO4 QC STOCK	0.1 mL	03/31/2020

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLO4 QCSTOCK

CLO4 QCSTOCK Description - 6850 QC Stock STD 1,000ug/mL

Standard: 36748
MFG: Ultra Scientific
MFG Lot: CP-0860
Part ID: ICC-013

Created By: T. Bosch
Create Date: 5/11/2017
Lab Lot: CLO4 QC STOCK

Amount: 100 mL
Expires: 3/31/2020
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Working Standard - CLO4ISTDWRK

CLO4ISTDWRK — **Description - Perchlorate ISTD Wrk 1,000ug/L**

Standard: 38780
MFG: ALS/SLC
MFG Lot: TNB: 10/09/17
Pipette ID: Not Provided

Created By: Thomas Bosch
Create Date: 10/09/2017 01:10PM
Verified By: Thomas Bosch
Verify Date:

Amount: 10 mL
Expires: 10/09/2018
Usable: Yes
Lab Lot: CLO4ISTDWRK

Pos.	Analyte	Name	Concentration
1	14797-73-0-8385	Perchlorate 83:85 Ratio	1000 ug/L
2	14797-73-0-89	Perchlorate 89	1000 ug/L

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
23118	CLO4ISTDSTK	Perchlorate ISTD Stock	CLO4ISTDSTK	0.1 mL	02/27/2024

STANDARD REPORT

Constituent

Stock Standard - CLO4ISTDSTK

CLO4ISTDSTK		Description - Perchlorate ISTD Stock
Standard: 23118	Created By: Thomas Bosch	Amount: 1 mL
MFG: Cambridge Isotope	Create Date: 04/04/2014 03:04PM	Expires: 02/27/2024
MFG Lot: SDDG-013	Verified By: Thomas Bosch	Usable: Yes
Part ID: OLM-7310-S	Verify Date: 02/05/2009 12:02AM	Lab Lot: CLO4ISTDSTK

Pos.	Analyte	Name	Concentration
1	14797-73-0-8385	Perchlorate 83:85 Ratio	100 ug/mL
2	14797-73-0-89	Perchlorate 89	100 ug/mL

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Product Name: Perchlorate IC Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	True Value	Traceability & Method
perchlorate	potassium perchlorate	RM07987	100	1001 ± 5 µg/mL	976 ± 6 µg/mL	NIST SRM 3141A; ICP-OES

Solvent: water (low TOC, < 50 ppb)

Storage: Store at Room Temperature (15° to 30°C).

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Do not pipet from the bottle. Do not return any material removed for pipetting to the bottle. Tightly cap the bottle after removing any material and store according to the instructions noted above.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

ANAB ACCREDITED ISO 17025 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO 17025 TESTING LABORATORY

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

Peter A. King, Ph.D.
VP, Technical Operations

Daniel J. Lamendola
Director of QA/RA

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-PER-10X-1
Description: Perchlorate Standard
Element: Perchlorate (ClO_4)
SRM: Ind. Std.
Lot: 216095148
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Oct 4, 2016
Expiration: Oct 4, 2018
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)
Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
ClO_4	Perchlorate	Ind. Std.	1000

The gravimetric uncertainty for this product is ±0.2%. See reverse side for details.
The final solution was checked against an independent standard to verify its concentration.
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.
All solutions are filtered through a 0.2 µm filter prior to being bottled.
All glassware used in preparation is Class A and calibrated regularly.
All weights are traceable through NIST, Test No. 822-275872-11
All bottles are triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware.
We certify the accuracy of this standard to be ±0.5% of the stated value until its expiration date provided it is kept tightly capped and stored under the conditions stated above.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001
Rev. 5/16

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

23118

Product Name: (Isotopic Label & Enrichment Specification)	PERCHLORIC ACID, SODIUM SALT (18O4, 90%+) 100 UG/ML IN WATER
Lot Number:	SDDG-013
Catalog Number:	OLM-7310-S

Product Information

Chemical Purity Specification:	≥98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	7601-89-0
MW*:	130.4
Chemical Formula:	NaCl*O4
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number. Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

* *For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Assurance

Quality Control Tests and Results

QC Release Date	2/27/2014
Expiration Date	2/27/2024
Concentration Based on Gravimetry	102 µg/mL
Chemical Purity of Neat Material(s)	98%
LC/MS for Concentration	109.4 ± 2.8 µg/mL (k=2)

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

atch Report: C:\HPCHEM\1\DATA\21DEC17D\21DEC17D.B

Batch Review Method:
C:\HPCHEM\1\METHODS\CLO4-DPR.M

['#' ==> Run has not been reprocessed with Batch Review Method
'*' ==> Run has been saved with batch file]

#	*	Sample	Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
	*	580319	CCV@25	Vial 71	1	Control	1	1.10329e6	12.681	27.12916
	*	580320	LODV@1.	Vial 72	1	Control	2	4.29875e4	12.695	1.10328
	*	580321	ICS@1.	Vial 73	1	Control	3	2.70794e4	12.386	9.68220e-1
	*	580322	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
	*	580323	LCS@5.	Vial 75	1	Control	5	1.82725e5	12.199	5.30896
	*	1734932001		Vial 76	1	Sample	6	0.00000	0.000	0.00000
	*	580324	349321S	Vial 77	1	Sample	7	1.58544e5	12.509	5.08586
	*	580325	349321D	Vial 78	1	Sample	8	1.70173e5	12.523	5.00098
	*	1735426001		Vial 79	1	Sample	9	0.00000	0.000	0.00000
	*	1735426002		Vial 80	1	Sample	10	0.00000	0.000	0.00000
	*	1735426003		Vial 81	1	Sample	11	0.00000	0.000	0.00000
	*	1735426004		Vial 82	1	Sample	12	0.00000	0.000	0.00000
	*	1735426005		Vial 83	1	Sample	13	2.28145e8	11.060	1343.31631
	*	1735426006		Vial 84	1	Sample	14	0.00000	0.000	0.00000
	*	1735426007		Vial 85	1	Sample	15	3.96411e5	12.467	11.65664
	*	1735426008		Vial 86	1	Sample	16	0.00000	0.000	0.00000
	*	1735426009		Vial 87	1	Sample	17	0.00000	0.000	0.00000
	*	1735426005	100	Vial 88	1	Sample	18	2.62282e6	12.748	5547.14866
	*	580326	CCV@25	Vial 71	1	Control	19	1.05805e6	12.615	26.48818
	*	580327	LODV@1.	Vial 72	1	Control	20	4.33081e4	12.788	1.10451

#	*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
	*	580319	CCV@25	Vial 71	1	Control	1	3.45319e5	12.703	26.97211
	*	580320	LODV@1.	Vial 72	1	Control	2	1.56451e4	12.704	1.01706
	*	580321	ICS@1.	Vial 73	1	Control	3	1.02609e4	12.405	9.07710e-1
	*	580322	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
	*	580323	LCS@5.	Vial 75	1	Control	5	6.11696e4	12.207	5.32832
	*	1734932001		Vial 76	1	Sample	6	0.00000	0.000	0.00000
	*	580324	349321S	Vial 77	1	Sample	7	5.38874e4	12.529	5.17300
	*	580325	349321D	Vial 78	1	Sample	8	5.99470e4	12.537	5.27085
	*	1735426001		Vial 79	1	Sample	9	0.00000	0.000	0.00000
	*	1735426002		Vial 80	1	Sample	10	0.00000	0.000	0.00000
	*	1735426003		Vial 81	1	Sample	11	0.00000	0.000	0.00000
	*	1735426004		Vial 82	1	Sample	12	0.00000	0.000	0.00000
	*	1735426005		Vial 83	1	Sample	13	8.12621e7	11.069	1601.95707
	*	1735426006		Vial 84	1	Sample	14	0.00000	0.000	0.00000
	*	1735426007		Vial 85	1	Sample	15	1.28015e5	12.481	11.63225
	*	1735426008		Vial 86	1	Sample	16	0.00000	0.000	0.00000
	*	1735426009		Vial 87	1	Sample	17	0.00000	0.000	0.00000
	*	1735426005	100	Vial 88	1	Sample	18	8.02047e5	12.763	5543.26164
	*	580326	CCV@25	Vial 71	1	Control	19	3.25405e5	12.636	25.89454
	*	580327	LODV@1.	Vial 72	1	Control	20	1.48591e4	12.816	9.48676e-1

#	*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
	*	580319	CCV@25	Vial 71	1	Control	1	1.65013e5	12.697	5.00000
	*	580320	LODV@1.	Vial 72	1	Control	2	1.83835e5	12.702	5.00000
	*	580321	ICS@1.	Vial 73	1	Control	3	1.32470e5	12.410	5.00000
	*	580322	LMB	Vial 74	1	Control	4	1.88604e5	12.735	5.00000
	*	580323	LCS@5.	Vial 75	1	Control	5	1.56058e5	12.220	5.00000
	*	1734932001		Vial 76	1	Sample	6	1.46703e5	12.537	5.00000
	*	580324	349321S	Vial 77	1	Sample	7	1.41538e5	12.533	5.00000
	*	580325	349321D	Vial 78	1	Sample	8	1.54580e5	12.544	5.00000
	*	1735426001		Vial 79	1	Sample	9	1.27074e5	12.480	5.00000
	*	1735426002		Vial 80	1	Sample	10	1.23030e5	12.521	5.00000
	*	1735426003		Vial 81	1	Sample	11	1.35933e5	12.446	5.00000
	*	1735426004		Vial 82	1	Sample	12	1.61170e5	12.275	5.00000

Batch Report: C:\HPCHEM\1\DATA\21DEC17D\21DEC17D.B

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	1735426005	Vial 83	1	Sample	13	9.64154e4	11.058	5.00000
*	1735426006	Vial 84	1	Sample	14	1.27755e5	12.429	5.00000
*	1735426007	Vial 85	1	Sample	15	1.48900e5	12.485	5.00000
*	1735426008	Vial 86	1	Sample	16	1.19586e5	12.398	5.00000
*	1735426009	Vial 87	1	Sample	17	1.60908e5	12.487	5.00000
*	1735426005 100	Vial 88	1	Sample	18	1.69365e5	12.769	500.00000
*	580326 CCV@25	Vial 71	1	Control	19	1.62565e5	12.637	5.00000
*	580327 LODV@1.	Vial 72	1	Control	20	1.84996e5	12.807	5.00000

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\21DEC17D.S

Sequence Table:

Method and Injection Info Part:

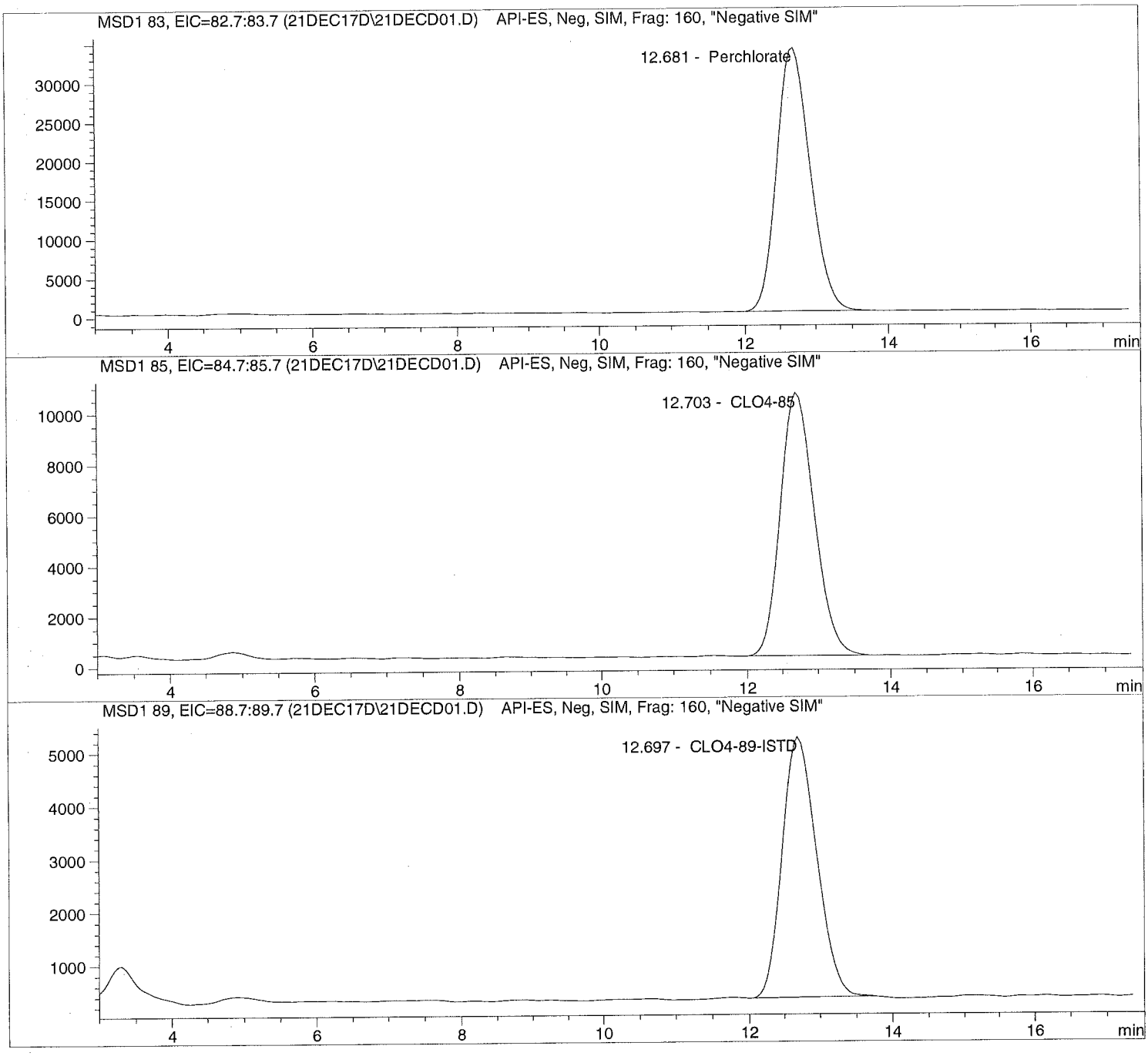
Line	Location	SampleName		Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	580319	CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	580320	LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	580321	ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	580322	LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	580323	LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1734932001		CLO4-DOD	1	Sample		
7	Vial 77	580324	349321S	CLO4-DOD	1	Sample		
8	Vial 78	580325	349321D	CLO4-DOD	1	Sample		
9	Vial 79	1735426001		CLO4-DOD	1	Sample		
10	Vial 80	1735426002		CLO4-DOD	1	Sample		
11	Vial 81	1735426003		CLO4-DOD	1	Sample		
12	Vial 82	1735426004		CLO4-DOD	1	Sample		
13	Vial 83	1735426005		CLO4-DOD	1	Sample		
14	Vial 84	1735426006		CLO4-DOD	1	Sample		
15	Vial 85	1735426007		CLO4-DOD	1	Sample		
16	Vial 86	1735426008		CLO4-DOD	1	Sample		
17	Vial 87	1735426009		CLO4-DOD	1	Sample		
18	Vial 88	1735426005	100	CLO4-DOD	1	Sample		
19	Vial 71	580326	CCV@25	CLO4-DOD	1	Ctrl Samp		
20	Vial 72	580327	LODV@1.	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD01.D Sample Name: 580319 CCV@25

Injection Date:	12/21/2017 08:52:08	Seq Line:	1
Sample Name:	580319 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD01.D Sample Name: 580319 CCV@25

Injection Date:	12/21/2017 08:52:08	Seq Line:	1
Sample Name:	580319 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.681	PBA	1103294.9	27.1292	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.703	PBA	345318.7	26.9721	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.697	PBA	165012.7	5.0000	CLO4-89-ISTD

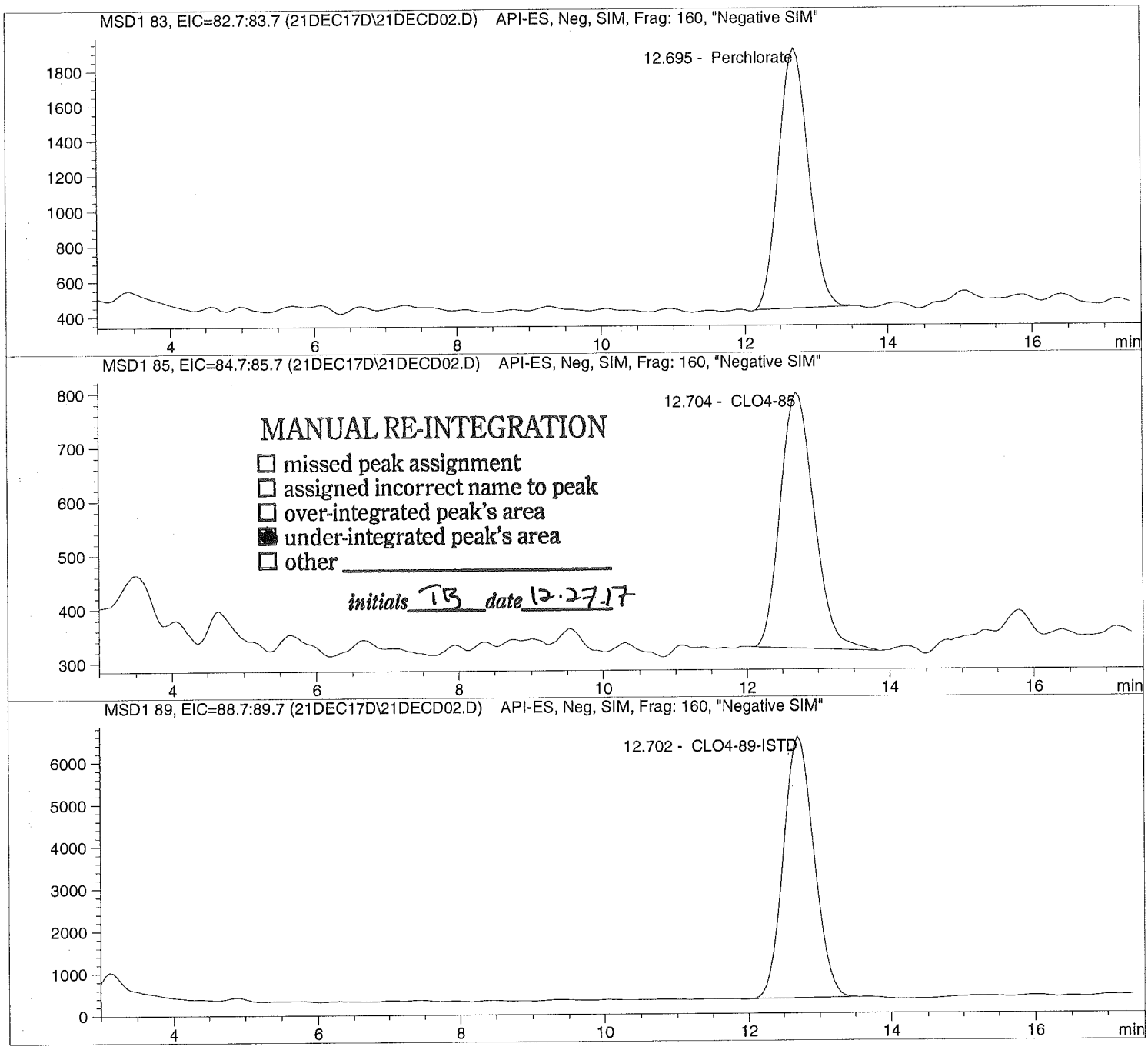
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD02.D Sample Name: 580320 LODV@1.

Injection Date:	12/21/2017 09:11:18	Seq Line:	2
Sample Name:	580320 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD02.D Sample Name: 580320 LODV@1.

Injection Date:	12/21/2017 09:11:18	Seq Line:	2
Sample Name:	580320 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.695	PBA	42987.5	1.1033	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.704	MM	15645.1	1.0171	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.702	PBA	183835.4	5.0000	CLO4-89-ISTD

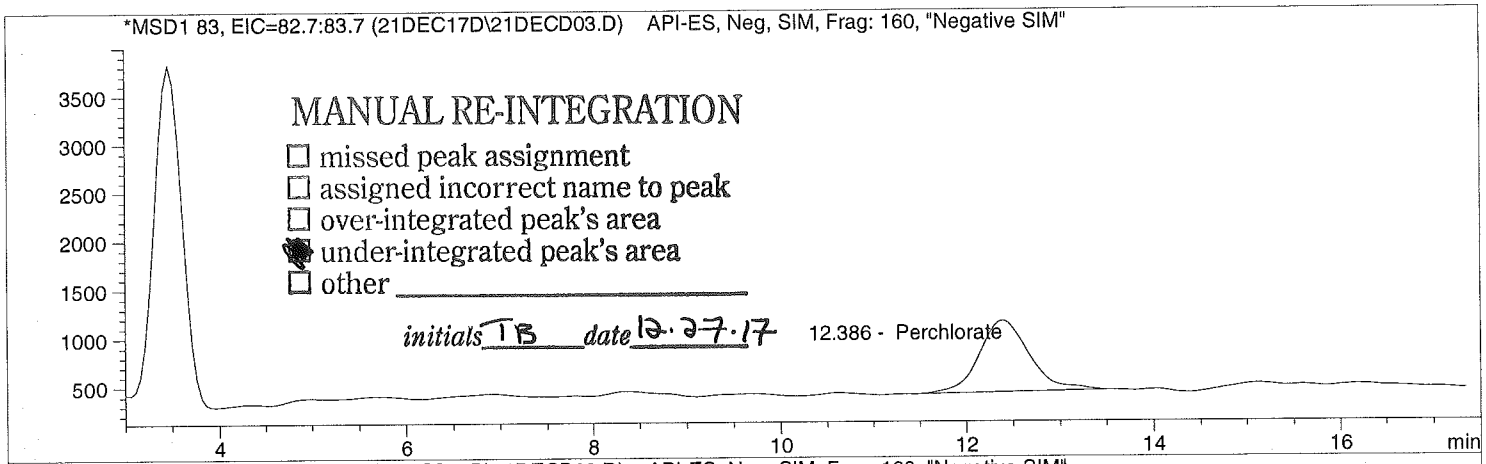
*** End of Report ***

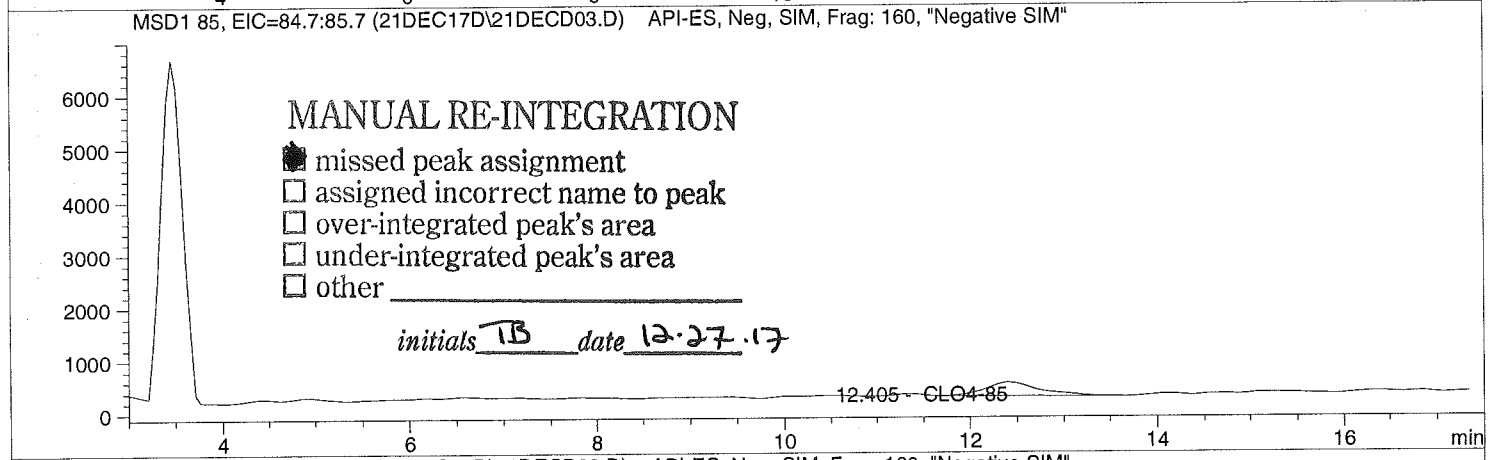
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD03.D Sample Name: 580321 ICS@1.

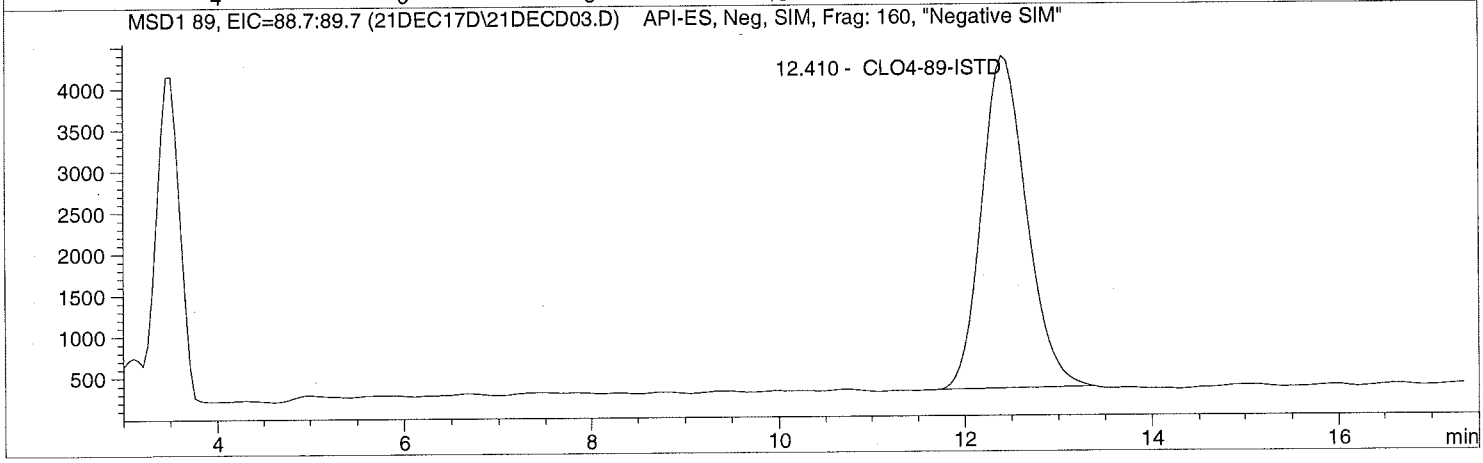
Injection Date:	12/21/2017 09:30:29	Seq Line:	3
Sample Name:	580321 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD03.D Sample Name: 580321 ICS@1.

Injection Date:	12/21/2017 09:30:29	Seq Line:	3
Sample Name:	580321 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.386	MM	27079.4	0.9682	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.405	MM	10260.9	0.9077	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.410	BBA	132469.9	5.0000	CLO4-89-ISTD

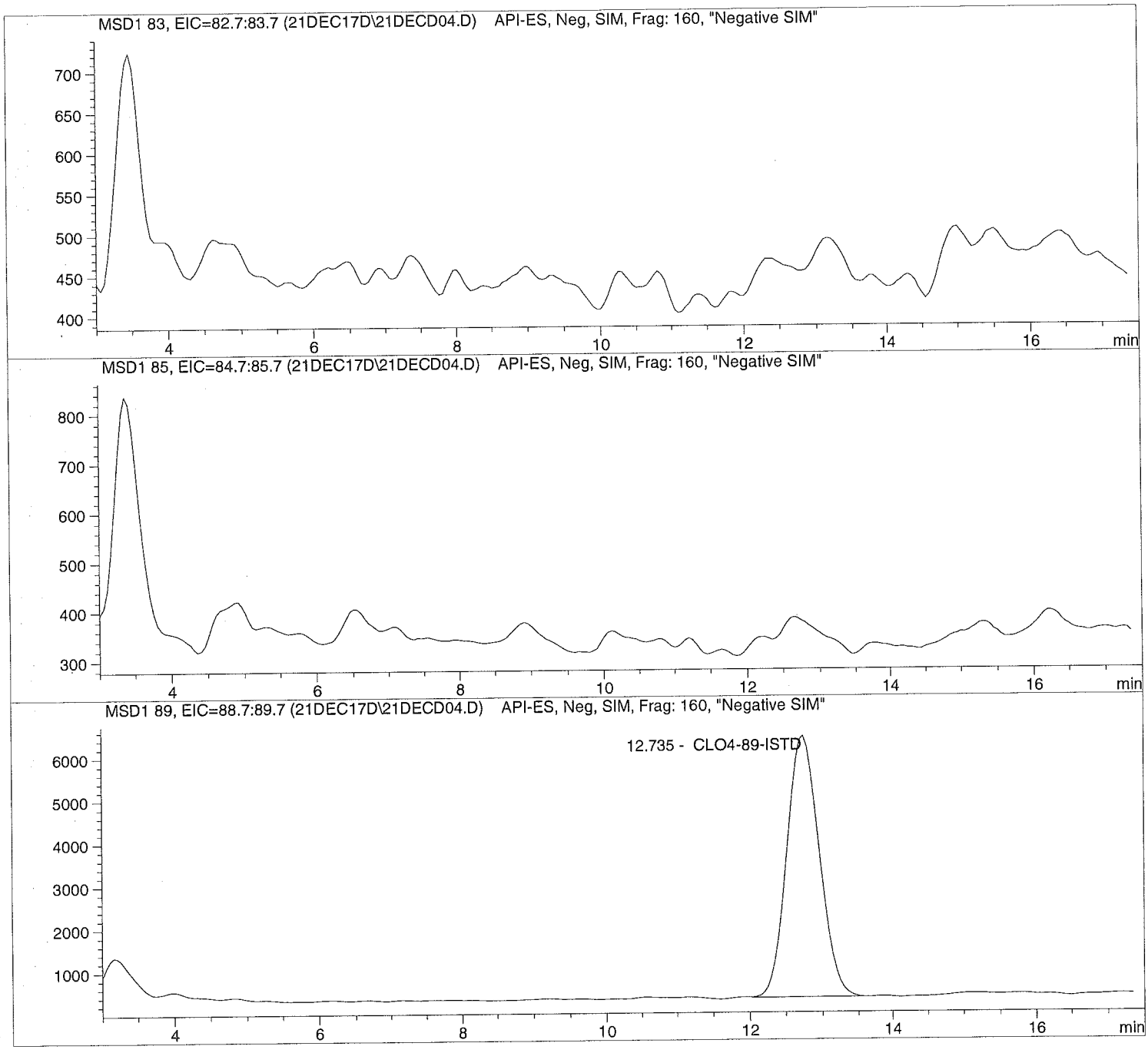
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD04.D Sample Name: 580322 LMB

Injection Date:	12/21/2017 09:49:41	Seq Line:	4
Sample Name:	580322 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD04.D Sample Name: 580322 LMB

Injection Date:	12/21/2017 09:49:41	Seq Line:	4
Sample Name:	580322 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.735	BBA	188603.5	5.0000	CLO4-89-ISTD

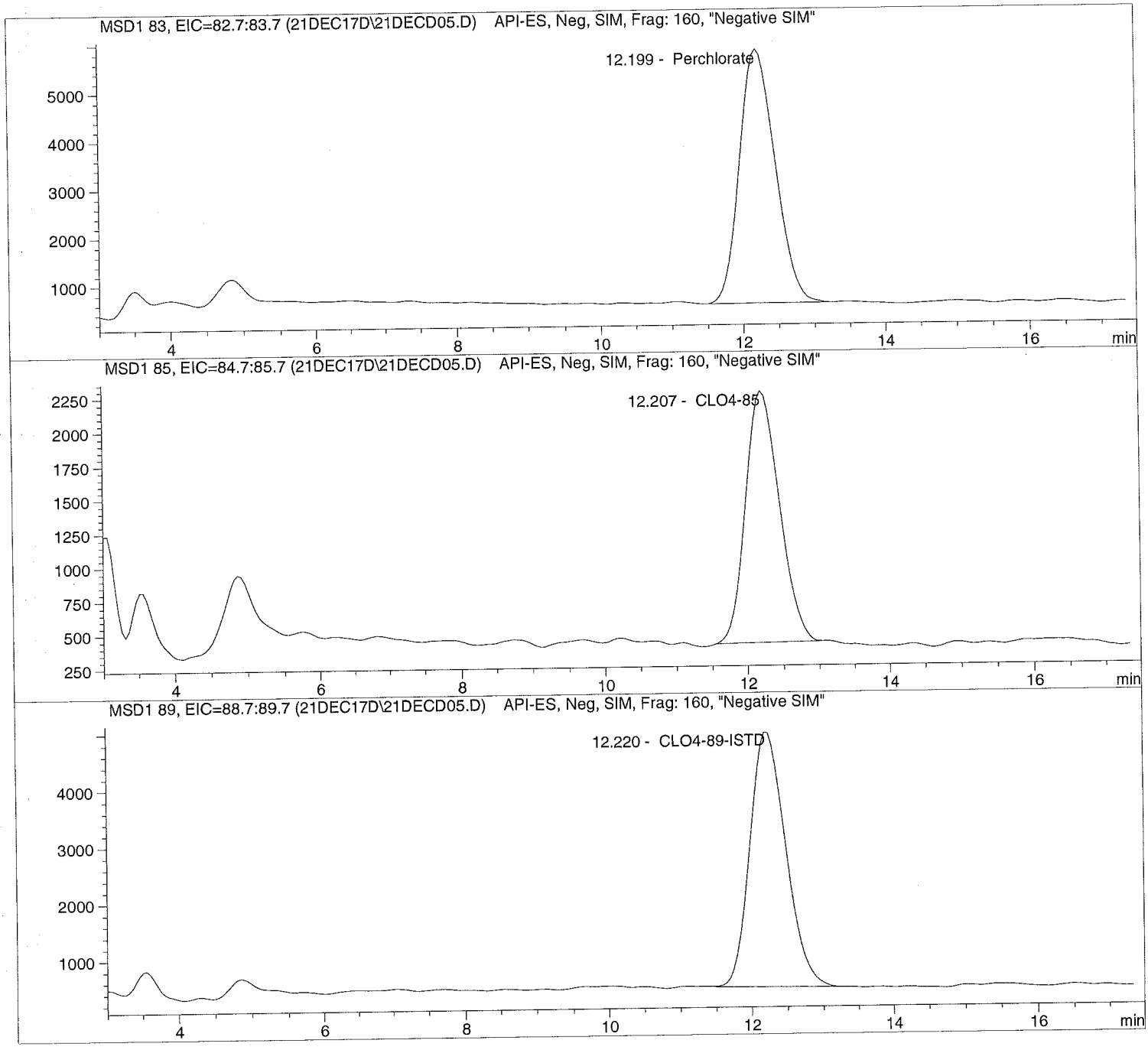
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD05.D Sample Name: 580323 LCS@5.

Injection Date:	12/21/2017 10:08:50	Seq Line:	5
Sample Name:	580323 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD05.D Sample Name: 580323 LCS@5.

Injection Date:	12/21/2017 10:08:50	Seq Line:	5
Sample Name:	580323 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	5.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.199	PBA	182725.2	5.3090	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.207	PBA	61169.6	5.3283	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.220	BBA	156058.2	5.0000	CLO4-89-ISTD

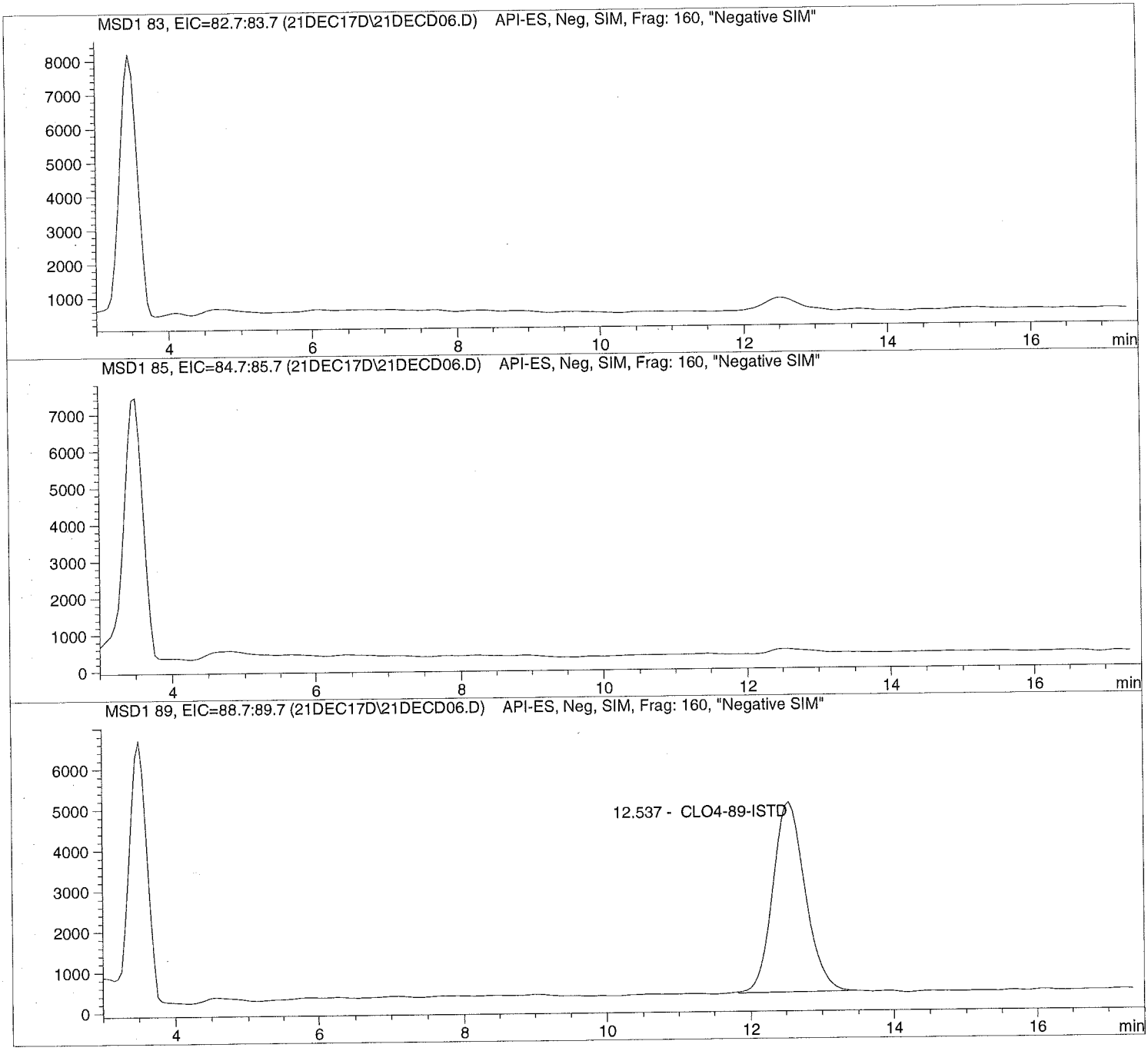
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD06.D Sample Name: 1734932001

Injection Date:	12/21/2017 10:29:50	Seq Line:	6
Sample Name:	1734932001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD06.D Sample Name: 1734932001

Injection Date:	12/21/2017 10:29:50	Seq Line:	6
Sample Name:	1734932001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.537	BBA	146703.2	5.0000	CLO4-89-ISTD

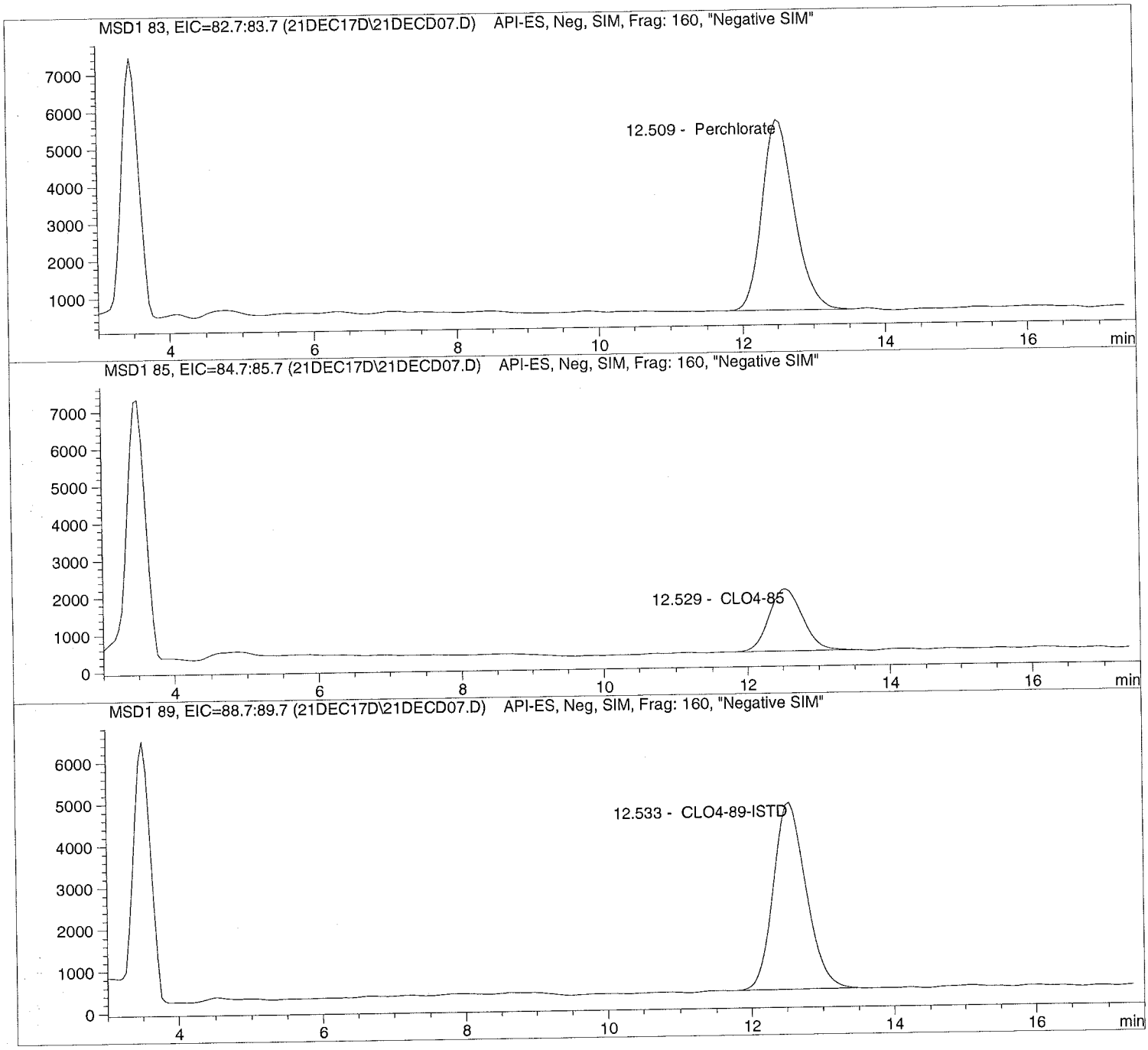
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD07.D Sample Name: 580324 349321S

Injection Date:	12/21/2017 10:49:01	Seq Line:	7
Sample Name:	580324 349321S	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD07.D Sample Name: 580324 349321S

Injection Date:	12/21/2017 10:49:01	Seq Line:	7
Sample Name:	580324 349321S	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.509	BBA	158543.6	5.0859	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.529	BBA	53887.4	5.1730	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.533	BBA	141538.0	5.0000	CLO4-89-ISTD

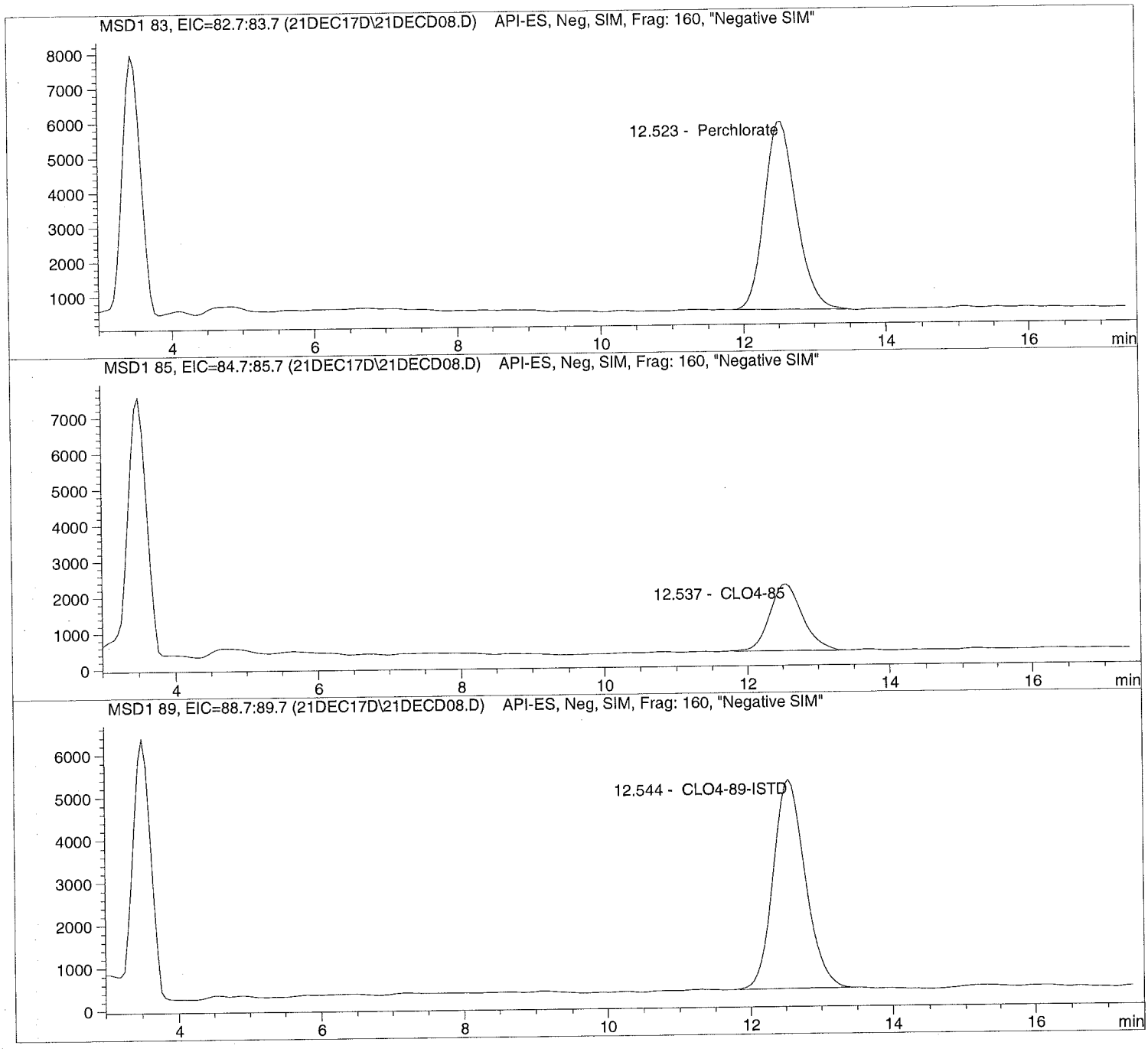
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD08.D Sample Name: 580325 349321D

Injection Date:	12/21/2017 11:08:09	Seq Line:	8
Sample Name:	580325 349321D	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD08.D Sample Name: 580325 349321D

Injection Date:	12/21/2017 11:08:09	Seq Line:	8
Sample Name:	580325 349321D	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.523	BBA	170173.5	5.0010	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.537	BBA	59947.0	5.2708	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.544	PBA	154579.8	5.0000	CLO4-89-ISTD

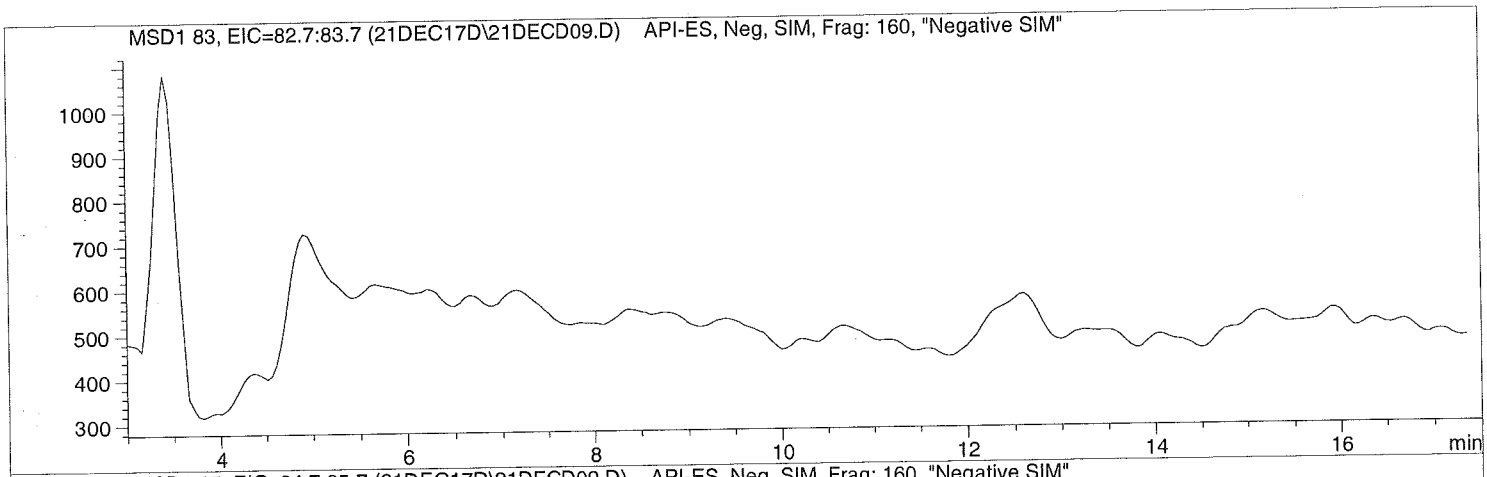
*** End of Report ***

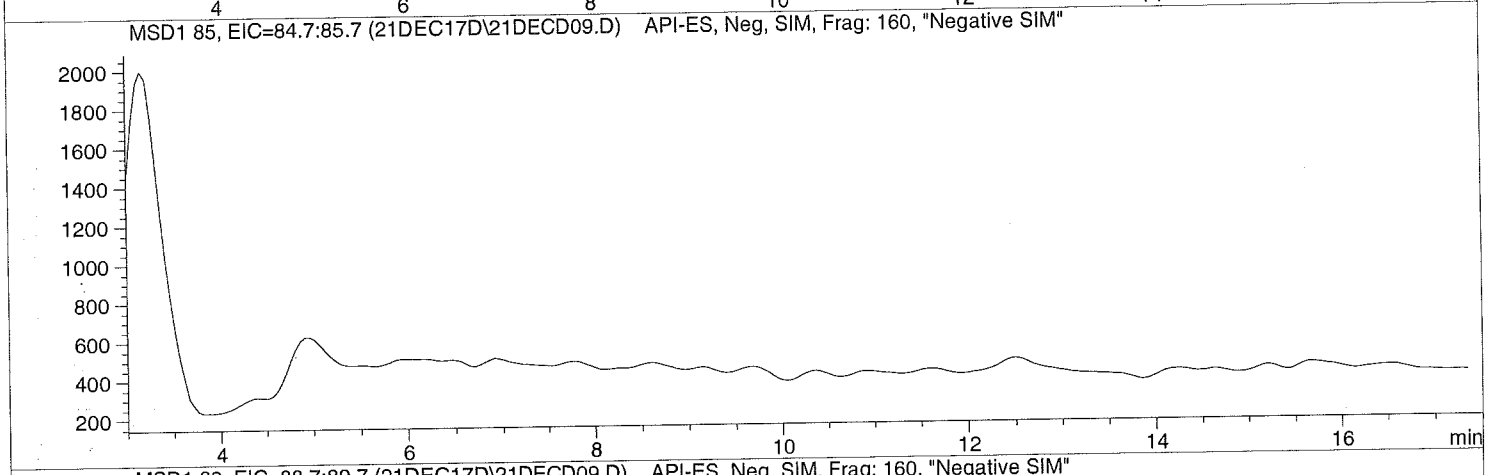
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD09.D Sample Name: 1735426001

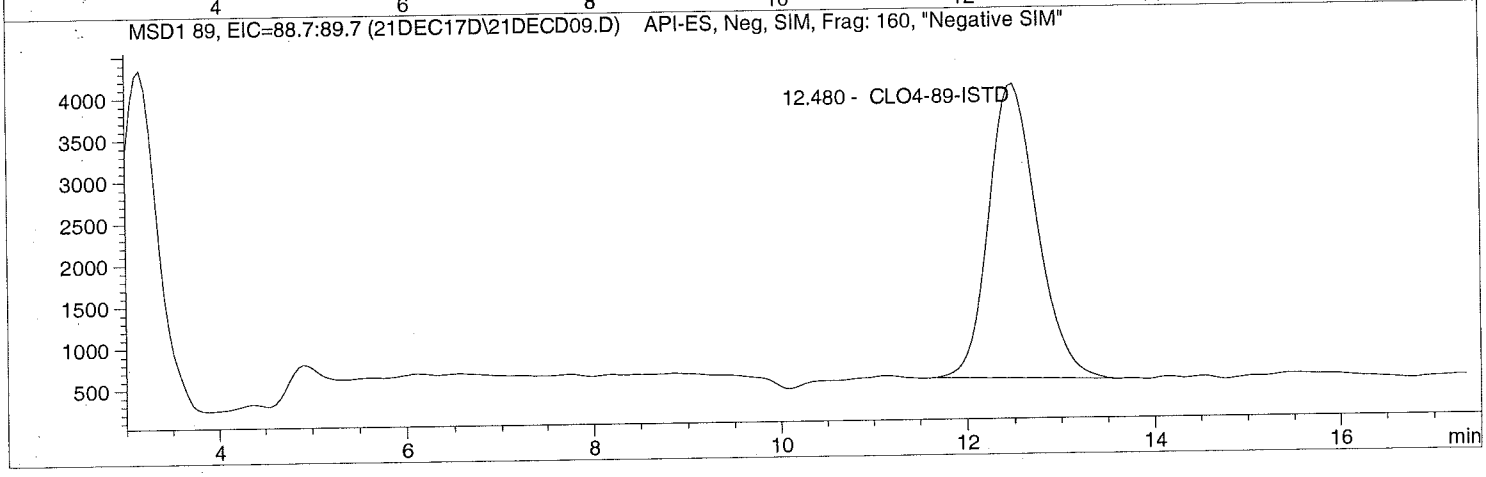
Injection Date:	12/21/2017 11:51:53	Seq Line:	9
Sample Name:	1735426001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD09.D Sample Name: 1735426001

Injection Date:	12/21/2017 11:51:53	Seq Line:	9
Sample Name:	1735426001	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.480	BBA	127073.6	5.0000	CLO4-89-ISTD

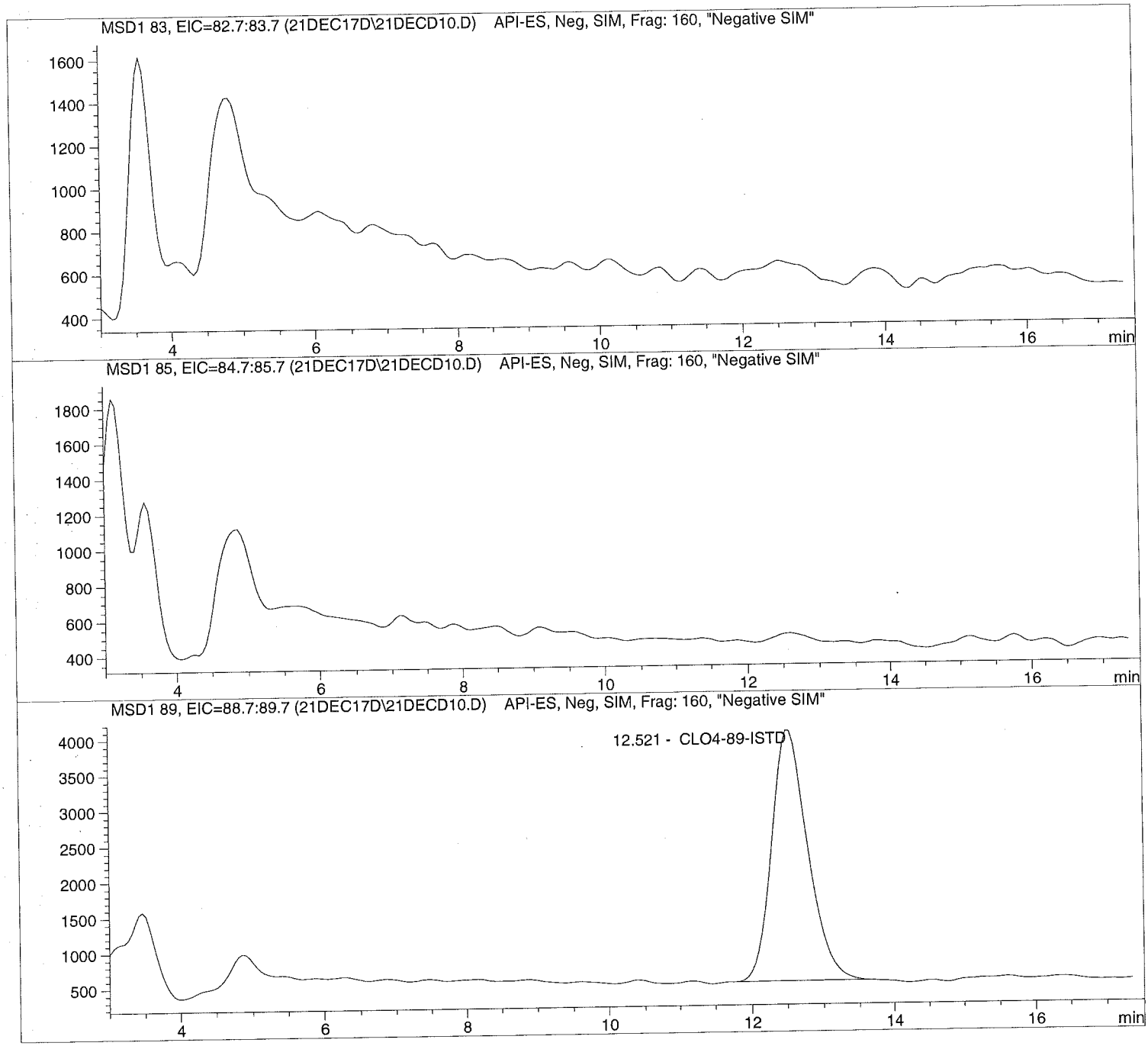
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD10.D Sample Name: 1735426002

Injection Date:	12/21/2017 12:12:36	Seq Line:	10
Sample Name:	1735426002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD10.D Sample Name: 1735426002

Injection Date:	12/21/2017 12:12:36	Seq Line:	10
Sample Name:	1735426002	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.521	BBA	123030.4	5.0000	CLO4-89-ISTD

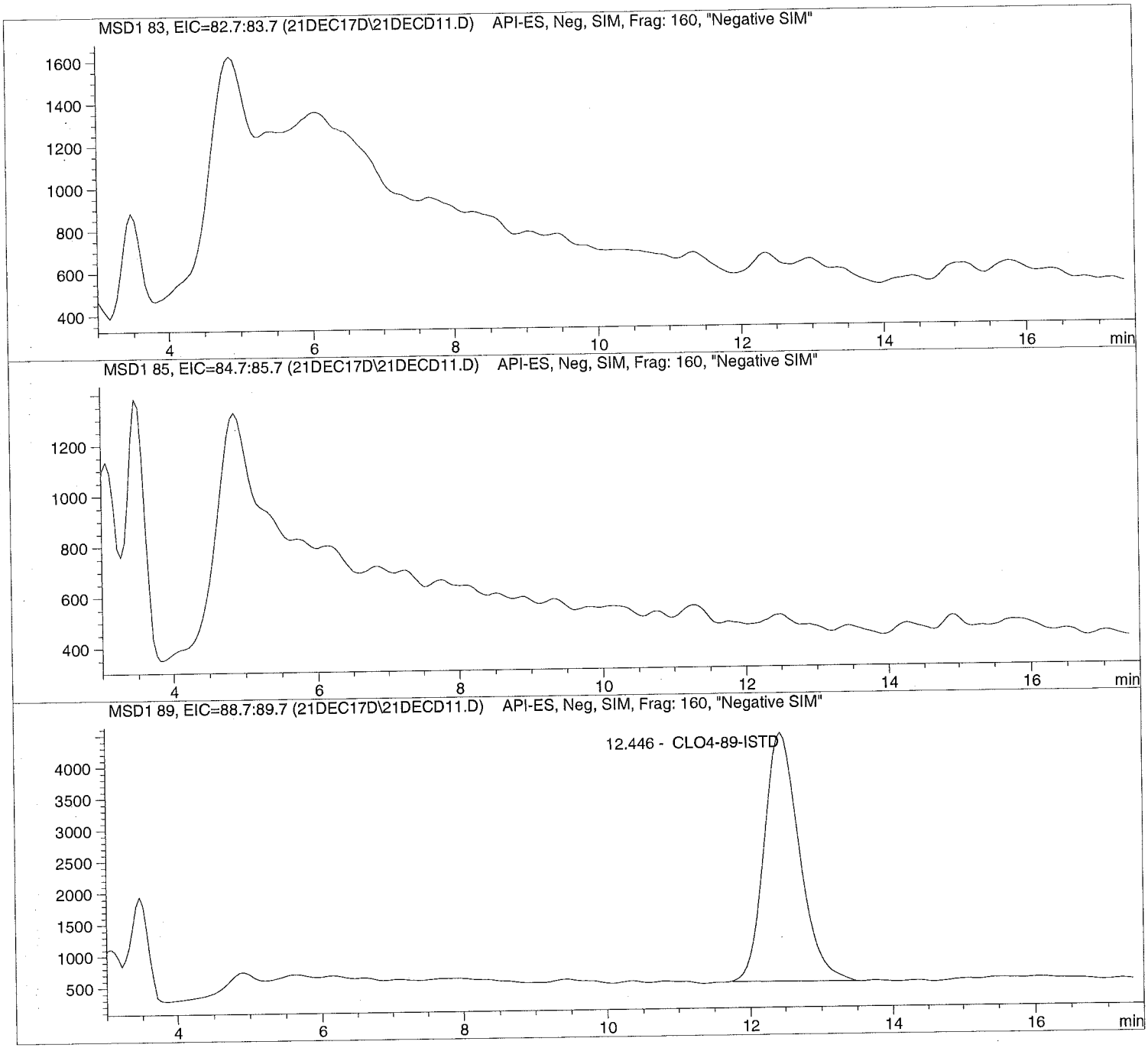
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD11.D Sample Name: 1735426003

Injection Date:	12/21/2017 12:31:46	Seq Line:	11
Sample Name:	1735426003	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD11.D Sample Name: 1735426003

Injection Date:	12/21/2017 12:31:46	Seq Line:	11
Sample Name:	1735426003	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.446	BBA	135932.6	5.0000	CLO4-89-ISTD

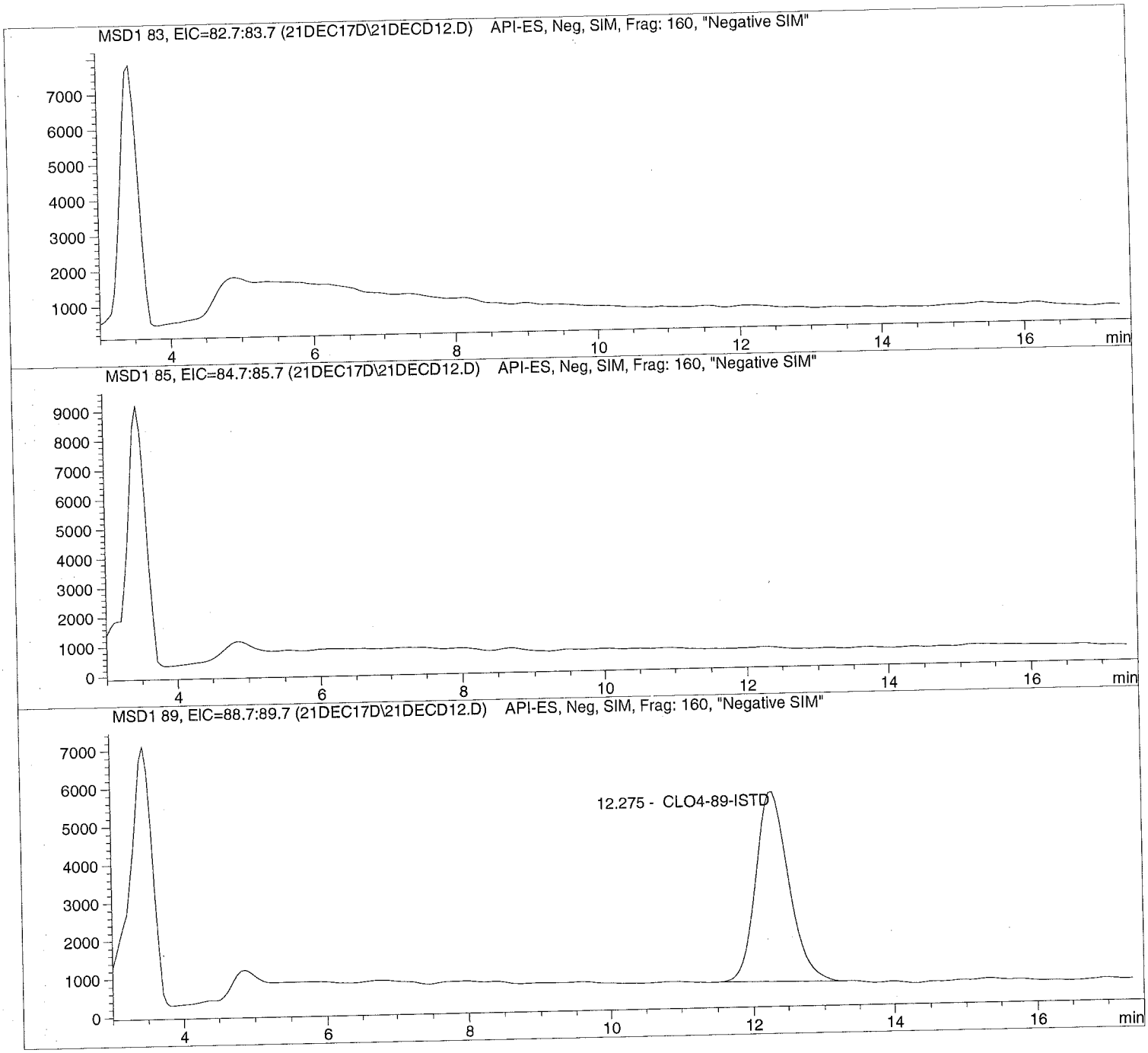
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD12.D Sample Name: 1735426004

Injection Date:	12/21/2017 12:50:54	Seq Line:	12
Sample Name:	1735426004	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD12.D Sample Name: 1735426004

Injection Date:	12/21/2017 12:50:54	Seq Line:	12
Sample Name:	1735426004	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.275	PBA	161170.1	5.0000	CLO4-89-ISTD

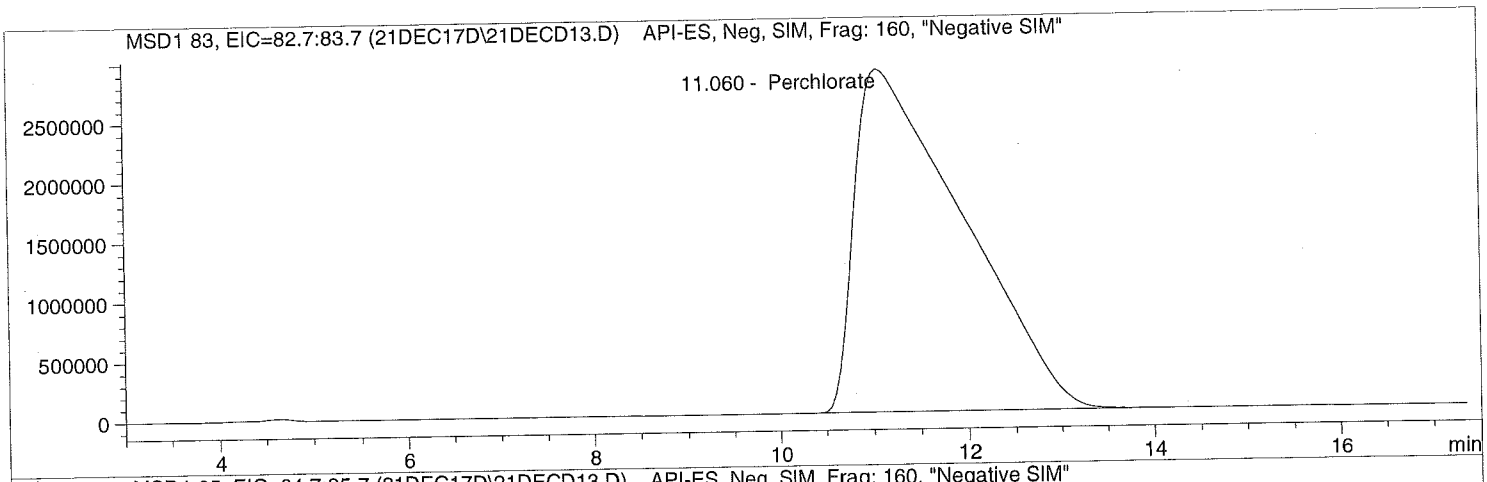
*** End of Report ***

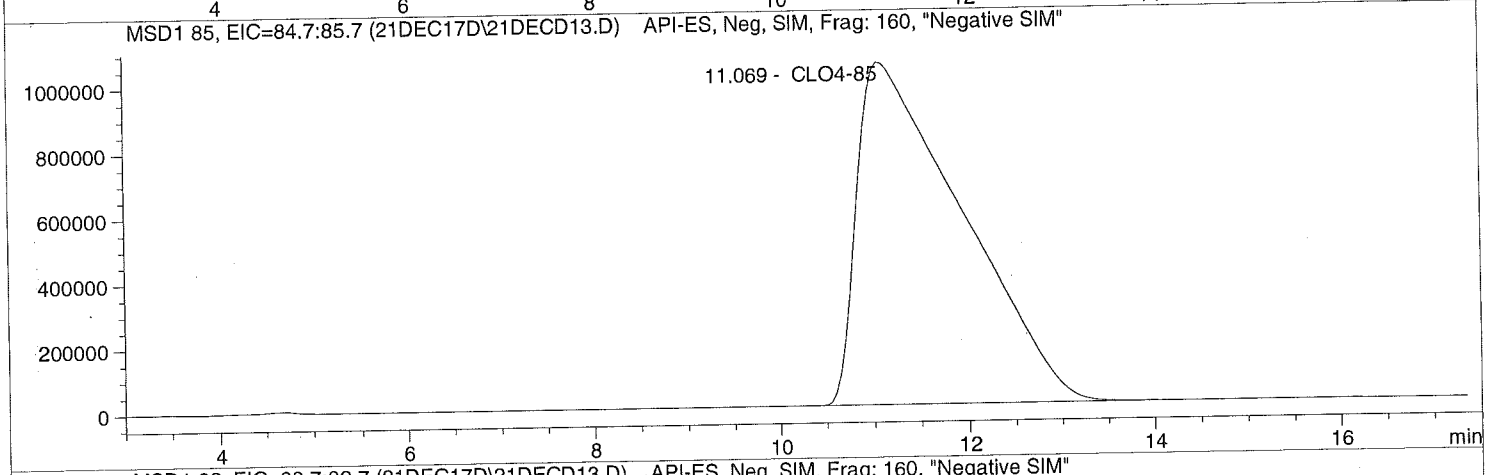
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD13.D Sample Name: 1735426005

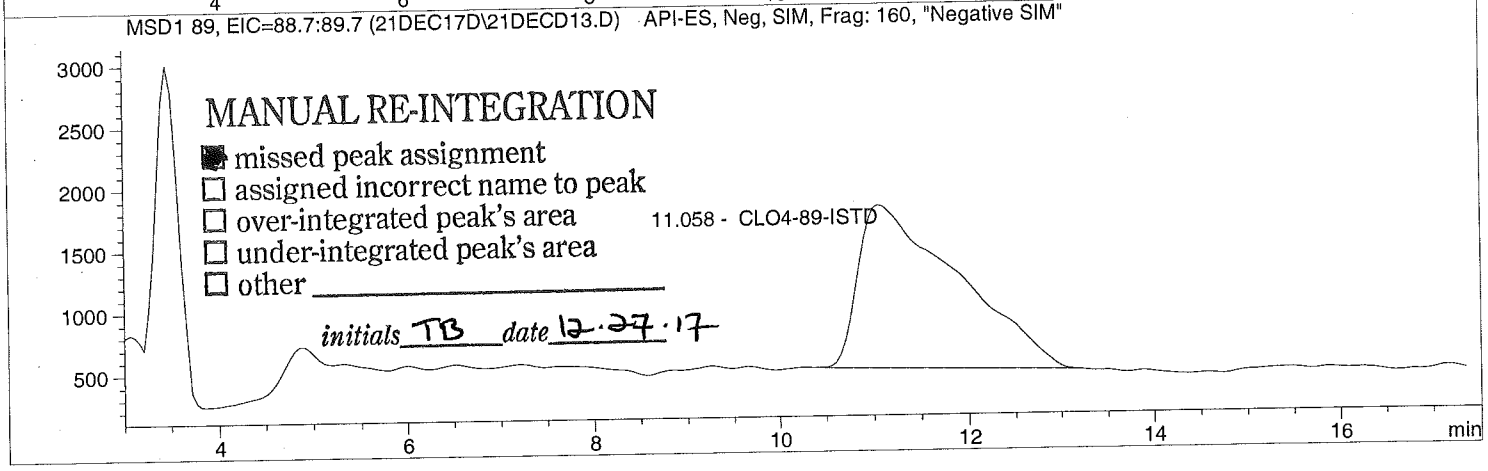
Injection Date:	12/21/2017 13:10:01	Seq Line:	13
Sample Name:	1735426005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







MANUAL RE-INTEGRATION
- ■ missed peak assignment
- ☐ assigned incorrect name to peak
- ☐ over-integrated peak's area
- ☐ under-integrated peak's area
- ☐ other _____

initials TB *date* 12.27.17

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD13.D Sample Name: 1735426005

Injection Date:	12/21/2017 13:10:01	Seq Line:	13
Sample Name:	1735426005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.060	PBA	228145184.0	1343.3163	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.069	PBA	81262104.0	1601.9571	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.058	MM	96415.4	5.0000	CLO4-89-ISTD

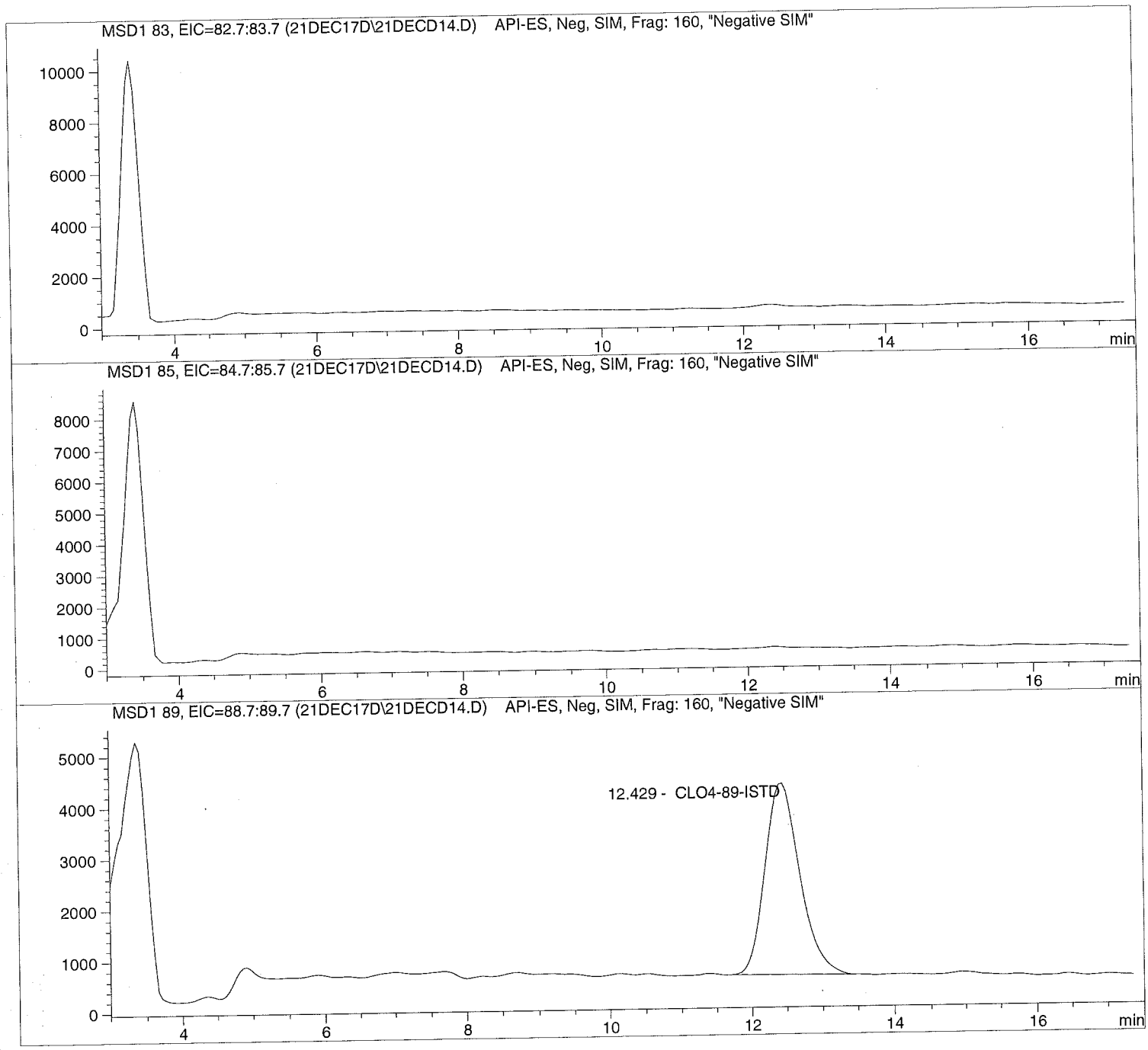
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD14.D Sample Name: 1735426006

Injection Date:	12/21/2017 13:29:08	Seq Line:	14
Sample Name:	1735426006	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD14.D Sample Name: 1735426006

Injection Date:	12/21/2017 13:29:08	Seq Line:	14
Sample Name:	1735426006	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.429	PBA	127754.6	5.0000	CLO4-89-ISTD

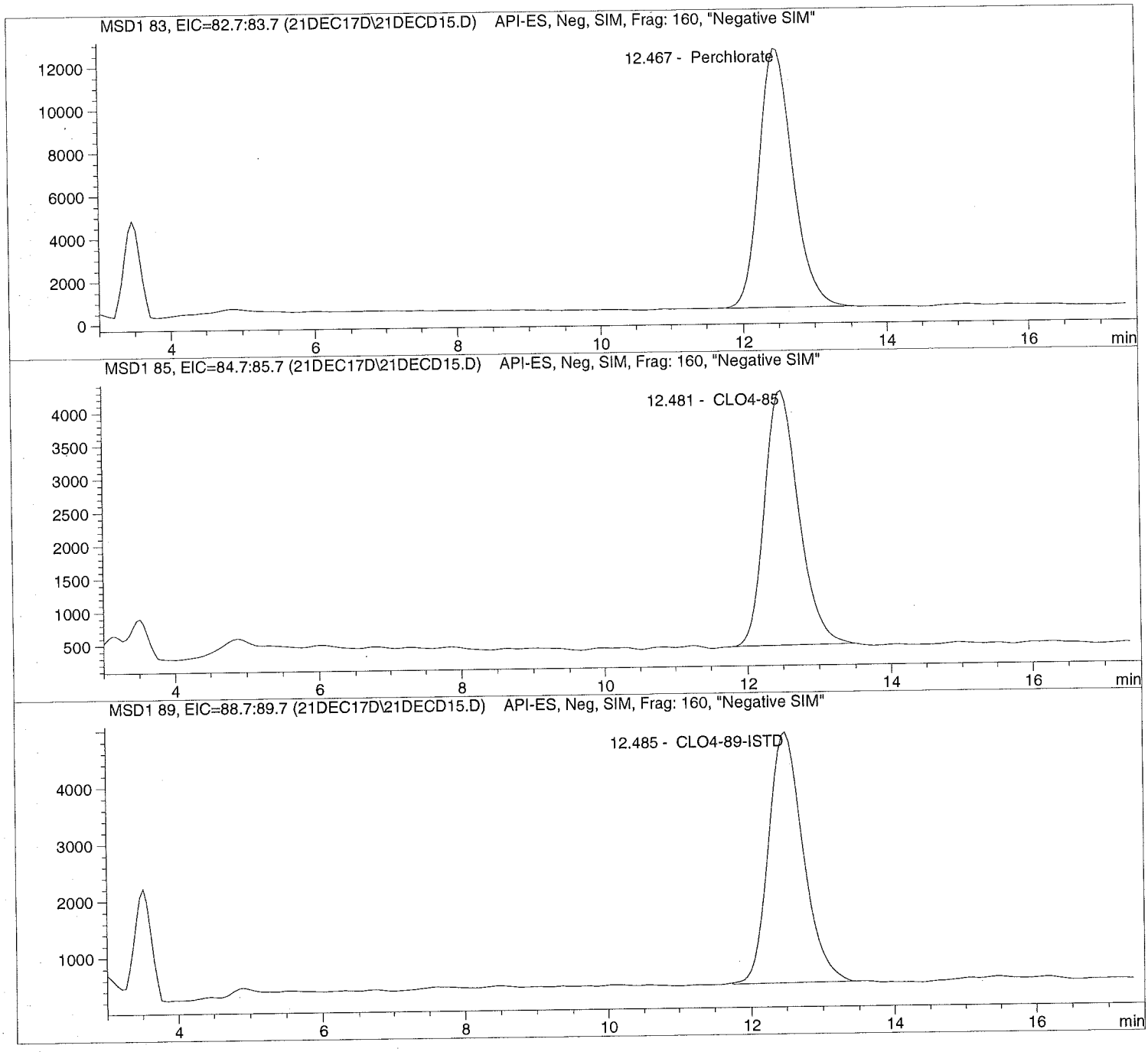
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD15.D Sample Name: 1735426007

Injection Date:	12/21/2017 13:48:17	Seq Line:	15
Sample Name:	1735426007	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD15.D Sample Name: 1735426007

Injection Date:	12/21/2017 13:48:17	Seq Line:	15
Sample Name:	1735426007	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.467	BBA	396410.7	11.6566	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.481	PBA	128015.2	11.6323	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.485	BBA	148899.6	5.0000	CLO4-89-ISTD

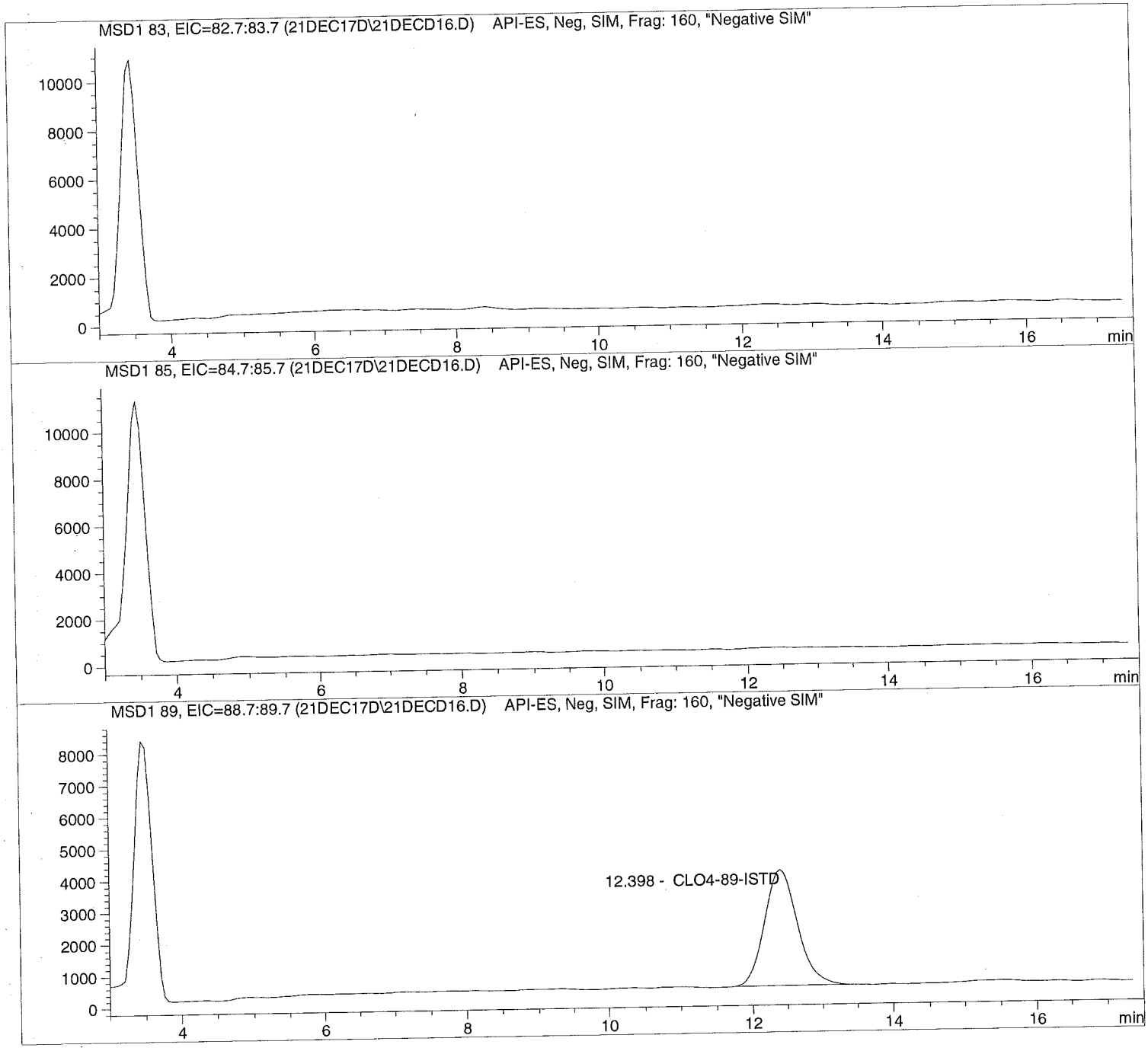
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD16.D Sample Name: 1735426008

Injection Date:	12/21/2017 14:07:26	Seq Line:	16
Sample Name:	1735426008	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD16.D Sample Name: 1735426008

Injection Date:	12/21/2017 14:07:26	Seq Line:	16
Sample Name:	1735426008	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.398	PBA	119586.2	5.0000	CLO4-89-ISTD

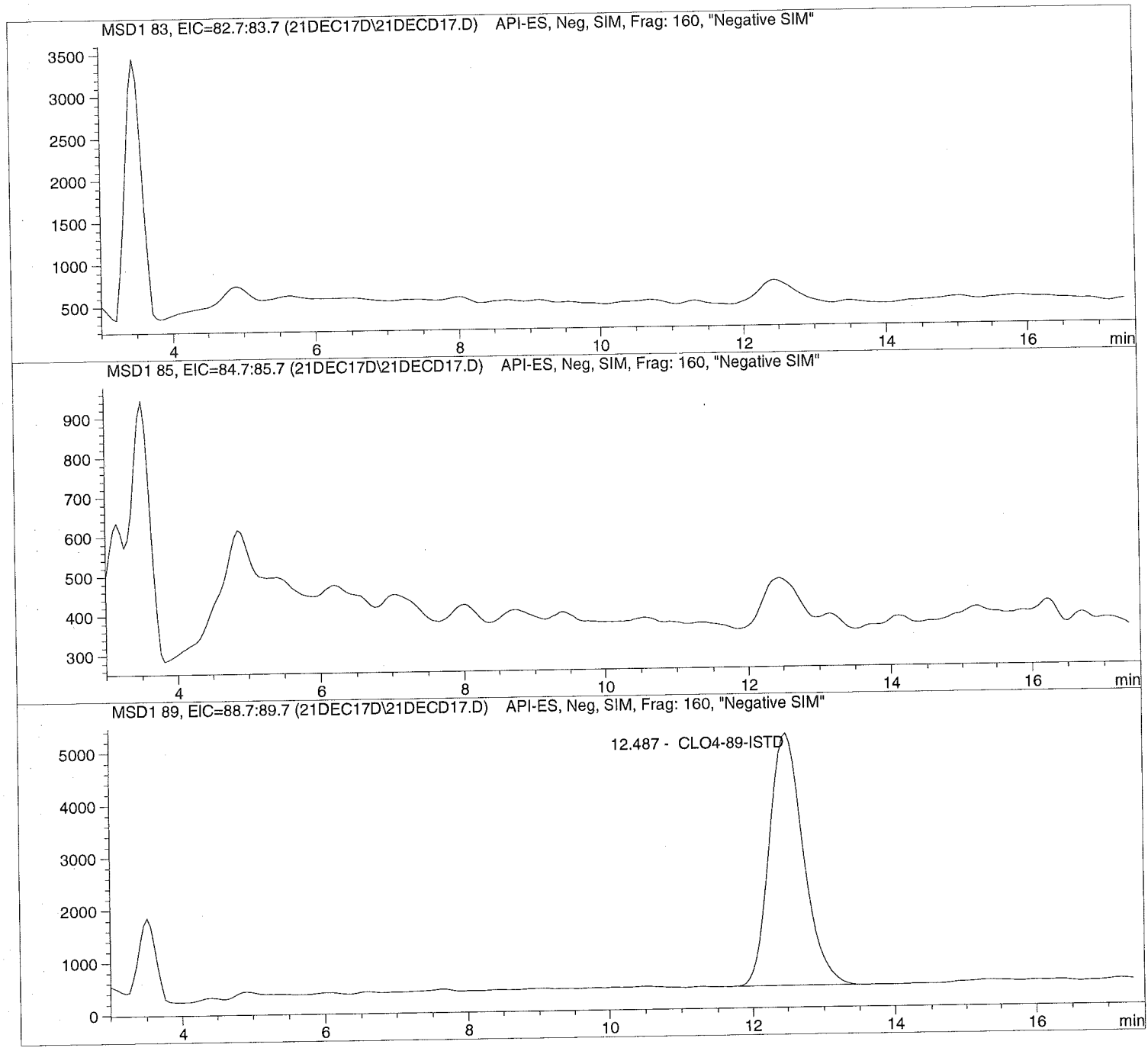
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD17.D Sample Name: 1735426009

Injection Date:	12/21/2017 14:26:34	Seq Line:	17
Sample Name:	1735426009	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD17.D Sample Name: 1735426009

Injection Date:	12/21/2017 14:26:34	Seq Line:	17
Sample Name:	1735426009	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.487	BBA	160908.5	5.0000	CLO4-89-ISTD

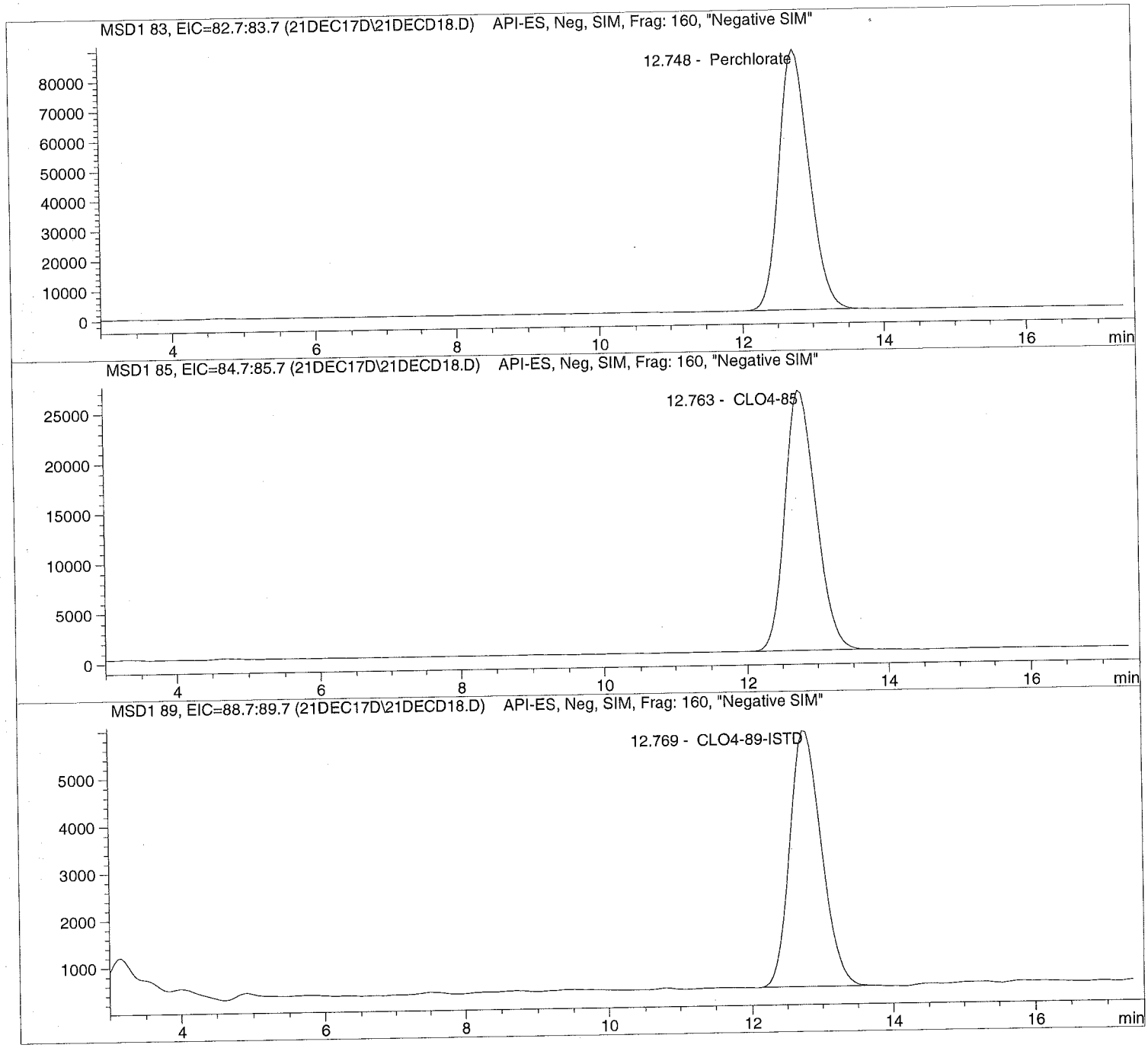
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD18.D Sample Name: 1735426005 100

Injection Date:	12/21/2017 14:47:50	Seq Line:	18
Sample Name:	1735426005 100	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD18.D Sample Name: 1735426005 100

Injection Date:	12/21/2017 14:47:50	Seq Line:	18
Sample Name:	1735426005 100	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	100.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.748	BBA	2622824.8	5547.1487	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.763	PBA	802047.3	5543.2616	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.769	PBA	169365.1	500.0000	CLO4-89-ISTD

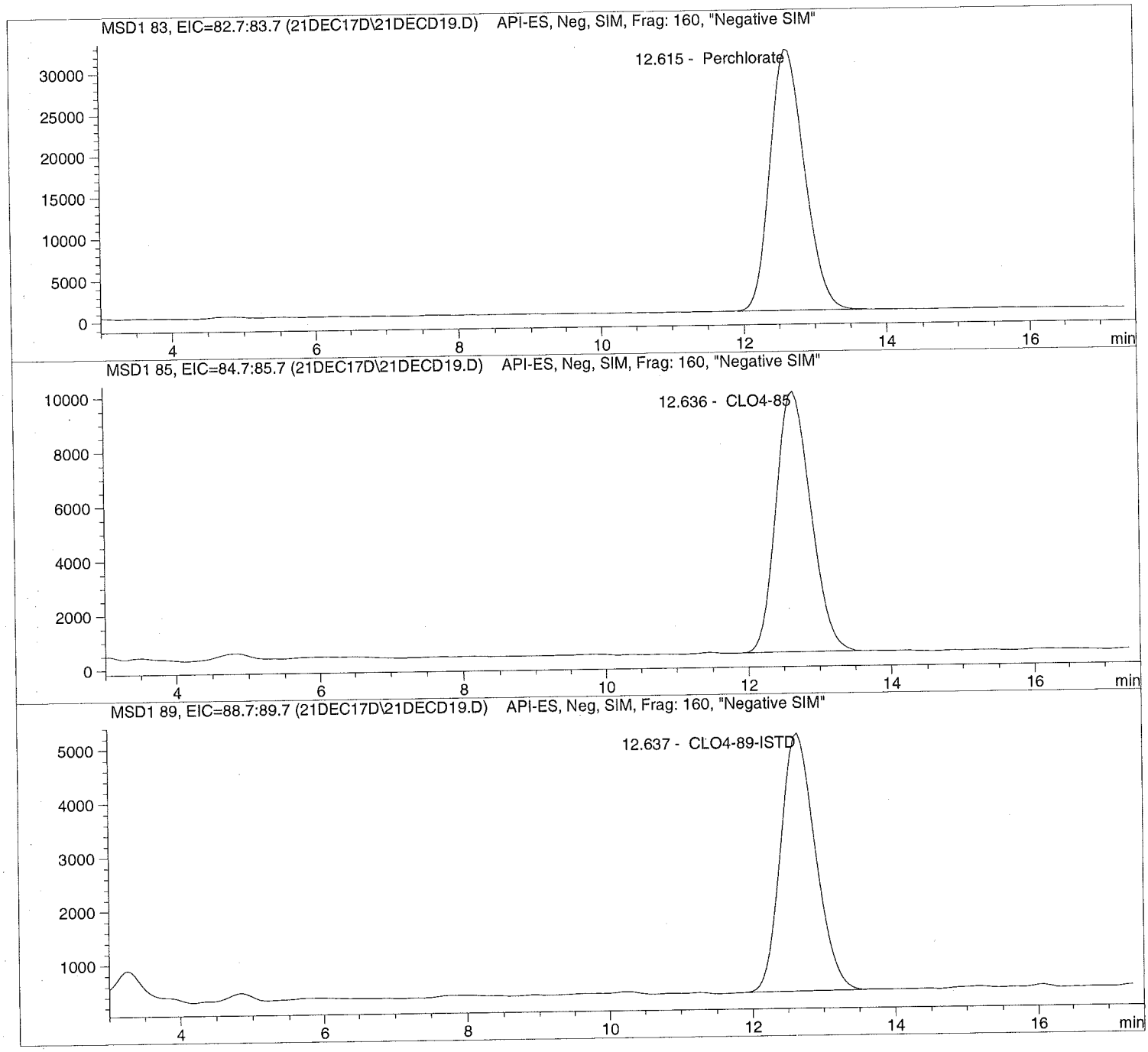
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD19.D Sample Name: 580326 CCV@25

Injection Date:	12/21/2017 15:08:27	Seq Line:	19
Sample Name:	580326 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD19.D Sample Name: 580326 CCV@25

Injection Date:	12/21/2017 15:08:27	Seq Line:	19
Sample Name:	580326 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.615	BBA	1058053.0	26.4882	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.636	PBA	325405.0	25.8945	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.637	PBA	162565.3	5.0000	CLO4-89-ISTD

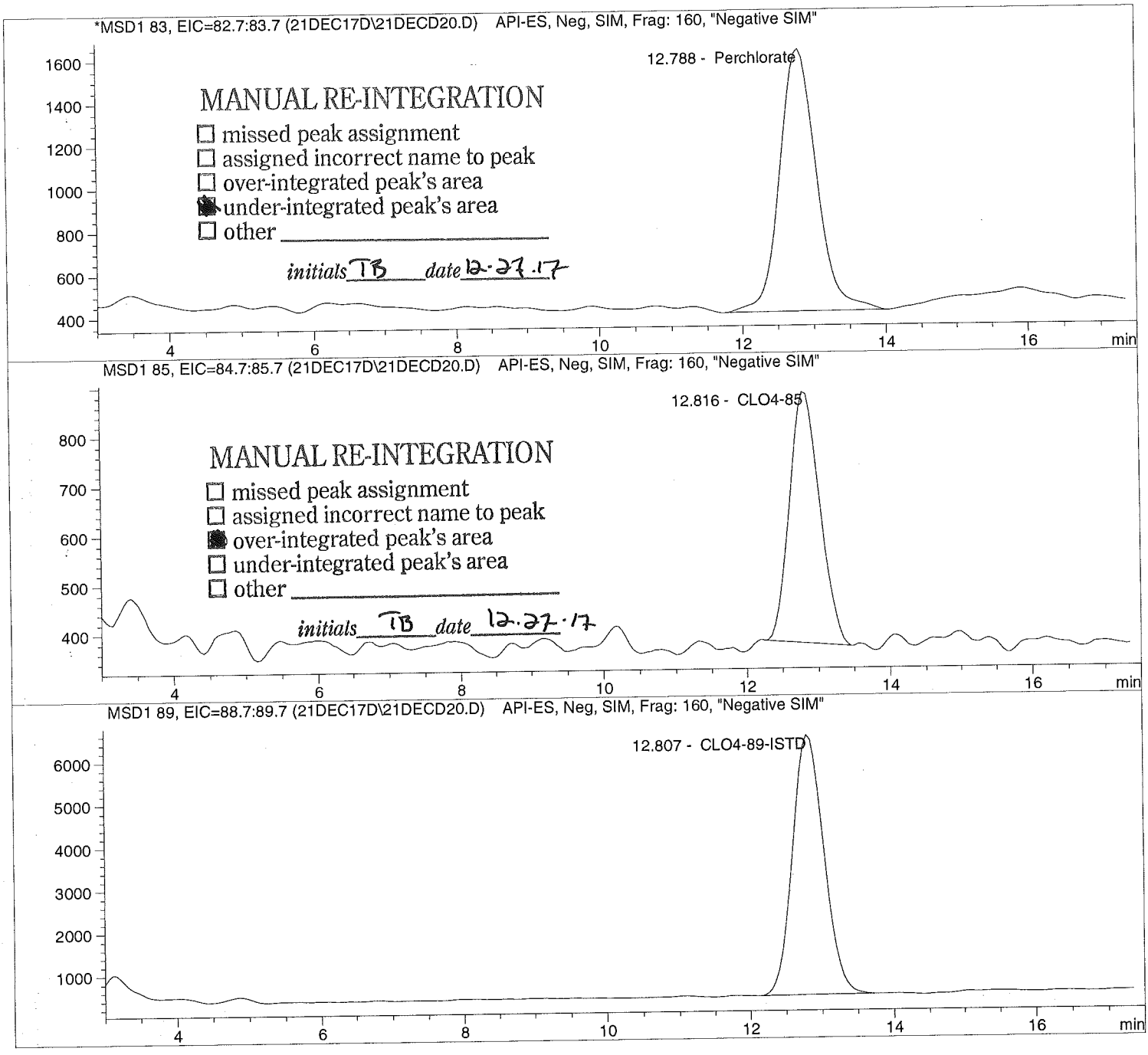
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD20.D Sample Name: 580327 LODV@1.

Injection Date:	12/21/2017 15:27:34	Seq Line:	20
Sample Name:	580327 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD20.D Sample Name: 580327 LODV@1.

Injection Date:	12/21/2017 15:27:34	Seq Line:	20
Sample Name:	580327 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.788	MM	43308.1	1.1045	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.816	MM	14859.1	0.9487	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.807	PBA	184995.7	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Initial Calibration

ethod C:\HPCHEM\1\METHODS\CLO4-DPR.M

Calibration Table

Perchlorate

Calib. Data Modified : 11/29/2017 8:02:06 AM

Calculate : Internal Standard
Based on : Peak Area

Rel. Reference Window : 20.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 20.000 %
Abs. Non-ref. Window : 0.000 min
Use Multiplier & Dilution Factor with ISTDs
Uncalibrated Peaks : not reported
Partial Calibration : No recalibration if peaks missing

Curve Type : Quadratic (some peaks differ, see below)
Origin : Ignored (some peaks differ, see below)
Weight : Linear (Amnt) (some peaks differ, see below)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Default Sample ISTD Information (if not set in sample table):

ISTD #	ISTD Amount	Name
1	5.00000	CLO4-89-ISTD

Signal 1: MSD1 83, EIC=82.7:83.7
Signal 2: MSD1 85, EIC=84.7:85.7
Signal 3: MSD1 89, EIC=88.7:89.7

RetTime [min]	Sig	Lvl	Amount	Area	Amt/Area	Ref	Grp	Name
12.090	1	1	1.00000	4.10942e4	2.43343e-5	1		Perchlorate
		2	2.00000	7.74077e4	2.58372e-5			
		3	5.00000	1.92985e5	2.59088e-5			
		4	10.00000	3.91583e5	2.55374e-5			
		5	25.00000	1.09763e6	2.27764e-5			
		6	50.00000	2.29834e6	2.17549e-5			
		7	75.00000	3.73021e6	2.01061e-5			
12.106	2	1	1.00000	1.56787e4	6.37808e-5	1		CLO4-85
		2	2.00000	2.80487e4	7.13046e-5			
		3	5.00000	6.51323e4	7.67668e-5			
		4	10.00000	1.31325e5	7.61471e-5			
		5	25.00000	3.46913e5	7.20642e-5			
		6	50.00000	6.96156e5	7.18230e-5			
		7	75.00000	1.13077e6	6.63264e-5			
12.107	3	1	5.00000	1.88880e5	2.64718e-5	+I1		CLO4-89-ISTD
		2	5.00000	1.81109e5	2.76076e-5			
		3	5.00000	1.75128e5	2.85505e-5			
		4	5.00000	1.80962e5	2.76301e-5			
		5	5.00000	1.75597e5	2.84743e-5			
		6	5.00000	1.69148e5	2.95599e-5			
		7	5.00000	1.64867e5	3.03275e-5			

ethod C:\HPCHEM\1\METHODS\CLO4-DPR.M

More compound-specific settings:

Compound: Perchlorate
- Time Window : From 8.390 min To 13.052 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.2
  - Level 4 : 0.1
  - Level 5 : 0.04
  - Level 6 : 0.02
  - Level 7 : 0.013333

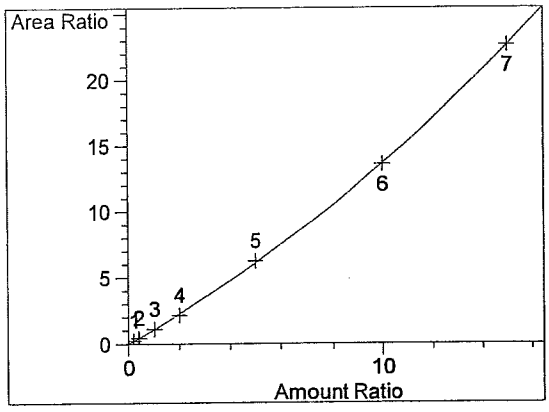
Compound: CLO4-85
- Time Window : From 8.366 min To 13.046 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.2
  - Level 4 : 0.1
  - Level 5 : 0.04
  - Level 6 : 0.02
  - Level 7 : 0.013333

Compound: CLO4-89-ISTD
- Time Window : From 8.457 min To 13.107 min
- Curve Type : Linear
- Origin : Included
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 1
  - Level 3 : 1
  - Level 4 : 1
  - Level 5 : 1
  - Level 6 : 1
  - Level 7 : 1

Peak Sum Table

No Entries in table

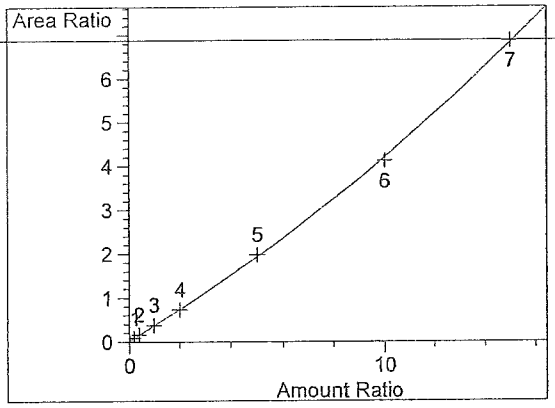
Calibration Curves



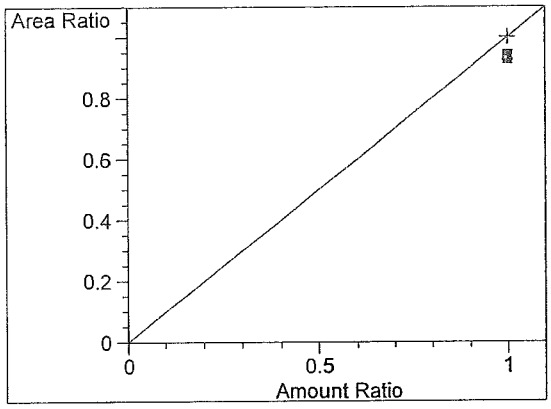
Perchlorate at exp. RT: 12.090
MSD1 83, EIC=82.7:83.7
Correlation: 0.99991
Residual Std. Dev.: 0.08487
Formula: $y = ax^2 + bx + c$
- a: 2.87739e-2
- b: 1.07712
- c: -5.23718e-3
- x: Amount Ratio
- y: Area Ratio

Calibration Level Weights:
- Level 1 : 1
- Level 2 : 0.5
- Level 3 : 0.2
- Level 4 : 0.1
- Level 5 : 0.04
- Level 6 : 0.02
- Level 7 : 0.013333

ethod C:\HPCHEM\1\METHODS\CLO4-DPR.M



CLO4-85 at exp. RT: 12.106
MSD1 85, EIC=84.7:85.7
Correlation: 0.99988
Residual Std. Dev.: 0.04548
Formula: $y = ax^2 + bx + c$
a: 7.12800e-3
b: 3.46840e-1
c: 1.42573e-2
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.5
Level 3 : 0.2
Level 4 : 0.1
Level 5 : 0.04
Level 6 : 0.02
Level 7 : 0.013333



CLO4-89-ISTD at exp. RT: 12.107
MSD1 89, EIC=88.7:89.7
Correlation: 1.00000
Residual Std. Dev.: 0.00000
Formula: $y = mx + b$
m: 1.00000
b: 0.00000
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 1
Level 3 : 1
Level 4 : 1
Level 5 : 1
Level 6 : 1
Level 7 : 1

Batch Report: C:\HPCHEM\1\DATA\28NOV17P\28NOV17P.B

Batch Review Method:
C:\HPCHEM\1\METHODS\CLO4-DPR.M

['#' ==> Run has not been reprocessed with Batch Review Method
'*' ==> Run has been saved with batch file]

#*	Sample	Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	ICAL1@ 1.0ug/L	Vial 71	1	Control	1	4.10942e4	12.029	1.02861
*	ICAL2@ 2.0ug/L	Vial 72	1	Control	2	7.74077e4	12.054	1.98725
*	ICAL3@ 5.0ug/L	Vial 73	1	Control	3	1.92985e5	12.090	5.00575
*	ICAL4@ 10.ug/L	Vial 74	1	Control	4	3.91583e5	12.084	9.57892
*	ICAL5@ 25.ug/L	Vial 75	1	Control	5	1.09763e6	12.065	25.55231
*	ICAL6@ 50.ug/L	Vial 76	1	Control	6	2.29834e6	12.065	49.83164
*	ICAL7@ 75.ug/L	Vial 77	1	Control	7	3.73021e6	12.090	74.99992
*	ICAL Verf@10ug/L	Vial 78	1	Control	8	3.83615e5	12.163	9.59533

#*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	ICAL1@ 1.0ug/L	Vial 71	1	Control	1	1.56787e4	12.053	9.87106e-1
*	ICAL2@ 2.0ug/L	Vial 72	1	Control	2	2.80487e4	12.066	2.01046
*	ICAL3@ 5.0ug/L	Vial 73	1	Control	3	6.51323e4	12.106	5.05104
*	ICAL4@ 10.ug/L	Vial 74	1	Control	4	1.31325e5	12.101	9.85678
*	ICAL5@ 25.ug/L	Vial 75	1	Control	5	3.46913e5	12.084	25.58435
*	ICAL6@ 50.ug/L	Vial 76	1	Control	6	6.96156e5	12.080	49.18282
*	ICAL7@ 75.ug/L	Vial 77	1	Control	7	1.13077e6	12.106	75.33907
*	ICAL Verf@10ug/L	Vial 78	1	Control	8	1.31460e5	12.177	10.08554

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	ICAL1@ 1.0ug/L	Vial 71	1	Control	1	1.88880e5	12.050	5.00000
*	ICAL2@ 2.0ug/L	Vial 72	1	Control	2	1.81109e5	12.078	5.00000
*	ICAL3@ 5.0ug/L	Vial 73	1	Control	3	1.75128e5	12.110	5.00000
*	ICAL4@ 10.ug/L	Vial 74	1	Control	4	1.80962e5	12.109	5.00000
*	ICAL5@ 25.ug/L	Vial 75	1	Control	5	1.75597e5	12.084	5.00000
*	ICAL6@ 50.ug/L	Vial 76	1	Control	6	1.69148e5	12.086	5.00000
*	ICAL7@ 75.ug/L	Vial 77	1	Control	7	1.64867e5	12.107	5.00000
*	ICAL Verf@10ug/L	Vial 78	1	Control	8	1.76961e5	12.181	5.00000

*** End of Report ***

equence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\NOV\28NOV17P.S

Sequence Table:

Method and Injection Info Part:

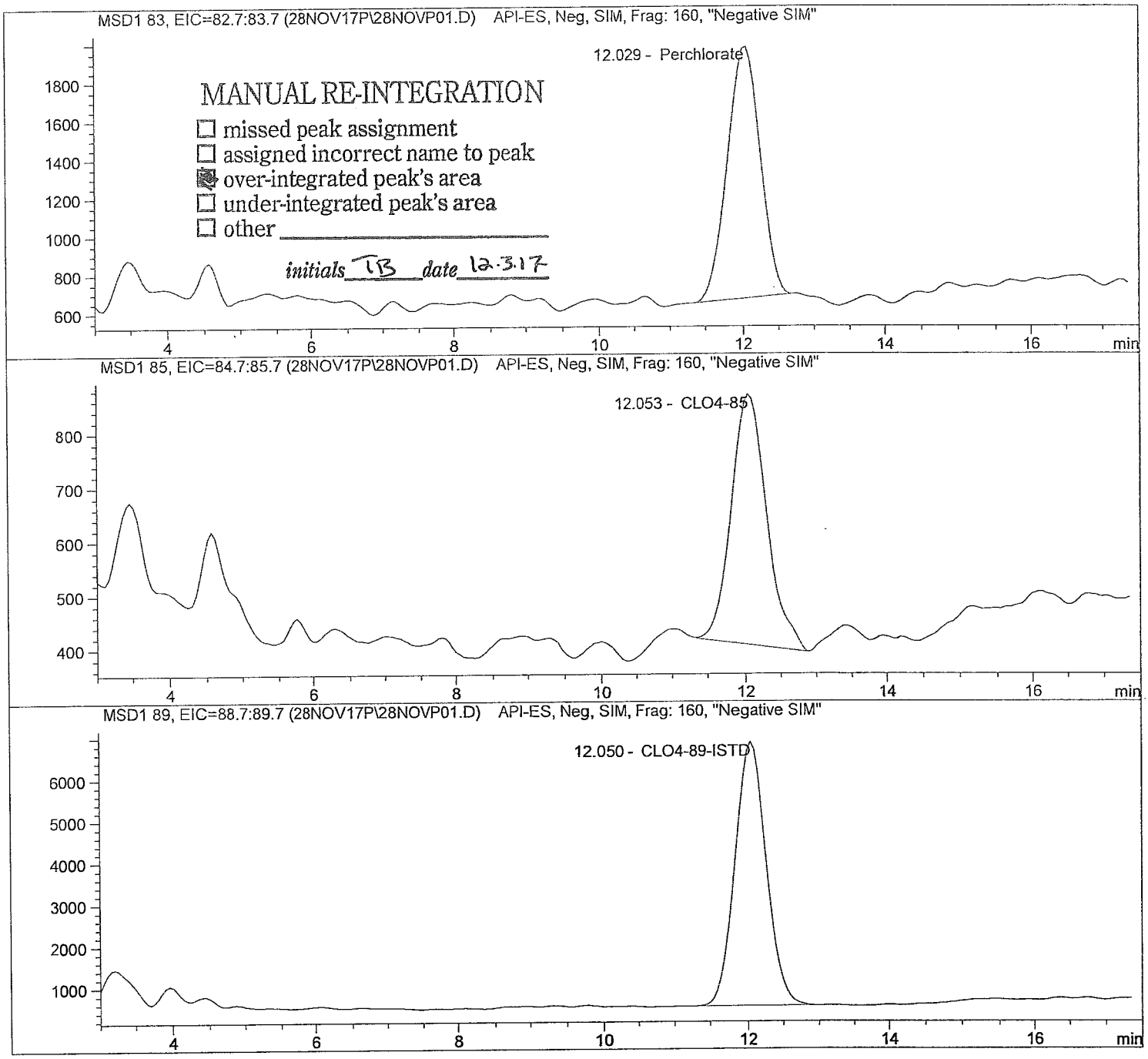
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ 1.0ug/L	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	ICAL2@ 2.0ug/L	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	ICAL3@ 5.0ug/L	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	ICAL4@ 10.ug/L	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	ICAL5@ 25.ug/L	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	ICAL6@ 50.ug/L	CLO4-DOD	1	Ctrl Samp		
7	Vial 77	ICAL7@ 75.ug/L	CLO4-DOD	1	Ctrl Samp		
8	Vial 78	ICAL Verf@10ug/L	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.029	MM	41094.2	1.0286	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.053	BBA	15678.7	0.9871	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.050	BBA	188880.3	5.0000	CLO4-89-ISTD

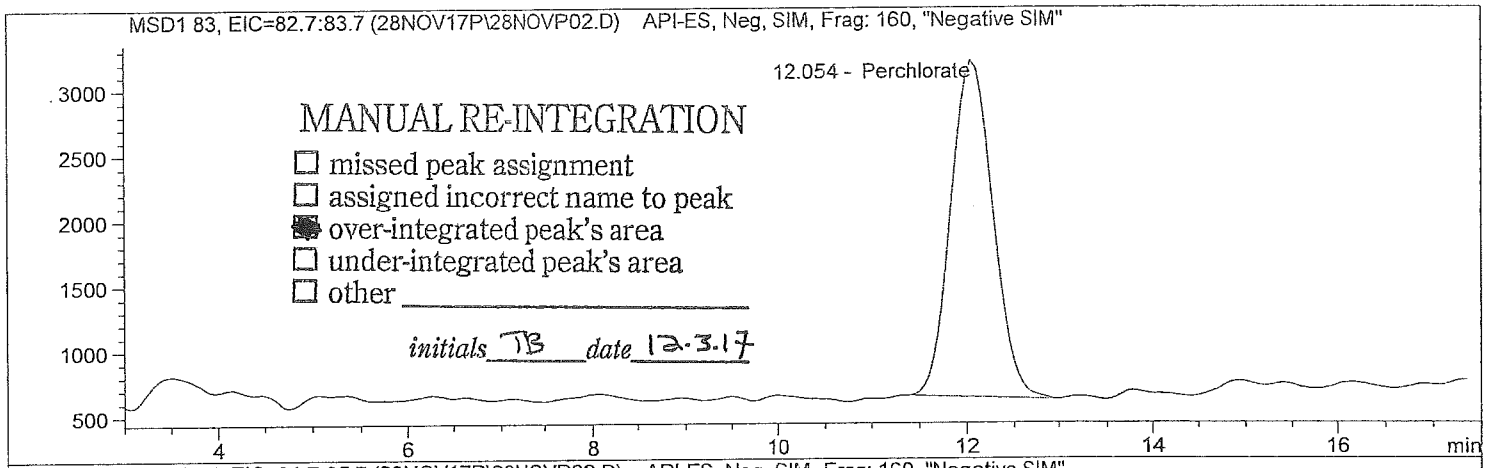
*** End of Report ***

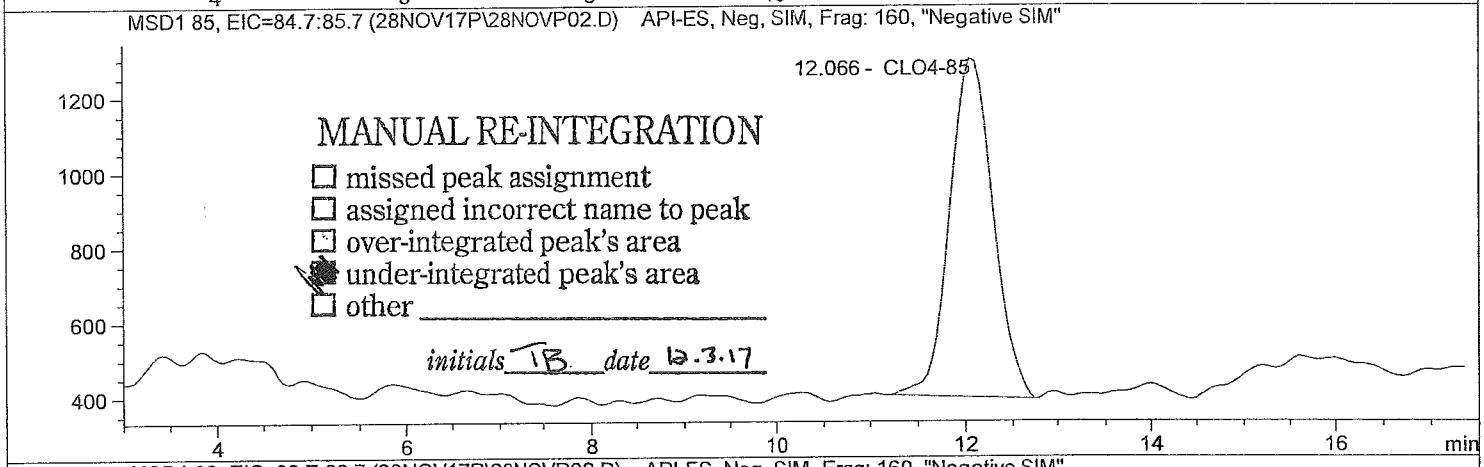
Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

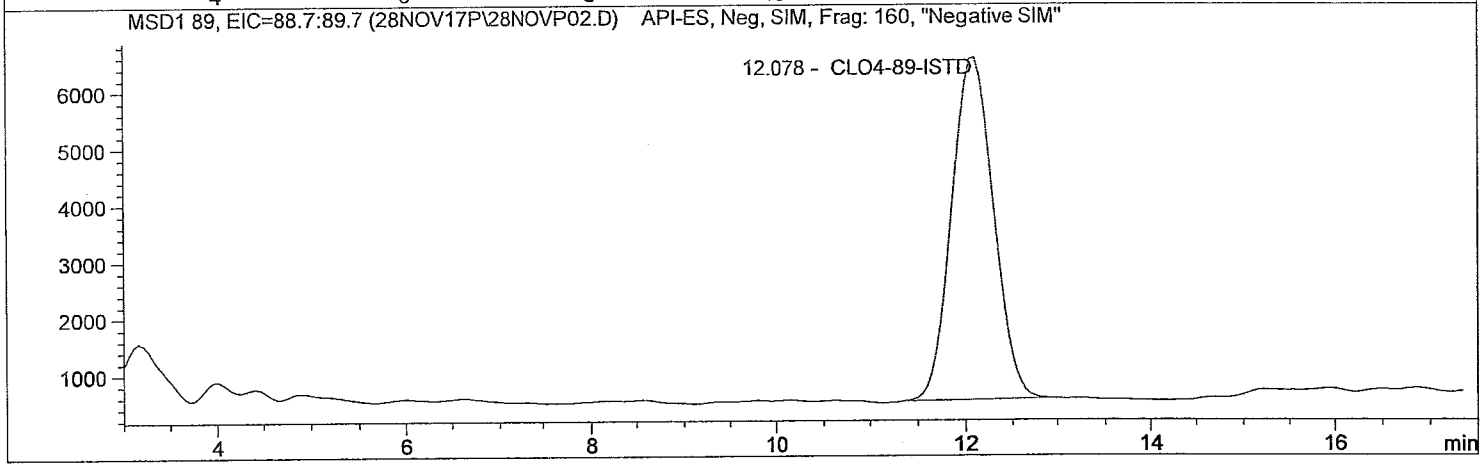
Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Wed, 29. Nov. 2017,08:02:06 am
Multiplier: 1.000000
Dilution: 1.000000
Sample Amount: 2.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.054	MM	77407.7	1.9872	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.066	MM	28048.7	2.0105	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.078	PBA	181109.4	5.0000	CLO4-89-ISTD

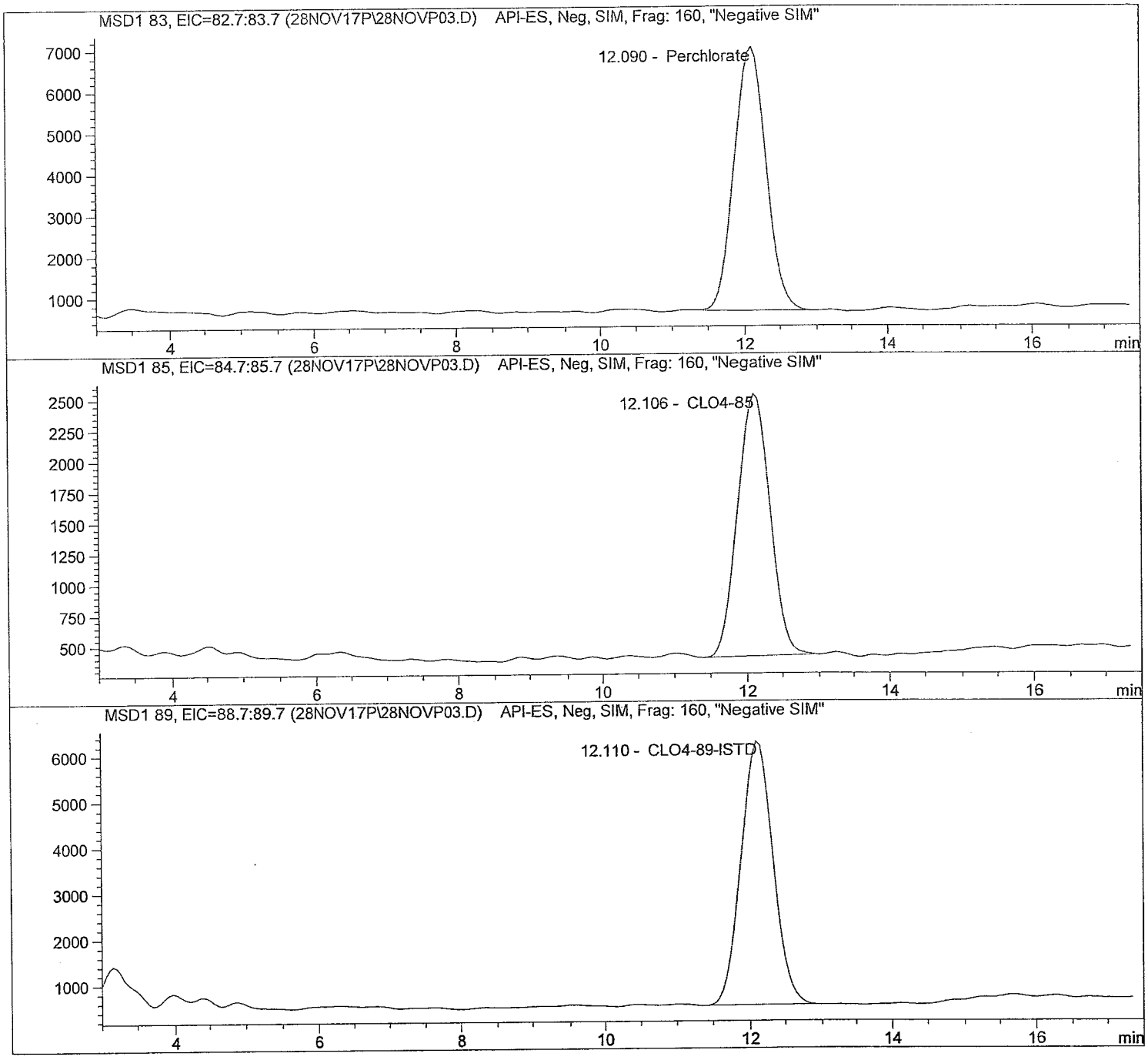
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP03.D Sample Name: ICAL3@ 5.0ug/L

Injection Date:	11/28/2017 09:53:00	Seq Line:	3
Sample Name:	ICAL3@ 5.0ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP03.D Sample Name: ICAL3@ 5.0ug/L

Injection Date:	11/28/2017 09:53:00	Seq Line:	3
Sample Name:	ICAL3@ 5.0ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	5.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.090	BBA	192984.6	5.0058	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.106	PBA	65132.3	5.0510	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.110	PBA	175128.5	5.0000	CLO4-89-ISTD

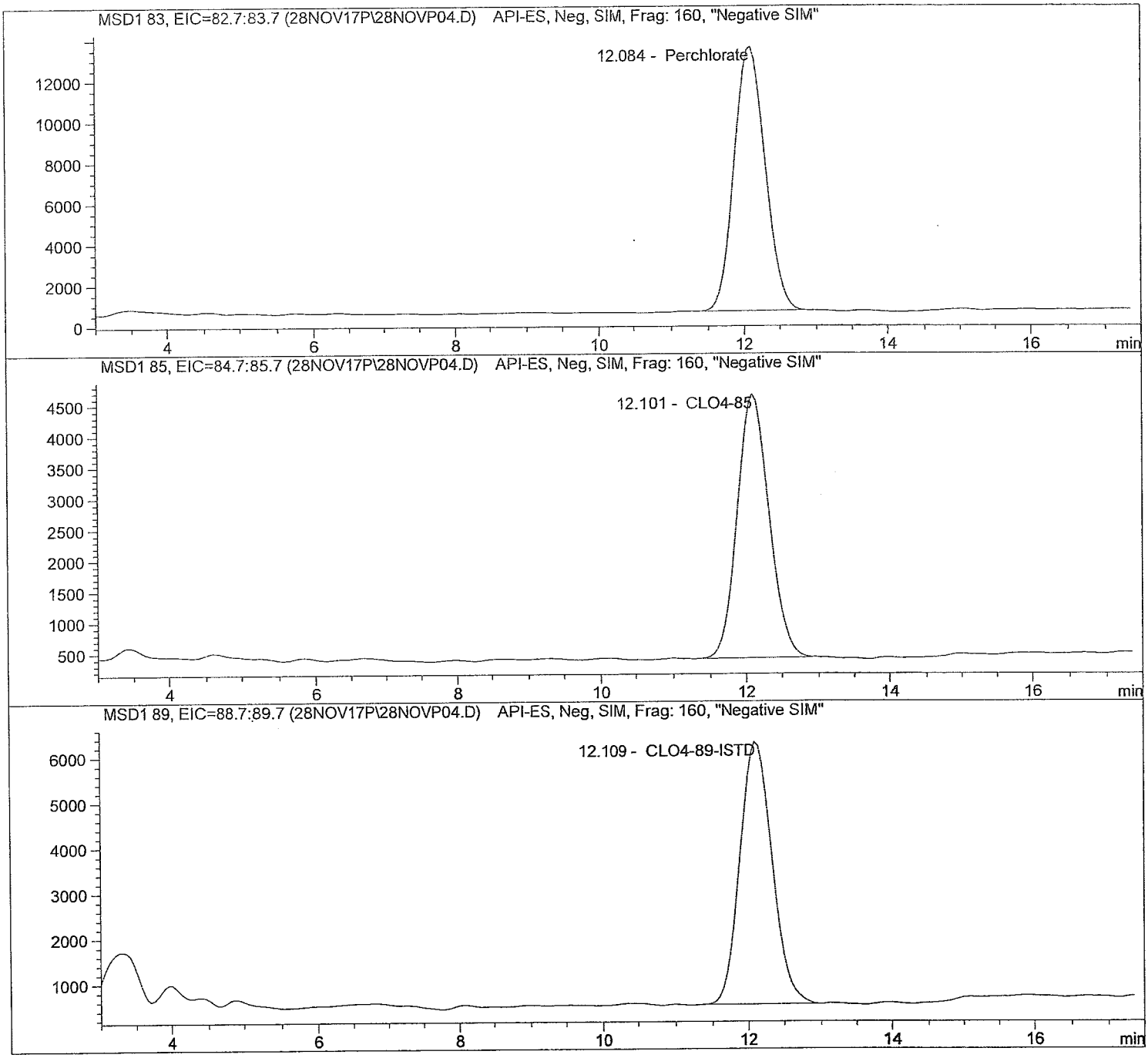
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP04.D Sample Name: ICAL4@ 10.ug/L

Injection Date:	11/28/2017 10:12:13	Seq Line:	4
Sample Name:	ICAL4@ 10.ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP04.D Sample Name: ICAL4@ 10.ug/L

Injection Date:	11/28/2017 10:12:13	Seq Line:	4
Sample Name:	ICAL4@ 10.ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	10.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	BBA	391582.9	9.5789	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.101	PBA	131324.7	9.8568	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.109	PBA	180962.1	5.0000	CLO4-89-ISTD

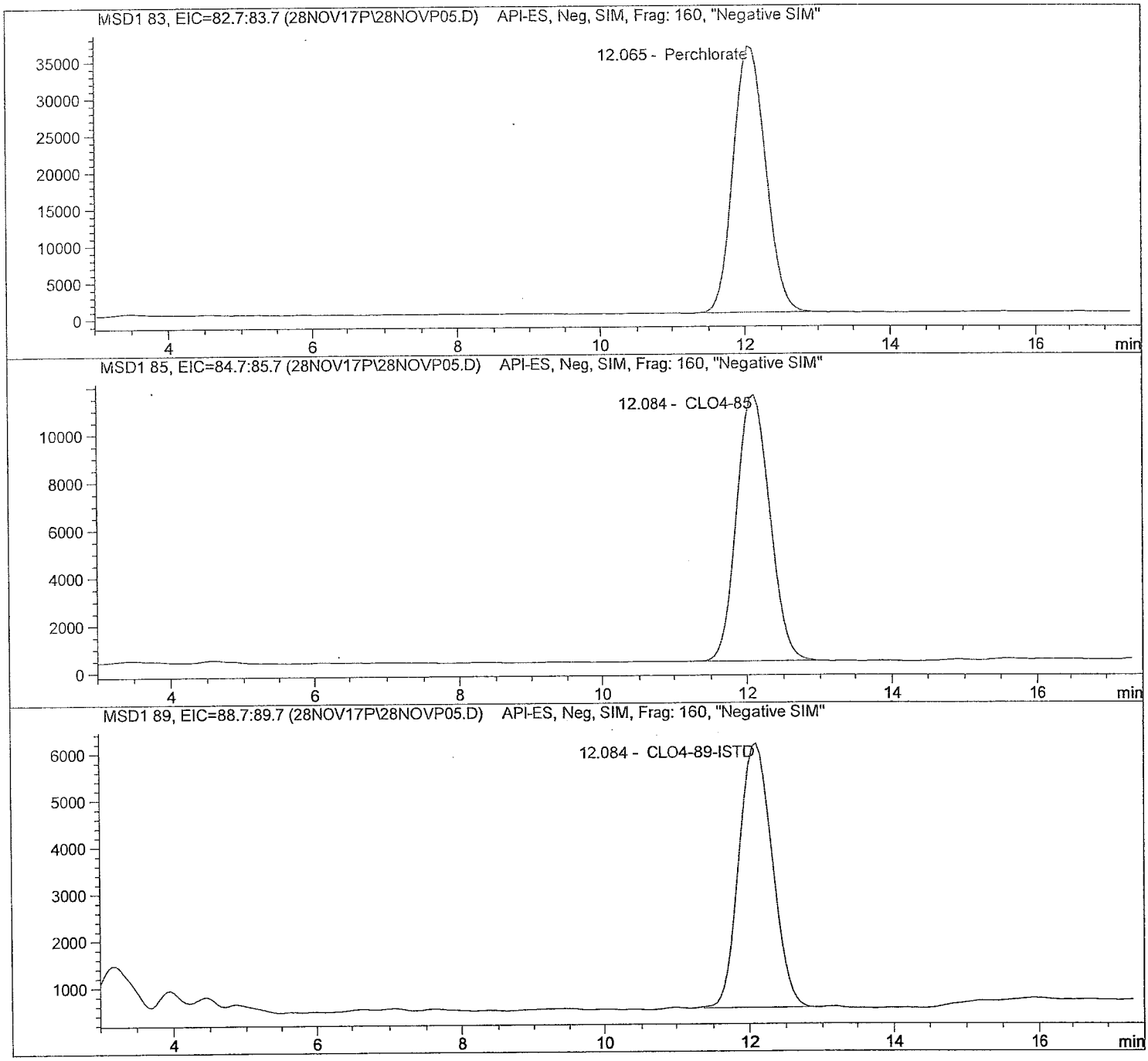
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP05.D Sample Name: ICAL5@ 25.ug/L

Injection Date:	11/28/2017 10:31:23	Seq Line:	5
Sample Name:	ICAL5@ 25.ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP05.D Sample Name: ICAL5@ 25.ug/L

Injection Date:	11/28/2017 10:31:23	Seq Line:	5
Sample Name:	ICAL5@ 25.ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.065	PBA	1097625.1	25.5523	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	PBA	346912.7	25.5843	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	BBA	175597.1	5.0000	CLO4-89-ISTD

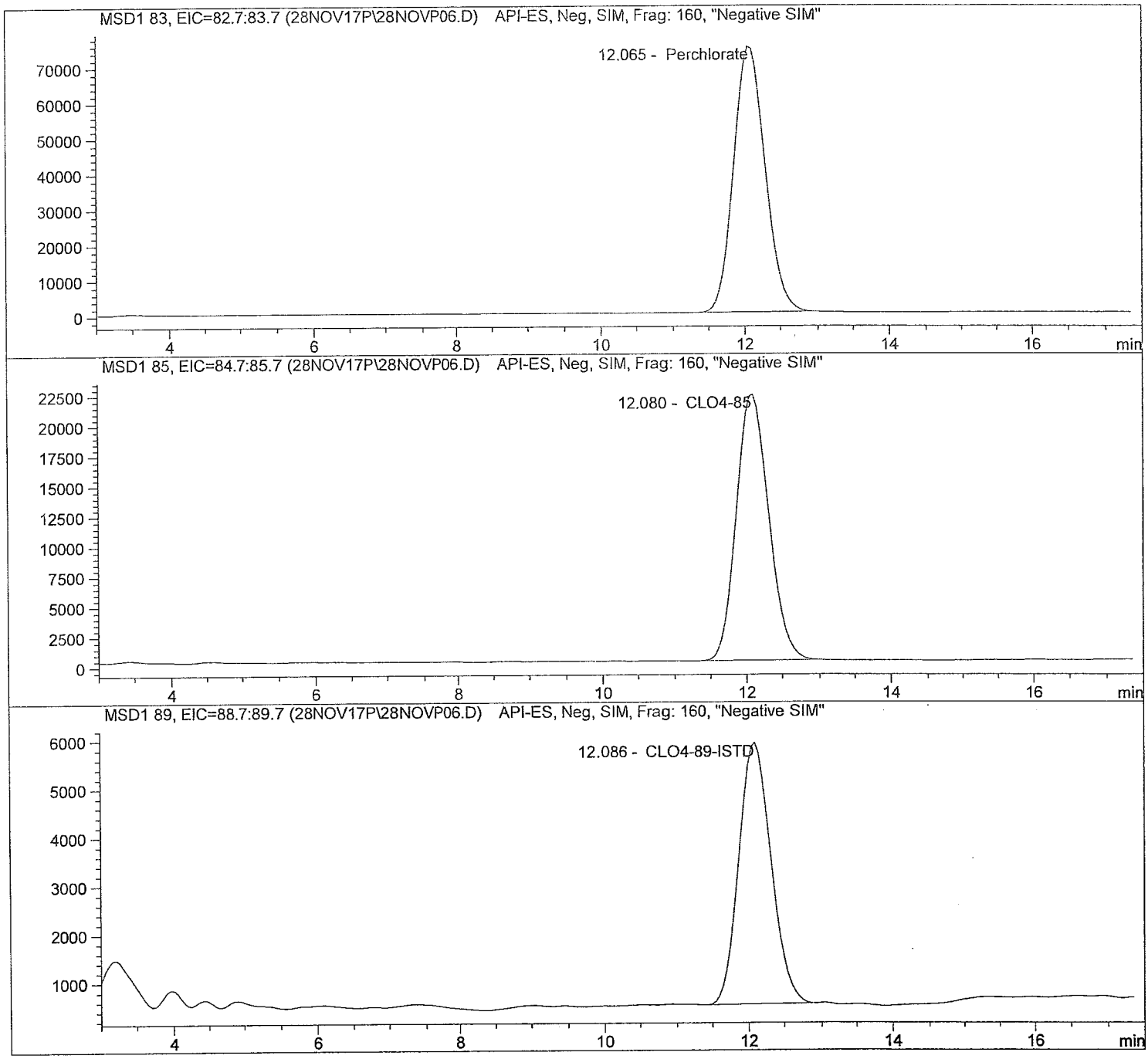
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP06.D Sample Name: ICAL6@ 50.ug/L

Injection Date:	11/28/2017 10:50:33	Seq Line:	6
Sample Name:	ICAL6@ 50.ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP06.D Sample Name: ICAL6@ 50.ug/L

Injection Date:	11/28/2017 10:50:33	Seq Line:	6
Sample Name:	ICAL6@ 50.ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	50.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.065	BBA	2298336.2	49.8316	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.080	PBA	696155.7	49.1828	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.086	PBA	169148.1	5.0000	CLO4-89-ISTD

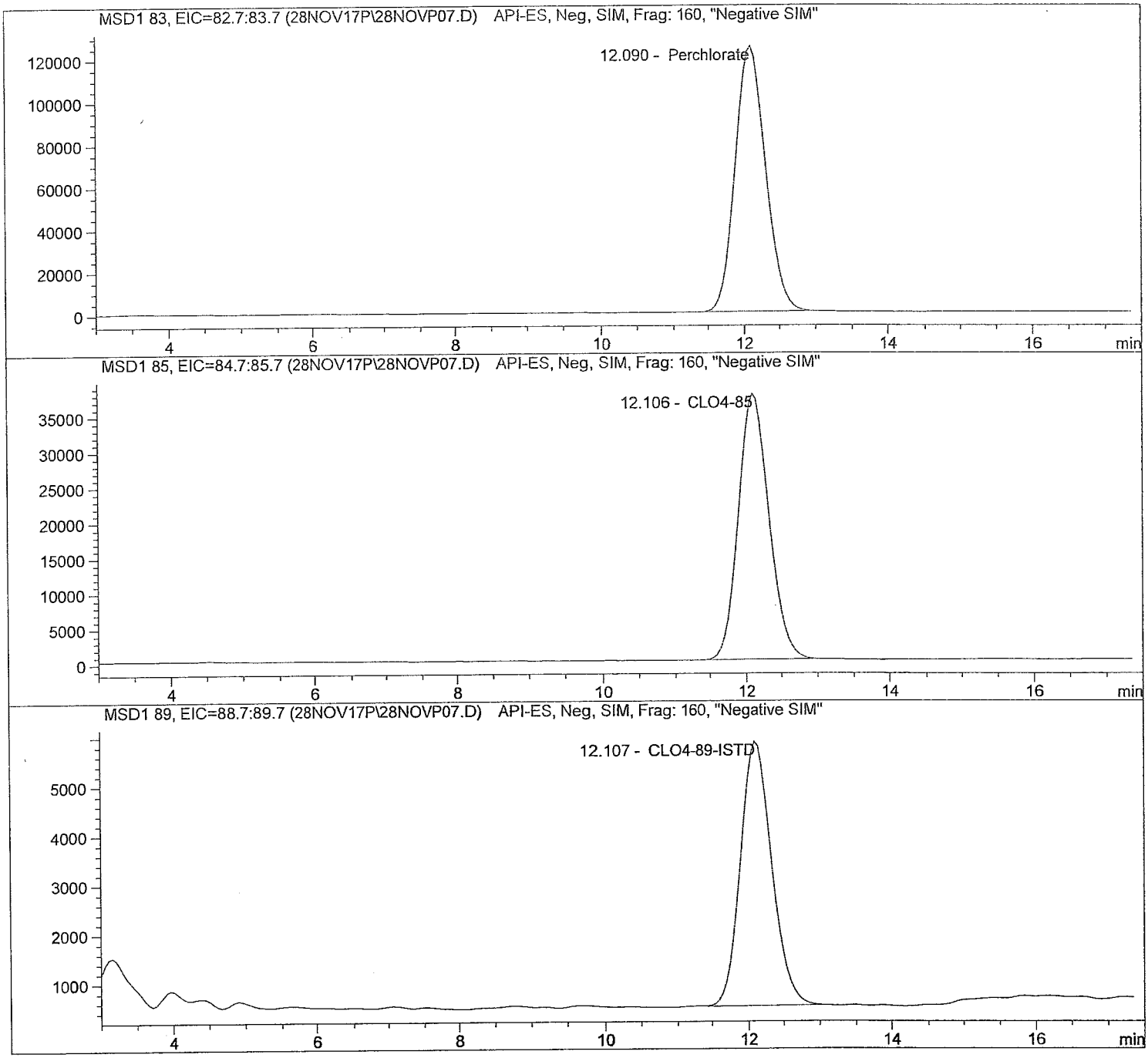
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP07.D Sample Name: ICAL7@ 75.ug/L

Injection Date:	11/28/2017 11:09:43	Seq Line:	7
Sample Name:	ICAL7@ 75.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP07.D Sample Name: ICAL7@ 75.ug/L

Injection Date:	11/28/2017 11:09:43	Seq Line:	7
Sample Name:	ICAL7@ 75.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	75.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.090	PBA	3730211.3	74.9999	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.106	PBA	1130772.0	75.3391	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.107	BBA	164866.7	5.0000	CLO4-89-ISTD

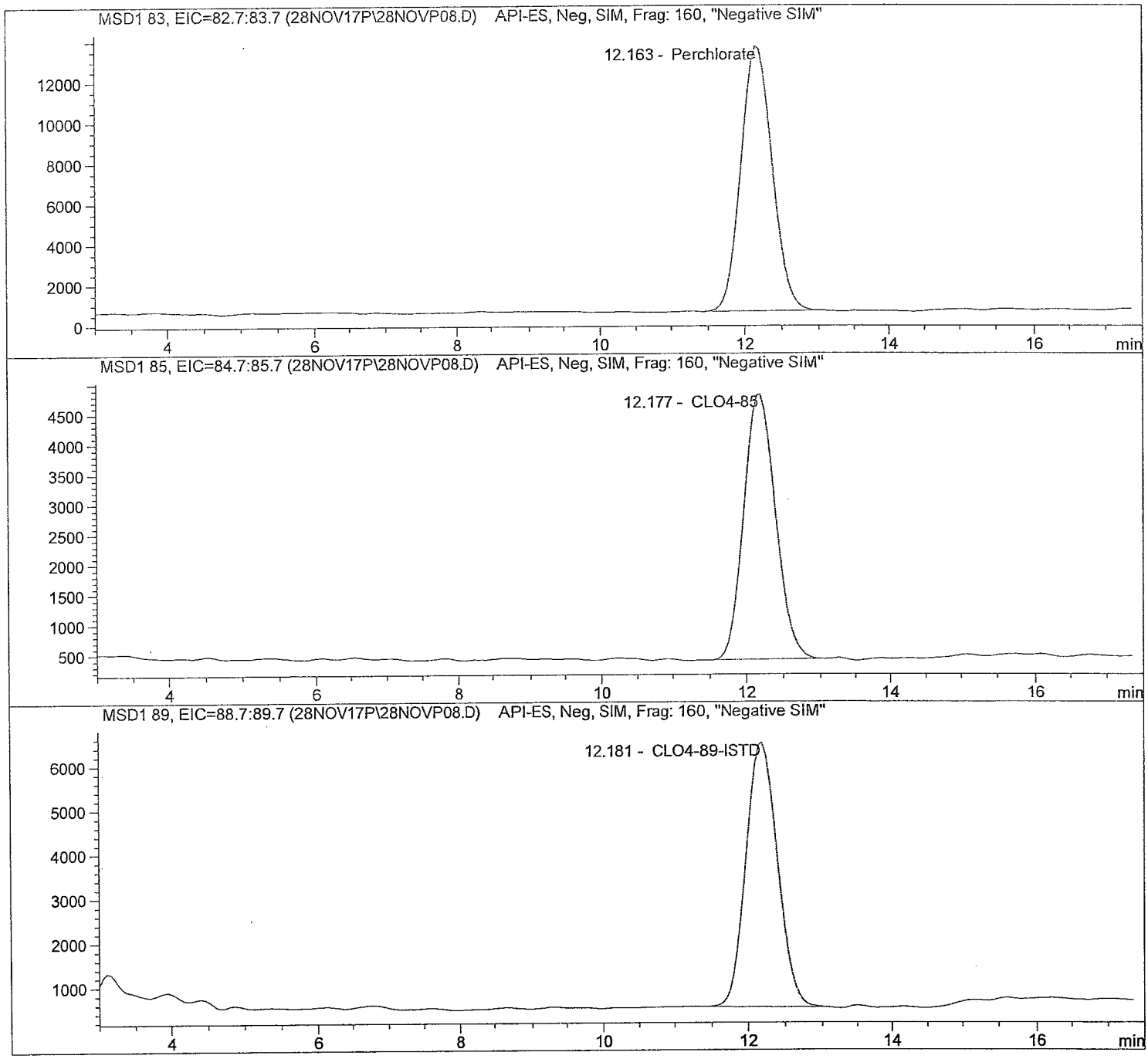
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP08.D Sample Name: ICAL Verf@10ug/L

Injection Date:	11/28/2017 11:28:53	Seq Line:	8
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP08.D Sample Name: ICAL Verf@10ug/L

Injection Date:	11/28/2017 11:28:53	Seq Line:	8
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	10.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.163	PBA	383615.2	9.5953	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.177	PBA	131459.5	10.0855	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.181	BBA	176961.2	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

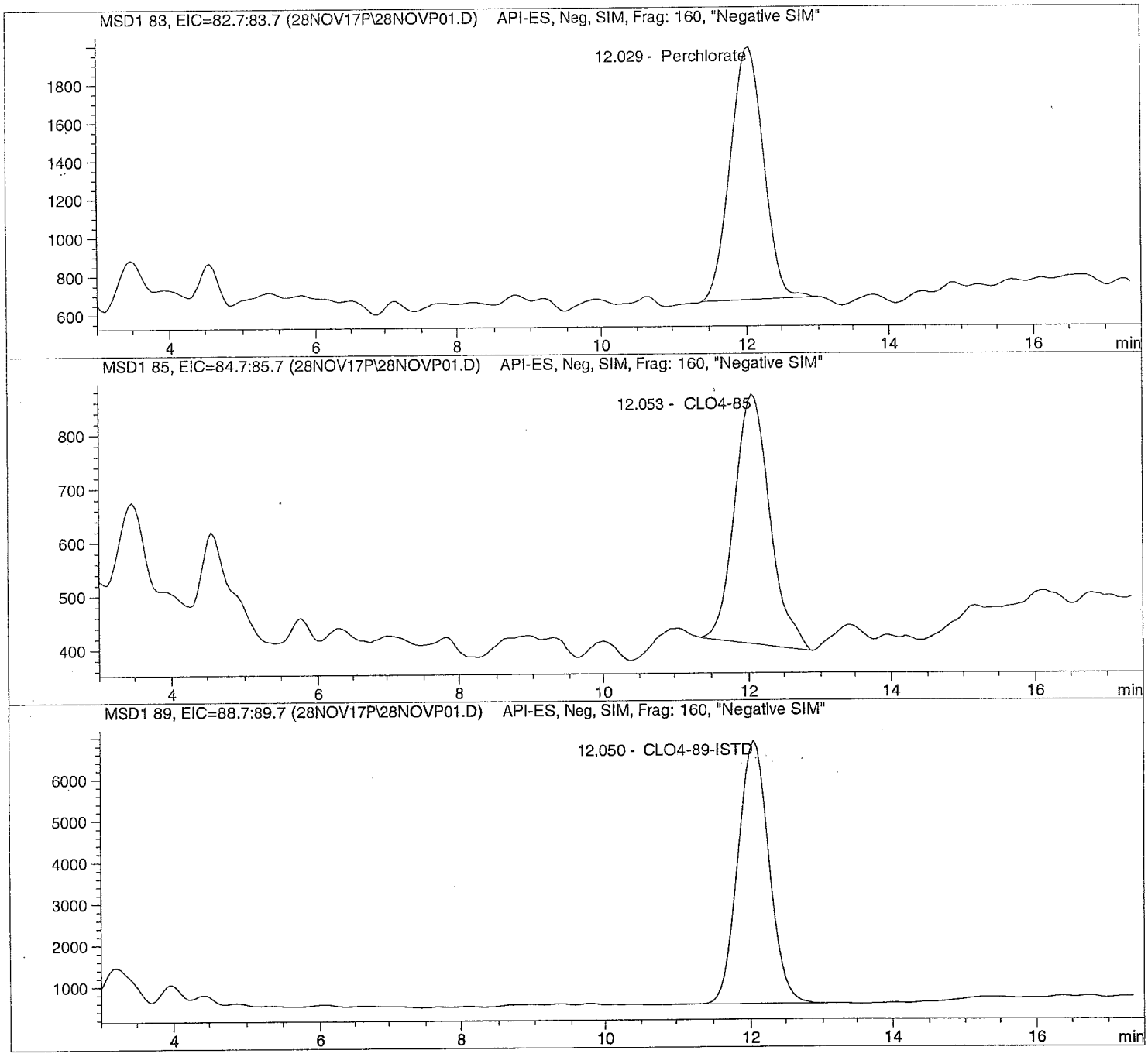
Unmodified

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.029	BBA	42017.4	1.0510	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.053	BBA	15678.7	0.9871	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.050	BBA	188880.3	5.0000	CLO4-89-ISTD

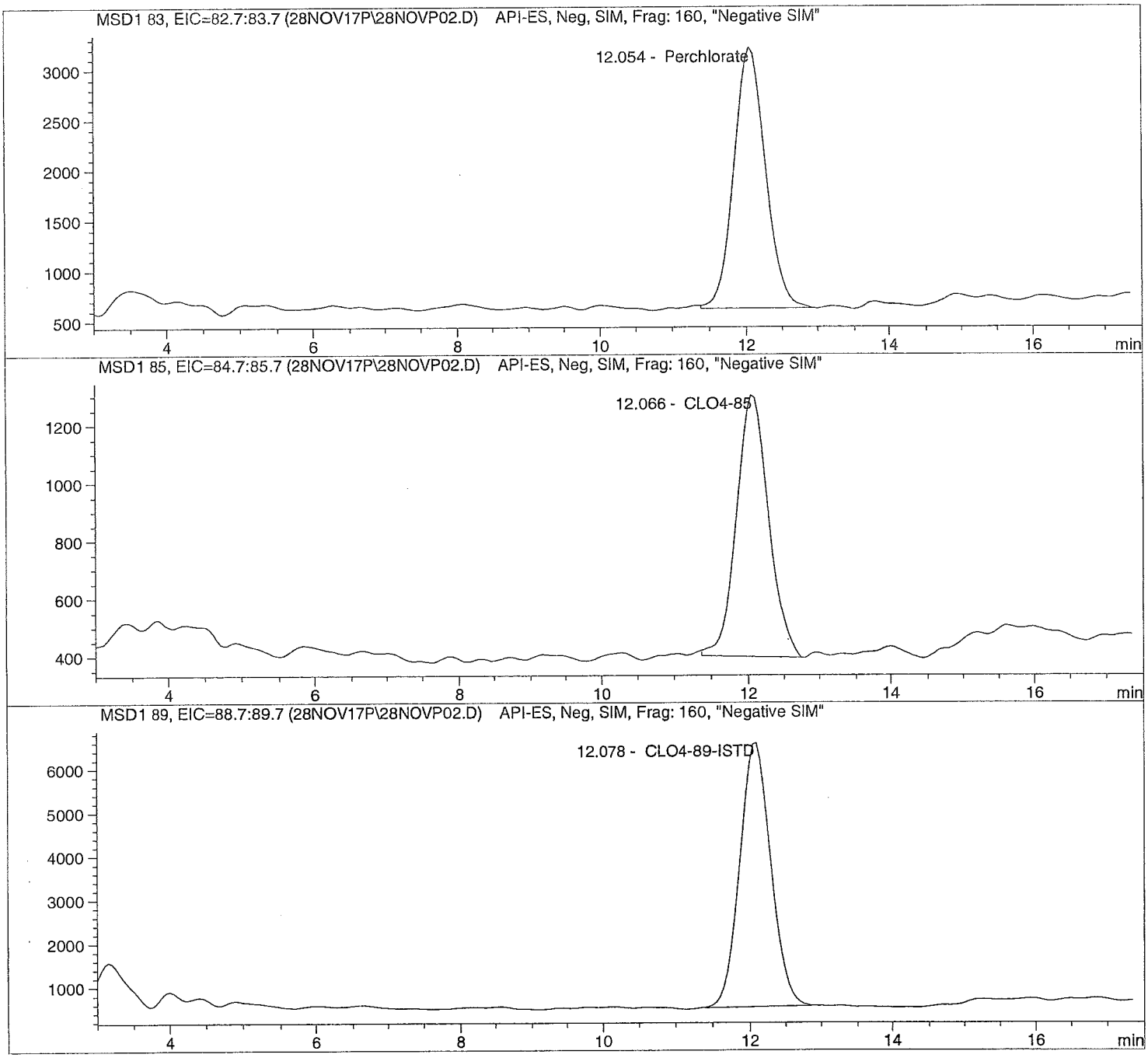
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	2.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.054	BBA	78519.1	2.0151	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.066	BBA	28009.6	2.0074	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.078	PBA	181109.4	5.0000	CLO4-89-ISTD

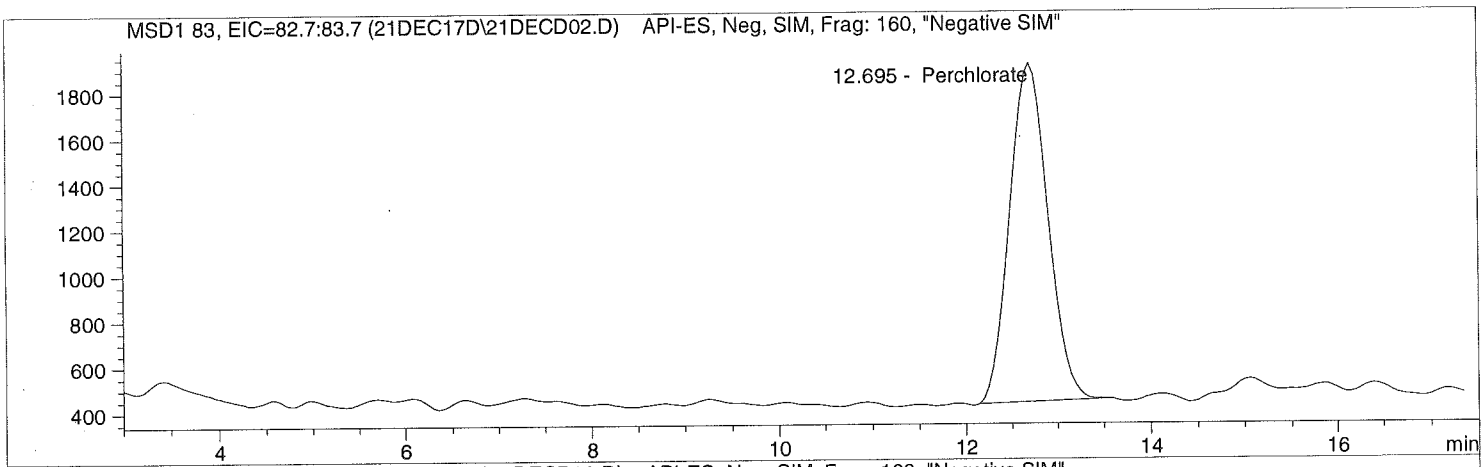
*** End of Report ***

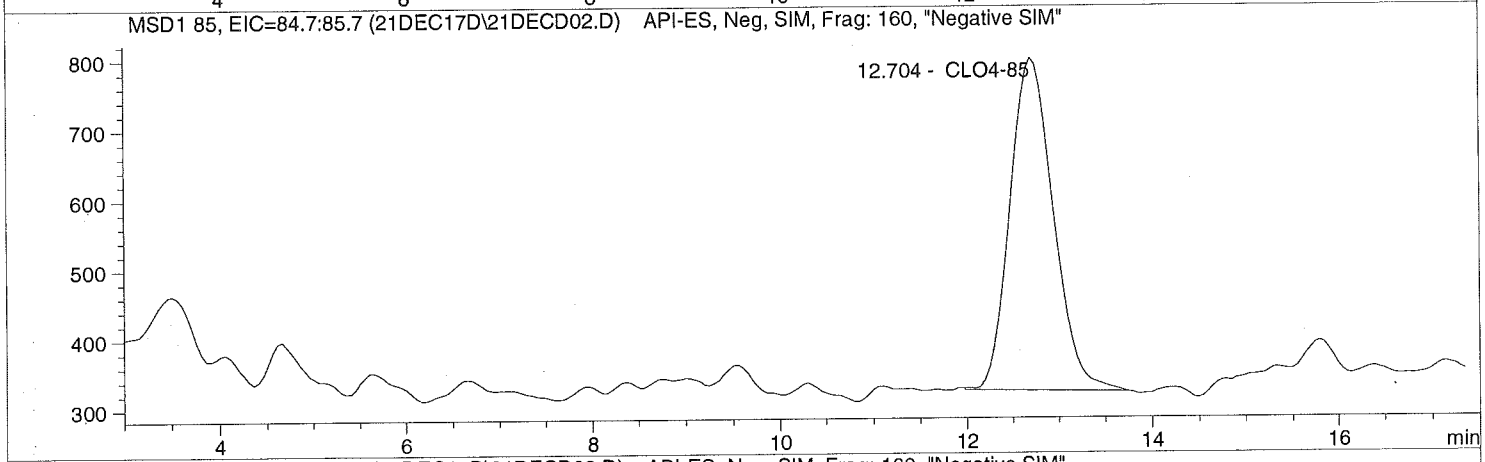
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD02.D Sample Name: 580320 LODV@1.

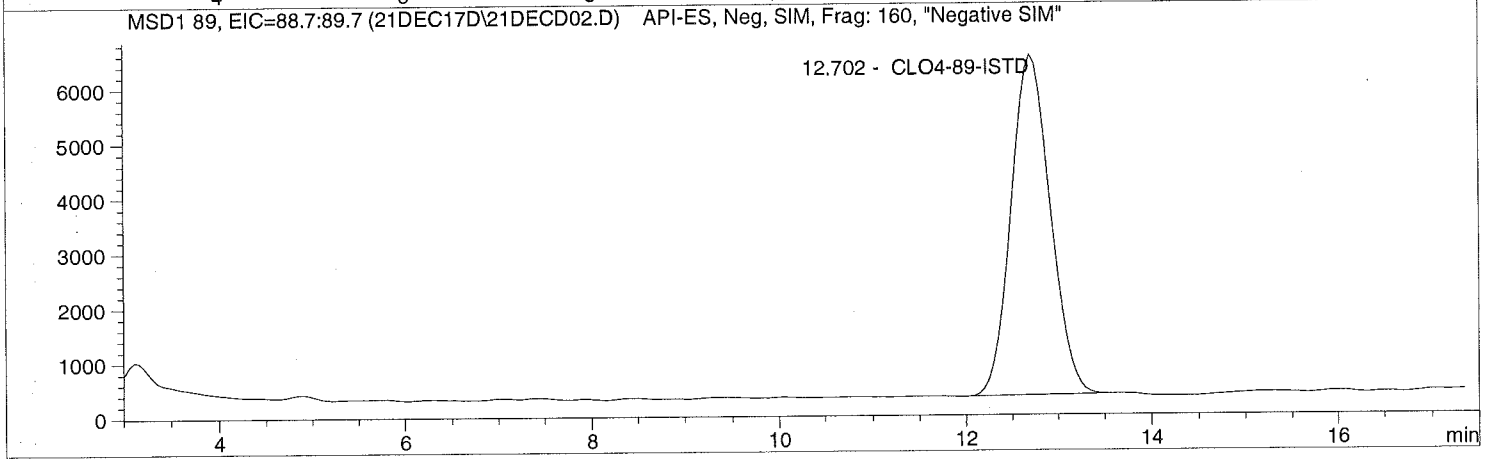
Injection Date:	12/21/2017 09:11:18	Seq Line:	2
Sample Name:	580320 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD02.D Sample Name: 580320 LODV@1.

Injection Date:	12/21/2017 09:11:18	Seq Line:	2
Sample Name:	580320 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.695	PBA	42987.5	1.1033	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.704	BBA	15615.8	1.0148	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.702	PBA	183835.4	5.0000	CLO4-89-ISTD

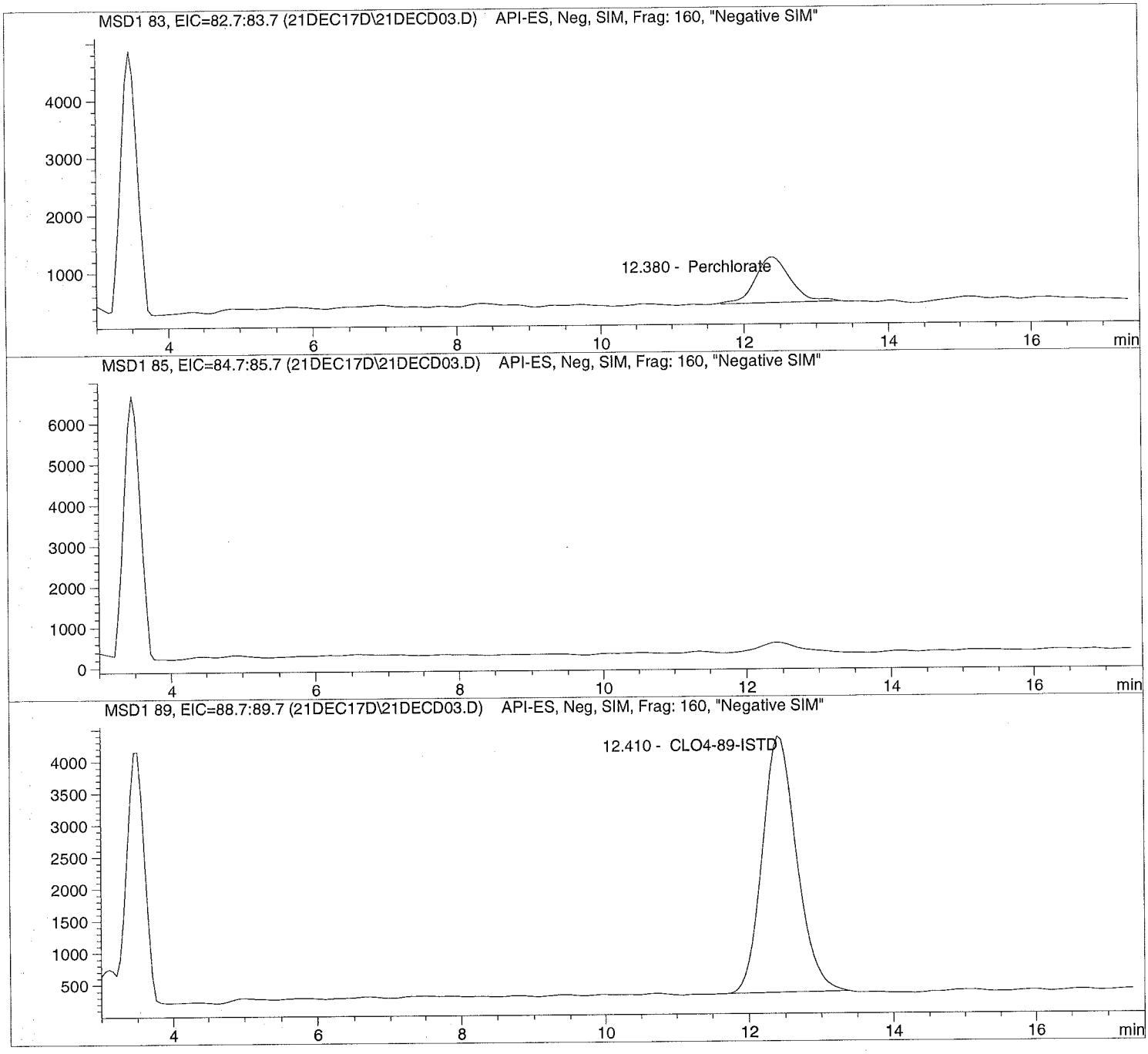
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD03.D Sample Name: 580321 ICS@1.

Injection Date:	12/21/2017 09:30:29	Seq Line:	3
Sample Name:	580321 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD03.D Sample Name: 580321 ICS@1.

Injection Date:	12/21/2017 09:30:29	Seq Line:	3
Sample Name:	580321 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.380	BBA	26247.5	0.9394	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.410	BBA	132469.9	5.0000	CLO4-89-ISTD

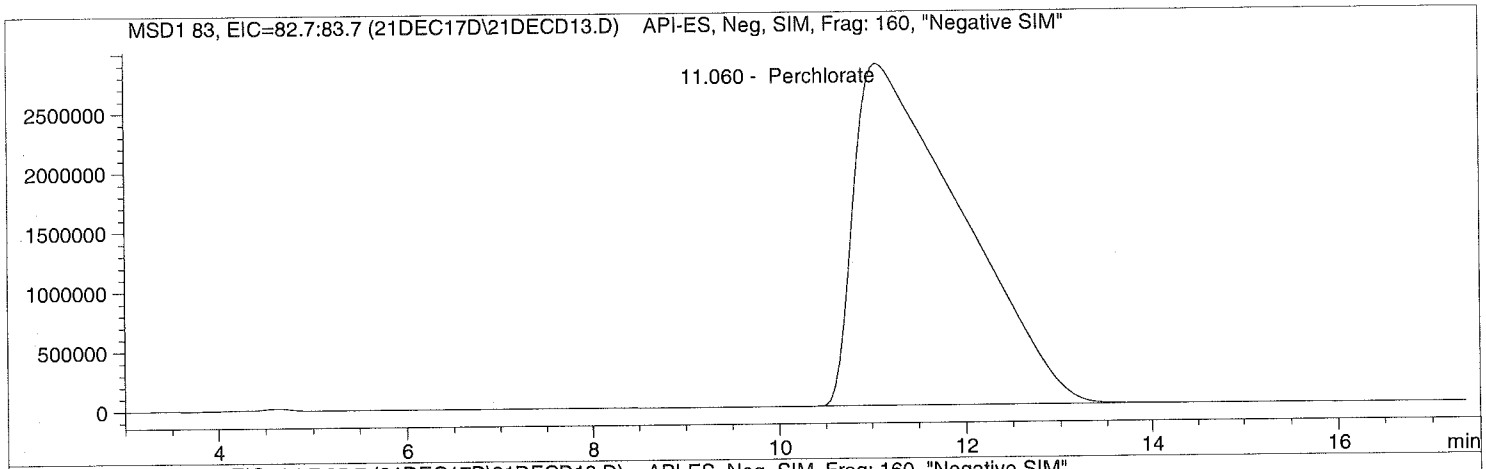
*** End of Report ***

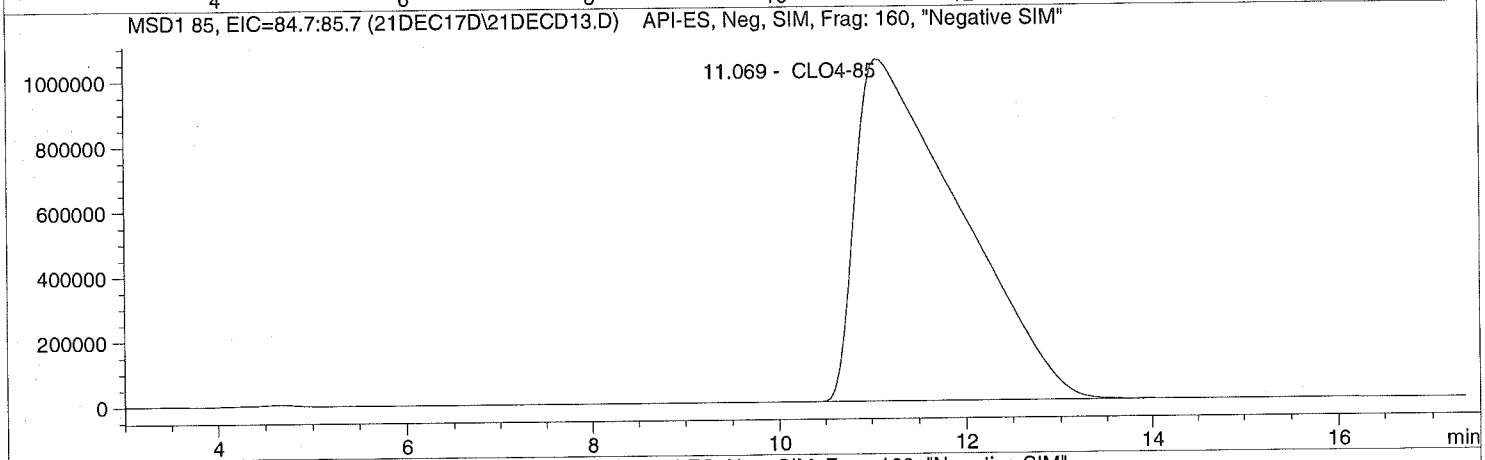
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD13.D Sample Name: 1735426005

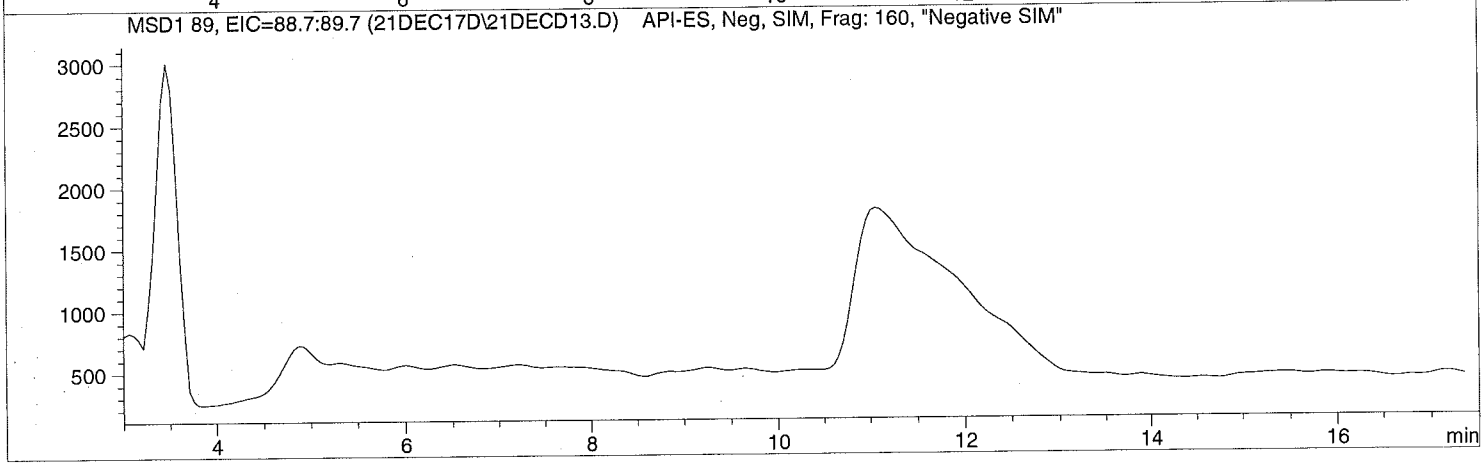
Injection Date:	12/21/2017 13:10:01	Seq Line:	13
Sample Name:	1735426005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD13.D Sample Name: 1735426005

Injection Date:	12/21/2017 13:10:01	Seq Line:	13
Sample Name:	1735426005	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.060	PBA	228145184.0	0.0243	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.069	PBA	81262104.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

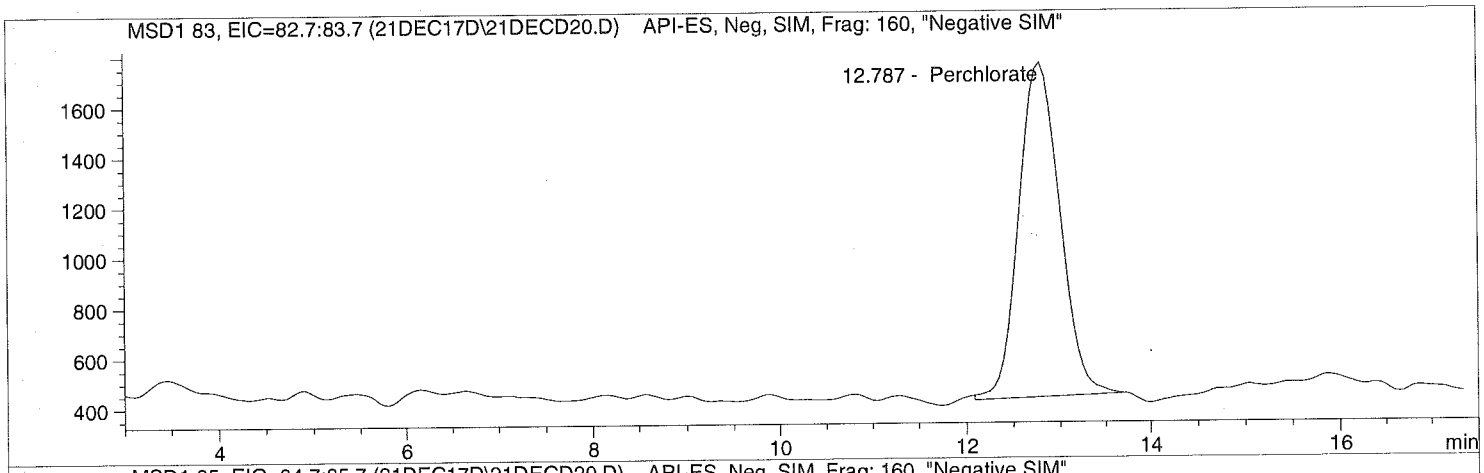
*** End of Report ***

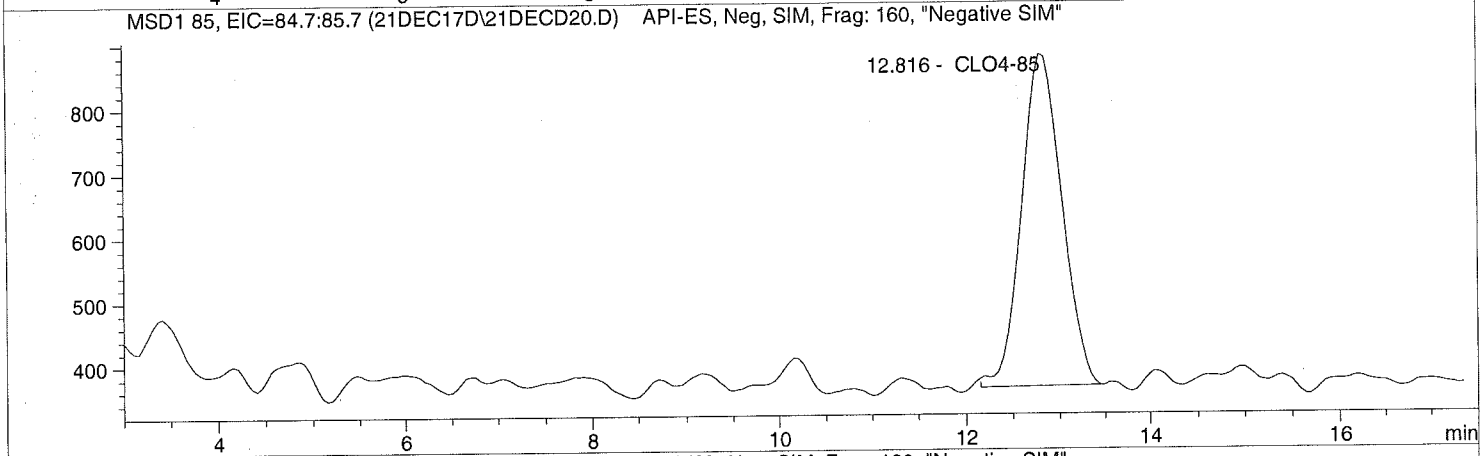
Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD20.D Sample Name: 580327 LODV@1.

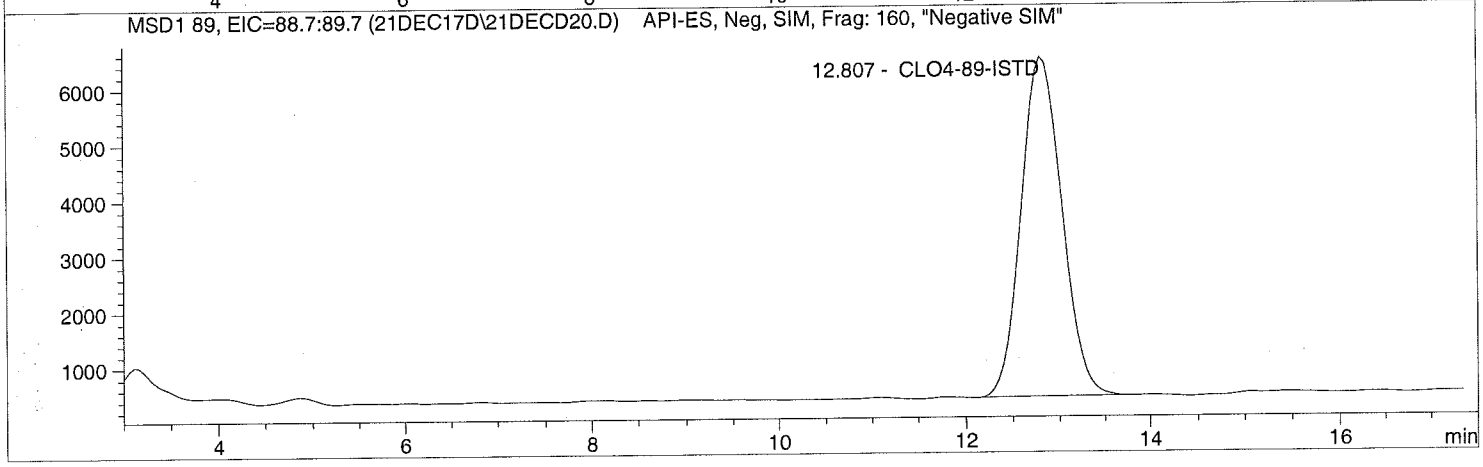
Injection Date:	12/21/2017 15:27:34	Seq Line:	20
Sample Name:	580327 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17D\21DECD20.D Sample Name: 580327 LODV@1.

Injection Date:	12/21/2017 15:27:34	Seq Line:	20
Sample Name:	580327 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.787	BBA	40544.1	1.0359	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.816	BBA	15506.6	0.9987	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.807	PBA	184995.7	5.0000	CLO4-89-ISTD

*** End of Report ***

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WorkOrder: HS17120912

LHAAP 18/24

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

14-Feb-2018

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

December 29, 2017

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

Work Order: **HS17120912**

Laboratory Results for: **LHAAP 18/24**

Dear Marcia,

ALS Environmental received 12 sample(s) on Dec 16, 2017 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,

Sonia West

Generated By: Jumoke.Lawal
Sonia West
Project Manager

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Work Order: HS17120912

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17120912-01	MW9_121317	Groundwater		13-Dec-2017 08:35	16-Dec-2017 09:45	☐
HS17120912-02	MW7_121317	Groundwater		13-Dec-2017 09:30	16-Dec-2017 09:45	☐
HS17120912-03	120_121417	Groundwater		14-Dec-2017 07:55	16-Dec-2017 09:45	☐
HS17120912-04	123_121417	Groundwater		14-Dec-2017 08:10	16-Dec-2017 09:45	☐
HS17120912-05	109_121417	Groundwater		14-Dec-2017 08:30	16-Dec-2017 09:45	☐
HS17120912-06	18CPTMW22R_121417	Groundwater		14-Dec-2017 09:45	16-Dec-2017 09:45	☐
HS17120912-07	18CPTMW22SW_121417	Groundwater		14-Dec-2017 10:40	16-Dec-2017 09:45	☐
HS17120912-08	MW20_121417	Groundwater		14-Dec-2017 11:40	16-Dec-2017 09:45	☐
HS17120912-09	MW23_121517	Groundwater		15-Dec-2017 09:10	16-Dec-2017 09:45	☐
HS17120912-10	MW23_121517-a	Groundwater		15-Dec-2017 09:10	16-Dec-2017 09:45	☐
HS17120912-11	18CPTMW03SW_121517	Groundwater		15-Dec-2017 10:10	16-Dec-2017 09:45	☐
HS17120912-12	Trip Blank	Water		13-Dec-2017 00:00	16-Dec-2017 09:45	☐

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Work Order: HS17120912

CASE NARRATIVE

Work Order Comments

- The analyses for Perchlorate were subcontracted to ALS Environmental in Salt Lake City, UT.

GCMS Volatiles by Method SW8260

Batch ID: R307944

Sample ID: HS17120844-03MSD

- MSD is for an urrelated sample.

Batch ID: R307985

Sample ID: HS17120844-09MS

- MS and MSD are for an urrelated sample.

Batch ID: R308011

Sample ID: HS17120895-08MS

- MS and MSD are for an unrelated sample.

Metals by Method SW6020

Batch ID: 123627

Sample ID: HS17120868-07MS

- MS/MSD and DUPs are for an unrelated sample

Metals by Method SW7470

Batch ID: 123609

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW9_121317
Collection Date: 13-Dec-2017 08:35

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,2-Dichloroethane	**0.82**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	26-Dec-2017 15:34
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 15:34
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	26-Dec-2017 15:34
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	26-Dec-2017 15:34
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 15:34
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	26-Dec-2017 15:34
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	26-Dec-2017 15:34
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	26-Dec-2017 15:34
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW9_121317
Collection Date: 13-Dec-2017 08:35

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
Chloroform	**1.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	26-Dec-2017 15:34
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
cis-1,2-Dichloroethene	**70**		**0.20**	**0.50**	**1.0**	**ug/L**	1	26-Dec-2017 15:34
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	26-Dec-2017 15:34
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	26-Dec-2017 15:34
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	26-Dec-2017 15:34
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 15:34
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Trichloroethene	**930**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Dec-2017 21:37
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 15:34
Surr: 1,2-Dichloroethane-d4	*92.1*			**0**	*81-118*	*%REC*	*5*	*25-Dec-2017 21:37*
Surr: 1,2-Dichloroethane-d4	*94.8*			**0**	*81-118*	*%REC*	*1*	*26-Dec-2017 15:34*
Surr: 4-Bromofluorobenzene	*98.3*			**0**	*85-114*	*%REC*	*5*	*25-Dec-2017 21:37*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*1*	*26-Dec-2017 15:34*
Surr: Dibromofluoromethane	*99.8*			**0**	*80-119*	*%REC*	*5*	*25-Dec-2017 21:37*
Surr: Dibromofluoromethane	*99.2*			**0**	*80-119*	*%REC*	*1*	*26-Dec-2017 15:34*
Surr: Toluene-d8	*97.8*			**0**	*89-112*	*%REC*	*5*	*25-Dec-2017 21:37*
Surr: Toluene-d8	*95.6*			**0**	*89-112*	*%REC*	*1*	*26-Dec-2017 15:34*

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW9_121317
Collection Date: 13-Dec-2017 08:35

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 20-Dec-2017		Analyst: RPM
Aluminum	**0.0106**		**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	21-Dec-2017 13:01
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	21-Dec-2017 13:01
Arsenic	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	21-Dec-2017 13:01
Barium	**0.126**		**0.00190**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:01
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:01
Cadmium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:01
Calcium	**10.2**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	21-Dec-2017 13:01
Chromium	**0.0325**		**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:01
Cobalt	**0.00199**	J	**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:01
Copper	**0.00216**		**0.00100**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:01
Iron	**0.617**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:01
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	21-Dec-2017 13:01
Magnesium	**2.82**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:01
Manganese	**0.0635**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:01
Nickel	**0.0835**		**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	21-Dec-2017 13:01
Potassium	**0.449**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:01
Selenium	**0.00364**		**0.00110**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:01
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:01
Sodium	**11.8**		**0.0140**	**0.100**	**0.300**	**mg/L**	1	21-Dec-2017 13:01
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:01
Vanadium	**0.00134**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:01
Zinc	**0.00528**		**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:01
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 20-Dec-2017		Analyst: JC
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	20-Dec-2017 16:17
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW7_121317
Collection Date: 13-Dec-2017 09:30

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,1,1-Trichloroethane	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,1,2,2-Tetrachloroethane	2.5	U	2.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,1,2-Trichloroethane	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,1-Dichloroethane	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,1-Dichloroethene	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,1-Dichloropropene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,2,3-Trichlorobenzene	2.5	U	2.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,2,3-Trichloropropane	2.5	U	2.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,2,4-Trichlorobenzene	2.5	U	2.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,2,4-Trimethylbenzene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,2-Dibromo-3-chloropropane	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,2-Dibromoethane	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,2-Dichlorobenzene	2.5	U	2.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,2-Dichloroethane	**17**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Dec-2017 22:32
1,2-Dichloropropane	2.5	U	2.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,3,5-Trimethylbenzene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,3-Dichlorobenzene	2.5	U	2.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,3-Dichloropropane	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
1,4-Dichlorobenzene	2.5	U	2.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
2,2-Dichloropropane	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
2-Butanone	2.5	U	2.5	2.5	10	ug/L	5	25-Dec-2017 22:32
2-Chlorotoluene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
2-Hexanone	5.0	U	5.0	5.0	10	ug/L	5	25-Dec-2017 22:32
4-Chlorotoluene	2.5	U	2.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
4-Isopropyltoluene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
4-Methyl-2-pentanone	5.0	U	3.5	5.0	10	ug/L	5	25-Dec-2017 22:32
Acetone	5.0	U	2.0	5.0	10	ug/L	5	25-Dec-2017 22:32
Benzene	**1.5**	J	**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Dec-2017 22:32
Bromobenzene	2.5	U	2.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Bromochloromethane	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Bromodichloromethane	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Bromoform	2.5	U	2.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Bromomethane	2.5	U	2.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Carbon disulfide	5.0	U	3.0	5.0	10	ug/L	5	25-Dec-2017 22:32
Carbon tetrachloride	2.5	U	2.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Chlorobenzene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Chloroethane	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW7_121317
Collection Date: 13-Dec-2017 09:30

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
Chloroform	**11**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Dec-2017 22:32
Chloromethane	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
cis-1,2-Dichloroethene	**11**		**1.0**	**2.5**	**5.0**	**ug/L**	5	25-Dec-2017 22:32
cis-1,3-Dichloropropene	2.5	U	0.50	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Dibromochloromethane	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Dibromomethane	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Dichlorodifluoromethane	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Ethylbenzene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Hexachlorobutadiene	5.0	U	5.0	5.0	5.0	ug/L	5	25-Dec-2017 22:32
Isopropylbenzene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
m,p-Xylene	5.0	U	2.5	5.0	10	ug/L	5	25-Dec-2017 22:32
Methylene chloride	2.5	U	2.0	2.5	10	ug/L	5	25-Dec-2017 22:32
n-Butylbenzene	2.5	U	2.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
n-Propylbenzene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Naphthalene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
o-Xylene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
sec-Butylbenzene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Styrene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
tert-Butylbenzene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Tetrachloroethene	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Toluene	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
trans-1,2-Dichloroethene	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
trans-1,3-Dichloropropene	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Trichloroethene	**1,600**		**10**	**25**	**50**	**ug/L**	50	25-Dec-2017 22:59
Trichlorofluoromethane	2.5	U	1.5	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Vinyl chloride	2.5	U	1.0	2.5	5.0	ug/L	5	25-Dec-2017 22:32
Surr: 1,2-Dichloroethane-d4	*92.9*			**0**	*81-118*	*%REC*	*50*	*25-Dec-2017 22:59*
Surr: 1,2-Dichloroethane-d4	*94.5*			**0**	*81-118*	*%REC*	*5*	*25-Dec-2017 22:32*
Surr: 4-Bromofluorobenzene	*97.6*			**0**	*85-114*	*%REC*	*5*	*25-Dec-2017 22:32*
Surr: 4-Bromofluorobenzene	*97.1*			**0**	*85-114*	*%REC*	*50*	*25-Dec-2017 22:59*
Surr: Dibromofluoromethane	*98.1*			**0**	*80-119*	*%REC*	*50*	*25-Dec-2017 22:59*
Surr: Dibromofluoromethane	*100*			**0**	*80-119*	*%REC*	*5*	*25-Dec-2017 22:32*
Surr: Toluene-d8	*97.4*			**0**	*89-112*	*%REC*	*5*	*25-Dec-2017 22:32*
Surr: Toluene-d8	*98.7*			**0**	*89-112*	*%REC*	*50*	*25-Dec-2017 22:59*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)	**Method:NA**							Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 120_121417
Collection Date: 14-Dec-2017 07:55

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
1,1,1-Trichloroethane	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
1,1,2,2-Tetrachloroethane	25	U	25	25	50	ug/L	50	27-Dec-2017 13:56
1,1,2-Trichloroethane	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
1,1-Dichloroethane	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
1,1-Dichloroethene	**250**		**10**	**25**	**50**	**ug/L**	50	27-Dec-2017 13:56
1,1-Dichloropropene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
1,2,3-Trichlorobenzene	25	U	20	25	50	ug/L	50	27-Dec-2017 13:56
1,2,3-Trichloropropane	25	U	25	25	50	ug/L	50	27-Dec-2017 13:56
1,2,4-Trichlorobenzene	25	U	25	25	50	ug/L	50	27-Dec-2017 13:56
1,2,4-Trimethylbenzene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
1,2-Dibromo-3-chloropropane	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
1,2-Dibromoethane	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
1,2-Dichlorobenzene	25	U	25	25	50	ug/L	50	27-Dec-2017 13:56
1,2-Dichloroethane	**110**		**10**	**25**	**50**	**ug/L**	50	27-Dec-2017 13:56
1,2-Dichloropropane	25	U	25	25	50	ug/L	50	27-Dec-2017 13:56
1,3,5-Trimethylbenzene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
1,3-Dichlorobenzene	25	U	20	25	50	ug/L	50	27-Dec-2017 13:56
1,3-Dichloropropane	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
1,4-Dichlorobenzene	25	U	20	25	50	ug/L	50	27-Dec-2017 13:56
2,2-Dichloropropane	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
2-Butanone	25	U	25	25	100	ug/L	50	27-Dec-2017 13:56
2-Chlorotoluene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
2-Hexanone	50	U	50	50	100	ug/L	50	27-Dec-2017 13:56
4-Chlorotoluene	25	U	20	25	50	ug/L	50	27-Dec-2017 13:56
4-Isopropyltoluene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
4-Methyl-2-pentanone	50	U	35	50	100	ug/L	50	27-Dec-2017 13:56
Acetone	50	U	20	50	100	ug/L	50	27-Dec-2017 13:56
Benzene	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
Bromobenzene	25	U	20	25	50	ug/L	50	27-Dec-2017 13:56
Bromochloromethane	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
Bromodichloromethane	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
Bromoform	25	U	20	25	50	ug/L	50	27-Dec-2017 13:56
Bromomethane	25	U	20	25	50	ug/L	50	27-Dec-2017 13:56
Carbon disulfide	50	U	30	50	100	ug/L	50	27-Dec-2017 13:56
Carbon tetrachloride	25	U	25	25	50	ug/L	50	27-Dec-2017 13:56
Chlorobenzene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
Chloroethane	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 120_121417
Collection Date: 14-Dec-2017 07:55

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	**77**		**10**	**25**	**50**	**ug/L**	50	27-Dec-2017 13:56
Chloromethane	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
cis-1,2-Dichloroethene	**3,900**		**10**	**25**	**50**	**ug/L**	50	27-Dec-2017 13:56
cis-1,3-Dichloropropene	25	U	5.0	25	50	ug/L	50	27-Dec-2017 13:56
Dibromochloromethane	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
Dibromomethane	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
Dichlorodifluoromethane	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
Ethylbenzene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
Hexachlorobutadiene	50	U	50	50	50	ug/L	50	27-Dec-2017 13:56
Isopropylbenzene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
m,p-Xylene	50	U	25	50	100	ug/L	50	27-Dec-2017 13:56
Methylene chloride	25	U	20	25	100	ug/L	50	27-Dec-2017 13:56
n-Butylbenzene	25	U	20	25	50	ug/L	50	27-Dec-2017 13:56
n-Propylbenzene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
Naphthalene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
o-Xylene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
sec-Butylbenzene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
Styrene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
tert-Butylbenzene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
Tetrachloroethene	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
Toluene	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
trans-1,2-Dichloroethene	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
trans-1,3-Dichloropropene	25	U	10	25	50	ug/L	50	27-Dec-2017 13:56
Trichloroethene	**27,000**		**100**	**250**	**500**	**ug/L**	500	26-Dec-2017 19:53
Trichlorofluoromethane	25	U	15	25	50	ug/L	50	27-Dec-2017 13:56
Vinyl chloride	**260**		**10**	**25**	**50**	**ug/L**	50	27-Dec-2017 13:56
Surr: 1,2-Dichloroethane-d4	*92.8*			**0**	*81-118*	*%REC*	*500*	*26-Dec-2017 19:53*
Surr: 1,2-Dichloroethane-d4	*94.7*			**0**	*81-118*	*%REC*	*50*	*27-Dec-2017 13:56*
Surr: 4-Bromofluorobenzene	*99.0*			**0**	*85-114*	*%REC*	*500*	*26-Dec-2017 19:53*
Surr: 4-Bromofluorobenzene	*95.6*			**0**	*85-114*	*%REC*	*50*	*27-Dec-2017 13:56*
Surr: Dibromofluoromethane	*99.5*			**0**	*80-119*	*%REC*	*500*	*26-Dec-2017 19:53*
Surr: Dibromofluoromethane	*97.7*			**0**	*80-119*	*%REC*	*50*	*27-Dec-2017 13:56*
Surr: Toluene-d8	*96.2*			**0**	*89-112*	*%REC*	*500*	*26-Dec-2017 19:53*
Surr: Toluene-d8	*96.4*			**0**	*89-112*	*%REC*	*50*	*27-Dec-2017 13:56*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 123_121417
Collection Date: 14-Dec-2017 08:10

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,2-Dichloroethane	**6.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Dec-2017 17:05
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:05
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	25-Dec-2017 17:05
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	25-Dec-2017 17:05
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:05
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	25-Dec-2017 17:05
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	25-Dec-2017 17:05
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	25-Dec-2017 17:05
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 123_121417
Collection Date: 14-Dec-2017 08:10

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
cis-1,2-Dichloroethene	**13**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Dec-2017 17:05
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Dec-2017 17:05
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Dec-2017 17:05
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	25-Dec-2017 17:05
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:05
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Trichloroethene	**100**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Dec-2017 17:05
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:05
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*1*	*25-Dec-2017 17:05*
Surr: 4-Bromofluorobenzene	*99.1*			**0**	*85-114*	*%REC*	*1*	*25-Dec-2017 17:05*
Surr: Dibromofluoromethane	*97.7*			**0**	*80-119*	*%REC*	*1*	*25-Dec-2017 17:05*
Surr: Toluene-d8	*96.6*			**0**	*89-112*	*%REC*	*1*	*25-Dec-2017 17:05*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 109_121417
Collection Date: 14-Dec-2017 08:30

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,1-Dichloroethene	**7.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	26-Dec-2017 17:13
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 17:13
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	26-Dec-2017 17:13
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	26-Dec-2017 17:13
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 17:13
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	26-Dec-2017 17:13
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	26-Dec-2017 17:13
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	26-Dec-2017 17:13
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 109_121417
Collection Date: 14-Dec-2017 08:30

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	**1.8**		**0.20**	**0.50**	**1.0**	**ug/L**	1	26-Dec-2017 17:13
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
cis-1,2-Dichloroethene	**150**		**0.20**	**0.50**	**1.0**	**ug/L**	1	26-Dec-2017 17:13
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	26-Dec-2017 17:13
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	26-Dec-2017 17:13
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	26-Dec-2017 17:13
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	26-Dec-2017 17:13
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
trans-1,2-Dichloroethene	**2.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	26-Dec-2017 17:13
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Trichloroethene	**850**		**5.0**	**12**	**25**	**ug/L**	25	26-Dec-2017 17:40
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	26-Dec-2017 17:13
Vinyl chloride	**1.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	26-Dec-2017 17:13
Surr: 1,2-Dichloroethane-d4	*92.8*			**0**	*81-118*	*%REC*	*25*	*26-Dec-2017 17:40*
Surr: 1,2-Dichloroethane-d4	*96.9*			**0**	*81-118*	*%REC*	*1*	*26-Dec-2017 17:13*
Surr: 4-Bromofluorobenzene	*96.9*			**0**	*85-114*	*%REC*	*1*	*26-Dec-2017 17:13*
Surr: 4-Bromofluorobenzene	*94.1*			**0**	*85-114*	*%REC*	*25*	*26-Dec-2017 17:40*
Surr: Dibromofluoromethane	*96.2*			**0**	*80-119*	*%REC*	*25*	*26-Dec-2017 17:40*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*26-Dec-2017 17:13*
Surr: Toluene-d8	*95.0*			**0**	*89-112*	*%REC*	*1*	*26-Dec-2017 17:13*
Surr: Toluene-d8	*96.3*			**0**	*89-112*	*%REC*	*25*	*26-Dec-2017 17:40*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW22R_121417
Collection Date: 14-Dec-2017 09:45

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:29
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	25-Dec-2017 17:29
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	25-Dec-2017 17:29
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:29
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	25-Dec-2017 17:29
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	25-Dec-2017 17:29
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	25-Dec-2017 17:29
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW22R_121417
Collection Date: 14-Dec-2017 09:45

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Dec-2017 17:29
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Dec-2017 17:29
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	25-Dec-2017 17:29
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:29
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:29
Surr: 1,2-Dichloroethane-d4	*92.4*			**0**	*81-118*	*%REC*	*1*	*25-Dec-2017 17:29*
Surr: 4-Bromofluorobenzene	*97.8*			**0**	*85-114*	*%REC*	*1*	*25-Dec-2017 17:29*
Surr: Dibromofluoromethane	*100.0*			**0**	*80-119*	*%REC*	*1*	*25-Dec-2017 17:29*
Surr: Toluene-d8	*95.8*			**0**	*89-112*	*%REC*	*1*	*25-Dec-2017 17:29*

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW22R_121417
Collection Date: 14-Dec-2017 09:45

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 20-Dec-2017		Analyst: RPM
Aluminum	**1.36**		**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	21-Dec-2017 13:03
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	21-Dec-2017 13:03
Arsenic	**0.00129**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:03
Barium	**0.109**		**0.00190**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:03
Beryllium	**0.000626**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:03
Cadmium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:03
Calcium	**2.33**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	21-Dec-2017 13:03
Chromium	**0.00146**	J	**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:03
Cobalt	**0.00749**		**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:03
Copper	**0.00331**		**0.00100**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:03
Iron	**1.22**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:03
Lead	**0.00115**	J	**0.000600**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:03
Magnesium	**1.80**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:03
Manganese	**0.0771**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:03
Nickel	**0.00518**		**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	21-Dec-2017 13:03
Potassium	**0.342**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:03
Selenium	**0.00182**	J	**0.00110**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:03
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:03
Sodium	**43.6**		**0.0140**	**0.100**	**0.300**	**mg/L**	1	21-Dec-2017 13:03
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:03
Vanadium	**0.00528**		**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:03
Zinc	**0.00891**		**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:03
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 20-Dec-2017		Analyst: JC
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	20-Dec-2017 16:22
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW22SW_121417
Collection Date: 14-Dec-2017 10:40

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:54
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	25-Dec-2017 17:54
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	25-Dec-2017 17:54
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:54
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	25-Dec-2017 17:54
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	25-Dec-2017 17:54
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	25-Dec-2017 17:54
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW22SW_121417
Collection Date: 14-Dec-2017 10:40

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Dec-2017 17:54
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Dec-2017 17:54
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	25-Dec-2017 17:54
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 17:54
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 17:54
Surr: 1,2-Dichloroethane-d4	*92.0*			**0**	*81-118*	*%REC*	*1*	*25-Dec-2017 17:54*
Surr: 4-Bromofluorobenzene	*99.0*			**0**	*85-114*	*%REC*	*1*	*25-Dec-2017 17:54*
Surr: Dibromofluoromethane	*98.0*			**0**	*80-119*	*%REC*	*1*	*25-Dec-2017 17:54*
Surr: Toluene-d8	*97.1*			**0**	*89-112*	*%REC*	*1*	*25-Dec-2017 17:54*

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW22SW_121417
Collection Date: 14-Dec-2017 10:40

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 20-Dec-2017		Analyst: RPM
Aluminum	**0.0857**		**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	21-Dec-2017 13:05
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	21-Dec-2017 13:05
Arsenic	**0.000798**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:05
Barium	**0.216**		**0.00190**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:05
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:05
Cadmium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:05
Calcium	**106**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	21-Dec-2017 13:05
Chromium	**0.0118**		**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:05
Cobalt	0.00100	U	0.000200	0.00100	0.00500	mg/L	1	21-Dec-2017 13:05
Copper	**0.00121**	J	**0.00100**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:05
Iron	**0.0437**	J	**0.0120**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:05
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	21-Dec-2017 13:05
Magnesium	**5.01**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:05
Manganese	**0.0249**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:05
Nickel	**0.00110**	J	**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	21-Dec-2017 13:05
Potassium	**155**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:05
Selenium	**0.00213**		**0.00110**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:05
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:05
Sodium	**239**		**0.140**	**1.00**	**3.00**	**mg/L**	10	21-Dec-2017 15:34
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:05
Vanadium	**0.00188**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:05
Zinc	**0.00427**		**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:05
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 20-Dec-2017		Analyst: JC
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	20-Dec-2017 16:23
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW20_121417
Collection Date: 14-Dec-2017 11:40

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:18
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	25-Dec-2017 18:18
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	25-Dec-2017 18:18
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:18
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	25-Dec-2017 18:18
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	25-Dec-2017 18:18
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	25-Dec-2017 18:18
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW20_121417
Collection Date: 14-Dec-2017 11:40

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Dec-2017 18:18
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Dec-2017 18:18
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	25-Dec-2017 18:18
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:18
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:18
Surr: 1,2-Dichloroethane-d4	*94.3*			**0**	*81-118*	*%REC*	*1*	*25-Dec-2017 18:18*
Surr: 4-Bromofluorobenzene	*98.3*			**0**	*85-114*	*%REC*	*1*	*25-Dec-2017 18:18*
Surr: Dibromofluoromethane	*101*			**0**	*80-119*	*%REC*	*1*	*25-Dec-2017 18:18*
Surr: Toluene-d8	*95.9*			**0**	*89-112*	*%REC*	*1*	*25-Dec-2017 18:18*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW23_121517
Collection Date: 15-Dec-2017 09:10

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,1,1-Trichloroethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,1,2,2-Tetrachloroethane	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,1-Dichloroethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,1-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,1-Dichloropropene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,2,3-Trichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,2,3-Trichloropropane	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,2,4-Trichlorobenzene	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,2,4-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,2-Dibromo-3-chloropropane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,2-Dibromoethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,2-Dichlorobenzene	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,2-Dichloroethane	**80**		**2.0**	**5.0**	**10**	**ug/L**	10	26-Dec-2017 18:07
1,2-Dichloropropane	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,3,5-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,3-Dichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,3-Dichloropropane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
1,4-Dichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 18:07
2,2-Dichloropropane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
2-Butanone	5.0	U	5.0	5.0	20	ug/L	10	26-Dec-2017 18:07
2-Chlorotoluene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
2-Hexanone	10	U	10	10	20	ug/L	10	26-Dec-2017 18:07
4-Chlorotoluene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 18:07
4-Isopropyltoluene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
4-Methyl-2-pentanone	10	U	7.0	10	20	ug/L	10	26-Dec-2017 18:07
Acetone	10	U	4.0	10	20	ug/L	10	26-Dec-2017 18:07
Benzene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Bromobenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Bromochloromethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Bromodichloromethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Bromoform	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Bromomethane	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Carbon disulfide	10	U	6.0	10	20	ug/L	10	26-Dec-2017 18:07
Carbon tetrachloride	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Chlorobenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Chloroethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW23_121517
Collection Date: 15-Dec-2017 09:10

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Chloromethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
cis-1,2-Dichloroethene	**16**		**2.0**	**5.0**	**10**	**ug/L**	10	26-Dec-2017 18:07
cis-1,3-Dichloropropene	5.0	U	1.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Dibromochloromethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Dibromomethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Dichlorodifluoromethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Ethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Hexachlorobutadiene	10	U	10	10	10	ug/L	10	26-Dec-2017 18:07
Isopropylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
m,p-Xylene	10	U	5.0	10	20	ug/L	10	26-Dec-2017 18:07
Methylene chloride	5.0	U	4.0	5.0	20	ug/L	10	26-Dec-2017 18:07
n-Butylbenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 18:07
n-Propylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Naphthalene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
o-Xylene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
sec-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Styrene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
tert-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Tetrachloroethene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Toluene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
trans-1,2-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
trans-1,3-Dichloropropene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Trichloroethene	**3,300**		**20**	**50**	**100**	**ug/L**	100	26-Dec-2017 18:34
Trichlorofluoromethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Vinyl chloride	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 18:07
Surr: 1,2-Dichloroethane-d4	*92.9*			**0**	*81-118*	*%REC*	*10*	*26-Dec-2017 18:07*
Surr: 1,2-Dichloroethane-d4	*91.9*			**0**	*81-118*	*%REC*	*100*	*26-Dec-2017 18:34*
Surr: 4-Bromofluorobenzene	*95.2*			**0**	*85-114*	*%REC*	*100*	*26-Dec-2017 18:34*
Surr: 4-Bromofluorobenzene	*99.3*			**0**	*85-114*	*%REC*	*10*	*26-Dec-2017 18:07*
Surr: Dibromofluoromethane	*99.2*			**0**	*80-119*	*%REC*	*10*	*26-Dec-2017 18:07*
Surr: Dibromofluoromethane	*96.6*			**0**	*80-119*	*%REC*	*100*	*26-Dec-2017 18:34*
Surr: Toluene-d8	*97.6*			**0**	*89-112*	*%REC*	*100*	*26-Dec-2017 18:34*
Surr: Toluene-d8	*97.2*			**0**	*89-112*	*%REC*	*10*	*26-Dec-2017 18:07*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW23_121517-a
Collection Date: 15-Dec-2017 09:10

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,1,1-Trichloroethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,1,2,2-Tetrachloroethane	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,1,2-Trichloroethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,1-Dichloroethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,1-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,1-Dichloropropene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,2,3-Trichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,2,3-Trichloropropane	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,2,4-Trichlorobenzene	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,2,4-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,2-Dibromo-3-chloropropane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,2-Dibromoethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,2-Dichlorobenzene	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,2-Dichloroethane	**79**		**2.0**	**5.0**	**10**	**ug/L**	10	26-Dec-2017 19:01
1,2-Dichloropropane	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,3,5-Trimethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,3-Dichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,3-Dichloropropane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
1,4-Dichlorobenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 19:01
2,2-Dichloropropane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
2-Butanone	5.0	U	5.0	5.0	20	ug/L	10	26-Dec-2017 19:01
2-Chlorotoluene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
2-Hexanone	10	U	10	10	20	ug/L	10	26-Dec-2017 19:01
4-Chlorotoluene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 19:01
4-Isopropyltoluene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
4-Methyl-2-pentanone	10	U	7.0	10	20	ug/L	10	26-Dec-2017 19:01
Acetone	10	U	4.0	10	20	ug/L	10	26-Dec-2017 19:01
Benzene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Bromobenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Bromochloromethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Bromodichloromethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Bromoform	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Bromomethane	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Carbon disulfide	10	U	6.0	10	20	ug/L	10	26-Dec-2017 19:01
Carbon tetrachloride	5.0	U	5.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Chlorobenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Chloroethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW23_121517-a
Collection Date: 15-Dec-2017 09:10

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Chloromethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
cis-1,2-Dichloroethene	**15**		**2.0**	**5.0**	**10**	**ug/L**	10	26-Dec-2017 19:01
cis-1,3-Dichloropropene	5.0	U	1.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Dibromochloromethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Dibromomethane	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Dichlorodifluoromethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Ethylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Hexachlorobutadiene	10	U	10	10	10	ug/L	10	26-Dec-2017 19:01
Isopropylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
m,p-Xylene	10	U	5.0	10	20	ug/L	10	26-Dec-2017 19:01
Methylene chloride	5.0	U	4.0	5.0	20	ug/L	10	26-Dec-2017 19:01
n-Butylbenzene	5.0	U	4.0	5.0	10	ug/L	10	26-Dec-2017 19:01
n-Propylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Naphthalene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
o-Xylene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
sec-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Styrene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
tert-Butylbenzene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Tetrachloroethene	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Toluene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
trans-1,2-Dichloroethene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
trans-1,3-Dichloropropene	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Trichloroethene	**3,200**		**20**	**50**	**100**	**ug/L**	100	26-Dec-2017 19:29
Trichlorofluoromethane	5.0	U	3.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Vinyl chloride	5.0	U	2.0	5.0	10	ug/L	10	26-Dec-2017 19:01
Surr: 1,2-Dichloroethane-d4	*94.2*			**0**	*81-118*	*%REC*	*10*	*26-Dec-2017 19:01*
Surr: 1,2-Dichloroethane-d4	*91.9*			**0**	*81-118*	*%REC*	*100*	*26-Dec-2017 19:29*
Surr: 4-Bromofluorobenzene	*95.0*			**0**	*85-114*	*%REC*	*100*	*26-Dec-2017 19:29*
Surr: 4-Bromofluorobenzene	*97.5*			**0**	*85-114*	*%REC*	*10*	*26-Dec-2017 19:01*
Surr: Dibromofluoromethane	*98.8*			**0**	*80-119*	*%REC*	*10*	*26-Dec-2017 19:01*
Surr: Dibromofluoromethane	*99.2*			**0**	*80-119*	*%REC*	*100*	*26-Dec-2017 19:29*
Surr: Toluene-d8	*99.2*			**0**	*89-112*	*%REC*	*100*	*26-Dec-2017 19:29*
Surr: Toluene-d8	*98.6*			**0**	*89-112*	*%REC*	*10*	*26-Dec-2017 19:01*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW03SW_121517
Collection Date: 15-Dec-2017 10:10

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,2-Dichloroethane	**4.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Dec-2017 18:43
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:43
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	25-Dec-2017 18:43
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	25-Dec-2017 18:43
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:43
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	25-Dec-2017 18:43
Acetone	**14**		**0.40**	**1.0**	**2.0**	**ug/L**	1	25-Dec-2017 18:43
Benzene	**2.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Dec-2017 18:43
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	25-Dec-2017 18:43
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW03SW_121517
Collection Date: 15-Dec-2017 10:10

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
cis-1,2-Dichloroethene	**7.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Dec-2017 18:43
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Dec-2017 18:43
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Dec-2017 18:43
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	25-Dec-2017 18:43
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 18:43
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
trans-1,2-Dichloroethene	**2.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Dec-2017 18:43
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Trichloroethene	**43**		**0.20**	**0.50**	**1.0**	**ug/L**	1	25-Dec-2017 18:43
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 18:43
Surr: 1,2-Dichloroethane-d4	*93.2*			**0**	*81-118*	*%REC*	*1*	*25-Dec-2017 18:43*
Surr: 4-Bromofluorobenzene	*98.4*			**0**	*85-114*	*%REC*	*1*	*25-Dec-2017 18:43*
Surr: Dibromofluoromethane	*99.5*			**0**	*80-119*	*%REC*	*1*	*25-Dec-2017 18:43*
Surr: Toluene-d8	*95.2*			**0**	*89-112*	*%REC*	*1*	*25-Dec-2017 18:43*

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW03SW_121517
Collection Date: 15-Dec-2017 10:10

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 20-Dec-2017		Analyst: RPM
Aluminum	**0.0241**		**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	21-Dec-2017 13:07
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	21-Dec-2017 13:07
Arsenic	**0.000771**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:07
Barium	**0.157**		**0.00190**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:07
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:07
Cadmium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:07
Calcium	**6.53**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	21-Dec-2017 13:07
Chromium	**0.00872**		**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:07
Cobalt	**0.00113**	J	**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:07
Copper	**0.00159**	J	**0.00100**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:07
Iron	**0.446**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:07
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	21-Dec-2017 13:07
Magnesium	**3.73**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	21-Dec-2017 13:07
Manganese	**0.0159**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:07
Nickel	**0.00724**		**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	21-Dec-2017 13:07
Potassium	**205**		**0.180**	**1.00**	**2.00**	**mg/L**	10	21-Dec-2017 15:36
Selenium	**0.00290**		**0.00110**	**0.00100**	**0.00200**	**mg/L**	1	21-Dec-2017 13:07
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:07
Sodium	**231**		**0.140**	**1.00**	**3.00**	**mg/L**	10	21-Dec-2017 15:36
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	21-Dec-2017 13:07
Vanadium	**0.000943**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	21-Dec-2017 13:07
Zinc	**0.00398**	J	**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	21-Dec-2017 13:07
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 20-Dec-2017		Analyst: JC
Mercury	0.000100	U	0.0000300	0.000100	0.000200	mg/L	1	20-Dec-2017 16:25
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	29-Dec-2017 13:21

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: Trip Blank
Collection Date: 13-Dec-2017 00:00

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-12
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 14:35
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	25-Dec-2017 14:35
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	25-Dec-2017 14:35
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 14:35
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	25-Dec-2017 14:35
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	25-Dec-2017 14:35
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	25-Dec-2017 14:35
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: Trip Blank
Collection Date: 13-Dec-2017 00:00

ANALYTICAL REPORT
WorkOrder:HS17120912
Lab ID:HS17120912-12
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	25-Dec-2017 14:35
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	25-Dec-2017 14:35
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	25-Dec-2017 14:35
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	25-Dec-2017 14:35
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Trichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	25-Dec-2017 14:35
Surr: 1,2-Dichloroethane-d4	*92.0*			**0**	*81-118*	*%REC*	*1*	*25-Dec-2017 14:35*
Surr: 4-Bromofluorobenzene	*97.2*			**0**	*85-114*	*%REC*	*1*	*25-Dec-2017 14:35*
Surr: Dibromofluoromethane	*99.0*			**0**	*80-119*	*%REC*	*1*	*25-Dec-2017 14:35*
Surr: Toluene-d8	*95.0*			**0**	*89-112*	*%REC*	*1*	*25-Dec-2017 14:35*

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

ALS Group USA, Corp Date: 29-Dec-17

WEIGHT LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Batch ID: 123609 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17120912-01	1	10	10 (mL)	1
HS17120912-06	1	10	10 (mL)	1
HS17120912-07	1	10	10 (mL)	1
HS17120912-11	1	10	10 (mL)	1

Batch ID: 123627 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17120912-01	1	10	10 (mL)	1
HS17120912-06	1	10	10 (mL)	1
HS17120912-07	1	10	10 (mL)	1
HS17120912-11	1	10	10 (mL)	1

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 123609	**Test Name :** MERCURY BY SW7470A			**Matrix:** Groundwater		
HS17120912-01	MW9_121317	13 Dec 2017 08:35		20 Dec 2017 09:19	20 Dec 2017 16:17	1
HS17120912-06	18CPTMW22R_121417	14 Dec 2017 09:45		20 Dec 2017 09:19	20 Dec 2017 16:22	1
HS17120912-07	18CPTMW22SW_121417	14 Dec 2017 10:40		20 Dec 2017 09:19	20 Dec 2017 16:23	1
HS17120912-11	18CPTMW03SW_121517	15 Dec 2017 10:10		20 Dec 2017 09:19	20 Dec 2017 16:25	1
Batch ID 123627	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Groundwater		
HS17120912-01	MW9_121317	13 Dec 2017 08:35		20 Dec 2017 12:57	21 Dec 2017 13:01	1
HS17120912-06	18CPTMW22R_121417	14 Dec 2017 09:45		20 Dec 2017 12:57	21 Dec 2017 13:03	1
HS17120912-07	18CPTMW22SW_121417	14 Dec 2017 10:40		20 Dec 2017 12:57	21 Dec 2017 15:34	10
HS17120912-07	18CPTMW22SW_121417	14 Dec 2017 10:40		20 Dec 2017 12:57	21 Dec 2017 13:05	1
HS17120912-11	18CPTMW03SW_121517	15 Dec 2017 10:10		20 Dec 2017 12:57	21 Dec 2017 15:36	10
HS17120912-11	18CPTMW03SW_121517	15 Dec 2017 10:10		20 Dec 2017 12:57	21 Dec 2017 13:07	1
Batch ID R307944	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17120912-12	Trip Blank	13 Dec 2017 00:00			25 Dec 2017 14:35	1
Batch ID R307944	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Groundwater		
HS17120912-01	MW9_121317	13 Dec 2017 08:35			25 Dec 2017 21:37	5
HS17120912-02	MW7_121317	13 Dec 2017 09:30			25 Dec 2017 22:59	50
HS17120912-02	MW7_121317	13 Dec 2017 09:30			25 Dec 2017 22:32	5
HS17120912-04	123_121417	14 Dec 2017 08:10			25 Dec 2017 17:05	1
HS17120912-06	18CPTMW22R_121417	14 Dec 2017 09:45			25 Dec 2017 17:29	1
HS17120912-07	18CPTMW22SW_121417	14 Dec 2017 10:40			25 Dec 2017 17:54	1
HS17120912-08	MW20_121417	14 Dec 2017 11:40			25 Dec 2017 18:18	1
HS17120912-11	18CPTMW03SW_121517	15 Dec 2017 10:10			25 Dec 2017 18:43	1
Batch ID R307985	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Groundwater		
HS17120912-01	MW9_121317	13 Dec 2017 08:35			26 Dec 2017 15:34	1
HS17120912-03	120_121417	14 Dec 2017 07:55			26 Dec 2017 19:53	500
HS17120912-05	109_121417	14 Dec 2017 08:30			26 Dec 2017 17:40	25
HS17120912-05	109_121417	14 Dec 2017 08:30			26 Dec 2017 17:13	1
HS17120912-09	MW23_121517	15 Dec 2017 09:10			26 Dec 2017 18:34	100
HS17120912-09	MW23_121517	15 Dec 2017 09:10			26 Dec 2017 18:07	10
HS17120912-10	MW23_121517-a	15 Dec 2017 09:10			26 Dec 2017 19:29	100
HS17120912-10	MW23_121517-a	15 Dec 2017 09:10			26 Dec 2017 19:01	10
Batch ID R308011	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Groundwater		
HS17120912-03	120_121417	14 Dec 2017 07:55			27 Dec 2017 13:56	50

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R308148	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)	**Matrix:** Groundwater				
HS17120912-01	MW9_121317	13 Dec 2017 08:35			29 Dec 2017 13:21	1
HS17120912-02	MW7_121317	13 Dec 2017 09:30			29 Dec 2017 13:21	1
HS17120912-03	120_121417	14 Dec 2017 07:55			29 Dec 2017 13:21	1
HS17120912-04	123_121417	14 Dec 2017 08:10			29 Dec 2017 13:21	1
HS17120912-05	109_121417	14 Dec 2017 08:30			29 Dec 2017 13:21	1
HS17120912-06	18CPTMW22R_121417	14 Dec 2017 09:45			29 Dec 2017 13:21	1
HS17120912-07	18CPTMW22SW_121417	14 Dec 2017 10:40			29 Dec 2017 13:21	1
HS17120912-08	MW20_121417	14 Dec 2017 11:40			29 Dec 2017 13:21	1
HS17120912-09	MW23_121517	15 Dec 2017 09:10			29 Dec 2017 13:21	1
HS17120912-10	MW23_121517-a	15 Dec 2017 09:10			29 Dec 2017 13:21	1
HS17120912-11	18CPTMW03SW_121517	15 Dec 2017 10:10			29 Dec 2017 13:21	1

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: 123609 **Instrument: HG03** **Method: SW7470**

MBLK Sample ID: **MBLK-123609** Units: **mg/L** Analysis Date: **20-Dec-2017 15:47**
Client ID: Run ID: **HG03_307667** SeqNo: **4361635** PrepDate: **20-Dec-2017** 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

MBLK Sample ID: **GBLKF1-123609** Units: **mg/L** Analysis Date: **20-Dec-2017 15:46**
Client ID: Run ID: **HG03_307667** SeqNo: **4361634** PrepDate: **20-Dec-2017** 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-123609** Units: **mg/L** Analysis Date: **20-Dec-2017 15:49**
Client ID: Run ID: **HG03_307667** SeqNo: **4361636** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00516	0.000200	0.005	0	103	80 - 120				

MS Sample ID: **HS17120912-01MS** Units: **mg/L** Analysis Date: **20-Dec-2017 16:18**
Client ID: **MW9_121317** Run ID: **HG03_307667** SeqNo: **4361651** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.0051	0.000200	0.005	-0.000001	102	75 - 125				

MSD Sample ID: **HS17120912-01MSD** Units: **mg/L** Analysis Date: **20-Dec-2017 16:20**
Client ID: **MW9_121317** Run ID: **HG03_307667** SeqNo: **4361652** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00506	0.000200	0.005	-0.000001	101	75 - 125	0.0051	0.787	20	

The following samples were analyzed in this batch: HS17120912-01 HS17120912-06 HS17120912-07 HS17120912-11

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-123627** Units: **mg/L** Analysis Date: **21-Dec-2017 12:35**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363490** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.002791	0.0100								J
Antimony	0.000429	0.00200								J
Arsenic	0.00100	0.00200								U
Barium	0.00100	0.00400								U
Beryllium	0.00100	0.00200								U
Cadmium	0.00100	0.00200								U
Calcium	0.03601	0.500								J
Chromium	0.00100	0.00400								U
Cobalt	0.00100	0.00500								U
Copper	0.00100	0.00200								U
Iron	0.100	0.200								U
Lead	0.00100	0.00200								U
Magnesium	0.01393	0.200								J
Manganese	0.00100	0.00500								U
Nickel	0.000729	0.00200								J
Selenium	0.00100	0.00200								U
Silver	0.00100	0.00200								U
Sodium	0.05917	0.200								J
Thallium	0.00100	0.00200								U
Vanadium	0.000721	0.00500								J
Zinc	0.00100	0.00400								U

MBLK Sample ID: **MBLK-123627** Units: **mg/L** Analysis Date: **21-Dec-2017 15:28**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363790** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Potassium	0.04949	0.200								J

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

LCS Sample ID: **LCS-123627** Units: **mg/L** Analysis Date: **21-Dec-2017 12:37**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363491** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.08341	0.0100	0.1	0	83.4	80 - 120				
Antimony	0.05244	0.00200	0.05	0	105	80 - 120				
Arsenic	0.04608	0.00200	0.05	0	92.2	80 - 120				
Barium	0.04649	0.00400	0.05	0	93.0	80 - 120				
Beryllium	0.04601	0.00200	0.05	0	92.0	80 - 120				
Cadmium	0.04692	0.00200	0.05	0	93.8	80 - 120				
Calcium	4.341	0.500	5	0	86.8	80 - 120				
Chromium	0.04583	0.00400	0.05	0	91.7	80 - 120				
Cobalt	0.04481	0.00500	0.05	0	89.6	80 - 120				
Copper	0.04697	0.00200	0.05	0	93.9	80 - 120				
Iron	4.4	0.200	5	0	88.0	80 - 120				
Lead	0.05248	0.00200	0.05	0	105	80 - 120				
Magnesium	4.48	0.200	5	0	89.6	80 - 120				
Manganese	0.04571	0.00500	0.05	0	91.4	80 - 120				
Nickel	0.04603	0.00200	0.05	0	92.1	80 - 120				
Potassium	4.425	0.200	5	0	88.5	80 - 120				
Selenium	0.04568	0.00200	0.05	0	91.4	80 - 120				
Silver	0.0456	0.00200	0.05	0	91.2	80 - 120				
Sodium	4.589	0.300	5	0	91.8	80 - 120				
Thallium	0.0458	0.00200	0.05	0	91.6	80 - 120				
Vanadium	0.04561	0.00500	0.05	0	91.2	80 - 120				
Zinc	0.05152	0.00400	0.05	0	103	80 - 120				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

MS Sample ID: **HS17120868-07MS** Units: **mg/L** Analysis Date: **21-Dec-2017 12:45**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363495** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.08563	0.0100	0.1	0.01106	74.6	80 - 120				S
Antimony	0.05272	0.00200	0.05	0.000501	104	80 - 120				
Arsenic	0.04762	0.00200	0.05	0.00139	92.5	80 - 120				
Barium	0.1195	0.00400	0.05	0.07434	90.4	80 - 120				
Beryllium	0.05972	0.00200	0.05	0.000002	119	80 - 120				
Cadmium	0.0456	0.00200	0.05	-0.000006	91.2	80 - 120				
Calcium	7.91	0.500	5	3.698	84.3	80 - 120				
Chromium	0.04437	0.00400	0.05	0.000088	88.6	80 - 120				
Cobalt	0.04496	0.00500	0.05	0.000032	89.9	80 - 120				
Copper	0.04624	0.00200	0.05	0.001	90.5	80 - 120				
Iron	4.561	0.200	5	0.2111	87.0	80 - 120				
Lead	0.04476	0.00200	0.05	0.000034	89.5	80 - 120				
Magnesium	7.761	0.200	5	3.373	87.8	80 - 120				
Manganese	0.0482	0.00500	0.05	0.005167	86.1	80 - 120				
Nickel	0.04554	0.00200	0.05	0.001236	88.6	80 - 120				
Potassium	81.21	0.200	5	76.24	99.5	80 - 120				O
Selenium	0.04696	0.00200	0.05	0.000893	92.1	80 - 120				
Silver	0.04277	0.00200	0.05	0.000001	85.5	80 - 120				
Sodium	166.8	0.300	5	154.6	243	80 - 120				SO
Thallium	0.04343	0.00200	0.05	0.000009	86.8	80 - 120				
Vanadium	0.04509	0.00500	0.05	0.000734	88.7	80 - 120				
Zinc	0.05157	0.00400	0.05	0.003049	97.0	80 - 120				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

MSD Sample ID: **HS17120868-07MSD** Units: **mg/L** Analysis Date: **21-Dec-2017 12:47**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363496** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.08567	0.0100	0.1	0.01106	74.6	80 - 120	0.08563	0.0432	20	S
Antimony	0.05179	0.00200	0.05	0.000501	103	80 - 120	0.05272	1.78	20	
Arsenic	0.04748	0.00200	0.05	0.00139	92.2	80 - 120	0.04762	0.28	20	
Barium	0.1148	0.00400	0.05	0.07434	80.8	80 - 120	0.1195	4.06	20	
Beryllium	0.05882	0.00200	0.05	0.000002	118	80 - 120	0.05972	1.52	20	
Cadmium	0.04446	0.00200	0.05	-0.000006	88.9	80 - 120	0.0456	2.53	20	
Calcium	7.663	0.500	5	3.698	79.3	80 - 120	7.91	3.17	20	S
Chromium	0.04327	0.00400	0.05	0.000088	86.4	80 - 120	0.04437	2.5	20	
Cobalt	0.04391	0.00500	0.05	0.000032	87.8	80 - 120	0.04496	2.36	20	
Copper	0.04438	0.00200	0.05	0.001	86.8	80 - 120	0.04624	4.1	20	
Iron	4.56	0.200	5	0.2111	87.0	80 - 120	4.561	0.0164	20	
Lead	0.0435	0.00200	0.05	0.000034	86.9	80 - 120	0.04476	2.87	20	
Magnesium	7.403	0.200	5	3.373	80.6	80 - 120	7.761	4.72	20	
Manganese	0.0477	0.00500	0.05	0.005167	85.1	80 - 120	0.0482	1.02	20	
Nickel	0.04462	0.00200	0.05	0.001236	86.8	80 - 120	0.04554	2.05	20	
Potassium	76.97	0.200	5	76.24	14.6	80 - 120	81.21	5.37	20	SO
Selenium	0.04557	0.00200	0.05	0.000893	89.4	80 - 120	0.04696	3	20	
Silver	0.04207	0.00200	0.05	0.000001	84.1	80 - 120	0.04277	1.66	20	
Sodium	153.6	0.300	5	154.6	-20.2	80 - 120	166.8	8.21	20	SO
Thallium	0.0418	0.00200	0.05	0.000009	83.6	80 - 120	0.04343	3.84	20	
Vanadium	0.04428	0.00500	0.05	0.000734	87.1	80 - 120	0.04509	1.8	20	
Zinc	0.04994	0.00400	0.05	0.003049	93.8	80 - 120	0.05157	3.23	20	

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

PDS Sample ID: **HS17120868-07PDS** Units: **mg/L** Analysis Date: **21-Dec-2017 12:49**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363497** PrepDate: **20-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.07661	0.0100	0.1	0.01106	65.6	75 - 125				S
Antimony	0.08385	0.00200	0.1	0.000501	83.3	75 - 125				
Arsenic	0.08422	0.00200	0.1	0.00139	82.8	75 - 125				
Barium	0.1537	0.00400	0.1	0.07434	79.4	75 - 125				
Beryllium	0.1014	0.00200	0.1	0.000002	101	75 - 125				
Cadmium	0.07904	0.00200	0.1	-0.000006	79.0	75 - 125				
Calcium	11.04	0.500	10	3.698	73.4	75 - 125				S
Chromium	0.07831	0.00400	0.1	0.000088	78.2	75 - 125				
Cobalt	0.0789	0.00500	0.1	0.000032	78.9	75 - 125				
Copper	0.07834	0.00200	0.1	0.001	77.3	75 - 125				
Iron	7.899	0.200	10	0.2111	76.9	75 - 125				
Lead	0.07625	0.00200	0.1	0.000034	76.2	75 - 125				
Magnesium	10.99	0.200	10	3.373	76.2	75 - 125				
Manganese	0.08203	0.00500	0.1	0.005167	76.9	75 - 125				
Nickel	0.07857	0.00200	0.1	0.001236	77.3	75 - 125				
Potassium	82.09	0.200	10	76.24	58.5	75 - 125				SO
Selenium	0.07849	0.00200	0.1	0.000893	77.6	75 - 125				
Sodium	163.2	0.300	10	154.6	85.3	75 - 125				O
Thallium	0.07639	0.00200	0.1	0.000009	76.4	75 - 125				
Vanadium	0.07956	0.00500	0.1	0.000734	78.8	75 - 125				
Zinc	0.08614	0.00400	0.1	0.003049	83.1	75 - 125				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: 123627 **Instrument: ICPMS05** **Method: SW6020**

SD Sample ID: **HS17120868-07SD** Units: **mg/L** Analysis Date: **21-Dec-2017 12:43**
Client ID: Run ID: **ICPMS05_307676** SeqNo: **4363494** PrepDate: **20-Dec-2017** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.01814	0.0500					0.01106	0	10	J
Antimony	0.00500	0.0100					0.000501	0	10	U
Arsenic	0.00500	0.0100					0.00139	0	10	U
Barium	0.0736	0.0200					0.07434	0.986	10	
Beryllium	0.00500	0.0100					0.000002	0	10	U
Cadmium	0.00500	0.0100					-0.000006	0	10	U
Calcium	3.568	2.50					3.698	3.49	10	
Chromium	0.00500	0.0200					0.000088	0	10	U
Cobalt	0.00500	0.0250					0.000032	0	10	U
Copper	0.00500	0.0100					0.001	0	10	U
Iron	0.217	1.00					0.2111	0	10	J
Lead	0.00500	0.0100					0.000034	0	10	U
Magnesium	3.494	1.00					3.373	3.59	10	
Manganese	0.005238	0.0250					0.005167	0	10	J
Nickel	0.003927	0.0100					0.001236	0	10	J
Potassium	78.31	1.00					76.24	2.72	10	
Selenium	0.00500	0.0100					0.000893	0	10	U
Silver	0.00500	0.0100					0.000001	0	10	U
Sodium	162.9	1.50					154.6	5.38	10	
Thallium	0.00500	0.0100					0.000009	0	10	U
Vanadium	0.003562	0.0250					0.000734	0	10	J
Zinc	0.00500	0.0200					0.003049	0	10	U

The following samples were analyzed in this batch: HS17120912-01 HS17120912-06 HS17120912-07 HS17120912-11

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171225** Units: **ug/L** Analysis Date: **25-Dec-2017 14:10**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368057** PrepDate: DF: **1**

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

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171225** Units: **ug/L** Analysis Date: **25-Dec-2017 14:10**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368057** 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	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	0.50	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.81*	*1.0*	*50*	*0*	*91.6*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.34*	*1.0*	*50*	*0*	*98.7*	*85 - 114*				
Surr: Dibromofluoromethane	*49.23*	*1.0*	*50*	*0*	*98.5*	*80 - 119*				
Surr: Toluene-d8	*47.87*	*1.0*	*50*	*0*	*95.7*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171226** Units: **ug/L** Analysis Date: **25-Dec-2017 12:57**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368054** 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	50.84	1.0	50	0	102	78 - 124				
1,1,1-Trichloroethane	51.57	1.0	50	0	103	74 - 131				
1,1,2,2-Tetrachloroethane	44.14	1.0	50	0	88.3	71 - 121				
1,1,2-Trichloroethane	49.92	1.0	50	0	99.8	80 - 119				
1,1-Dichloroethane	50.34	1.0	50	0	101	77 - 125				
1,1-Dichloroethene	55.34	1.0	50	0	111	71 - 131				
1,1-Dichloropropene	55.55	1.0	50	0	111	79 - 125				
1,2,3-Trichlorobenzene	53.74	1.0	50	0	107	69 - 129				
1,2,3-Trichloropropane	46.07	1.0	50	0	92.1	73 - 122				
1,2,4-Trichlorobenzene	54.4	1.0	50	0	109	69 - 130				
1,2,4-Trimethylbenzene	43.84	1.0	50	0	87.7	76 - 124				
1,2-Dibromo-3-chloropropane	45.2	1.0	50	0	90.4	62 - 128				
1,2-Dibromoethane	51.49	1.0	50	0	103	77 - 121				
1,2-Dichlorobenzene	46.1	1.0	50	0	92.2	80 - 119				
1,2-Dichloroethane	53.58	1.0	50	0	107	73 - 128				
1,2-Dichloropropane	50.29	1.0	50	0	101	78 - 122				
1,3,5-Trimethylbenzene	44.43	1.0	50	0	88.9	75 - 124				
1,3-Dichlorobenzene	46.2	1.0	50	0	92.4	80 - 119				
1,3-Dichloropropane	48.87	1.0	50	0	97.7	80 - 119				
1,4-Dichlorobenzene	46.3	1.0	50	0	92.6	79 - 118				
2,2-Dichloropropane	54.44	1.0	50	0	109	60 - 139				
2-Butanone	99.24	2.0	100	0	99.2	56 - 143				
2-Chlorotoluene	44.06	1.0	50	0	88.1	79 - 122				
2-Hexanone	99.92	2.0	100	0	99.9	57 - 139				
4-Chlorotoluene	44.55	1.0	50	0	89.1	78 - 122				
4-Isopropyltoluene	46.5	1.0	50	0	93.0	77 - 127				
4-Methyl-2-pentanone	98.67	2.0	100	0	98.7	67 - 130				
Acetone	100.1	2.0	100	0	100	39 - 160				
Benzene	51.12	1.0	50	0	102	79 - 120				
Bromobenzene	45.04	1.0	50	0	90.1	80 - 120				
Bromochloromethane	53.35	1.0	50	0	107	78 - 123				
Bromodichloromethane	51.84	1.0	50	0	104	79 - 125				
Bromoform	52.98	1.0	50	0	106	66 - 130				
Bromomethane	57.88	1.0	50	0	116	53 - 141				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171226** Units: **ug/L** Analysis Date: **25-Dec-2017 12:57**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368054** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	107.1	2.0	100	0	107	64 - 133				
Carbon tetrachloride	43.41	1.0	50	0	86.8	72 - 136				
Chlorobenzene	49.26	1.0	50	0	98.5	80 - 120				
Chloroethane	46.98	1.0	50	0	94.0	82 - 118				
Chloroform	49.83	1.0	50	0	99.7	79 - 124				
Chloromethane	56.56	1.0	50	0	113	50 - 139				
cis-1,2-Dichloroethene	50.85	1.0	50	0	102	78 - 123				
cis-1,3-Dichloropropene	54.88	1.0	50	0	110	75 - 124				
Dibromochloromethane	51.55	1.0	50	0	103	74 - 126				
Dibromomethane	53.68	1.0	50	0	107	79 - 123				
Dichlorodifluoromethane	56.15	1.0	50	0	112	32 - 152				
Ethylbenzene	49.13	1.0	50	0	98.3	79 - 121				
Hexachlorobutadiene	50.85	1.0	50	0	102	66 - 134				
Isopropylbenzene	50.22	1.0	50	0	100	72 - 131				
m,p-Xylene	98.09	2.0	100	0	98.1	80 - 121				
Methylene chloride	48.62	2.0	50	0	97.2	74 - 124				
Naphthalene	50.26	1.0	50	0	101	61 - 128				
n-Butylbenzene	49.32	1.0	50	0	98.6	75 - 128				
n-Propylbenzene	45.68	1.0	50	0	91.4	76 - 126				
o-Xylene	49.4	1.0	50	0	98.8	78 - 122				
sec-Butylbenzene	46.97	1.0	50	0	93.9	77 - 126				
Styrene	51.06	1.0	50	0	102	78 - 128				
tert-Butylbenzene	45.6	1.0	50	0	91.2	78 - 124				
Tetrachloroethene	54.75	1.0	50	0	110	74 - 129				
Toluene	49.23	1.0	50	0	98.5	80 - 121				
trans-1,2-Dichloroethene	54.28	1.0	50	0	109	75 - 124				
trans-1,3-Dichloropropene	55.57	1.0	50	0	111	73 - 127				
Trichloroethene	52.42	1.0	50	0	105	79 - 123				
Trichlorofluoromethane	55.22	1.0	50	0	110	65 - 141				
Vinyl chloride	54.72	1.0	50	0	109	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.26*	*1.0*	*50*	*0*	*94.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.97*	*1.0*	*50*	*0*	*99.9*	*85 - 114*				
Surr: Dibromofluoromethane	*46.99*	*1.0*	*50*	*0*	*94.0*	*80 - 119*				
Surr: Toluene-d8	*46.86*	*1.0*	*50*	*0*	*93.7*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

LCSD Sample ID: **VLCSDW-171225** Units: **ug/L** Analysis Date: **25-Dec-2017 13:21**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368055** 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	48.78	1.0	50	0	97.6	78 - 124	50.84	4.15	20	
1,1,1-Trichloroethane	48.39	1.0	50	0	96.8	74 - 131	51.57	6.36	20	
1,1,2,2-Tetrachloroethane	41.72	1.0	50	0	83.4	71 - 121	44.14	5.64	20	
1,1,2-Trichloroethane	47.72	1.0	50	0	95.4	80 - 119	49.92	4.49	20	
1,1-Dichloroethane	48.02	1.0	50	0	96.0	77 - 125	50.34	4.72	20	
1,1-Dichloroethene	50.74	1.0	50	0	101	71 - 131	55.34	8.67	20	
1,1-Dichloropropene	52.9	1.0	50	0	106	79 - 125	55.55	4.89	20	
1,2,3-Trichlorobenzene	51.63	1.0	50	0	103	69 - 129	53.74	4.01	20	
1,2,3-Trichloropropane	43.91	1.0	50	0	87.8	73 - 122	46.07	4.8	20	
1,2,4-Trichlorobenzene	52.59	1.0	50	0	105	69 - 130	54.4	3.37	20	
1,2,4-Trimethylbenzene	42.19	1.0	50	0	84.4	76 - 124	43.84	3.85	20	
1,2-Dibromo-3-chloropropane	41.85	1.0	50	0	83.7	62 - 128	45.2	7.7	20	
1,2-Dibromoethane	48.81	1.0	50	0	97.6	77 - 121	51.49	5.34	20	
1,2-Dichlorobenzene	44.2	1.0	50	0	88.4	80 - 119	46.1	4.2	20	
1,2-Dichloroethane	51.3	1.0	50	0	103	73 - 128	53.58	4.34	20	
1,2-Dichloropropane	48.62	1.0	50	0	97.2	78 - 122	50.29	3.39	20	
1,3,5-Trimethylbenzene	42.23	1.0	50	0	84.5	75 - 124	44.43	5.09	20	
1,3-Dichlorobenzene	43.95	1.0	50	0	87.9	80 - 119	46.2	4.99	20	
1,3-Dichloropropane	46.9	1.0	50	0	93.8	80 - 119	48.87	4.12	20	
1,4-Dichlorobenzene	44.11	1.0	50	0	88.2	79 - 118	46.3	4.84	20	
2,2-Dichloropropane	50.68	1.0	50	0	101	60 - 139	54.44	7.14	20	
2-Butanone	91.94	2.0	100	0	91.9	56 - 143	99.24	7.64	20	
2-Chlorotoluene	41.71	1.0	50	0	83.4	79 - 122	44.06	5.49	20	
2-Hexanone	91.45	2.0	100	0	91.5	57 - 139	99.92	8.86	20	
4-Chlorotoluene	42.37	1.0	50	0	84.7	78 - 122	44.55	5.01	20	
4-Isopropyltoluene	44.19	1.0	50	0	88.4	77 - 127	46.5	5.09	20	
4-Methyl-2-pentanone	89.79	2.0	100	0	89.8	67 - 130	98.67	9.42	20	
Acetone	91.17	2.0	100	0	91.2	39 - 160	100.1	9.29	20	
Benzene	49.52	1.0	50	0	99.0	79 - 120	51.12	3.18	20	
Bromobenzene	43.77	1.0	50	0	87.5	80 - 120	45.04	2.87	20	
Bromochloromethane	50.85	1.0	50	0	102	78 - 123	53.35	4.8	20	
Bromodichloromethane	50.41	1.0	50	0	101	79 - 125	51.84	2.8	20	
Bromoform	50.61	1.0	50	0	101	66 - 130	52.98	4.59	20	
Bromomethane	54.08	1.0	50	0	108	53 - 141	57.88	6.79	20	

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

LCSD Sample ID: **VLCSDW-171225** Units: **ug/L** Analysis Date: **25-Dec-2017 13:21**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368055** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	102.1	2.0	100	0	102	64 - 133	107.1	4.75	20	
Carbon tetrachloride	42.78	1.0	50	0	85.6	72 - 136	43.41	1.47	20	
Chlorobenzene	47.36	1.0	50	0	94.7	80 - 120	49.26	3.92	20	
Chloroethane	45.06	1.0	50	0	90.1	82 - 118	46.98	4.18	20	
Chloroform	47.53	1.0	50	0	95.1	79 - 124	49.83	4.73	20	
Chloromethane	53.78	1.0	50	0	108	50 - 139	56.56	5.04	20	
cis-1,2-Dichloroethene	49.2	1.0	50	0	98.4	78 - 123	50.85	3.29	20	
cis-1,3-Dichloropropene	54.02	1.0	50	0	108	75 - 124	54.88	1.58	20	
Dibromochloromethane	49.19	1.0	50	0	98.4	74 - 126	51.55	4.69	20	
Dibromomethane	52.52	1.0	50	0	105	79 - 123	53.68	2.2	20	
Dichlorodifluoromethane	53.85	1.0	50	0	108	32 - 152	56.15	4.2	20	
Ethylbenzene	46.69	1.0	50	0	93.4	79 - 121	49.13	5.09	20	
Hexachlorobutadiene	48.16	1.0	50	0	96.3	66 - 134	50.85	5.43	20	
Isopropylbenzene	47.58	1.0	50	0	95.2	72 - 131	50.22	5.41	20	
m,p-Xylene	94.08	2.0	100	0	94.1	80 - 121	98.09	4.17	20	
Methylene chloride	46.61	2.0	50	0	93.2	74 - 124	48.62	4.22	20	
Naphthalene	48.34	1.0	50	0	96.7	61 - 128	50.26	3.9	20	
n-Butylbenzene	47.01	1.0	50	0	94.0	75 - 128	49.32	4.79	20	
n-Propylbenzene	43.25	1.0	50	0	86.5	76 - 126	45.68	5.46	20	
o-Xylene	47.44	1.0	50	0	94.9	78 - 122	49.4	4.04	20	
sec-Butylbenzene	44.47	1.0	50	0	88.9	77 - 126	46.97	5.45	20	
Styrene	49.17	1.0	50	0	98.3	78 - 128	51.06	3.78	20	
tert-Butylbenzene	43.19	1.0	50	0	86.4	78 - 124	45.6	5.41	20	
Tetrachloroethene	51.67	1.0	50	0	103	74 - 129	54.75	5.79	20	
Toluene	46.71	1.0	50	0	93.4	80 - 121	49.23	5.27	20	
trans-1,2-Dichloroethene	53.96	1.0	50	0	108	75 - 124	54.28	0.59	20	
trans-1,3-Dichloropropene	54.68	1.0	50	0	109	73 - 127	55.57	1.62	20	
Trichloroethene	50.14	1.0	50	0	100	79 - 123	52.42	4.45	20	
Trichlorofluoromethane	51.95	1.0	50	0	104	65 - 141	55.22	6.11	20	
Vinyl chloride	50.83	1.0	50	0	102	58 - 137	54.72	7.37	20	
Surr: 1,2-Dichloroethane-d4	*47.24*	*1.0*	*50*	*0*	*94.5*	*81 - 118*	*47.26*	*0.0601*	*20*	
Surr: 4-Bromofluorobenzene	*49.97*	*1.0*	*50*	*0*	*99.9*	*85 - 114*	*49.97*	*0.00157*	*20*	
Surr: Dibromofluoromethane	*47.59*	*1.0*	*50*	*0*	*95.2*	*80 - 119*	*46.99*	*1.26*	*20*	
Surr: Toluene-d8	*46.67*	*1.0*	*50*	*0*	*93.3*	*89 - 112*	*46.86*	*0.415*	*20*	

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17120844-03MS** Units: **ug/L** Analysis Date: **25-Dec-2017 15:48**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368061** 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	46.75	1.0	50	0	93.5	78 - 124				
1,1,1-Trichloroethane	48.57	1.0	50	0	97.1	74 - 131				
1,1,2,2-Tetrachloroethane	43.87	1.0	50	0	87.7	71 - 121				
1,1,2-Trichloroethane	45.95	1.0	50	0	91.9	80 - 119				
1,1-Dichloroethane	46.59	1.0	50	0	93.2	77 - 125				
1,1-Dichloroethene	50.48	1.0	50	0	101	71 - 131				
1,1-Dichloropropene	50.97	1.0	50	0	102	79 - 125				
1,2,3-Trichlorobenzene	46.77	1.0	50	0	93.5	69 - 129				
1,2,3-Trichloropropane	45.31	1.0	50	0	90.6	73 - 122				
1,2,4-Trichlorobenzene	47.2	1.0	50	0	94.4	69 - 130				
1,2,4-Trimethylbenzene	40.11	1.0	50	0	80.2	76 - 124				
1,2-Dibromo-3-chloropropane	47.34	1.0	50	0	94.7	62 - 128				
1,2-Dibromoethane	47.44	1.0	50	0	94.9	77 - 121				
1,2-Dichlorobenzene	42.28	1.0	50	0	84.6	80 - 119				
1,2-Dichloroethane	48.22	1.0	50	0	96.4	73 - 128				
1,2-Dichloropropane	45.54	1.0	50	0	91.1	78 - 122				
1,3,5-Trimethylbenzene	41.06	1.0	50	0	82.1	75 - 124				
1,3-Dichlorobenzene	41.97	1.0	50	0	83.9	80 - 119				
1,3-Dichloropropane	45.72	1.0	50	0	91.4	80 - 119				
1,4-Dichlorobenzene	41.69	1.0	50	0	83.4	79 - 118				
2,2-Dichloropropane	47.93	1.0	50	0	95.9	60 - 139				
2-Butanone	96.8	2.0	100	0	96.8	56 - 143				
2-Chlorotoluene	40.71	1.0	50	0	81.4	79 - 122				
2-Hexanone	111.9	2.0	100	0	112	57 - 139				
4-Chlorotoluene	40.73	1.0	50	0	81.5	78 - 122				
4-Isopropyltoluene	42.13	1.0	50	0	84.3	77 - 127				
4-Methyl-2-pentanone	111	2.0	100	0	111	67 - 130				
Acetone	98.09	2.0	100	0	98.1	39 - 160				
Benzene	47.55	1.0	50	0.3879	94.3	79 - 120				
Bromobenzene	42.1	1.0	50	0	84.2	80 - 120				
Bromochloromethane	47.76	1.0	50	0	95.5	78 - 123				
Bromodichloromethane	46.04	1.0	50	0	92.1	79 - 125				
Bromoform	50.11	1.0	50	0	100	66 - 130				
Bromomethane	50.2	1.0	50	0	100	53 - 141				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17120844-03MS** Units: **ug/L** Analysis Date: **25-Dec-2017 15:48**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368061** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	96.2	2.0	100	0	96.2	64 - 133				
Carbon tetrachloride	42.47	1.0	50	0	84.9	72 - 136				
Chlorobenzene	44.94	1.0	50	0	89.9	80 - 120				
Chloroethane	42.55	1.0	50	0	85.1	82 - 118				
Chloroform	45.31	1.0	50	0	90.6	79 - 124				
Chloromethane	44.03	1.0	50	0	88.1	50 - 139				
cis-1,2-Dichloroethene	46.03	1.0	50	0	92.1	78 - 123				
cis-1,3-Dichloropropene	48.95	1.0	50	0	97.9	75 - 124				
Dibromochloromethane	47.2	1.0	50	0	94.4	74 - 126				
Dibromomethane	48.54	1.0	50	0	97.1	79 - 123				
Dichlorodifluoromethane	29.29	1.0	50	0	58.6	32 - 152				
Ethylbenzene	45.1	1.0	50	0	90.2	79 - 121				
Hexachlorobutadiene	43.84	1.0	50	0	87.7	66 - 134				
Isopropylbenzene	46.55	1.0	50	0	93.1	72 - 131				
m,p-Xylene	90.45	2.0	100	0	90.4	80 - 121				
Methylene chloride	43.95	2.0	50	0	87.9	74 - 124				
Naphthalene	49.04	1.0	50	0	98.1	61 - 128				
n-Butylbenzene	43.15	1.0	50	0	86.3	75 - 128				
n-Propylbenzene	42.09	1.0	50	0	84.2	76 - 126				
o-Xylene	46.09	1.0	50	0	92.2	78 - 122				
sec-Butylbenzene	42.79	1.0	50	0	85.6	77 - 126				
Styrene	46	1.0	50	0	92.0	78 - 128				
tert-Butylbenzene	42.32	1.0	50	0	84.6	78 - 124				
Tetrachloroethene	51.54	1.0	50	0	103	74 - 129				
Toluene	45.8	1.0	50	0	91.6	80 - 121				
trans-1,2-Dichloroethene	50.93	1.0	50	0	102	75 - 124				
trans-1,3-Dichloropropene	49.15	1.0	50	0	98.3	73 - 127				
Trichloroethene	47.74	1.0	50	0	95.5	79 - 123				
Trichlorofluoromethane	50.68	1.0	50	0	101	65 - 141				
Vinyl chloride	46.28	1.0	50	0	92.6	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.36*	*1.0*	*50*	*0*	*96.7*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.67*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*48.34*	*1.0*	*50*	*0*	*96.7*	*80 - 119*				
Surr: Toluene-d8	*47.52*	*1.0*	*50*	*0*	*95.0*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17120844-03MSD** Units: **ug/L** Analysis Date: **25-Dec-2017 16:13**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368062** 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	46.84	1.0	50	0	93.7	78 - 124	46.75	0.196	20	
1,1,1-Trichloroethane	47.72	1.0	50	0	95.4	74 - 131	48.57	1.77	20	
1,1,2,2-Tetrachloroethane	44.22	1.0	50	0	88.4	71 - 121	43.87	0.797	20	
1,1,2-Trichloroethane	46.46	1.0	50	0	92.9	80 - 119	45.95	1.1	20	
1,1-Dichloroethane	45.62	1.0	50	0	91.2	77 - 125	46.59	2.1	20	
1,1-Dichloroethene	48.39	1.0	50	0	96.8	71 - 131	50.48	4.22	20	
1,1-Dichloropropene	50.38	1.0	50	0	101	79 - 125	50.97	1.17	20	
1,2,3-Trichlorobenzene	47.15	1.0	50	0	94.3	69 - 129	46.77	0.794	20	
1,2,3-Trichloropropane	46.22	1.0	50	0	92.4	73 - 122	45.31	2	20	
1,2,4-Trichlorobenzene	46.34	1.0	50	0	92.7	69 - 130	47.2	1.83	20	
1,2,4-Trimethylbenzene	39.11	1.0	50	0	78.2	76 - 124	40.11	2.51	20	
1,2-Dibromo-3-chloropropane	48.91	1.0	50	0	97.8	62 - 128	47.34	3.27	20	
1,2-Dibromoethane	48.32	1.0	50	0	96.6	77 - 121	47.44	1.83	20	
1,2-Dichlorobenzene	40.76	1.0	50	0	81.5	80 - 119	42.28	3.67	20	
1,2-Dichloroethane	48.93	1.0	50	0	97.9	73 - 128	48.22	1.46	20	
1,2-Dichloropropane	46.35	1.0	50	0	92.7	78 - 122	45.54	1.75	20	
1,3,5-Trimethylbenzene	39.51	1.0	50	0	79.0	75 - 124	41.06	3.85	20	
1,3-Dichlorobenzene	40.75	1.0	50	0	81.5	80 - 119	41.97	2.94	20	
1,3-Dichloropropane	45.8	1.0	50	0	91.6	80 - 119	45.72	0.155	20	
1,4-Dichlorobenzene	40.24	1.0	50	0	80.5	79 - 118	41.69	3.53	20	
2,2-Dichloropropane	46.63	1.0	50	0	93.3	60 - 139	47.93	2.74	20	
2-Butanone	101.5	2.0	100	0	101	56 - 143	96.8	4.71	20	
2-Chlorotoluene	39.17	1.0	50	0	78.3	79 - 122	40.71	3.85	20	S
2-Hexanone	120.5	2.0	100	0	121	57 - 139	111.9	7.41	20	
4-Chlorotoluene	39.42	1.0	50	0	78.8	78 - 122	40.73	3.27	20	
4-Isopropyltoluene	40.33	1.0	50	0	80.7	77 - 127	42.13	4.36	20	
4-Methyl-2-pentanone	116.1	2.0	100	0	116	67 - 130	111	4.5	20	
Acetone	104.3	2.0	100	0	104	39 - 160	98.09	6.15	20	
Benzene	46.71	1.0	50	0.3879	92.6	79 - 120	47.55	1.79	20	
Bromobenzene	40.48	1.0	50	0	81.0	80 - 120	42.1	3.92	20	
Bromochloromethane	46.88	1.0	50	0	93.8	78 - 123	47.76	1.88	20	
Bromodichloromethane	46.13	1.0	50	0	92.3	79 - 125	46.04	0.197	20	
Bromoform	50.18	1.0	50	0	100	66 - 130	50.11	0.151	20	
Bromomethane	50.02	1.0	50	0	100	53 - 141	50.2	0.352	20	

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17120844-03MSD** Units: **ug/L** Analysis Date: **25-Dec-2017 16:13**
Client ID: Run ID: **VOA2_307944** SeqNo: **4368062** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	95.06	2.0	100	0	95.1	64 - 133	96.2	1.2	20	
Carbon tetrachloride	40.76	1.0	50	0	81.5	72 - 136	42.47	4.12	20	
Chlorobenzene	44.42	1.0	50	0	88.8	80 - 120	44.94	1.17	20	
Chloroethane	41.32	1.0	50	0	82.6	82 - 118	42.55	2.93	20	
Chloroform	44.92	1.0	50	0	89.8	79 - 124	45.31	0.856	20	
Chloromethane	43.5	1.0	50	0	87.0	50 - 139	44.03	1.21	20	
cis-1,2-Dichloroethene	45.93	1.0	50	0	91.9	78 - 123	46.03	0.214	20	
cis-1,3-Dichloropropene	49.68	1.0	50	0	99.4	75 - 124	48.95	1.47	20	
Dibromochloromethane	47.04	1.0	50	0	94.1	74 - 126	47.2	0.348	20	
Dibromomethane	50.03	1.0	50	0	100	79 - 123	48.54	3.02	20	
Dichlorodifluoromethane	28.5	1.0	50	0	57.0	32 - 152	29.29	2.76	20	
Ethylbenzene	44.31	1.0	50	0	88.6	79 - 121	45.1	1.77	20	
Hexachlorobutadiene	44.11	1.0	50	0	88.2	66 - 134	43.84	0.615	20	
Isopropylbenzene	45.52	1.0	50	0	91.0	72 - 131	46.55	2.24	20	
m,p-Xylene	88.21	2.0	100	0	88.2	80 - 121	90.45	2.5	20	
Methylene chloride	43.16	2.0	50	0	86.3	74 - 124	43.95	1.8	20	
Naphthalene	50.22	1.0	50	0	100	61 - 128	49.04	2.38	20	
n-Butylbenzene	41.99	1.0	50	0	84.0	75 - 128	43.15	2.74	20	
n-Propylbenzene	40.82	1.0	50	0	81.6	76 - 126	42.09	3.05	20	
o-Xylene	45.08	1.0	50	0	90.2	78 - 122	46.09	2.23	20	
sec-Butylbenzene	41.28	1.0	50	0	82.6	77 - 126	42.79	3.6	20	
Styrene	45.24	1.0	50	0	90.5	78 - 128	46	1.67	20	
tert-Butylbenzene	41.08	1.0	50	0	82.2	78 - 124	42.32	2.99	20	
Tetrachloroethene	50.19	1.0	50	0	100	74 - 129	51.54	2.67	20	
Toluene	45.09	1.0	50	0	90.2	80 - 121	45.8	1.58	20	
trans-1,2-Dichloroethene	49.39	1.0	50	0	98.8	75 - 124	50.93	3.07	20	
trans-1,3-Dichloropropene	50.19	1.0	50	0	100	73 - 127	49.15	2.1	20	
Trichloroethene	47.08	1.0	50	0	94.2	79 - 123	47.74	1.39	20	
Trichlorofluoromethane	50.36	1.0	50	0	101	65 - 141	50.68	0.622	20	
Vinyl chloride	46.02	1.0	50	0	92.0	58 - 137	46.28	0.578	20	
Surr: 1,2-Dichloroethane-d4	*48.68*	*1.0*	*50*	*0*	*97.4*	*81 - 118*	*48.36*	*0.663*	*20*	
Surr: 4-Bromofluorobenzene	*50.63*	*1.0*	*50*	*0*	*101*	*85 - 114*	*50.67*	*0.0761*	*20*	
Surr: Dibromofluoromethane	*47.84*	*1.0*	*50*	*0*	*95.7*	*80 - 119*	*48.34*	*1.06*	*20*	
Surr: Toluene-d8	*47.13*	*1.0*	*50*	*0*	*94.3*	*89 - 112*	*47.52*	*0.813*	*20*	

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307944 **Instrument: VOA2** **Method: SW8260**

The following samples were analyzed in this batch:				
	HS17120912-01	HS17120912-02	HS17120912-04	HS17120912-06
	HS17120912-07	HS17120912-08	HS17120912-11	HS17120912-12

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307985 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171226** Units: **ug/L** Analysis Date: **26-Dec-2017 12:18**
Client ID: Run ID: **VOA2_307985** SeqNo: **4369060** PrepDate: DF: **1**

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

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307985 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171226** Units: **ug/L** Analysis Date: **26-Dec-2017 12:18**
Client ID: Run ID: **VOA2_307985** SeqNo: **4369060** 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	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	0.50	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.98*	*1.0*	*50*	*0*	*92.0*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*47.19*	*1.0*	*50*	*0*	*94.4*	*85 - 114*				
Surr: Dibromofluoromethane	*49.1*	*1.0*	*50*	*0*	*98.2*	*80 - 119*				
Surr: Toluene-d8	*49.61*	*1.0*	*50*	*0*	*99.2*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307985 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171226** Units: **ug/L** Analysis Date: **26-Dec-2017 11:29**
Client ID: Run ID: **VOA2_307985** SeqNo: **4369058** 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	50.03	1.0	50	0	100	78 - 124				
1,1,1-Trichloroethane	49.77	1.0	50	0	99.5	74 - 131				
1,1,2,2-Tetrachloroethane	43.23	1.0	50	0	86.5	71 - 121				
1,1,2-Trichloroethane	49.14	1.0	50	0	98.3	80 - 119				
1,1-Dichloroethane	49.26	1.0	50	0	98.5	77 - 125				
1,1-Dichloroethene	53.03	1.0	50	0	106	71 - 131				
1,1-Dichloropropene	52.8	1.0	50	0	106	79 - 125				
1,2,3-Trichlorobenzene	52.68	1.0	50	0	105	69 - 129				
1,2,3-Trichloropropane	45.88	1.0	50	0	91.8	73 - 122				
1,2,4-Trichlorobenzene	53.9	1.0	50	0	108	69 - 130				
1,2,4-Trimethylbenzene	42.66	1.0	50	0	85.3	76 - 124				
1,2-Dibromo-3-chloropropane	44.24	1.0	50	0	88.5	62 - 128				
1,2-Dibromoethane	50.88	1.0	50	0	102	77 - 121				
1,2-Dichlorobenzene	44.96	1.0	50	0	89.9	80 - 119				
1,2-Dichloroethane	52.33	1.0	50	0	105	73 - 128				
1,2-Dichloropropane	49.73	1.0	50	0	99.5	78 - 122				
1,3,5-Trimethylbenzene	43.35	1.0	50	0	86.7	75 - 124				
1,3-Dichlorobenzene	45	1.0	50	0	90.0	80 - 119				
1,3-Dichloropropane	48.07	1.0	50	0	96.1	80 - 119				
1,4-Dichlorobenzene	45.15	1.0	50	0	90.3	79 - 118				
2,2-Dichloropropane	51.53	1.0	50	0	103	60 - 139				
2-Butanone	95.2	2.0	100	0	95.2	56 - 143				
2-Chlorotoluene	43.04	1.0	50	0	86.1	79 - 122				
2-Hexanone	92.74	2.0	100	0	92.7	57 - 139				
4-Chlorotoluene	43.68	1.0	50	0	87.4	78 - 122				
4-Isopropyltoluene	44.77	1.0	50	0	89.5	77 - 127				
4-Methyl-2-pentanone	93.72	2.0	100	0	93.7	67 - 130				
Acetone	95.63	2.0	100	0	95.6	39 - 160				
Benzene	49.53	1.0	50	0	99.1	79 - 120				
Bromobenzene	44.98	1.0	50	0	90.0	80 - 120				
Bromochloromethane	51.98	1.0	50	0	104	78 - 123				
Bromodichloromethane	50.19	1.0	50	0	100	79 - 125				
Bromoform	52.2	1.0	50	0	104	66 - 130				
Bromomethane	55.21	1.0	50	0	110	53 - 141				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307985 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171226** Units: **ug/L** Analysis Date: **26-Dec-2017 11:29**
Client ID: Run ID: **VOA2_307985** SeqNo: **4369058** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	103.4	2.0	100	0	103	64 - 133				
Carbon tetrachloride	42.53	1.0	50	0	85.1	72 - 136				
Chlorobenzene	48.22	1.0	50	0	96.4	80 - 120				
Chloroethane	45.67	1.0	50	0	91.3	82 - 118				
Chloroform	48.5	1.0	50	0	97.0	79 - 124				
Chloromethane	55.58	1.0	50	0	111	50 - 139				
cis-1,2-Dichloroethene	49.81	1.0	50	0	99.6	78 - 123				
cis-1,3-Dichloropropene	54.36	1.0	50	0	109	75 - 124				
Dibromochloromethane	50.39	1.0	50	0	101	74 - 126				
Dibromomethane	53.42	1.0	50	0	107	79 - 123				
Dichlorodifluoromethane	55.12	1.0	50	0	110	32 - 152				
Ethylbenzene	47.66	1.0	50	0	95.3	79 - 121				
Hexachlorobutadiene	48.44	1.0	50	0	96.9	66 - 134				
Isopropylbenzene	48.27	1.0	50	0	96.5	72 - 131				
m,p-Xylene	94.43	2.0	100	0	94.4	80 - 121				
Methylene chloride	47.01	2.0	50	0	94.0	74 - 124				
Naphthalene	49.97	1.0	50	0	99.9	61 - 128				
n-Butylbenzene	47.54	1.0	50	0	95.1	75 - 128				
n-Propylbenzene	44.46	1.0	50	0	88.9	76 - 126				
o-Xylene	48.22	1.0	50	0	96.4	78 - 122				
sec-Butylbenzene	45.36	1.0	50	0	90.7	77 - 126				
Styrene	49.62	1.0	50	0	99.2	78 - 128				
tert-Butylbenzene	44.45	1.0	50	0	88.9	78 - 124				
Tetrachloroethene	52.52	1.0	50	0	105	74 - 129				
Toluene	47.79	1.0	50	0	95.6	80 - 121				
trans-1,2-Dichloroethene	53.29	1.0	50	0	107	75 - 124				
trans-1,3-Dichloropropene	55.2	1.0	50	0	110	73 - 127				
Trichloroethene	49.87	1.0	50	0	99.7	79 - 123				
Trichlorofluoromethane	52.84	1.0	50	0	106	65 - 141				
Vinyl chloride	51.55	1.0	50	0	103	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.13*	*1.0*	*50*	*0*	*96.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.64*	*1.0*	*50*	*0*	*99.3*	*85 - 114*				
Surr: Dibromofluoromethane	*48.31*	*1.0*	*50*	*0*	*96.6*	*80 - 119*				
Surr: Toluene-d8	*47.12*	*1.0*	*50*	*0*	*94.2*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307985 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17120844-09MS** Units: **ug/L** Analysis Date: **26-Dec-2017 15:59**
Client ID: Run ID: **VOA2_307985** SeqNo: **4369069** 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	45.11	1.0	50	0	90.2	78 - 124				
1,1,1-Trichloroethane	48.72	1.0	50	0	97.4	74 - 131				
1,1,2,2-Tetrachloroethane	39.02	1.0	50	0	78.0	71 - 121				
1,1,2-Trichloroethane	43.6	1.0	50	0	87.2	80 - 119				
1,1-Dichloroethane	46.82	1.0	50	0	93.6	77 - 125				
1,1-Dichloroethene	50.91	1.0	50	0	102	71 - 131				
1,1-Dichloropropene	50.94	1.0	50	0	102	79 - 125				
1,2,3-Trichlorobenzene	45.66	1.0	50	0	91.3	69 - 129				
1,2,3-Trichloropropane	40.67	1.0	50	0	81.3	73 - 122				
1,2,4-Trichlorobenzene	47.83	1.0	50	0	95.7	69 - 130				
1,2,4-Trimethylbenzene	39.88	1.0	50	0	79.8	76 - 124				
1,2-Dibromo-3-chloropropane	38.94	1.0	50	0	77.9	62 - 128				
1,2-Dibromoethane	45.27	1.0	50	0	90.5	77 - 121				
1,2-Dichlorobenzene	41.13	1.0	50	0	82.3	80 - 119				
1,2-Dichloroethane	47.25	1.0	50	0	94.5	73 - 128				
1,2-Dichloropropane	46.03	1.0	50	0	92.1	78 - 122				
1,3,5-Trimethylbenzene	40.98	1.0	50	0	82.0	75 - 124				
1,3-Dichlorobenzene	41.27	1.0	50	0	82.5	80 - 119				
1,3-Dichloropropane	42.92	1.0	50	0	85.8	80 - 119				
1,4-Dichlorobenzene	41.68	1.0	50	0	83.4	79 - 118				
2,2-Dichloropropane	48.75	1.0	50	0	97.5	60 - 139				
2-Butanone	89.09	2.0	100	0	89.1	56 - 143				
2-Chlorotoluene	40.24	1.0	50	0	80.5	79 - 122				
2-Hexanone	86.32	2.0	100	0	86.3	57 - 139				
4-Chlorotoluene	40.39	1.0	50	0	80.8	78 - 122				
4-Isopropyltoluene	42.86	1.0	50	0	85.7	77 - 127				
4-Methyl-2-pentanone	86.05	2.0	100	0	86.0	67 - 130				
Acetone	90.12	2.0	100	0	90.1	39 - 160				
Benzene	46.16	1.0	50	0	92.3	79 - 120				
Bromobenzene	40.39	1.0	50	0	80.8	80 - 120				
Bromochloromethane	47.36	1.0	50	0	94.7	78 - 123				
Bromodichloromethane	45.79	1.0	50	0	91.6	79 - 125				
Bromoform	46.73	1.0	50	0	93.5	66 - 130				
Bromomethane	50.3	1.0	50	0	101	53 - 141				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307985 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17120844-09MS** Units: **ug/L** Analysis Date: **26-Dec-2017 15:59**
Client ID: Run ID: **VOA2_307985** SeqNo: **4369069** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	98.41	2.0	100	0	98.4	64 - 133				
Carbon tetrachloride	41.77	1.0	50	0	83.5	72 - 136				
Chlorobenzene	44.1	1.0	50	0	88.2	80 - 120				
Chloroethane	40.8	1.0	50	0	81.6	82 - 118				S
Chloroform	45.5	1.0	50	0	91.0	79 - 124				
Chloromethane	41.12	1.0	50	0	82.2	50 - 139				
cis-1,2-Dichloroethene	46.69	1.0	50	0	93.4	78 - 123				
cis-1,3-Dichloropropene	49.67	1.0	50	0	99.3	75 - 124				
Dibromochloromethane	45.02	1.0	50	0	90.0	74 - 126				
Dibromomethane	47.45	1.0	50	0	94.9	79 - 123				
Dichlorodifluoromethane	24.24	1.0	50	0	48.5	32 - 152				
Ethylbenzene	44.55	1.0	50	0	89.1	79 - 121				
Hexachlorobutadiene	46.28	1.0	50	0	92.6	66 - 134				
Isopropylbenzene	46.42	1.0	50	0	92.8	72 - 131				
m,p-Xylene	89.05	2.0	100	0	89.1	80 - 121				
Methylene chloride	44.53	2.0	50	0	89.1	74 - 124				
Naphthalene	43.97	1.0	50	0	87.9	61 - 128				
n-Butylbenzene	45.38	1.0	50	0	90.8	75 - 128				
n-Propylbenzene	42.42	1.0	50	0	84.8	76 - 126				
o-Xylene	44.84	1.0	50	0	89.7	78 - 122				
sec-Butylbenzene	43.62	1.0	50	0	87.2	77 - 126				
Styrene	45.54	1.0	50	0	91.1	78 - 128				
tert-Butylbenzene	42.43	1.0	50	0	84.9	78 - 124				
Tetrachloroethene	50.19	1.0	50	0	100	74 - 129				
Toluene	44.5	1.0	50	0	89.0	80 - 121				
trans-1,2-Dichloroethene	51.04	1.0	50	0	102	75 - 124				
trans-1,3-Dichloropropene	49.22	1.0	50	0	98.4	73 - 127				
Trichloroethene	49.4	1.0	50	0	98.8	79 - 123				
Trichlorofluoromethane	50.86	1.0	50	0	102	65 - 141				
Vinyl chloride	45.63	1.0	50	0	91.3	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.64*	*1.0*	*50*	*0*	*97.3*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.75*	*1.0*	*50*	*0*	*99.5*	*85 - 114*				
Surr: Dibromofluoromethane	*49.53*	*1.0*	*50*	*0*	*99.1*	*80 - 119*				
Surr: Toluene-d8	*47.03*	*1.0*	*50*	*0*	*94.1*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307985 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17120844-09MSD** Units: **ug/L** Analysis Date: **26-Dec-2017 16:23**
Client ID: Run ID: **VOA2_307985** SeqNo: **4369070** 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	45.24	1.0	50	0	90.5	78 - 124	45.11	0.276	20	
1,1,1-Trichloroethane	47.25	1.0	50	0	94.5	74 - 131	48.72	3.06	20	
1,1,2,2-Tetrachloroethane	39.34	1.0	50	0	78.7	71 - 121	39.02	0.794	20	
1,1,2-Trichloroethane	43.83	1.0	50	0	87.7	80 - 119	43.6	0.536	20	
1,1-Dichloroethane	45.04	1.0	50	0	90.1	77 - 125	46.82	3.88	20	
1,1-Dichloroethene	50.06	1.0	50	0	100	71 - 131	50.91	1.68	20	
1,1-Dichloropropene	49.19	1.0	50	0	98.4	79 - 125	50.94	3.5	20	
1,2,3-Trichlorobenzene	46.7	1.0	50	0	93.4	69 - 129	45.66	2.26	20	
1,2,3-Trichloropropane	40.42	1.0	50	0	80.8	73 - 122	40.67	0.62	20	
1,2,4-Trichlorobenzene	47.48	1.0	50	0	95.0	69 - 130	47.83	0.736	20	
1,2,4-Trimethylbenzene	39.66	1.0	50	0	79.3	76 - 124	39.88	0.555	20	
1,2-Dibromo-3-chloropropane	40.25	1.0	50	0	80.5	62 - 128	38.94	3.33	20	
1,2-Dibromoethane	45.09	1.0	50	0	90.2	77 - 121	45.27	0.396	20	
1,2-Dichlorobenzene	40.88	1.0	50	0	81.8	80 - 119	41.13	0.597	20	
1,2-Dichloroethane	46.61	1.0	50	0	93.2	73 - 128	47.25	1.35	20	
1,2-Dichloropropane	44.64	1.0	50	0	89.3	78 - 122	46.03	3.07	20	
1,3,5-Trimethylbenzene	40.86	1.0	50	0	81.7	75 - 124	40.98	0.3	20	
1,3-Dichlorobenzene	41.39	1.0	50	0	82.8	80 - 119	41.27	0.286	20	
1,3-Dichloropropane	42.69	1.0	50	0	85.4	80 - 119	42.92	0.543	20	
1,4-Dichlorobenzene	41.04	1.0	50	0	82.1	79 - 118	41.68	1.54	20	
2,2-Dichloropropane	46.72	1.0	50	0	93.4	60 - 139	48.75	4.26	20	
2-Butanone	85.38	2.0	100	0	85.4	56 - 143	89.09	4.25	20	
2-Chlorotoluene	40.15	1.0	50	0	80.3	79 - 122	40.24	0.203	20	
2-Hexanone	86.73	2.0	100	0	86.7	57 - 139	86.32	0.478	20	
4-Chlorotoluene	39.95	1.0	50	0	79.9	78 - 122	40.39	1.1	20	
4-Isopropyltoluene	42.4	1.0	50	0	84.8	77 - 127	42.86	1.08	20	
4-Methyl-2-pentanone	85.81	2.0	100	0	85.8	67 - 130	86.05	0.274	20	
Acetone	87.56	2.0	100	0	87.6	39 - 160	90.12	2.88	20	
Benzene	45.33	1.0	50	0	90.7	79 - 120	46.16	1.81	20	
Bromobenzene	40.89	1.0	50	0	81.8	80 - 120	40.39	1.25	20	
Bromochloromethane	46.04	1.0	50	0	92.1	78 - 123	47.36	2.83	20	
Bromodichloromethane	44.79	1.0	50	0	89.6	79 - 125	45.79	2.21	20	
Bromoform	45.9	1.0	50	0	91.8	66 - 130	46.73	1.79	20	
Bromomethane	47.97	1.0	50	0	95.9	53 - 141	50.3	4.76	20	

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307985 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17120844-09MSD** Units: **ug/L** Analysis Date: **26-Dec-2017 16:23**
Client ID: Run ID: **VOA2_307985** SeqNo: **4369070** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	94.23	2.0	100	0	94.2	64 - 133	98.41	4.34	20	
Carbon tetrachloride	40.47	1.0	50	0	80.9	72 - 136	41.77	3.15	20	
Chlorobenzene	43.84	1.0	50	0	87.7	80 - 120	44.1	0.584	20	
Chloroethane	40.09	1.0	50	0	80.2	82 - 118	40.8	1.75	20	S
Chloroform	44.72	1.0	50	0	89.4	79 - 124	45.5	1.72	20	
Chloromethane	40.19	1.0	50	0	80.4	50 - 139	41.12	2.3	20	
cis-1,2-Dichloroethene	45.41	1.0	50	0	90.8	78 - 123	46.69	2.77	20	
cis-1,3-Dichloropropene	48.32	1.0	50	0	96.6	75 - 124	49.67	2.75	20	
Dibromochloromethane	45.94	1.0	50	0	91.9	74 - 126	45.02	2.03	20	
Dibromomethane	45.89	1.0	50	0	91.8	79 - 123	47.45	3.33	20	
Dichlorodifluoromethane	22.35	1.0	50	0	44.7	32 - 152	24.24	8.13	20	
Ethylbenzene	44.21	1.0	50	0	88.4	79 - 121	44.55	0.771	20	
Hexachlorobutadiene	47.2	1.0	50	0	94.4	66 - 134	46.28	1.97	20	
Isopropylbenzene	45.52	1.0	50	0	91.0	72 - 131	46.42	1.97	20	
m,p-Xylene	87.72	2.0	100	0	87.7	80 - 121	89.05	1.51	20	
Methylene chloride	42.53	2.0	50	0	85.1	74 - 124	44.53	4.58	20	
Naphthalene	44.69	1.0	50	0	89.4	61 - 128	43.97	1.63	20	
n-Butylbenzene	45.12	1.0	50	0	90.2	75 - 128	45.38	0.58	20	
n-Propylbenzene	41.64	1.0	50	0	83.3	76 - 126	42.42	1.84	20	
o-Xylene	44.49	1.0	50	0	89.0	78 - 122	44.84	0.788	20	
sec-Butylbenzene	43.05	1.0	50	0	86.1	77 - 126	43.62	1.3	20	
Styrene	44.74	1.0	50	0	89.5	78 - 128	45.54	1.76	20	
tert-Butylbenzene	42.06	1.0	50	0	84.1	78 - 124	42.43	0.893	20	
Tetrachloroethene	49.76	1.0	50	0	99.5	74 - 129	50.19	0.875	20	
Toluene	44.13	1.0	50	0	88.3	80 - 121	44.5	0.832	20	
trans-1,2-Dichloroethene	49.83	1.0	50	0	99.7	75 - 124	51.04	2.39	20	
trans-1,3-Dichloropropene	47.92	1.0	50	0	95.8	73 - 127	49.22	2.68	20	
Trichloroethene	47.18	1.0	50	0	94.4	79 - 123	49.4	4.59	20	
Trichlorofluoromethane	48.06	1.0	50	0	96.1	65 - 141	50.86	5.68	20	
Vinyl chloride	43.09	1.0	50	0	86.2	58 - 137	45.63	5.72	20	
Surr: 1,2-Dichloroethane-d4	*48.31*	*1.0*	*50*	*0*	*96.6*	*81 - 118*	*48.64*	*0.687*	*20*	
Surr: 4-Bromofluorobenzene	*50.14*	*1.0*	*50*	*0*	*100*	*85 - 114*	*49.75*	*0.786*	*20*	
Surr: Dibromofluoromethane	*48.57*	*1.0*	*50*	*0*	*97.1*	*80 - 119*	*49.53*	*1.97*	*20*	
Surr: Toluene-d8	*47.04*	*1.0*	*50*	*0*	*94.1*	*89 - 112*	*47.03*	*0.0113*	*20*	

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R307985 **Instrument: VOA2** **Method: SW8260**

The following samples were analyzed in this batch:				
	HS17120912-01	HS17120912-03	HS17120912-05	HS17120912-09
	HS17120912-10			

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R308011 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171227** Units: **ug/L** Analysis Date: **27-Dec-2017 12:37**
Client ID: Run ID: **VOA2_308011** SeqNo: **4370124** PrepDate: DF: **1**

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

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R308011 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171227** Units: **ug/L** Analysis Date: **27-Dec-2017 12:37**
Client ID: Run ID: **VOA2_308011** SeqNo: **4370124** 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	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	0.50	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.92*	*1.0*	*50*	*0*	*91.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.4*	*1.0*	*50*	*0*	*98.8*	*85 - 114*				
Surr: Dibromofluoromethane	*48.98*	*1.0*	*50*	*0*	*98.0*	*80 - 119*				
Surr: Toluene-d8	*48.22*	*1.0*	*50*	*0*	*96.4*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R308011 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171227** Units: **ug/L** Analysis Date: **27-Dec-2017 11:48**
Client ID: Run ID: **VOA2_308011** SeqNo: **4370122** 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	47.85	1.0	50	0	95.7	78 - 124				
1,1,1-Trichloroethane	46.15	1.0	50	0	92.3	74 - 131				
1,1,2,2-Tetrachloroethane	43.07	1.0	50	0	86.1	71 - 121				
1,1,2-Trichloroethane	47.4	1.0	50	0	94.8	80 - 119				
1,1-Dichloroethane	47.31	1.0	50	0	94.6	77 - 125				
1,1-Dichloroethene	49.23	1.0	50	0	98.5	71 - 131				
1,1-Dichloropropene	49.11	1.0	50	0	98.2	79 - 125				
1,2,3-Trichlorobenzene	50.43	1.0	50	0	101	69 - 129				
1,2,3-Trichloropropane	45.42	1.0	50	0	90.8	73 - 122				
1,2,4-Trichlorobenzene	50.6	1.0	50	0	101	69 - 130				
1,2,4-Trimethylbenzene	39.71	1.0	50	0	79.4	76 - 124				
1,2-Dibromo-3-chloropropane	46.28	1.0	50	0	92.6	62 - 128				
1,2-Dibromoethane	49.28	1.0	50	0	98.6	77 - 121				
1,2-Dichlorobenzene	43.36	1.0	50	0	86.7	80 - 119				
1,2-Dichloroethane	49.92	1.0	50	0	99.8	73 - 128				
1,2-Dichloropropane	47.41	1.0	50	0	94.8	78 - 122				
1,3,5-Trimethylbenzene	39.88	1.0	50	0	79.8	75 - 124				
1,3-Dichlorobenzene	42.82	1.0	50	0	85.6	80 - 119				
1,3-Dichloropropane	46.68	1.0	50	0	93.4	80 - 119				
1,4-Dichlorobenzene	43.2	1.0	50	0	86.4	79 - 118				
2,2-Dichloropropane	48.61	1.0	50	0	97.2	60 - 139				
2-Butanone	97.89	2.0	100	0	97.9	56 - 143				
2-Chlorotoluene	40.3	1.0	50	0	80.6	79 - 122				
2-Hexanone	96.54	2.0	100	0	96.5	57 - 139				
4-Chlorotoluene	41.04	1.0	50	0	82.1	78 - 122				
4-Isopropyltoluene	40.11	1.0	50	0	80.2	77 - 127				
4-Methyl-2-pentanone	95.77	2.0	100	0	95.8	67 - 130				
Acetone	103.4	2.0	100	0	103	39 - 160				
Benzene	47.16	1.0	50	0	94.3	79 - 120				
Bromobenzene	42.72	1.0	50	0	85.4	80 - 120				
Bromochloromethane	50.34	1.0	50	0	101	78 - 123				
Bromodichloromethane	48.45	1.0	50	0	96.9	79 - 125				
Bromoform	52.06	1.0	50	0	104	66 - 130				
Bromomethane	50.8	1.0	50	0	102	53 - 141				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R308011 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171227** Units: **ug/L** Analysis Date: **27-Dec-2017 11:48**
Client ID: Run ID: **VOA2_308011** SeqNo: **4370122** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	97.22	2.0	100	0	97.2	64 - 133				
Carbon tetrachloride	40.06	1.0	50	0	80.1	72 - 136				
Chlorobenzene	45.56	1.0	50	0	91.1	80 - 120				
Chloroethane	43.57	1.0	50	0	87.1	82 - 118				
Chloroform	46.4	1.0	50	0	92.8	79 - 124				
Chloromethane	52.85	1.0	50	0	106	50 - 139				
cis-1,2-Dichloroethene	47.61	1.0	50	0	95.2	78 - 123				
cis-1,3-Dichloropropene	52.15	1.0	50	0	104	75 - 124				
Dibromochloromethane	49.42	1.0	50	0	98.8	74 - 126				
Dibromomethane	51.2	1.0	50	0	102	79 - 123				
Dichlorodifluoromethane	51.4	1.0	50	0	103	32 - 152				
Ethylbenzene	44.35	1.0	50	0	88.7	79 - 121				
Hexachlorobutadiene	42.52	1.0	50	0	85.0	66 - 134				
Isopropylbenzene	44.25	1.0	50	0	88.5	72 - 131				
m,p-Xylene	89.01	2.0	100	0	89.0	80 - 121				
Methylene chloride	45.15	2.0	50	0	90.3	74 - 124				
Naphthalene	49.73	1.0	50	0	99.5	61 - 128				
n-Butylbenzene	41.91	1.0	50	0	83.8	75 - 128				
n-Propylbenzene	40.16	1.0	50	0	80.3	76 - 126				
o-Xylene	45.68	1.0	50	0	91.4	78 - 122				
sec-Butylbenzene	39.93	1.0	50	0	79.9	77 - 126				
Styrene	47.27	1.0	50	0	94.5	78 - 128				
tert-Butylbenzene	39.64	1.0	50	0	79.3	78 - 124				
Tetrachloroethene	47.36	1.0	50	0	94.7	74 - 129				
Toluene	44.64	1.0	50	0	89.3	80 - 121				
trans-1,2-Dichloroethene	50.29	1.0	50	0	101	75 - 124				
trans-1,3-Dichloropropene	53.72	1.0	50	0	107	73 - 127				
Trichlorofluoromethane	49.96	1.0	50	0	99.9	65 - 141				
Vinyl chloride	49.39	1.0	50	0	98.8	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.73*	*1.0*	*50*	*0*	*95.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.44*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*47.9*	*1.0*	*50*	*0*	*95.8*	*80 - 119*				
Surr: Toluene-d8	*46.71*	*1.0*	*50*	*0*	*93.4*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R308011 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17120895-08MS** Units: **ug/L** Analysis Date: **27-Dec-2017 14:21**
Client ID: Run ID: **VOA2_308011** SeqNo: **4370128** 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	46.59	1.0	50	0	93.2	78 - 124				
1,1,1-Trichloroethane	48.76	1.0	50	0	97.5	74 - 131				
1,1,2,2-Tetrachloroethane	39.25	1.0	50	0	78.5	71 - 121				
1,1,2-Trichloroethane	44.23	1.0	50	0	88.5	80 - 119				
1,1-Dichloroethane	46.07	1.0	50	0	92.1	77 - 125				
1,1-Dichloroethene	50.83	1.0	50	0	102	71 - 131				
1,1-Dichloropropene	52.96	1.0	50	0	106	79 - 125				
1,2,3-Trichlorobenzene	47.37	1.0	50	0	94.7	69 - 129				
1,2,3-Trichloropropane	41.04	1.0	50	0	82.1	73 - 122				
1,2,4-Trichlorobenzene	48.89	1.0	50	0	97.8	69 - 130				
1,2,4-Trimethylbenzene	40.56	1.0	50	0	81.1	76 - 124				
1,2-Dibromo-3-chloropropane	40.08	1.0	50	0	80.2	62 - 128				
1,2-Dibromoethane	46.34	1.0	50	0	92.7	77 - 121				
1,2-Dichlorobenzene	41.47	1.0	50	0	82.9	80 - 119				
1,2-Dichloroethane	48.85	1.0	50	0	97.7	73 - 128				
1,2-Dichloropropane	46.51	1.0	50	0	93.0	78 - 122				
1,3,5-Trimethylbenzene	41.82	1.0	50	0	83.6	75 - 124				
1,3-Dichlorobenzene	42.61	1.0	50	0	85.2	80 - 119				
1,3-Dichloropropane	43.82	1.0	50	0	87.6	80 - 119				
1,4-Dichlorobenzene	42.27	1.0	50	0	84.5	79 - 118				
2,2-Dichloropropane	50.28	1.0	50	0	101	60 - 139				
2-Butanone	85.68	2.0	100	0	85.7	56 - 143				
2-Chlorotoluene	40.79	1.0	50	0	81.6	79 - 122				
2-Hexanone	85.78	2.0	100	0	85.8	57 - 139				
4-Chlorotoluene	41.32	1.0	50	0	82.6	78 - 122				
4-Isopropyltoluene	43.27	1.0	50	0	86.5	77 - 127				
4-Methyl-2-pentanone	84.71	2.0	100	0	84.7	67 - 130				
Acetone	86.39	2.0	100	0	86.4	39 - 160				
Benzene	47.74	1.0	50	0	95.5	79 - 120				
Bromobenzene	41.06	1.0	50	0	82.1	80 - 120				
Bromochloromethane	46.48	1.0	50	0	93.0	78 - 123				
Bromodichloromethane	47.81	1.0	50	0	95.6	79 - 125				
Bromoform	47.2	1.0	50	0	94.4	66 - 130				
Bromomethane	46.99	1.0	50	0	94.0	53 - 141				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R308011 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17120895-08MS** Units: **ug/L** Analysis Date: **27-Dec-2017 14:21**
Client ID: Run ID: **VOA2_308011** SeqNo: **4370128** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	95.95	2.0	100	0	96.0	64 - 133				
Carbon tetrachloride	44.64	1.0	50	0	89.3	72 - 136				
Chlorobenzene	44.97	1.0	50	0	89.9	80 - 120				
Chloroethane	40.95	1.0	50	0	81.9	82 - 118				S
Chloroform	45.64	1.0	50	0	91.3	79 - 124				
Chloromethane	43.97	1.0	50	0	87.9	50 - 139				
cis-1,2-Dichloroethene	47.52	1.0	50	0	95.0	78 - 123				
cis-1,3-Dichloropropene	50.45	1.0	50	0	101	75 - 124				
Dibromochloromethane	46.64	1.0	50	0	93.3	74 - 126				
Dibromomethane	48.52	1.0	50	0	97.0	79 - 123				
Dichlorodifluoromethane	21.84	1.0	50	0	43.7	32 - 152				
Ethylbenzene	45.29	1.0	50	0	90.6	79 - 121				
Hexachlorobutadiene	47.43	1.0	50	0	94.9	66 - 134				
Isopropylbenzene	46.88	1.0	50	0	93.8	72 - 131				
m,p-Xylene	90.86	2.0	100	0	90.9	80 - 121				
Methylene chloride	43.55	2.0	50	0	87.1	74 - 124				
Naphthalene	45.14	1.0	50	0	90.3	61 - 128				
n-Butylbenzene	46.23	1.0	50	0	92.5	75 - 128				
n-Propylbenzene	42.92	1.0	50	0	85.8	76 - 126				
o-Xylene	45.42	1.0	50	0	90.8	78 - 122				
sec-Butylbenzene	44.18	1.0	50	0	88.4	77 - 126				
Styrene	42.9	1.0	50	0	85.8	78 - 128				
tert-Butylbenzene	43.22	1.0	50	0	86.4	78 - 124				
Tetrachloroethene	51.92	1.0	50	0	104	74 - 129				
Toluene	45.42	1.0	50	0	90.8	80 - 121				
trans-1,2-Dichloroethene	50.78	1.0	50	0	102	75 - 124				
trans-1,3-Dichloropropene	50.54	1.0	50	0	101	73 - 127				
Trichlorofluoromethane	49.86	1.0	50	0	99.7	65 - 141				
Vinyl chloride	44.64	1.0	50	0	89.3	58 - 137				
Surr: 1,2-Dichloroethane-d4	*47.77*	*1.0*	*50*	*0*	*95.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.92*	*1.0*	*50*	*0*	*99.8*	*85 - 114*				
Surr: Dibromofluoromethane	*47.78*	*1.0*	*50*	*0*	*95.6*	*80 - 119*				
Surr: Toluene-d8	*46.6*	*1.0*	*50*	*0*	*93.2*	*89 - 112*				

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R308011 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17120895-08MSD** Units: **ug/L** Analysis Date: **27-Dec-2017 14:45**
Client ID: Run ID: **VOA2_308011** SeqNo: **4370129** 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	46.01	1.0	50	0	92.0	78 - 124	46.59	1.25	20	
1,1,1-Trichloroethane	46.72	1.0	50	0	93.4	74 - 131	48.76	4.25	20	
1,1,2,2-Tetrachloroethane	39.11	1.0	50	0	78.2	71 - 121	39.25	0.363	20	
1,1,2-Trichloroethane	43.65	1.0	50	0	87.3	80 - 119	44.23	1.33	20	
1,1-Dichloroethane	44.74	1.0	50	0	89.5	77 - 125	46.07	2.92	20	
1,1-Dichloroethene	49.72	1.0	50	0	99.4	71 - 131	50.83	2.2	20	
1,1-Dichloropropene	51.03	1.0	50	0	102	79 - 125	52.96	3.72	20	
1,2,3-Trichlorobenzene	47.48	1.0	50	0	95.0	69 - 129	47.37	0.239	20	
1,2,3-Trichloropropane	41.35	1.0	50	0	82.7	73 - 122	41.04	0.744	20	
1,2,4-Trichlorobenzene	48.74	1.0	50	0	97.5	69 - 130	48.89	0.315	20	
1,2,4-Trimethylbenzene	39.5	1.0	50	0	79.0	76 - 124	40.56	2.65	20	
1,2-Dibromo-3-chloropropane	40.68	1.0	50	0	81.4	62 - 128	40.08	1.48	20	
1,2-Dibromoethane	45.1	1.0	50	0	90.2	77 - 121	46.34	2.71	20	
1,2-Dichlorobenzene	41.33	1.0	50	0	82.7	80 - 119	41.47	0.332	20	
1,2-Dichloroethane	48.43	1.0	50	0	96.9	73 - 128	48.85	0.865	20	
1,2-Dichloropropane	44.78	1.0	50	0	89.6	78 - 122	46.51	3.8	20	
1,3,5-Trimethylbenzene	40.82	1.0	50	0	81.6	75 - 124	41.82	2.42	20	
1,3-Dichlorobenzene	41.45	1.0	50	0	82.9	80 - 119	42.61	2.76	20	
1,3-Dichloropropane	42.94	1.0	50	0	85.9	80 - 119	43.82	2.03	20	
1,4-Dichlorobenzene	41.17	1.0	50	0	82.3	79 - 118	42.27	2.64	20	
2,2-Dichloropropane	47.94	1.0	50	0	95.9	60 - 139	50.28	4.76	20	
2-Butanone	87.26	2.0	100	0	87.3	56 - 143	85.68	1.83	20	
2-Chlorotoluene	40.03	1.0	50	0	80.1	79 - 122	40.79	1.87	20	
2-Hexanone	86.59	2.0	100	0	86.6	57 - 139	85.78	0.946	20	
4-Chlorotoluene	40.19	1.0	50	0	80.4	78 - 122	41.32	2.76	20	
4-Isopropyltoluene	42.53	1.0	50	0	85.1	77 - 127	43.27	1.73	20	
4-Methyl-2-pentanone	87.38	2.0	100	0	87.4	67 - 130	84.71	3.1	20	
Acetone	88.91	2.0	100	0	88.9	39 - 160	86.39	2.87	20	
Benzene	45.48	1.0	50	0	91.0	79 - 120	47.74	4.85	20	
Bromobenzene	40.46	1.0	50	0	80.9	80 - 120	41.06	1.48	20	
Bromochloromethane	45.79	1.0	50	0	91.6	78 - 123	46.48	1.49	20	
Bromodichloromethane	45.84	1.0	50	0	91.7	79 - 125	47.81	4.21	20	
Bromoform	46.62	1.0	50	0	93.2	66 - 130	47.2	1.24	20	
Bromomethane	45.63	1.0	50	0	91.3	53 - 141	46.99	2.94	20	

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

QC BATCH REPORT

Batch ID: R308011 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17120895-08MSD** Units: **ug/L** Analysis Date: **27-Dec-2017 14:45**
Client ID: Run ID: **VOA2_308011** SeqNo: **4370129** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	92.22	2.0	100	0	92.2	64 - 133	95.95	3.97	20	
Carbon tetrachloride	41.5	1.0	50	0	83.0	72 - 136	44.64	7.29	20	
Chlorobenzene	43.69	1.0	50	0	87.4	80 - 120	44.97	2.89	20	
Chloroethane	38.96	1.0	50	0	77.9	82 - 118	40.95	4.98	20	S
Chloroform	43.62	1.0	50	0	87.2	79 - 124	45.64	4.54	20	
Chloromethane	38.85	1.0	50	0	77.7	50 - 139	43.97	12.4	20	
cis-1,2-Dichloroethene	45.55	1.0	50	0	91.1	78 - 123	47.52	4.22	20	
cis-1,3-Dichloropropene	49.55	1.0	50	0	99.1	75 - 124	50.45	1.8	20	
Dibromochloromethane	45.47	1.0	50	0	90.9	74 - 126	46.64	2.54	20	
Dibromomethane	46.74	1.0	50	0	93.5	79 - 123	48.52	3.73	20	
Dichlorodifluoromethane	20.37	1.0	50	0	40.7	32 - 152	21.84	6.97	20	
Ethylbenzene	44.02	1.0	50	0	88.0	79 - 121	45.29	2.86	20	
Hexachlorobutadiene	46.8	1.0	50	0	93.6	66 - 134	47.43	1.34	20	
Isopropylbenzene	45.46	1.0	50	0	90.9	72 - 131	46.88	3.06	20	
m,p-Xylene	87.88	2.0	100	0	87.9	80 - 121	90.86	3.33	20	
Methylene chloride	41.96	2.0	50	0	83.9	74 - 124	43.55	3.7	20	
Naphthalene	45.08	1.0	50	0	90.2	61 - 128	45.14	0.132	20	
n-Butylbenzene	45.22	1.0	50	0	90.4	75 - 128	46.23	2.21	20	
n-Propylbenzene	41.64	1.0	50	0	83.3	76 - 126	42.92	3.02	20	
o-Xylene	43.91	1.0	50	0	87.8	78 - 122	45.42	3.39	20	
sec-Butylbenzene	43.06	1.0	50	0	86.1	77 - 126	44.18	2.56	20	
Styrene	41.79	1.0	50	0	83.6	78 - 128	42.9	2.64	20	
tert-Butylbenzene	41.98	1.0	50	0	84.0	78 - 124	43.22	2.92	20	
Tetrachloroethene	50.54	1.0	50	0	101	74 - 129	51.92	2.68	20	
Toluene	44.04	1.0	50	0	88.1	80 - 121	45.42	3.1	20	
trans-1,2-Dichloroethene	49.13	1.0	50	0	98.3	75 - 124	50.78	3.3	20	
trans-1,3-Dichloropropene	49.42	1.0	50	0	98.8	73 - 127	50.54	2.25	20	
Trichlorofluoromethane	46.47	1.0	50	0	92.9	65 - 141	49.86	7.06	20	
Vinyl chloride	41.99	1.0	50	0	84.0	58 - 137	44.64	6.11	20	
Surr: 1,2-Dichloroethane-d4	*48.13*	*1.0*	*50*	*0*	*96.3*	*81 - 118*	*47.77*	*0.767*	*20*	
Surr: 4-Bromofluorobenzene	*50.25*	*1.0*	*50*	*0*	*100*	*85 - 114*	*49.92*	*0.657*	*20*	
Surr: Dibromofluoromethane	*47.96*	*1.0*	*50*	*0*	*95.9*	*80 - 119*	*47.78*	*0.37*	*20*	
Surr: Toluene-d8	*47.18*	*1.0*	*50*	*0*	*94.4*	*89 - 112*	*46.6*	*1.25*	*20*	

The following samples were analyzed in this batch: HS17120912-03

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

ALS Group USA, Corp Date: 29-Dec-17

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: **HS17120912**

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	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Carolina	624-2017	31-Dec-2017
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018

ALS Group USA, Corp Date: 29-Dec-17

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17120912
Date/Time Received: **16-Dec-2017 09:45**
Received by: **JRM**

Checklist completed by: *Nilesh D. Ranchod* eSignature 17-Dec-2017 Date
Reviewed by: *Sonia West* eSignature 19-Dec-2017 Date

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
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):	1.7c/2.0c uc/c	11	
Cooler(s)/Kit(s):	43307		
Date/Time sample(s) sent to storage:	12/16/2017 18:00		
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:

bhate ENVIRONMENTAL CONSTRUCTION ENERGY

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 18/24

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Sample Analysis Requested (5): Number of containers	VOC	PERCHLORATE	TOTAL METALS	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
MW9-121317		13 DEC 2017	0835	-			WG	5	X	X	X				
MW7-121317		13 DEC 2017	0930	-			WG	4	X	X					
120-121417		14 DEC 2017	0755	-			WG	4	X	X					
123-121417		14 DEC 2017	0810				WG	4	X	X					
109-121417		14 DEC 2017	0830				WG	4	X	X					
18GPTMW22R-121417		14 DEC 2017	0945	-			WG	5	X	X	X				
18GPTMW22SW-121417		14 DEC 2017	1040	-			WG	5	X	X	X				
MW20-121417		14 DEC 2017	1140	-			WG	4	X	X					
MW23-121517		15 DEC 2017	0910	-			WG	4	X	X					
MW23-121517-a		15 DEC 2017	0910	-			WG	4	X	X					
18GPTMW03SW-121517		15 DEC 2017	1010	-			WG	5	X	X	X				

COMMENTS: _____

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	Scott Beesinger	12/15/17	1100	Jim	12/16/17	09:45
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stancliff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

Cooler 43307 1611
Temp 1.7 CF03

Bhate Environmental Associates, Inc.
LHAAP 18 24

HS17120912

00872656

bhate ENVIRONMENTAL CONSTRUCTION ENERGY

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Chain of Custody and Analytical Request

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 18/24

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Sample Analysis Requested (5): Number of containers	VOC										Quality Assurance Samples (6): Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
Trip Blank		15 Dec 17		-			W	2	X													
				-																		
				-																		
				-																		
				-																		
				-																		
				-																		
				-																		
				-																		

COMMENTS: _____

HS17120912

Bhate Environmental Associates, Inc.
LHAAP 18 24

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	Scott Beesinger	12/15/17	1100	Jim	12/16/17	09:45
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stancliff Rd. Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

Cooler 43307 1411

Temp 1.7 650.3

ALS

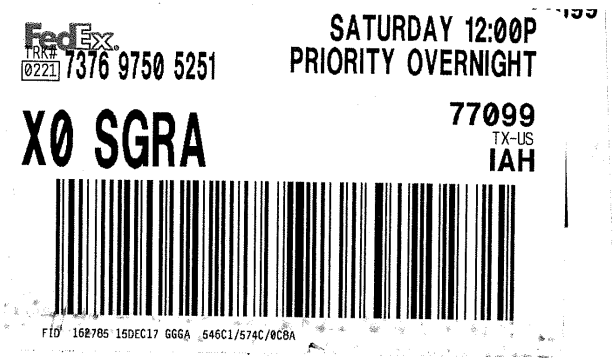
ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 12/15/17 Time: 1100
Name: Scott Bessinger
Company: BHATE

Seal Broken By:

Date:



Volatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17120912

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171226	94	94	94	100	0
02	VLCSDW-171225	94	95	93	100	0
03	VBLKW-171225	92	98	96	99	0
04	HS17120912-12	92	99	95	97	0
05	HS17120844-03	97	97	95	101	0
06	HS17120844-03	97	96	94	101	0
07	HS17120912-04	92	98	96	99	0
08	HS17120912-06	92	100	96	98	0
09	HS17120912-07	92	98	97	99	0
10	HS17120912-08	94	101	96	98	0
11	HS17120912-11	93	99	95	98	0
12	HS17120912-01	92	100	98	98	0
13	HS17120912-01	93	96	98	94	0
14	HS17120912-02	94	100	97	98	0
15	HS17120912-02	93	98	99	97	0
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171226	96	97	94	99	0
02	VBLKW-171226	92	98	99	94	0
03	HS17120912-01	95	99	96	97	0
04	HS17120844-09	97	99	94	99	0
05	HS17120844-09	97	97	94	100	0
06	HS17120912-05	97	101	95	97	0
07	HS17120912-05	93	96	96	94	0
08	HS17120912-09	93	99	97	99	0
09	HS17120912-09	92	97	98	95	0
10	HS17120912-10	94	99	98	97	0
11	HS17120912-10	92	99	99	95	0
12	HS17120912-03	93	99	96	99	0
13	HS17120912-03	94	98	99	99	0
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						

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

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

	CLIENT SAMPLE NO.	SMC1 (DCE)#	SMC2 #	SMC3 (TOL)#	OTHER #	TOT OUT
01	VLCSW-171227	95	96	93	101	0
02	VBLKW-171227	92	98	96	99	0
03	HS17120912-03	95	98	96	96	0
04	HS17120895-08	96	96	93	100	0
05	HS17120895-08	96	96	94	100	0
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
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(70-130)
SMC2	= Dibromofluoromethane	(70-130)
SMC3 (TOL)	= Toluene-d8	(70-130)
OTHER	= 4-Bromofluorobenzene	(70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	50.00	49.06	98	80-120
1,1,1,2-Tetrachloroetha	50.00	49.68	99	80-120
tert-Butylbenzene	50.00	45.55	91	80-120
Naphthalene	50.00	51.79	104	80-120
sec-Butylbenzene	50.00	46.50	93	80-120
1,1,2,2-Tetrachloroetha	50.00	45.44	91	80-120
1,1,2-Trichloroethane	50.00	48.61	97	80-120
1,1-Dichloropropene	50.00	51.30	103	80-120
1,1-Dichloroethane	50.00	48.08	96	80-120
1,1-Dichloroethene	50.00	50.33	101	80-120
1,2,4-Trichlorobenzene	50.00	55.22	110	80-120
1,2-Dibromo-3-Chloropro	50.00	47.98	96	80-120
1,2-Dibromoethane	50.00	49.92	100	80-120
1,2-Dichlorobenzene	50.00	47.36	95	80-120
1,2-Dichloroethane	50.00	51.46	103	80-120
1,2-Dichloropropane	50.00	47.58	95	80-120
1,3-Dichlorobenzene	50.00	47.02	94	80-120
1,4-Dichlorobenzene	50.00	46.92	94	80-120
2-Butanone	100.00	98.74	99	80-120
2-Hexanone	100.00	94.99	95	80-120
4-Methyl-2-Pentanone	100.00	93.96	94	80-120
Acetone	100.00	101.52	102	80-120
Benzene	50.00	47.98	96	80-120
Bromodichloromethane	50.00	49.79	100	80-120
Bromoform	50.00	53.45	107	80-120
Bromomethane	50.00	54.60	109	80-120
Carbon Disulfide	100.00	101.83	102	80-120
Carbon Tetrachloride	50.00	42.60	85	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Chlorobenzene	50.00	46.60	93	80-120
Chloroethane	50.00	42.06	84	80-120
Chloroform	50.00	48.98	98	80-120
Chloromethane	50.00	54.85	110	80-120
cis-1,2-Dichloroethene	50.00	49.49	99	80-120
cis-1,3-Dichloropropene	50.00	52.66	105	80-120
Dibromochloromethane	50.00	50.66	101	80-120
Dichlorodifluoromethane	50.00	53.81	108	80-120
Ethylbenzene	50.00	46.15	92	80-120
Isopropylbenzene	50.00	46.76	94	80-120
Methylene Chloride	50.00	48.55	97	80-120
Tetrachloroethene	50.00	50.78	102	80-120
Toluene	50.00	45.96	92	80-120
trans-1,2-Dichloroethen	50.00	52.97	106	80-120
trans-1,3-Dichloroprope	50.00	54.38	109	80-120
Trichloroethene	50.00	48.10	96	80-120
Trichlorofluoromethane	50.00	52.99	106	80-120
Vinyl Chloride	50.00	51.74	103	80-120
m,p-Xylenes	100.00	91.61	92	80-120
o-Xylene	50.00	46.64	93	80-120
Xylenes (total)	150.00	138.25	92	80-120
1,2,3-Trichloropropane	50.00	48.85	98	80-120
1,2,3-Trichlorobenzene	50.00	54.84	110	80-120
1,2,4-Trimethylbenzene	50.00	44.39	89	80-120
1,3,5-Trimethylbenzene	50.00	44.90	90	80-120
2,2-Dichloropropane	50.00	49.36	99	80-120
1,3-Dichloropropane	50.00	47.05	94	80-120
2-Chlorotoluene	50.00	44.48	89	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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
4-Chlorotoluene	50.00	44.61	89	80-120
p-Isopropyltoluene	50.00	46.35	93	80-120
Bromochloromethane	50.00	52.80	106	80-120
Bromobenzene	50.00	46.42	93	80-120
Dibromomethane	50.00	51.22	102	80-120
Hexachlorobutadiene	50.00	49.83	100	80-120
n-Propylbenzene	50.00	45.14	90	80-120
n-Butylbenzene	50.00	48.19	96	80-120
Styrene	50.00	48.08	96	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID: D121901 BFB Injection Date: 12/19/17

Instrument ID: VOA2 BFB Injection Time: 0921

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.1
75	30.0 - 60.0% of mass 95	43.0
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	83.4
175	5.0 - 9.0% of mass 174	6.7 (8.0)1
176	95.0 - 101.0% of mass 174	80.0 (95.9)1
177	5.0 - 9.0% of mass 176	5.8 (7.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD00.5	VSTD00.5	D121903	12/19/17	1010
02	VSTD001	VSTD001	D121904	12/19/17	1034
03	VSTD002	VSTD002	D121905	12/19/17	1059
04	VSTD005	VSTD005	D121906	12/19/17	1123
05	VSTD010	VSTD010	D121907	12/19/17	1147
06	VSTD020	VSTD020	D121908	12/19/17	1214
07	VSTD050	VSTD050	D121909	12/19/17	1239
08	VSTD100	VSTD100	D121910	12/19/17	1303
09	VSTD200	VSTD200	D121911	12/19/17	1327
10	VSTD-ICV	VSTD-ICV	D121913	12/19/17	1416
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF0.5: D121903 RF1: D121904 RF2: D121905
RF5: D121906 RF10: D121907 RF20: D121908

COMPOUND	RF0.5	RF1	RF2	RF5	RF10	RF20
1,1,1-Trichloroethane	0.804	0.803	0.745	0.714	0.797	0.794
1,1,1,2-Tetrachloroethane	0.414	0.439	0.395	0.373	0.404	0.406
tert-Butylbenzene	3.220	3.180	2.800	2.512	2.689	2.709
Naphthalene	1123	3453	8523	34239	75559	161007
sec-Butylbenzene	4.297	4.084	3.646	3.220	3.596	3.673
1,1,2,2-Tetrachloroethane	1.431	1.401	1.274	1.150	1.186	1.090
1,1,2-Trichloroethane	0.354	0.348	0.305	0.289	0.300	0.299
1,1-Dichloropropene	2906	4681	7445	15499	28773	61975
1,1-Dichloroethane	1.067	1.147	1.054	0.993	1.054	1.040
1,1-Dichloroethene	0.347	0.438	0.420	0.379	0.435	0.435
1,2,4-Trichlorobenzene	0.741	0.962	0.873	0.877	0.991	1.106
1,2-Dibromo-3-Chloropropane	130	527	1073	2812	5460	11302
1,2-Dibromoethane	0.400	0.401	0.383	0.365	0.383	0.384
1,2-Dichlorobenzene	2.062	2.084	1.842	1.715	1.791	1.780
1,2-Dichloroethane	2076	3910	7652	19328	11455	73153
1,2-Dichloropropane	0.387	0.431	0.432	0.405	0.415	0.380
1,3-Dichlorobenzene	2.189	2.106	1.936	1.751	1.807	1.846
1,4-Dichlorobenzene	2.070	2.116	1.792	1.663	1.737	1.705
2-Butanone	0.276	0.300	0.260	0.271	0.264	0.247
2-Hexanone	0.322	0.328	0.307	0.274	0.293	0.277
4-Methyl-2-Pentanone	0.516	0.532	0.464	0.436	0.460	0.427
Acetone	2564	3611	4810	8024	15119	33367
Benzene	1.437	1.580	1.320	1.264	1.338	1.249
Bromodichloromethane	0.500	0.504	0.449	0.430	0.470	0.468
Bromoform	0.284	0.260	0.286	0.279	0.295	0.305
Bromomethane	1436	2542	4860	11772	19732	37890
Carbon Disulfide	1.039	0.948	0.859	0.833	0.960	0.977
Carbon Tetrachloride	0.626	0.510	0.521	0.436	0.486	0.452
Chlorobenzene	1.171	1.198	1.074	0.999	1.027	1.014
Chloroethane	0.355	0.450	0.438	0.496	0.423	0.409
Chloroform	0.988	0.952	0.930	0.874	0.930	0.895
Chloromethane	3374	5969	10010	22250	43035	90594
cis-1,2-Dichloroethene	0.668	0.561	0.587	0.540	0.564	0.544
cis-1,3-Dichloropropene	0.494	0.537	0.508	0.501	0.555	0.555
Dibromochloromethane	0.437	0.446	0.415	0.403	0.432	0.447
Dichlorodifluoromethane	0.376	0.410	0.356	0.382	0.460	0.479
Ethylbenzene	0.652	0.647	0.572	0.512	0.543	0.558
Isopropylbenzene	1.988	1.980	1.718	1.614	1.751	1.742
Methylene Chloride	0.664	0.606	0.547	0.518	0.532	0.512
Tetrachloroethene	2878	3904	5759	12517	22413	46886
Toluene	1.769	1.891	1.653	1.549	1.594	1.597
trans-1,2-Dichloroethene	0.349	0.427	0.475	0.423	0.462	0.461
trans-1,3-Dichloropropene	0.403	0.453	0.399	0.410	0.474	0.476
Trichloroethene	0.443	0.405	0.340	0.332	0.365	0.377

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF0.5: D121903 RF1: D121904 RF2: D121905
RF5: D121906 RF10: D121907 RF20: D121908

COMPOUND	RF0.5	RF1	RF2	RF5	RF10	RF20
Trichlorofluoromethane	0.537	0.608	0.565	0.540	0.679	0.679
Vinyl Chloride	0.611	0.630	0.621	0.558	0.626	0.642
m,p-Xylenes	0.813	0.786	0.693	0.640	0.682	0.677
o-Xylene	0.843	0.831	0.707	0.668	0.679	0.700
Xylenes (total)	0.738	0.726	0.617	0.588	0.634	0.617
1,2,3-Trichloropropane	1.343	1.424	1.273	1.151	1.188	1.148
1,2,3-Trichlorobenzene	0.609	0.748	0.797	0.818	0.896	0.940
1,2,4-Trimethylbenzene	4.242	4.007	3.451	3.125	3.218	3.243
1,3,5-Trimethylbenzene	4.026	3.821	3.404	3.059	3.223	3.167
2,2-Dichloropropane	0.729	0.794	0.715	0.676	0.750	0.734
1,3-Dichloropropane	0.710	0.742	0.619	0.586	0.593	0.601
2-Chlorotoluene	3.397	3.467	3.108	2.685	2.712	2.746
4-Chlorotoluene	3.737	3.682	3.298	2.962	3.019	2.968
p-Isopropyltoluene	3.778	3.456	3.033	2.864	3.057	3.110
Bromochloromethane	0.269	0.253	0.255	0.262	0.283	0.284
Bromobenzene	1.383	1.191	1.158	1.049	1.064	1.061
Dibromomethane	0.196	0.197	0.196	0.197	0.217	0.212
Hexachlorobutadiene	963	1399	2593	6524	13741	30591
n-Propylbenzene	4.960	4.944	4.499	3.983	4.179	4.225
n-Butylbenzene	2.497	2.531	2.124	2.093	2.307	2.450
Styrene	1.220	1.281	1.151	1.057	1.155	1.152
1,2-Dichloroethane-d4	0.632	0.541	0.571	0.505	0.571	0.546
Dibromofluoromethane	0.512	0.501	0.479	0.440	0.446	0.431
Toluene-d8	1.673	1.539	1.340	1.195	1.287	1.242
4-Bromofluorobenzene		0.618	0.516	0.462	0.490	0.466

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF50: D121909 RF100: D121910 RF200: D121911

COMPOUND	RF50	RF100	RF200
1,1,1-Trichloroethane	0.792	0.774	0.734
1,1,1,2-Tetrachloroethane	0.397	0.392	0.371
tert-Butylbenzene	2.592	2.464	2.320
Naphthalene	395649	794606	1461418
sec-Butylbenzene	3.438	3.291	3.100
1,1,2,2-Tetrachloroethane	1.084	1.085	1.034
1,1,2-Trichloroethane	0.294	0.288	0.275
1,1-Dichloropropene	151900	286474	583601
1,1-Dichloroethane	1.050	1.026	0.963
1,1-Dichloroethene	0.437	0.431	0.391
1,2,4-Trichlorobenzene	1.106	1.128	1.079
1,2-Dibromo-3-Chloropropane	30643	61519	121157
1,2-Dibromoethane	0.380	0.383	0.368
1,2-Dichlorobenzene	1.732	1.646	1.522
1,2-Dichloroethane	175492	337824	662291
1,2-Dichloropropane	0.375	0.370	0.351
1,3-Dichlorobenzene	1.790	1.745	1.661
1,4-Dichlorobenzene	1.708	1.694	1.614
2-Butanone	0.265	0.280	0.264
2-Hexanone	0.278	0.285	0.272
4-Methyl-2-Pentanone	0.426	0.426	0.395
Acetone	83806	155352	314789
Benzene	1.267	1.235	1.150
Bromodichloromethane	0.463	0.467	0.439
Bromoform	0.317	0.328	0.316
Bromomethane	88179	161998	315966
Carbon Disulfide	0.984	0.960	0.922
Carbon Tetrachloride	0.409	0.428	0.406
Chlorobenzene	0.976	0.938	0.869
Chloroethane	0.368	0.365	0.335
Chloroform	0.914	0.895	0.826
Chloromethane	201934	389398	800291
cis-1,2-Dichloroethene	0.568	0.561	0.526
cis-1,3-Dichloropropene	0.564	0.563	0.535
Dibromochloromethane	0.441	0.440	0.424
Dichlorodifluoromethane	0.470	0.466	0.448
Ethylbenzene	0.520	0.491	0.465
Isopropylbenzene	1.628	1.532	1.391
Methylene Chloride	0.524	0.525	0.496
Tetrachloroethene	108668	206898	413430
Toluene	1.481	1.409	1.316
trans-1,2-Dichloroethene	0.491	0.474	0.453
trans-1,3-Dichloropropene	0.486	0.504	0.488
Trichloroethene	0.364	0.360	0.348

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF50: D121909 RF100: D121910 RF200: D121911

COMPOUND	RF50	RF100	RF200
Trichlorofluoromethane	0.669	0.651	0.620
Vinyl Chloride	0.619	0.623	0.585
m,p-Xylenes	0.631	0.594	0.550
o-Xylene	0.678	0.644	0.596
Xylenes (total)	0.583	0.556	0.514
1,2,3-Trichloropropane	1.159	1.174	0.858
1,2,3-Trichlorobenzene	0.914	0.982	0.934
1,2,4-Trimethylbenzene	3.063	2.910	2.715
1,3,5-Trimethylbenzene	3.000	2.851	2.639
2,2-Dichloropropane	0.741	0.730	0.686
1,3-Dichloropropane	0.578	0.577	0.545
2-Chlorotoluene	2.590	2.489	2.369
4-Chlorotoluene	2.875	2.736	2.555
p-Isopropyltoluene	2.916	2.821	2.664
Bromochloromethane	0.279	0.286	0.263
Bromobenzene	1.056	1.030	0.989
Dibromomethane	0.207	0.211	0.202
Hexachlorobutadiene	68105	134255	266365
n-Propylbenzene	3.932	3.780	3.543
n-Butylbenzene	2.286	2.203	2.095
Styrene	1.107	1.044	0.953
1,2-Dichloroethane-d4	0.554	0.564	0.522
Dibromofluoromethane	0.432	0.424	0.390
Toluene-d8	1.163	1.108	
4-Bromofluorobenzene	0.450	0.440	0.409

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
1,1,1-Trichloroethane	AVRG		0.77276924	4.350	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.39899030	5.212	15.000
tert-Butylbenzene	AVRG		2.72069995	11.280	15.000
Naphthalene	LINR	-1.06e-002	0.39396060	0.9979078	0.9900000
sec-Butylbenzene	AVRG		3.59394331	10.964	15.000
1,1,2,2-Tetrachloroethane	AVRG		1.19275495	12.147	15.000
1,1,2-Trichloroethane	AVRG		0.30586501	8.839	15.000
1,1-Dichloropropene	LINR	-1.87e-002	2.61428031	0.9997801	0.9900000
1,1-Dichloroethane	AVRG		1.04387562	4.895	15.000
1,1-Dichloroethene	AVRG		0.41266966	7.912	15.000
1,2,4-Trichlorobenzene	AVRG		0.98501350	13.569	15.000
1,2-Dibromo-3-Chloropropane	LINR	1.077e-002	4.80773795	0.9997728	0.9900000
1,2-Dibromoethane	AVRG		0.38308597	3.220	15.000
1,2-Dichlorobenzene	AVRG		1.79719079	10.110	15.000
1,2-Dichloroethane	LINR	-2.e-003	2.26967717	0.9977457	0.9900000
1,2-Dichloropropane	AVRG		0.39381920	7.224	15.000
1,3-Dichlorobenzene	AVRG		1.87027266	9.388	15.000
1,4-Dichlorobenzene	AVRG		1.78884060	10.034	15.000
2-Butanone	AVRG		0.26980121	5.521	15.000
2-Hexanone	AVRG		0.29295978	7.283	15.000
4-Methyl-2-Pentanone	AVRG		0.45362315	9.861	15.000
Acetone	LINR	-4.69e-002	6.17516382	0.9992633	0.9900000
Benzene	AVRG		1.31556367	9.655	15.000
Bromodichloromethane	AVRG		0.46564182	5.335	15.000
Bromoform	AVRG		0.29659331	7.335	15.000
Bromomethane	LINR	-5.e-002	3.06715228	0.9980188	0.9900000
Carbon Disulfide	AVRG		0.94240963	6.753	15.000
Carbon Tetrachloride	AVRG		0.47493257	14.801	15.000
Chlorobenzene	AVRG		1.02970292	10.206	15.000
Chloroethane	AVRG		0.40453032	13.046	15.000
Chloroform	AVRG		0.91157626	5.113	15.000
Chloromethane	LINR	-1.91e-002	1.21864727	0.9997769	0.9900000
cis-1,2-Dichloroethene	AVRG		0.56884012	7.235	15.000
cis-1,3-Dichloropropene	AVRG		0.53474402	5.103	15.000
Dibromochloromethane	AVRG		0.43168732	3.484	15.000
Dichlorodifluoromethane	AVRG		0.42743627	10.958	15.000
Ethylbenzene	AVRG		0.55113746	11.724	15.000
Isopropylbenzene	AVRG		1.70498371	11.397	15.000
Methylene Chloride	AVRG		0.54727576	9.818	15.000
Tetrachloroethene	LINR	-3.42e-002	3.35406776	0.9995193	0.9900000
Toluene	AVRG		1.58456836	11.098	15.000
trans-1,2-Dichloroethene	AVRG		0.44636929	9.521	15.000
trans-1,3-Dichloropropene	AVRG		0.45502367	8.923	15.000
Trichloroethene	AVRG		0.37033768	9.361	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Trichlorofluoromethane	AVRG		0.61649749	9.352	15.000
Vinyl Chloride	AVRG		0.61283948	4.188	15.000
m,p-Xylenes	AVRG		0.67400585	12.531	15.000
o-Xylene	AVRG		0.70513462	11.580	15.000
Xylenes (total)	AVRG		0.61936012	11.870	15.000
1,2,3-Trichloropropane	AVRG		1.19108795	13.263	15.000
1,2,3-Trichlorobenzene	AVRG		0.84874055	13.882	15.000
1,2,4-Trimethylbenzene	AVRG		3.33043722	14.988	15.000
1,3,5-Trimethylbenzene	AVRG		3.24331762	13.740	15.000
2,2-Dichloropropane	AVRG		0.72842815	4.762	15.000
1,3-Dichloropropane	AVRG		0.61691019	10.615	15.000
2-Chlorotoluene	AVRG		2.84031752	13.816	15.000
4-Chlorotoluene	AVRG		3.09264178	13.064	15.000
p-Isopropyltoluene	AVRG		3.07768873	11.169	15.000
Bromochloromethane	AVRG		0.27070416	4.764	15.000
Bromobenzene	AVRG		1.10912501	10.843	15.000
Dibromomethane	AVRG		0.20408606	3.962	15.000
Hexachlorobutadiene	LINR	-8.76e-003	2.20054899	0.9998445	0.9900000
n-Propylbenzene	AVRG		4.22741997	11.650	15.000
n-Butylbenzene	AVRG		2.28734751	7.553	15.000
Styrene	AVRG		1.12463170	8.714	15.000
1,2-Dichloroethane-d4	AVRG		0.55637893	6.497	15.000
Dibromofluoromethane	AVRG		0.45048639	8.752	15.000
Toluene-d8	AVRG		1.31829540	14.782	15.000
4-Bromofluorobenzene	AVRG		0.48140050	13.223	15.000

FORM VI VOA

MSVOA02 -Logbook

Batch: 30538
Date: 01-19-2018
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	01-19-2018 12:03 pm	1.00	50 mL	50 mL	D011901.D	Liquid	Y	NA
2	*Auto find/purged* CCV	CCV	01-19-2018 12:28 pm	1.00	50 mL	50 mL	D011902.D	Liquid	Y	NA
3	*10 uL cal std/50 mL DI* CCB	SAMP	01-19-2018 12:52 pm	1.00	50 mL	50 mL	D011903.D	Liquid	Y	NA
4	*CCB* VLCSW-180119	LCS	01-19-2018 01:17 pm	1.00	50 mL	50 mL	D011904.D	Liquid	Y	NA
5	*10 uL cal std/50 mL DI* VLCSDW-180119	LCSD	01-19-2018 01:42 pm	1.00	50 mL	50 mL	D011905.D	Liquid	Y	NA
6	*10 uL cal std/50 mL DI* BLK	SAMP	01-19-2018 02:06 pm	1.00	50 mL	50 mL	D011906.D	Liquid	Y	NA
7	*Cleanup blk* VBLKW-180119	MBLK	01-19-2018 02:31 pm	1.00	50 mL	50 mL	D011907.D	Liquid	Y	NA
8	HS18010632-25	SAMP	01-19-2018 02:55 pm	1.00	50 mL	50 mL	D011908.D	Liquid	Y	<2
9	HS18010632-28	SAMP	01-19-2018 03:20 pm	1.00	50 mL	50 mL	D011909.D	Liquid	Y	<2
10	HS18010632-29	SAMP	01-19-2018 03:44 pm	1.00	50 mL	50 mL	D011910.D	Liquid	Y	<2
11	HS18010648-01	SAMP	01-19-2018 04:10 pm	1.00	50 mL	50 mL	D011911.D	Liquid	Y	<2
12	HS18010648-02	SAMP	01-19-2018 04:33 pm	1.00	50 mL	50 mL	D011912.D	Liquid	Y	<2
13	HS18010648-03	SAMP	01-19-2018 04:58 pm	1.00	50 mL	50 mL	D011913.D	Liquid	Y	<2
14	HS18010472-02	SAMP	01-19-2018 05:22 pm	1.00	50 mL	50 mL	D011914.D	Liquid	Y	<2
15	HS18010472-03	SAMP	01-19-2018 05:47 pm	1.00	50 mL	50 mL	D011915.D	Liquid	Y	<2
16	HS18010472-04	SAMP	01-19-2018 06:11 pm	1.00	50 mL	50 mL	D011916.D	Liquid	Y	<2
17	HS18010472-02MS	MS	01-19-2018 06:36 pm	1.00	50 mL	50 mL	D011917.D	Liquid	Y	<2
18	*8 uL cal std/40 mL sample* HS18010472-02MSD	MSD	01-19-2018 07:00 pm	1.00	50 mL	50 mL	D011918.D	Liquid	Y	<2
19	*8 uL cal std/40 mL sample* HS18010502-14	SAMP	01-19-2018 07:25 pm	1.00	50 mL	50 mL	D011919.D	Liquid	Y	<2
20	HS18010704-12	SAMP	01-19-2018 07:49 pm	1.00	50 mL	50 mL	D011920.D	Liquid	Y	<2
21	HS18010648-01	SAMP	01-19-2018 08:14 pm	1.00	50 mL	50 mL	D011921.D	Liquid	Y	<2
22	HS18010396-01	SAMP	01-19-2018 08:38 pm	1.00	50 mL	50 mL	D011922.D	Liquid	Y	<2
23	HS18010642-02	SAMP	01-19-2018 09:03 pm	1.00	50 mL	50 mL	D011923.D	Liquid	Y	<2
24	HS18010642-04	SAMP	01-19-2018 09:27 pm	1.00	50 mL	50 mL	D011924.D	Liquid	Y	<2
25	HS18010642-06	SAMP	01-19-2018 09:52 pm	1.00	50 mL	50 mL	D011925.D	Liquid	Y	<2
26	HS18010642-09	SAMP	01-19-2018 10:16 pm	1.00	50 mL	50 mL	D011926.D	Liquid	Y	<2
27	HS18010642-10	SAMP	01-19-2018 10:41 pm	1.00	50 mL	50 mL	D011927.D	Liquid	Y	<2
28	HS18010642-13	SAMP	01-19-2018 11:06 pm	1.00	50 mL	50 mL	D011928.D	Liquid	Y	<2
29	HS18010642-15	SAMP	01-19-2018 11:30 pm	1.00	50 mL	50 mL	D011929.D	Liquid	Y	<2

MSVOA02 -Logbook

Chemical	Value
SURR ID	30603-01-03
IS ID	30603-01-04
LCS/MS ID	30603-02-01
CAL STD ID	30603-02-01
BFB ID	30603-01-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

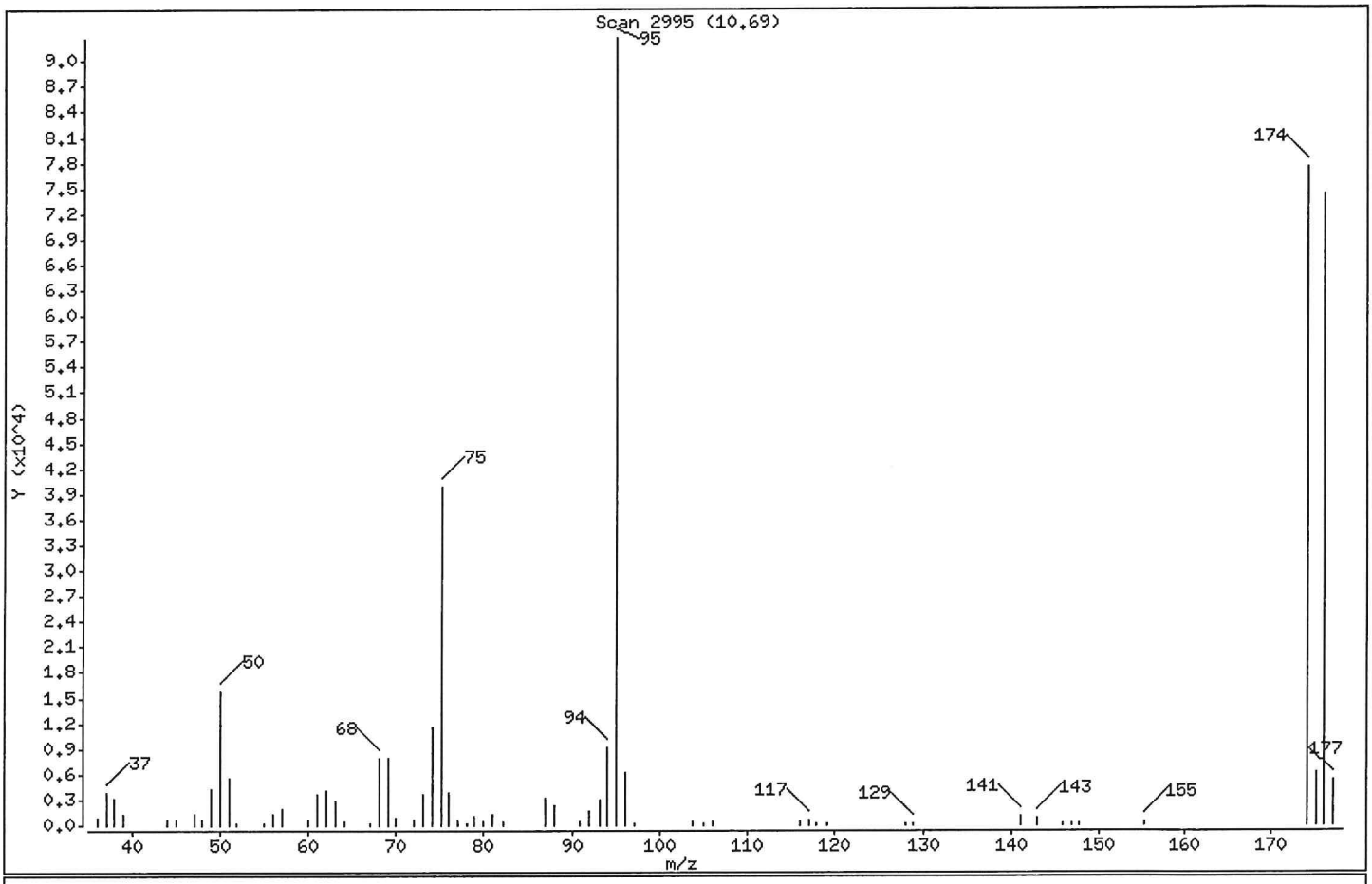
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.10
75	30.00 - 60.00% of mass 95	42.98
96	5.00 - 9.00% of mass 95	6.70
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	83.41
175	5.00 - 9.00% of mass 174	6.69 (8.02)
176	95.00 - 101.00% of mass 174	80.00 (95.92)
177	5.00 - 9.00% of mass 176	5.80 (7.25)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: D121901.D
Spectrum: Scan 2995 (10.69)
Location of Maximum: 95.10
Number of points: 63

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	848	61.10	3681	80.00	392	117.00	535
37.10	3899	62.10	4118	81.00	1369	117.90	289
38.10	3186	63.00	2763	82.10	505	119.00	178
39.10	1261	64.10	359	87.00	3297	128.00	213
44.00	703	67.00	160	88.00	2355	128.80	224
45.10	701	68.10	7863	90.80	345	141.00	1018
47.10	1299	69.10	7818	92.00	1652	143.00	802
48.00	615	70.00	864	93.10	3058	145.80	176
49.00	4200	72.00	664	94.10	9230	146.90	167
50.10	15838	73.00	3522	95.10	92608	147.80	292
51.10	5508	74.00	11471	96.00	6202	155.10	321
52.00	204	75.10	39800	97.10	186	174.00	77240
55.10	193	76.00	3881	103.80	420	175.00	6192
56.10	1190	77.00	562	104.90	165	176.00	74088
57.00	1938	78.00	270	106.00	442	177.00	5369
60.00	615	78.90	1147	116.00	390		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

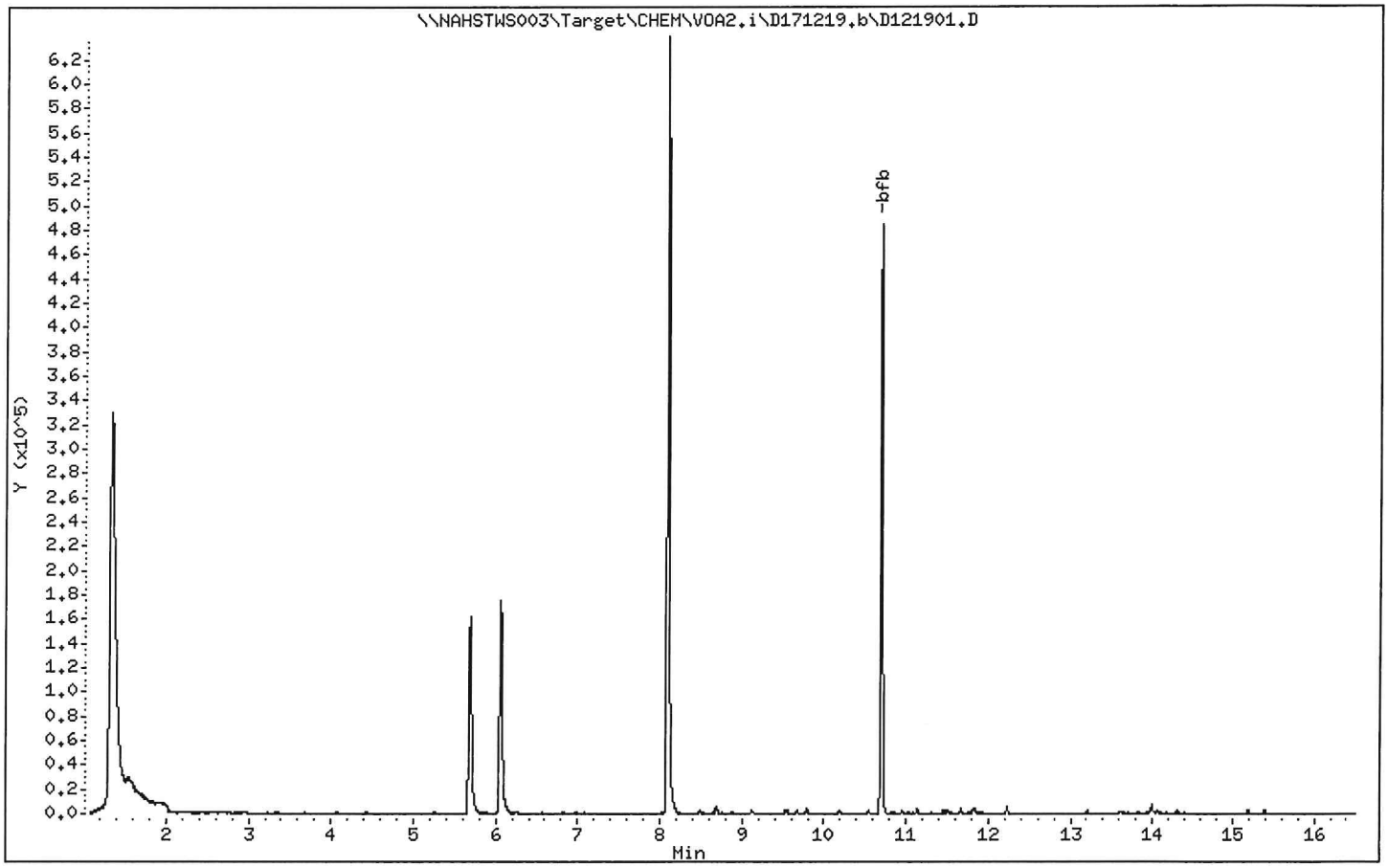
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



ALS Laboratory Group

Data file : \\nahstws003\Target\chem\ECD-9.i\180208.b\039.D
Lab Smp Id: TEST Client Smp ID: TEST
Inj Date : 09-FEB-2018 16:54
Operator : STH Inst ID: ECD-9.i
Smp Info : TEST;TEST;;;
Misc Info : ;1;0;1
Comment : SW-846 EDB,DBCP AND 1,2,3-TCP ANALYSIS
Method : \\nahstws003\Target\chem\ECD-9.i\180208.b\8011.m
Meth Date : 10-Jan-2018 16:27 Quant Type: ESTD
Cal Date : 10-JAN-2018 15:46 Cal File: 003.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 504.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * 35/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	35.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

				CONCENTRATIONS ON-COL (ppb)	CONCENTRATIONS FINAL (ug/L)		
RT	EXP RT	DLT RT	RESPONSE			TARGET RANGE	RATIO
2 TCP					CAS #: 96-18-4		
9.543	9.596	-0.053	14807	0.24906	0.249056		

00872678

Data File: \\nahstws003\Target\chem\ECD-9.i\180208.b\039.D

Date : 09-FEB-2018 16:54

Client ID: TEST

Instrument: ECD-9.i

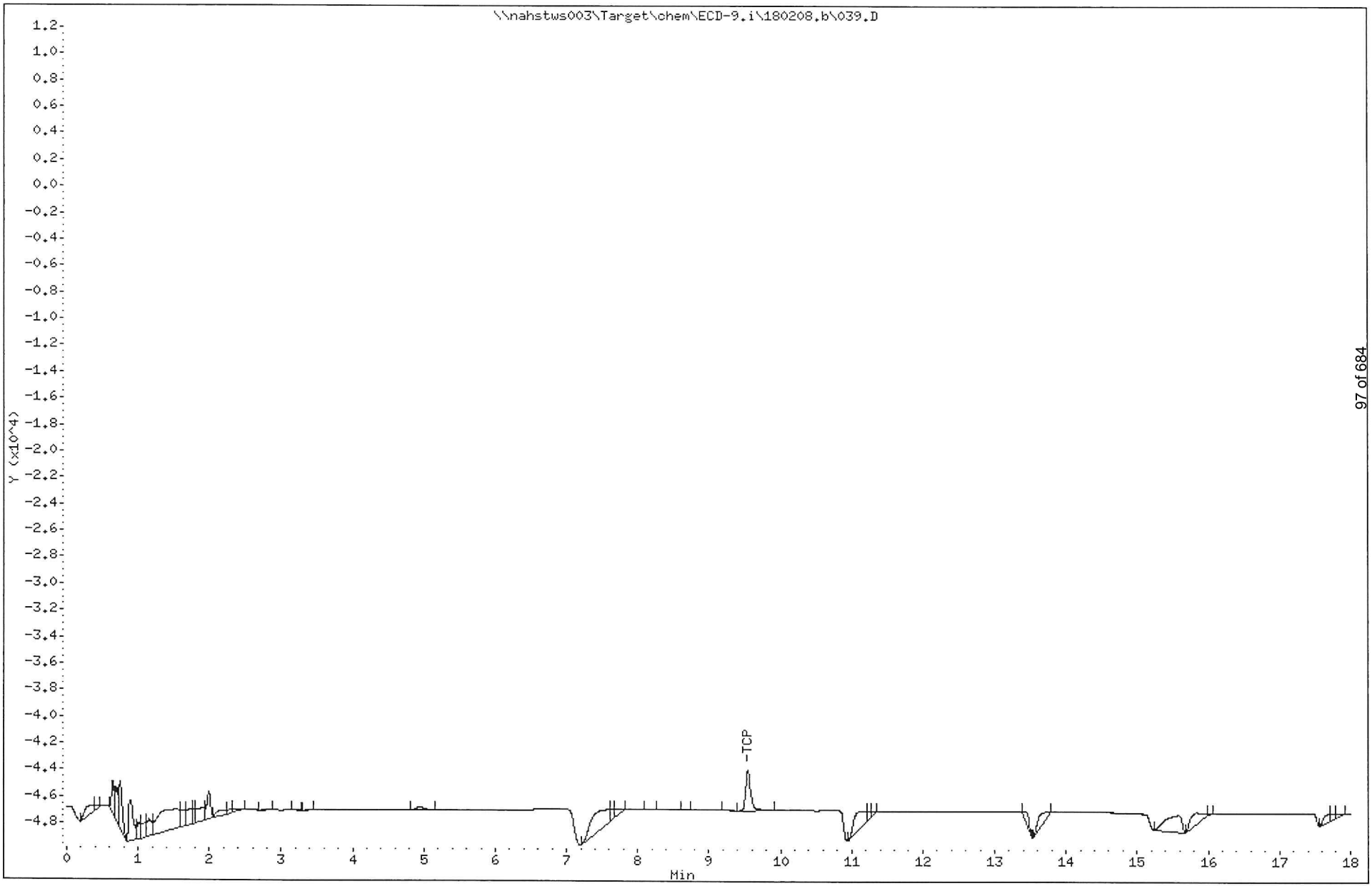
Sample Info: TEST;TEST;;;

Volume Injected (uL): 1.0

Operator: STH

Column phase: RTX-CLP

Column diameter: 0.50



Data File: 039.D
Report Date: 09-Feb-2018 17:15

ALS Laboratory Group

Data file : \\nahstws003\Target\chem\ECD-9.i\180208.b\180208.b\039.D
Lab Smp Id: TEST Client Smp ID: TEST
Inj Date : 09-FEB-2018 16:54
Operator : STH Inst ID: ECD-9.i
Smp Info : TEST;TEST;;;
Misc Info : ;1;0;1
Comment   : SW-846 EDB, DBCP AND 1, 2, 3-TCP ANALYSIS
Method   : \\nahstws003\Target\chem\ECD-9.i\180208.b\8011.m\8011.m
Meth Date : 10-Jan-2018 16:27 Quant Type: ESTD
Cal Date : 04-JAN-2018 17:00 Cal File: 004.D
Als bottle: 1
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 504.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * 35/Vo * CpndVariable

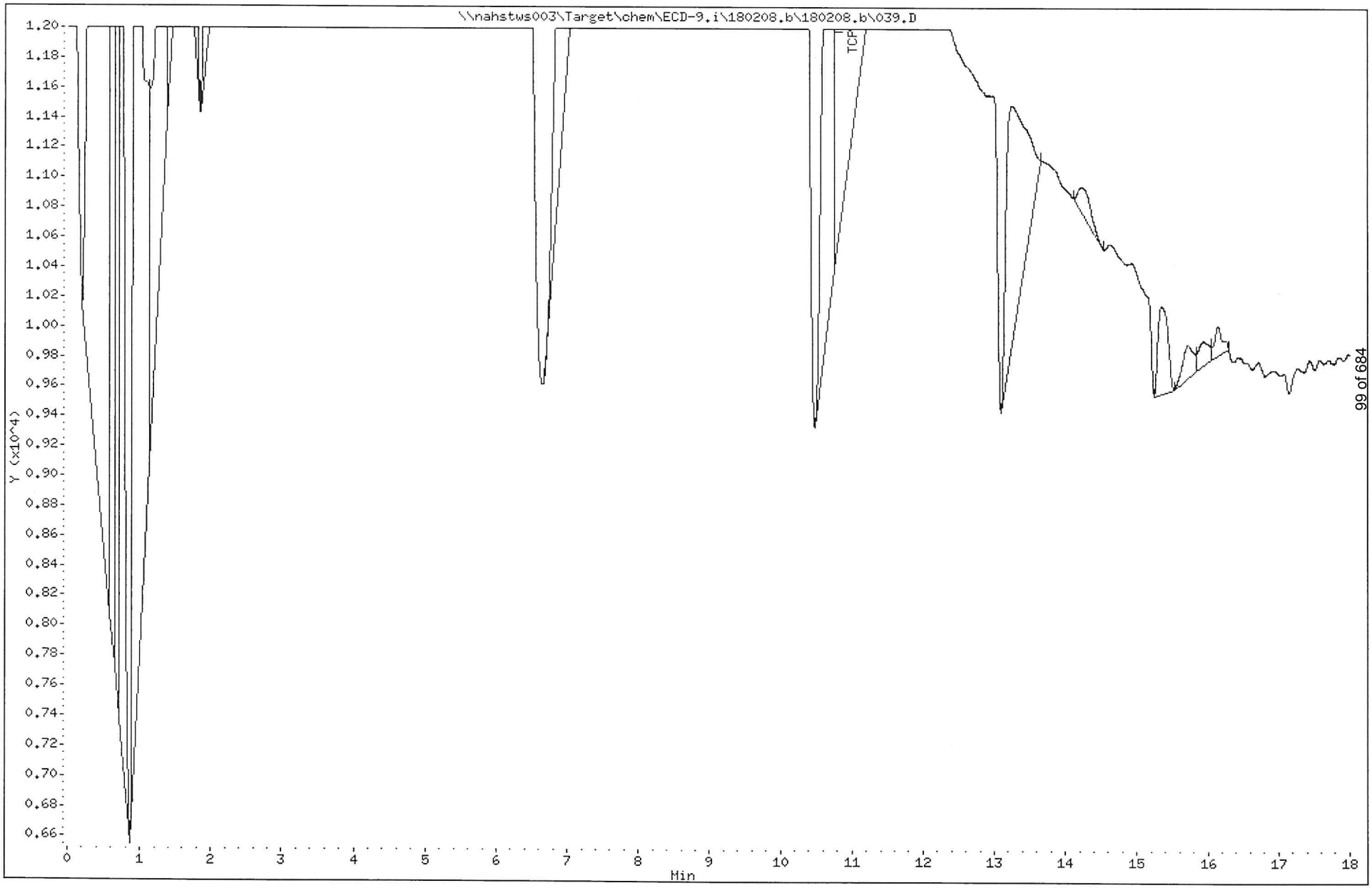
Name	Value	Description
DF	1.000	Dilution Factor
Vo	35.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

				CONCENTRATIONS ON-COL (ppb)	CONCENTRATIONS FINAL (ug/L)		
RT	EXP RT	DLT RT	RESPONSE			TARGET RANGE	RATIO
2 TCP					CAS #: 96-18-4		
10.743	10.749	-0.006	29884	0.25055	0.250546		

00872680

Data File: \\nahstws003\Target\chem\ECD-9.i\180208.b\180208.b\039.D
Date : 09-FEB-2018 16:54
Client ID: TEST
Sample Info: TEST;TEST;;;
Volume Injected (uL): 1.0
Column phase: RTX-CLP2

Instrument: ECD-9.i
Operator: STH
Column diameter: 0.50



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 17:29

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Lab Smp Id: VSTD00.5 Client Smp ID: VSTD00.5
Inj Date : 19-DEC-2017 10:10
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD00.5;VSTD00.5;1;1;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:29 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:27 Cal File: D121911.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
31	1,1,1-Trichloroethane	97	5.657	5.657	(0.979)	2140	0.50000	0.52(aM)
* 1	Pentafluorobenzene	168	5.779	5.779	(1.000)	266257	50.0000	
$ 30	Dibromofluoromethane	113	5.693	5.693	(0.985)	1363	0.50000	0.56(aM)
* 36	1,4-Difluorobenzene	114	6.569	6.569	(1.000)	394668	50.0000	
$ 35	1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	1684	0.50000	0.56(aM)
* 47	Chlorobenzene-d5	117	9.524	9.524	(1.000)	354076	50.0000	
$ 48	Toluene-d8	98	8.093	8.093	(0.850)	5924	0.50000	0.63(Ta)
$ 69	4-Bromofluorobenzene	95	10.698	10.698	(1.123)	2922	0.50000	0.85(a)
* 70	1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	145249	50.0000	
68	1,1,2,2-Tetrachloroethane	83	10.878	10.878	(0.919)	2079	0.50000	0.60(aM)
53	1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	1254	0.50000	0.57(aM)
32	1,1-Dichloropropene	75	5.850	5.850	(0.891)	2906	0.50000	0.02(aM)
22	1,1-Dichloroethane	63	4.281	4.281	(0.741)	2841	0.50000	0.51(aM)
11	1,1-Dichloroethene	96	2.753	2.753	(0.476)	924	0.50000	0.42(aM)
90	1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	1076	0.50000	0.37(aM)
89	1,2-Dibromo-3-Chloropropane	75	13.015	13.015	(1.099)	130	0.50000	0.75(aM)
57	1,2-Dibromoethane	107	9.072	9.072	(0.952)	1418	0.50000	0.52(aM)
88	1,2-Dichlorobenzene	146	12.229	12.229	(1.033)	2995	0.50000	0.57(aM)
33	1,2-Dichloroethane	62	6.145	6.145	(0.936)	2076	0.50000	0.49(aM)
42	1,2-Dichloropropane	63	7.066	7.066	(1.076)	1527	0.50000	0.49(aM)
83	1,3-Dichlorobenzene	146	11.764	11.764	(0.994)	3180	0.50000	0.58(aM)

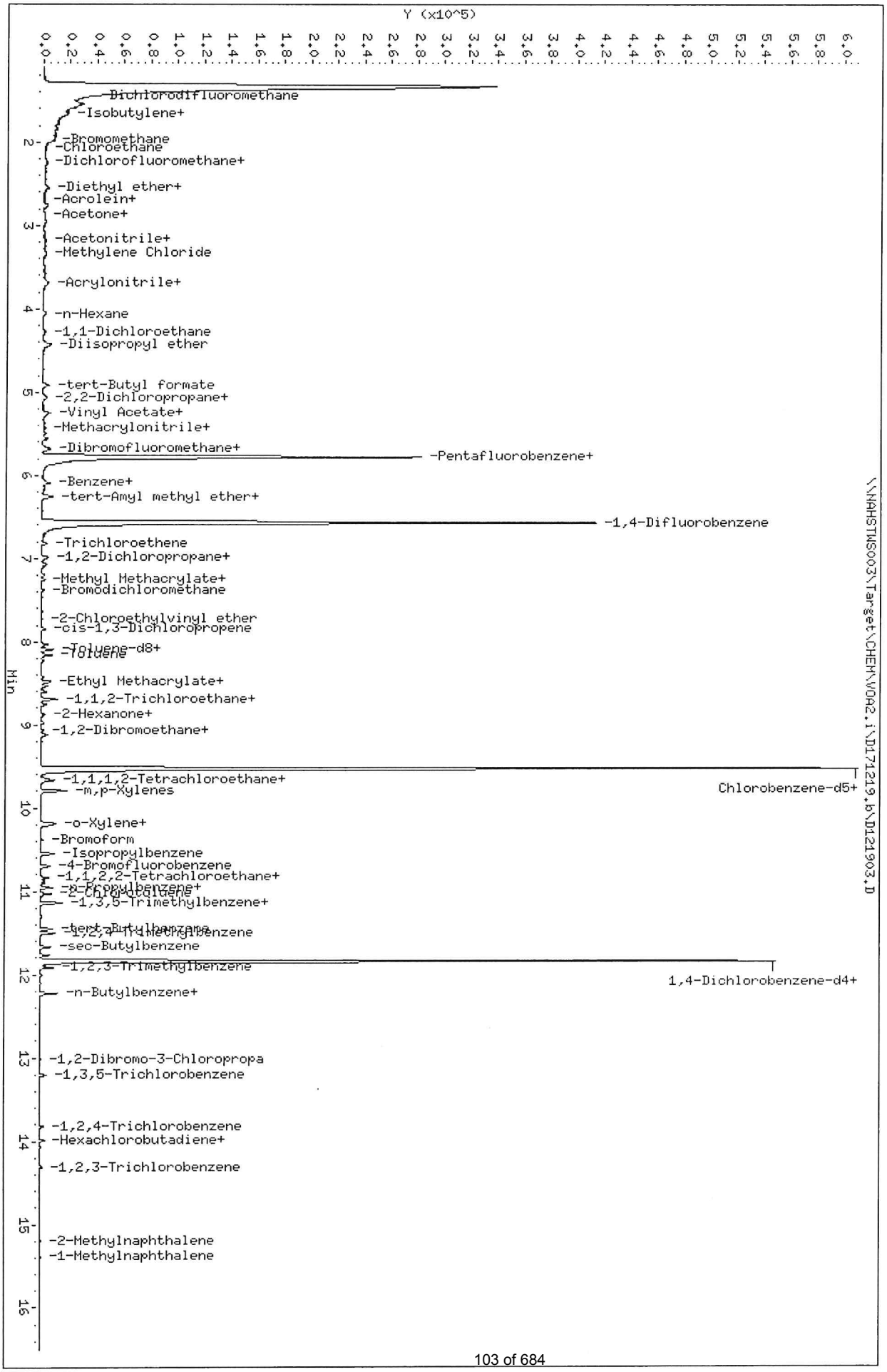
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 17:29

	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	11.863	11.863	(1.002)	3007	0.50000	0.57(a)
24	2-Butanone	43	5.169	5.169	(0.895)	1469	1.00000	1.02(aM)
52	2-Hexanone	43	8.873	8.873	(0.932)	2281	1.00000	1.09(aM)
45	4-Methyl-2-Pentanone	43	8.032	8.032	(0.843)	3651	1.00000	1.13(aM)
10	Acetone	43	2.865	2.865	(0.496)	2564	1.00000	0.62(aM)
37	Benzene	78	6.087	6.087	(0.927)	5673	0.50000	0.54(aM)
39	Bromodichloromethane	83	7.377	7.377	(1.123)	1975	0.50000	0.53(aM)
66	Bromoform	173	10.374	10.374	(1.089)	1005	0.50000	0.47(aM)
6	Bromomethane	94	1.964	1.964	(0.340)	1436	0.50000	(aM)
19	Carbon Disulfide	76	2.952	2.952	(0.511)	5535	1.00000	1.10(aM)
34	Carbon Tetrachloride	117	5.821	5.821	(0.886)	2469	0.50000	0.65(aM)
59	Chlorobenzene	112	9.556	9.556	(1.003)	4146	0.50000	0.56(Ta)
7	Chloroethane	64	2.028	2.028	(0.351)	945	0.50000	0.43(aM)
28	Chloroform	83	5.497	5.497	(0.951)	2630	0.50000	0.54(aM)
3	Chloromethane	50	1.595	1.595	(0.276)	3374	0.50000	(aM)
27	cis-1,2-Dichloroethene	96	5.076	5.076	(0.878)	1778	0.50000	0.58(aM)
46	cis-1,3-Dichloropropene	75	7.846	7.846	(1.194)	1950	0.50000	0.46(aM)
55	Dibromochloromethane	129	8.972	8.972	(0.942)	1549	0.50000	0.50(aM)
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	1000	0.50000	0.43(aM)
61	Ethylbenzene	106	9.668	9.668	(1.015)	2309	0.50000	0.59(aM)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	7040	0.50000	0.58(aM)
17	Methylene Chloride	84	3.334	3.334	(0.577)	1769	0.50000	0.60(aM)
56	Tetrachloroethene	164	8.693	8.693	(0.913)	2878	0.50000	(aM)
50	Toluene	91	8.160	8.160	(0.857)	6264	0.50000	0.55(Ta)
20	trans-1,2-Dichloroethene	96	3.677	3.677	(0.636)	930	0.50000	0.39(aM)
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.282)	1589	0.50000	0.44(aM)
38	Trichloroethene	130	6.816	6.816	(1.038)	1748	0.50000	0.59(aM)
8	Trichlorofluoromethane	101	2.237	2.237	(0.387)	1431	0.50000	0.43(aM)
5	Vinyl Chloride	62	1.681	1.681	(0.291)	1626	0.50000	0.49(aM)
62	m,p-Xylenes	106	9.790	9.790	(1.028)	5758	1.00000	1.20(aM)
63	o-Xylene	106	10.185	10.185	(1.069)	2985	0.50000	0.59(aM)
M 95	Xylenes (total)	106				8743	1.50000	(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	1951	0.50000	0.56(aM)
93	1,2,3-Trichlorobenzene	182	14.312	14.312	(1.209)	885	0.50000	0.35(aM)
79	1,2,4-Trimethylbenzene	105	11.504	11.504	(0.972)	6162	0.50000	0.63(a)
75	1,3,5-Trimethylbenzene	105	11.138	11.138	(0.941)	5847	0.50000	0.62(a)
26	2,2-Dichloropropane	77	5.048	5.048	(0.873)	1940	0.50000	0.50(aM)
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	2515	0.50000	0.57(aM)
76	2-Chlorotoluene	91	11.026	11.026	(0.931)	4934	0.50000	0.59(aM)
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	5428	0.50000	0.60(aM)
82	p-Isopropyltoluene	119	11.822	11.822	(0.999)	5487	0.50000	0.61(aM)
29	Bromochloromethane	128	5.368	5.368	(0.929)	717	0.50000	0.49(aM)
74	Bromobenzene	156	10.833	10.833	(0.915)	2009	0.50000	0.62(aM)
44	Dibromomethane	93	7.191	7.191	(1.095)	773	0.50000	0.47(aM)
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	963	0.50000	0.29(aM)
73	n-Propylbenzene	91	10.958	10.958	(0.926)	7204	0.50000	0.58(Ta)
87	n-Butylbenzene	91	12.226	12.226	(1.033)	3627	0.50000	0.54(aM)
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	6241	0.50000	0.59(aM)
92	Naphthalene	128	14.068	14.068	(1.188)	1123	0.50000	(aM)
78	tert-Butylbenzene	119	11.453	11.453	(0.967)	4677	0.50000	0.59(Ta)
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	1467	0.50000	0.51(aM)
64	Styrene	104	10.201	10.201	(1.071)	4321	0.50000	0.54(aM)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 17:29

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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Date : 19-DEC-2017 10:10
Client ID: VSTD00.5
Sample Info: VSTD00.5;VSTD00.5;1;1;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 17:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 19-DEC-2017 10:34
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD001;VSTD001;1;2;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:29 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 10:10 Cal File: D121903.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
31	1,1,1-Trichloroethane	97	5.654	5.654	(0.979)	4089	1.00000	1.03(a)
* 1	Pentafluorobenzene	168	5.776	5.776	(1.000)	254673	50.0000	
$ 30	Dibromofluoromethane	113	5.689	5.689	(0.985)	2553	1.00000	1.11(aM)
* 36	1,4-Difluorobenzene	114	6.572	6.572	(1.000)	370301	50.0000	
$ 35	1,2-Dichloroethane-d4	65	6.062	6.062	(1.049)	2757	1.00000	0.97(Ta)
* 47	Chlorobenzene-d5	117	9.524	9.524	(1.000)	335559	50.0000	
$ 48	Toluene-d8	98	8.090	8.090	(0.849)	10331	1.00000	1.16(Ta)
$ 69	4-Bromofluorobenzene	95	10.695	10.695	(1.123)	4145	1.00000	1.28(a)
* 70	1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	139780	50.0000	
68	1,1,2,2-Tetrachloroethane	83	10.875	10.875	(0.919)	3917	1.00000	1.17(aM)
53	1,1,2-Trichloroethane	83	8.603	8.603	(0.903)	2335	1.00000	1.13(aM)
32	1,1-Dichloropropene	75	5.856	5.856	(0.891)	4681	1.00000	0.71(aM)
22	1,1-Dichloroethane	63	4.284	4.284	(0.742)	5842	1.00000	1.09(aM)
11	1,1-Dichloroethene	96	2.763	2.763	(0.478)	2233	1.00000	1.06(aM)
90	1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	2691	1.00000	0.97(Ta)
89	1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	527	1.00000	1.44(aM)
57	1,2-Dibromoethane	107	9.068	9.068	(0.952)	2693	1.00000	1.04(Ta)
88	1,2-Dichlorobenzene	146	12.229	12.229	(1.033)	5826	1.00000	1.15(aM)
33	1,2-Dichloroethane	62	6.142	6.142	(0.935)	3910	1.00000	1.09(aM)
42	1,2-Dichloropropane	63	7.073	7.073	(1.076)	3194	1.00000	1.09(aM)
83	1,3-Dichlorobenzene	146	11.770	11.770	(0.994)	5888	1.00000	1.12(aM)

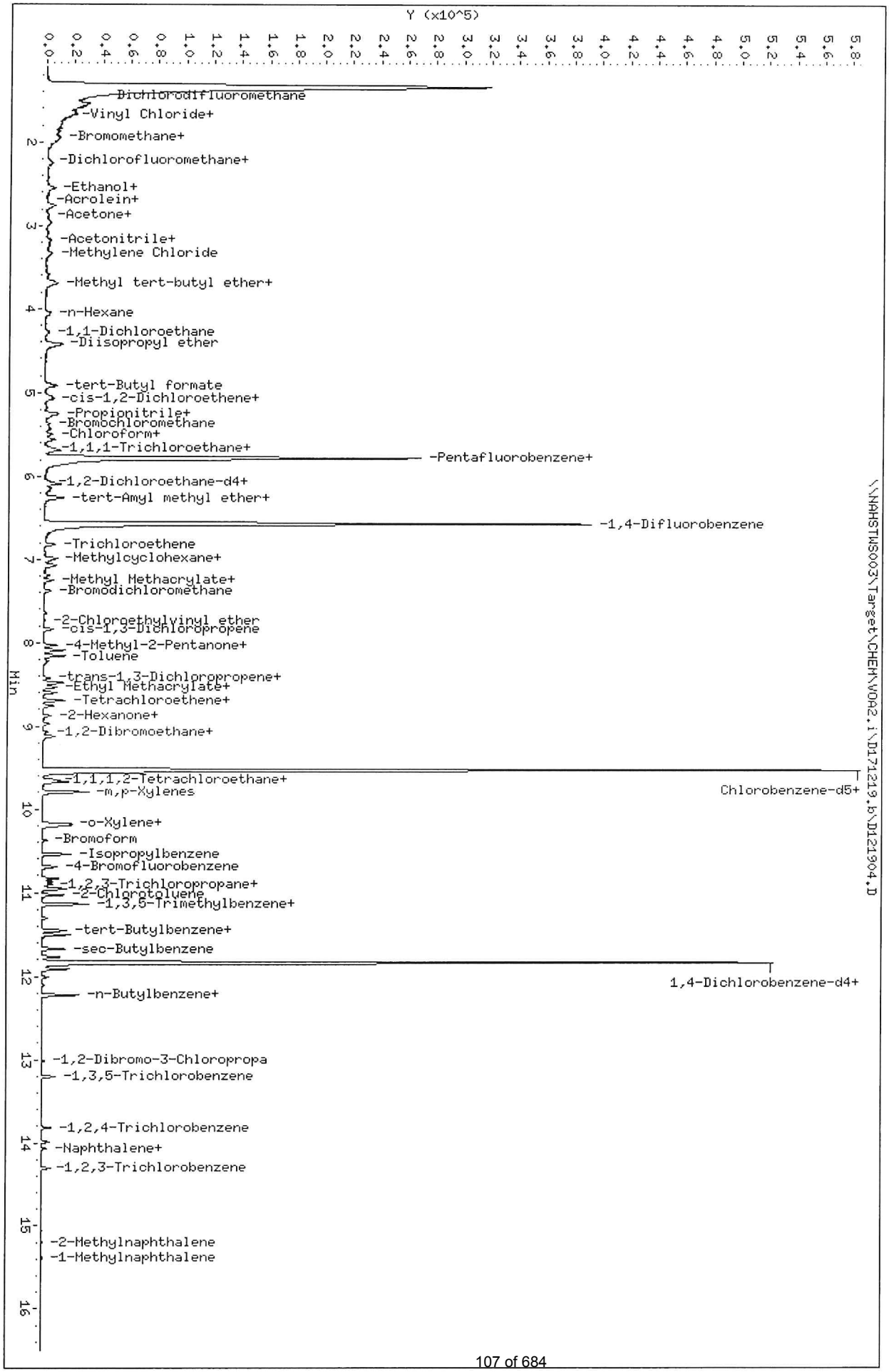
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 17:30

	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	11.860	11.860	(1.002)	5915	1.00000	1.18 (aM)
24	2-Butanone	43	5.166	5.166	(0.894)	3060	2.00000	2.22 (aM)
52	2-Hexanone	43	8.873	8.873	(0.932)	4407	2.00000	2.24 (Ta)
45	4-Methyl-2-Pentanone	43	8.032	8.032	(0.843)	7137	2.00000	2.34 (a)
10	Acetone	43	2.866	2.866	(0.496)	3611	2.00000	2.03 (aM)
37	Benzene	78	6.094	6.094	(0.927)	11705	1.00000	1.20 (aM)
39	Bromodichloromethane	83	7.377	7.377	(1.123)	3729	1.00000	1.08 (aM)
66	Bromoform	173	10.371	10.371	(1.089)	1745	1.00000	0.87 (aM)
6	Bromomethane	94	1.938	1.938	(0.336)	2542	1.00000	(aM)
19	Carbon Disulfide	76	2.962	2.962	(0.513)	9653	2.00000	2.01 (aM)
34	Carbon Tetrachloride	117	5.824	5.824	(0.886)	3778	1.00000	1.07 (TaM)
59	Chlorobenzene	112	9.556	9.556	(1.003)	8040	1.00000	1.16 (a)
7	Chloroethane	64	2.031	2.031	(0.352)	2295	1.00000	1.11 (aM)
28	Chloroform	83	5.494	5.494	(0.951)	4849	1.00000	1.04 (Ta)
3	Chloromethane	50	1.595	1.595	(0.276)	5969	1.00000	0.47 (aM)
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	2859	1.00000	0.98 (Ta)
46	cis-1,3-Dichloropropene	75	7.843	7.843	(1.193)	3975	1.00000	1.00 (aM)
55	Dibromochloromethane	129	8.969	8.969	(0.942)	2995	1.00000	1.03 (aM)
2	Dichlorodifluoromethane	85	1.447	1.447	(0.251)	2091	1.00000	0.96 (aM)
61	Ethylbenzene	106	9.675	9.675	(1.016)	4343	1.00000	1.17 (aMH)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	13289	1.00000	1.16 (a)
17	Methylene Chloride	84	3.328	3.328	(0.576)	3087	1.00000	1.10 (aM)
56	Tetrachloroethene	164	8.687	8.687	(0.912)	3904	1.00000	0.24 (a)
50	Toluene	91	8.160	8.160	(0.857)	12691	1.00000	1.19 (Ta)
20	trans-1,2-Dichloroethene	96	3.665	3.665	(0.634)	2177	1.00000	0.95 (aM)
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	3358	1.00000	0.99 (aM)
38	Trichloroethene	130	6.819	6.819	(1.038)	2998	1.00000	1.09 (aM)
8	Trichlorofluoromethane	101	2.259	2.259	(0.391)	3095	1.00000	0.98 (aM)
5	Vinyl Chloride	62	1.678	1.678	(0.291)	3210	1.00000	1.02 (Ta)
62	m,p-Xylenes	106	9.794	9.794	(1.028)	10553	2.00000	2.33 (a)
63	o-Xylene	106	10.176	10.176	(1.068)	5578	1.00000	1.17 (a)
M 95	Xylenes (total)	106				16131	3.00000	(a)
71	1,2,3-Trichloropropane	75	10.907	10.907	(0.921)	3980	1.00000	1.19 (Ta)
93	1,2,3-Trichlorobenzene	182	14.305	14.305	(1.208)	2091	1.00000	0.88 (aM)
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	11202	1.00000	1.20 (a)
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	10681	1.00000	1.17 (a)
26	2,2-Dichloropropane	77	5.044	5.044	(0.873)	4044	1.00000	1.08 (aM)
54	1,3-Dichloropropane	76	8.757	8.757	(0.919)	4979	1.00000	1.20 (aM)
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	9692	1.00000	1.22 (Ta)
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	10294	1.00000	1.19 (a)
82	p-Isopropyltoluene	119	11.819	11.819	(0.998)	9663	1.00000	1.12 (a)
29	Bromochloromethane	128	5.372	5.372	(0.930)	1289	1.00000	0.93 (aM)
74	Bromobenzene	156	10.837	10.837	(0.915)	3330	1.00000	1.07 (a)
44	Dibromomethane	93	7.188	7.188	(1.094)	1461	1.00000	0.96 (aM)
91	Hexachlorobutadiene	225	13.985	13.985	(1.181)	1399	1.00000	0.66 (aM)
73	n-Propylbenzene	91	10.952	10.952	(0.925)	13821	1.00000	1.16 (Ta)
87	n-Butylbenzene	91	12.223	12.223	(1.033)	7076	1.00000	1.10 (a)
81	sec-Butylbenzene	105	11.671	11.671	(0.986)	11416	1.00000	1.13 (a)
92	Naphthalene	128	14.065	14.065	(1.188)	3453	1.00000	(a)
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	8889	1.00000	1.16 (a)
60	1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	2945	1.00000	1.09 (a)
64	Styrene	104	10.198	10.198	(1.071)	8599	1.00000	1.13 (a)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 17:30

QC Flag Legend

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


Y (x10^5)
Min
Dichlorodifluoromethane
Vinyl Chloride+
Bromomethane+
Dichlorofluoromethane+
Ethanol+
Acrolein+
Acetone+
Acetonitrile+
Methylene Chloride
Methyl tert-butyl ether+
n-Hexane
1,1-Dichloroethane
Diisopropyl ether
tert-Butyl formate
cis-1,2-Dichloroethene+
Propionitrile+
Bromochloromethane
Chloroform+
1,1,1-Trichloroethane+
Pentafluorobenzene+
1,2-Dichloroethane-d4+
tert-Amyl methyl ether+
1,4-Difluorobenzene
Trichloroethene
Methylcyclohexane+
Methyl Methacrylate+
Bromodichloromethane
2-Chloroethylvinyl ether
cis-1,3-Dichloropropene
4-Methyl-2-Pentanone+
Toluene
trans-1,3-Dichloropropene+
Ethyl Methacrylate+
Tetrachloroethene+
2-Hexanone+
1,2-Dibromoethane+
1,1,1,2-Tetrachloroethane+
m,p-Xylenes
Chlorobenzene-d5+
o-Xylene+
Bromoform
Isopropylbenzene
4-Bromofluorobenzene
1,2,3-Trichloropropane+
2-Chlorotoluene
1,3,5-Trimethylbenzene+
tert-Butylbenzene+
sec-Butylbenzene
1,4-Dichlorobenzene-d4+
n-Butylbenzene+
1,2-Dibromo-3-Chloropropa
1,3,5-Trichlorobenzene
1,2,4-Trichlorobenzene
Naphthalene+
1,2,3-Trichlorobenzene
2-Methylnaphthalene
1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Date : 19-DEC-2017 10:34
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;2;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 17:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 19-DEC-2017 10:59
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD002;VSTD002;1;3;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 10:34 Cal File: D121904.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	7739	2.00000	1.92(a)
* 1 Pentafluorobenzene	168	5.779	5.779	(1.000)	259826	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.683	(0.983)	4981	2.00000	2.12(a)
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	391700	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	5934	2.00000	2.05(Ta)
* 47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	346408	50.0000	
$ 48 Toluene-d8	98	8.093	8.093	(0.850)	18565	2.00000	2.03(Ta)
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	7156	2.00000	2.14(a)
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.835	(1.000)	146224	50.0000	
68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	7449	2.00000	2.13(aM)
53 1,1,2-Trichloroethane	83	8.603	8.603	(0.903)	4222	2.00000	1.99(a)
32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	7445	2.00000	1.55(aM)
22 1,1-Dichloroethane	63	4.274	4.274	(0.740)	10955	2.00000	2.01(aM)
11 1,1-Dichloroethene	96	2.760	2.760	(0.478)	4364	2.00000	2.03(aM)
90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	5108	2.00000	1.77(Ta)
89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	1073	2.00000	2.30(aM)
57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	5304	2.00000	1.99(Ta)
88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	10774	2.00000	2.04(a)
33 1,2-Dichloroethane	62	6.155	6.155	(0.937)	7652	2.00000	2.11(aM)
42 1,2-Dichloropropane	63	7.069	7.069	(1.076)	6767	2.00000	2.19(aM)
83 1,3-Dichlorobenzene	146	11.764	11.764	(0.994)	11327	2.00000	2.07(a)

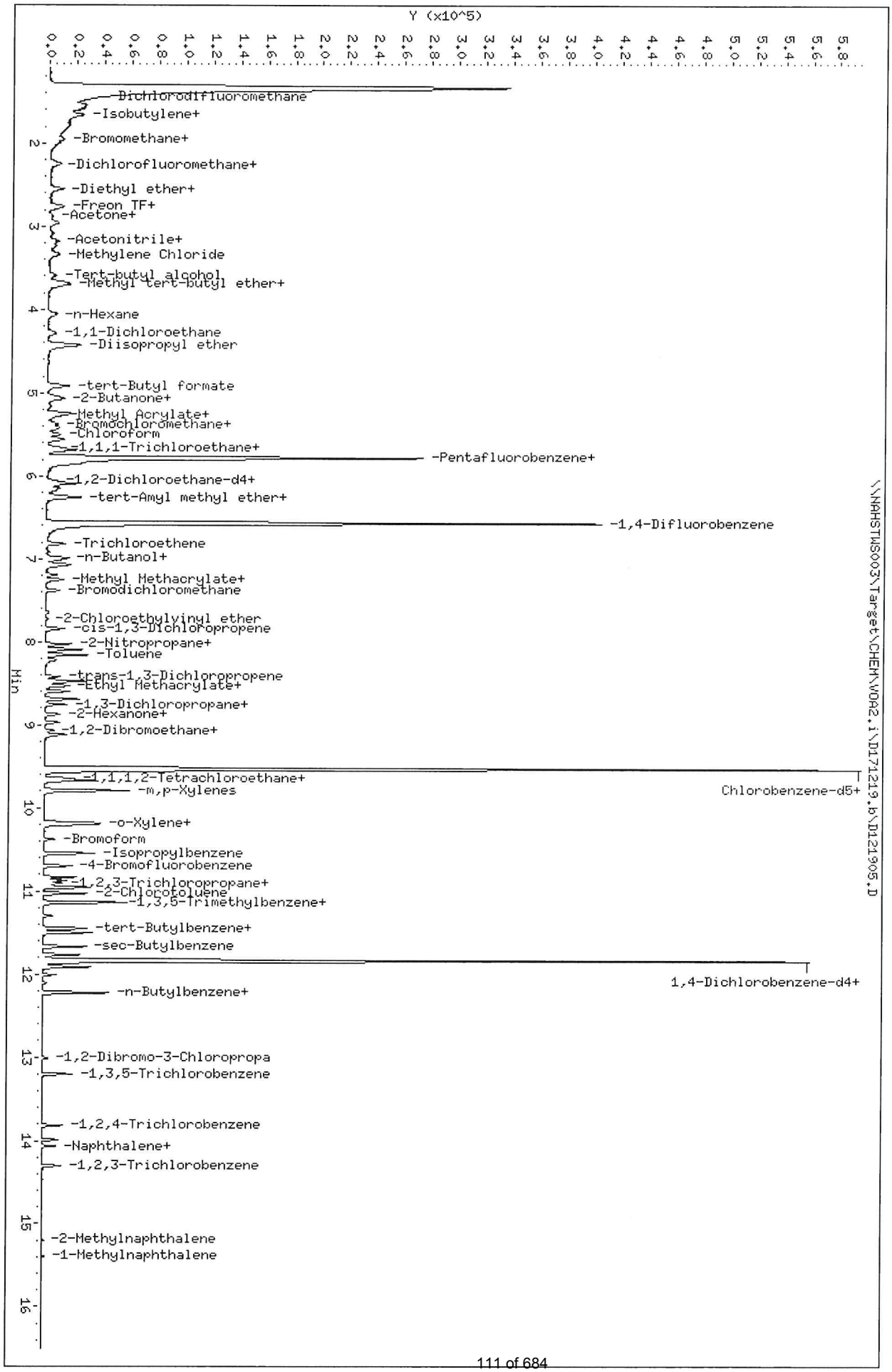
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 17:30

	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	11.860	11.860	(1.002)	10483	2.00000	2.00(a)
	24 2-Butanone	43	5.170	5.170	(0.895)	5411	4.00000	3.85(aM)
	52 2-Hexanone	43	8.873	8.873	(0.932)	8511	4.00000	4.19(a)
	45 4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	12860	4.00000	4.09(a)
	10 Acetone	43	2.872	2.872	(0.497)	4810	4.00000	3.36(aM)
	37 Benzene	78	6.094	6.094	(0.927)	20675	2.00000	2.00(a)
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	7033	2.00000	1.92(Ta)
	66 Bromoform	173	10.378	10.378	(1.090)	3966	2.00000	1.93(aM)
	6 Bromomethane	94	1.951	1.951	(0.338)	4860	2.00000	0.36(aM)
	19 Carbon Disulfide	76	2.959	2.959	(0.512)	17850	4.00000	3.64(aM)
	34 Carbon Tetrachloride	117	5.837	5.837	(0.888)	8167	2.00000	2.19(TaM)
	59 Chlorobenzene	112	9.556	9.556	(1.003)	14887	2.00000	2.08(a)
	7 Chloroethane	64	2.038	2.038	(0.353)	4553	2.00000	2.16(aM)
	28 Chloroform	83	5.494	5.494	(0.951)	9662	2.00000	2.03(Ta)
	3 Chloromethane	50	1.605	1.605	(0.278)	10010	2.00000	1.39(aM)
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	6103	2.00000	2.06(aM)
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	7958	2.00000	1.89(aM)
	55 Dibromochloromethane	129	8.969	8.969	(0.942)	5749	2.00000	1.92(Ta)
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.250)	3705	2.00000	1.66(aM)
	61 Ethylbenzene	106	9.672	9.672	(1.015)	7922	2.00000	2.07(aMH)
	67 Isopropylbenzene	105	10.545	10.545	(1.107)	23813	2.00000	2.01(a)
	17 Methylene Chloride	84	3.341	3.341	(0.578)	5681	2.00000	1.99(aM)
	56 Tetrachloroethene	164	8.687	8.687	(0.912)	5759	2.00000	1.07(a)
	50 Toluene	91	8.157	8.157	(0.856)	22911	2.00000	2.08(a)
	20 trans-1,2-Dichloroethene	96	3.677	3.677	(0.636)	4940	2.00000	2.12(a)
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	6256	2.00000	1.75(aM)
	38 Trichloroethene	130	6.819	6.819	(1.038)	5320	2.00000	1.83(a)
	8 Trichlorofluoromethane	101	2.256	2.256	(0.390)	5870	2.00000	1.83(aM)
	5 Vinyl Chloride	62	1.682	1.682	(0.291)	6459	2.00000	2.02(aM)
	62 m,p-Xylenes	106	9.794	9.794	(1.028)	19203	4.00000	4.11(a)
	63 o-Xylene	106	10.176	10.176	(1.068)	9802	2.00000	2.00(a)
M	95 Xylenes (total)	106				29005	6.00000	(a)
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	7447	2.00000	2.13(a)
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	4663	2.00000	1.87(Ta)
	79 1,2,4-Trimethylbenzene	105	11.498	11.498	(0.972)	20183	2.00000	2.07(a)
	75 1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	19907	2.00000	2.09(a)
	26 2,2-Dichloropropane	77	5.054	5.054	(0.875)	7433	2.00000	1.96(aM)
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	8573	2.00000	2.00(a)
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	18179	2.00000	2.18(a)
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	19291	2.00000	2.13(a)
	82 p-Isopropyltoluene	119	11.818	11.818	(0.999)	17740	2.00000	1.97(a)
	29 Bromochloromethane	128	5.375	5.375	(0.930)	2655	2.00000	1.88(a)
	74 Bromobenzene	156	10.833	10.833	(0.915)	6776	2.00000	2.08(a)
	44 Dibromomethane	93	7.191	7.191	(1.094)	3077	2.00000	1.92(a)
	91 Hexachlorobutadiene	225	13.988	13.988	(1.182)	2593	2.00000	1.51(aM)
	73 n-Propylbenzene	91	10.955	10.955	(0.926)	26316	2.00000	2.12(a)
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	12425	2.00000	1.85(a)
	81 sec-Butylbenzene	105	11.664	11.664	(0.986)	21328	2.00000	2.02(a)
	92 Naphthalene	128	14.065	14.065	(1.188)	8523	2.00000	0.61(a)
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	16377	2.00000	2.05(a)
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	5468	2.00000	1.97(a)
	64 Styrene	104	10.198	10.198	(1.071)	15951	2.00000	2.04(a)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 17:30

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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Date : 19-DEC-2017 10:59
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 17:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 19-DEC-2017 11:23
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD005;VSTD005;1;4;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 10:59 Cal File: D121905.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	19452	5.00000	4.61(a)
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	272617	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.984)	11996	5.00000	4.88(a)
*	36 1,4-Difluorobenzene	114	6.569	6.569	(1.000)	412491	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	13758	5.00000	4.53(a)
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	373656	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	44645	5.00000	4.53(a)
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	17276	5.00000	4.80(a)
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	161728	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.869	10.869	(0.918)	18597	5.00000	4.82(aM)
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	10807	5.00000	4.72(a)
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	15499	5.00000	3.97(a)
	22 1,1-Dichloroethane	63	4.287	4.287	(0.742)	27067	5.00000	4.75(Ta)
	11 1,1-Dichloroethene	96	2.747	2.747	(0.475)	10340	5.00000	4.59(a)
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.167)	14191	5.00000	4.45(a)
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.099)	2812	5.00000	4.71(a)
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	13628	5.00000	4.76(Ta)
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	27735	5.00000	4.77(a)
	33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	19328	5.00000	5.21(M)
	42 1,2-Dichloropropane	63	7.066	7.066	(1.076)	16698	5.00000	5.13(M)
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	28316	5.00000	4.68(a)

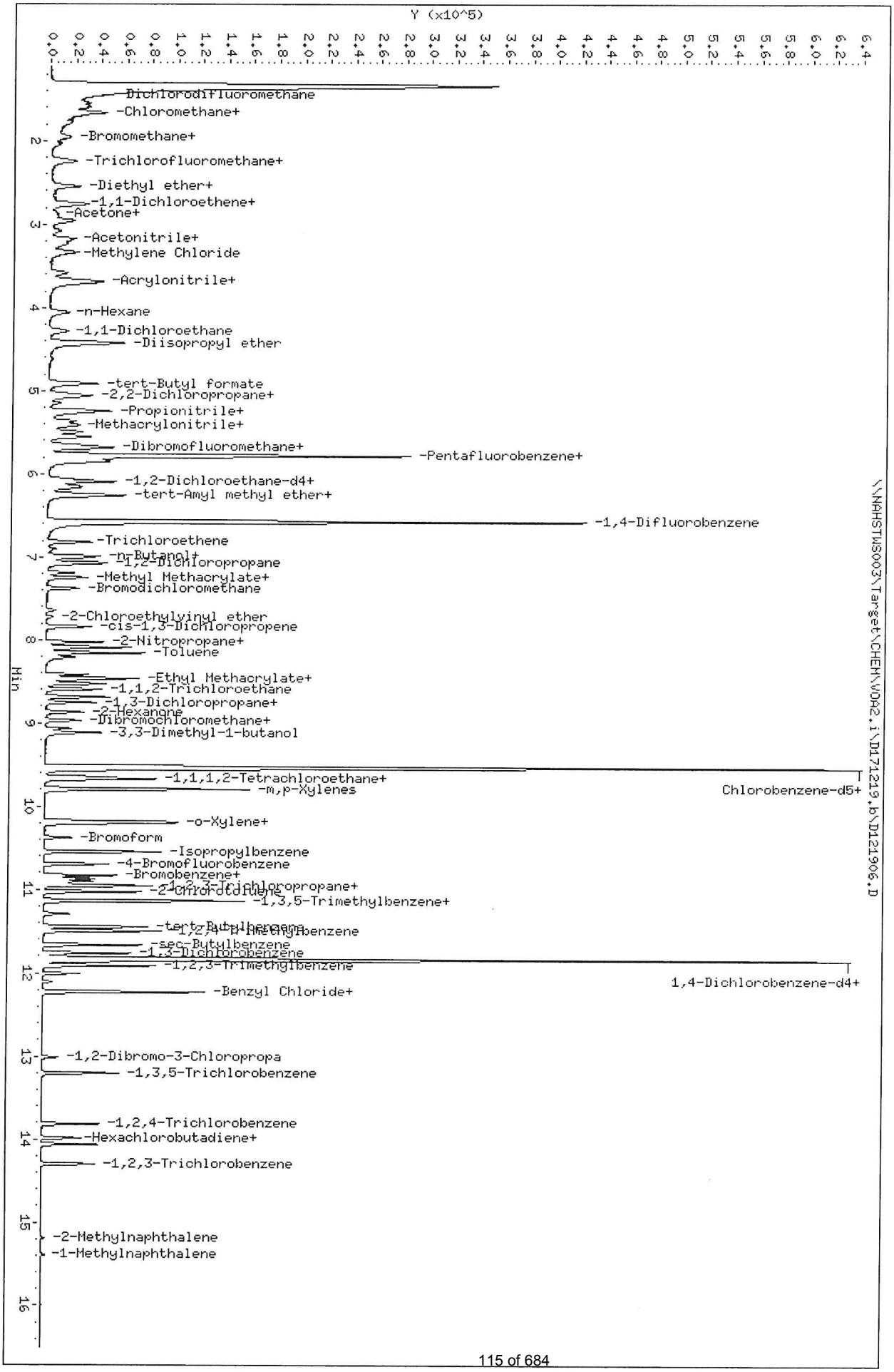
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 17:30

	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	11.857	11.857	(1.002)	26891	5.00000	4.64(a)
	24 2-Butanone	43	5.144	5.144	(0.890)	14793	10.0000	10.05(M)
	52 2-Hexanone	43	8.869	8.869	(0.931)	20452	10.0000	9.34
	45 4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	32602	10.0000	9.61
	10 Acetone	43	2.866	2.866	(0.496)	8024	10.0000	6.74(T)
	37 Benzene	78	6.090	6.090	(0.927)	52138	5.00000	4.80(a)
	39 Bromodichloromethane	83	7.380	7.380	(1.124)	17741	5.00000	4.61(Ta)
	66 Bromoform	173	10.374	10.374	(1.089)	10411	5.00000	4.69(Ta)
	6 Bromomethane	94	1.951	1.951	(0.338)	11772	5.00000	4.12(TaM)
	19 Carbon Disulfide	76	2.959	2.959	(0.512)	45421	10.0000	8.83
	34 Carbon Tetrachloride	117	5.831	5.831	(0.888)	18004	5.00000	4.59(aM)
	59 Chlorobenzene	112	9.553	9.553	(1.003)	37334	5.00000	4.85(a)
	7 Chloroethane	64	2.034	2.034	(0.352)	13535	5.00000	6.13(M)
	28 Chloroform	83	5.494	5.494	(0.951)	23836	5.00000	4.79(a)
	3 Chloromethane	50	1.598	1.598	(0.277)	22250	5.00000	4.01(Ta)
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	14731	5.00000	4.74(a)
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	20685	5.00000	4.68(a)
	55 Dibromochloromethane	129	8.972	8.972	(0.942)	15049	5.00000	4.66(Ta)
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.250)	10402	5.00000	4.46(TaM)
	61 Ethylbenzene	106	9.668	9.668	(1.015)	19113	5.00000	4.64(aH)
	67 Isopropylbenzene	105	10.551	10.551	(1.107)	60307	5.00000	4.73(a)
	17 Methylene Chloride	84	3.340	3.340	(0.578)	14132	5.00000	4.73(a)
	56 Tetrachloroethene	164	8.686	8.686	(0.912)	12517	5.00000	3.90(a)
	50 Toluene	91	8.157	8.157	(0.856)	57868	5.00000	4.88(a)
	20 trans-1,2-Dichloroethene	96	3.668	3.668	(0.635)	11542	5.00000	4.74(a)
	51 trans-1,3-Dichloropropene	75	8.420	8.420	(1.282)	16929	5.00000	4.50(a)
	38 Trichloroethene	130	6.812	6.812	(1.037)	13693	5.00000	4.48(a)
	8 Trichlorofluoromethane	101	2.249	2.249	(0.389)	14728	5.00000	4.38(Ta)
	5 Vinyl Chloride	62	1.678	1.678	(0.290)	15224	5.00000	4.55(a)
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	47823	10.0000	9.49
	63 o-Xylene	106	10.179	10.179	(1.068)	24981	5.00000	4.74(a)
M	95 Xylenes (total)	106				72804	15.0000	(a)
	71 1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	18621	5.00000	4.83(a)
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	13224	5.00000	4.81(a)
	79 1,2,4-Trimethylbenzene	105	11.497	11.497	(0.971)	50539	5.00000	4.69(a)
	75 1,3,5-Trimethylbenzene	105	11.132	11.132	(0.940)	49475	5.00000	4.71(a)
	26 2,2-Dichloropropane	77	5.048	5.048	(0.873)	18442	5.00000	4.64(a)
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	21911	5.00000	4.75(a)
	76 2-Chlorotoluene	91	11.026	11.026	(0.931)	43425	5.00000	4.72(a)
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	47906	5.00000	4.78(a)
	82 p-Isopropyltoluene	119	11.818	11.818	(0.998)	46314	5.00000	4.65(a)
	29 Bromochloromethane	128	5.368	5.368	(0.929)	7151	5.00000	4.84(a)
	74 Bromobenzene	156	10.833	10.833	(0.915)	16961	5.00000	4.72(a)
	44 Dibromomethane	93	7.194	7.194	(1.095)	8132	5.00000	4.82(a)
	91 Hexachlorobutadiene	225	13.994	13.994	(1.182)	6524	5.00000	4.00(a)
	73 n-Propylbenzene	91	10.955	10.955	(0.925)	64421	5.00000	4.71(a)
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	33851	5.00000	4.57(a)
	81 sec-Butylbenzene	105	11.668	11.668	(0.986)	52080	5.00000	4.48(a)
	92 Naphthalene	128	14.065	14.065	(1.188)	34239	5.00000	3.64(a)
	78 tert-Butylbenzene	119	11.453	11.453	(0.967)	40621	5.00000	4.61(a)
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	13932	5.00000	4.67(a)
	64 Styrene	104	10.198	10.198	(1.070)	39508	5.00000	4.70(a)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 17:30

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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Date : 19-DEC-2017 11:23
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;4;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 17:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Lab Smp Id: VSTD010 Client Smp ID: VSTD010
Inj Date : 19-DEC-2017 11:47
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD010;VSTD010;1;5;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 11:23 Cal File: D121906.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	37895	10.0000	10.30
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	237830	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.984)	21200	10.0000	9.89
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	352105	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.049)	27168	10.0000	10.26
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	328049	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	84452	10.0000	9.76
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	32136	10.0000	10.17
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	144718	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	34314	10.0000	9.93
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.903)	19720	10.0000	9.82
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	28773	10.0000	9.74
	22 1,1-Dichloroethane	63	4.281	4.281	(0.741)	50157	10.0000	10.10
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	20686	10.0000	10.53
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	28692	10.0000	10.06
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	5460	10.0000	9.60
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	25156	10.0000	10.00
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	51831	10.0000	9.96
	33 1,2-Dichloroethane	62	6.569	6.569	(1.000)	11455	10.0000	3.59(a)
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	29213	10.0000	10.53(M)
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	52296	10.0000	9.66

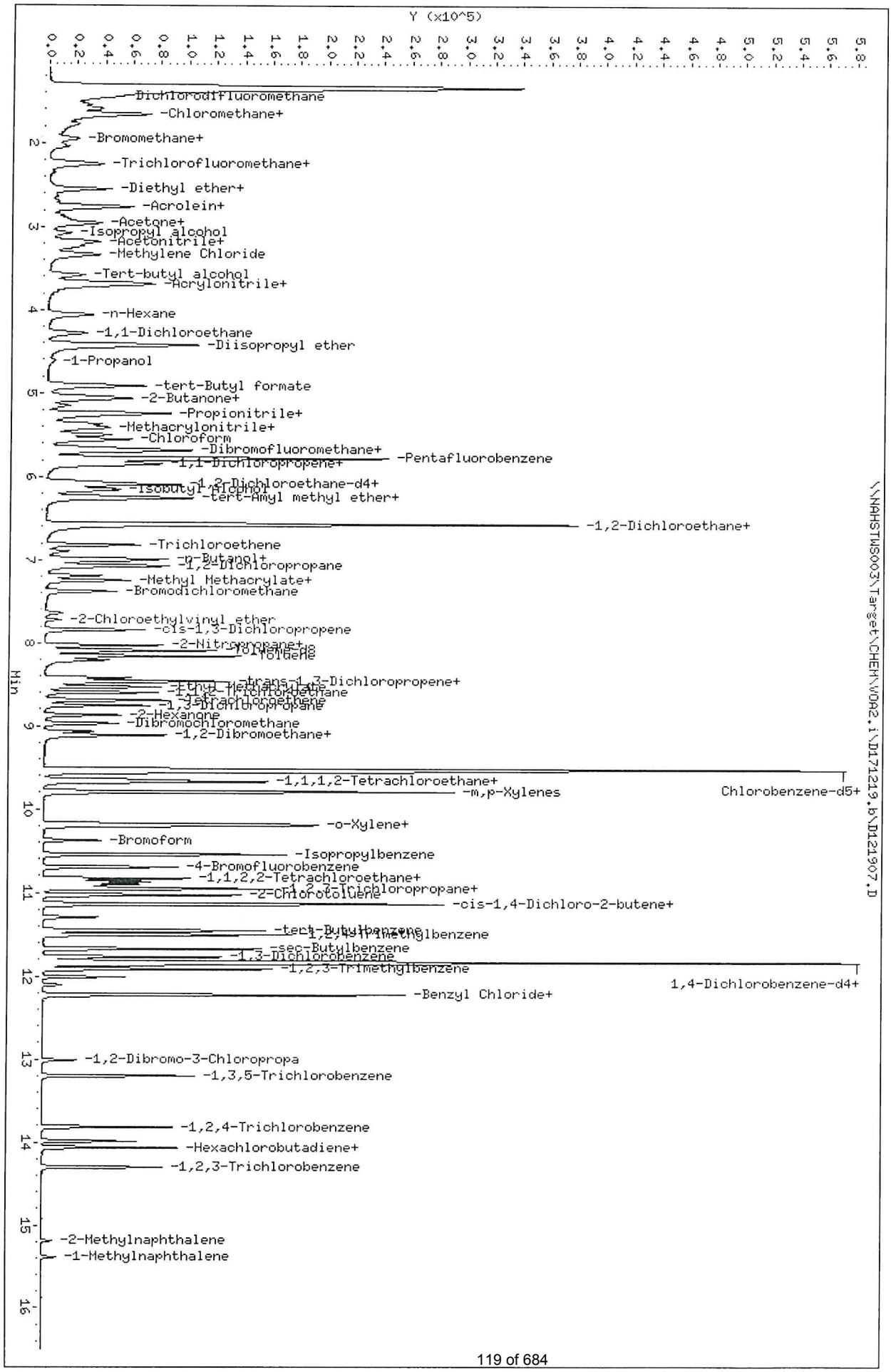
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 17:30

	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	11.860	11.860	(1.002)	50273	10.0000	9.70
	24 2-Butanone	43	5.147	5.147	(0.891)	25131	20.0000	19.58
	52 2-Hexanone	43	8.869	8.869	(0.931)	38430	20.0000	19.99
	45 4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	60355	20.0000	20.27
	10 Acetone	43	2.862	2.862	(0.495)	15119	20.0000	17.28
	37 Benzene	78	6.094	6.094	(0.927)	94240	10.0000	10.17
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	33081	10.0000	10.08
	66 Bromoform	173	10.374	10.374	(1.089)	19346	10.0000	9.94(T)
	6 Bromomethane	94	1.948	1.948	(0.337)	19732	10.0000	10.22(M)
	19 Carbon Disulfide	76	2.952	2.952	(0.511)	91292	20.0000	20.36
	34 Carbon Tetrachloride	117	5.837	5.837	(0.888)	34246	10.0000	10.23(M)
	59 Chlorobenzene	112	9.553	9.553	(1.003)	67378	10.0000	9.97
	7 Chloroethane	64	2.034	2.034	(0.352)	20139	10.0000	10.46(M)
	28 Chloroform	83	5.494	5.494	(0.951)	44244	10.0000	10.20
	3 Chloromethane	50	1.595	1.595	(0.276)	43035	10.0000	10.06(T)
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	26852	10.0000	9.92
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	39110	10.0000	10.38
	55 Dibromochloromethane	129	8.972	8.972	(0.942)	28378	10.0000	10.01
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.250)	21870	10.0000	10.75(T)
	61 Ethylbenzene	106	9.668	9.668	(1.015)	35642	10.0000	9.85(H)
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	114863	10.0000	10.26
	17 Methylene Chloride	84	3.331	3.331	(0.576)	25318	10.0000	9.72
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	22413	10.0000	9.74
	50 Toluene	91	8.157	8.157	(0.856)	104621	10.0000	10.06
	20 trans-1,2-Dichloroethene	96	3.665	3.665	(0.634)	21988	10.0000	10.35
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	33383	10.0000	10.41
	38 Trichloroethene	130	6.816	6.816	(1.037)	25682	10.0000	9.84
	8 Trichlorofluoromethane	101	2.249	2.249	(0.389)	32301	10.0000	11.01
	5 Vinyl Chloride	62	1.681	1.681	(0.291)	29755	10.0000	10.20
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	89427	20.0000	20.22
	63 o-Xylene	106	10.182	10.182	(1.069)	44528	10.0000	9.62
M	95 Xylenes (total)	106				133955	30.0000	(a)
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	34398	10.0000	9.97
	93 1,2,3-Trichlorobenzene	182	14.299	14.299	(1.208)	25930	10.0000	10.55
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	93133	10.0000	9.66
	75 1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	93296	10.0000	9.93
	26 2,2-Dichloropropane	77	5.044	5.044	(0.873)	35680	10.0000	10.29
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	38920	10.0000	9.61
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	78484	10.0000	9.54
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	87380	10.0000	9.76
	82 p-Isopropyltoluene	119	11.818	11.818	(0.999)	88488	10.0000	9.93
	29 Bromochloromethane	128	5.362	5.362	(0.928)	13447	10.0000	10.44
	74 Bromobenzene	156	10.833	10.833	(0.915)	30785	10.0000	9.58
	44 Dibromomethane	93	7.191	7.191	(1.094)	15302	10.0000	10.64
	91 Hexachlorobutadiene	225	13.988	13.988	(1.182)	13741	10.0000	10.00
	73 n-Propylbenzene	91	10.952	10.952	(0.925)	120968	10.0000	9.88
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	66777	10.0000	10.08
	81 sec-Butylbenzene	105	11.668	11.668	(0.986)	104072	10.0000	10.00
	92 Naphthalene	128	14.065	14.065	(1.188)	75559	10.0000	9.75
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	77835	10.0000	9.88
	60 1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	26535	10.0000	10.13
	64 Styrene	104	10.198	10.198	(1.071)	75784	10.0000	10.27

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 17:30

QC Flag Legend

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


Y (x10^5)
Min
Dichlorodifluoromethane
-Chloromethane+
-Bromomethane+
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2-Butanone+
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-1,1-Dichloropropene+
-Pentafluorobenzene
-1,2-Dichloroethane-d4+
-Isobutyl alcohol
-tert-Amyl methyl ether+
-1,2-Dichloroethane+
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-cis-1,4-Dichloro-2-butene+
-tert-Butylbenzene
-1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,2,3-Trimethylbenzene
1,4-Dichlorobenzene-d4+
-Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Date : 19-DEC-2017 11:47
Client ID: VSTD010
Sample Info: VSTD010;VSTD010;1;5;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 17:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 19-DEC-2017 12:14
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 11:47 Cal File: D121907.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	78591	20.0000	20.54
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	247505	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	42633	20.0000	19.11
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	377533	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	54044	20.0000	19.62
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	340657	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	169178	20.0000	18.83
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	63474	20.0000	19.35
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	152059	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	66290	20.0000	18.27
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	40699	20.0000	19.53
	32 1,1-Dichloropropene	75	5.850	5.850	(0.890)	61975	20.0000	20.52
	22 1,1-Dichloroethane	63	4.274	4.274	(0.739)	102995	20.0000	19.93
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	43049	20.0000	21.07
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	67305	20.0000	22.46
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	11302	20.0000	18.40
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	52264	20.0000	20.02
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	108285	20.0000	19.81
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	73153	20.0000	21.88
	42 1,2-Dichloropropane	63	7.069	7.069	(1.076)	57317	20.0000	19.27(M)
	83 1,3-Dichlorobenzene	146	11.770	11.770	(0.995)	112309	20.0000	19.74

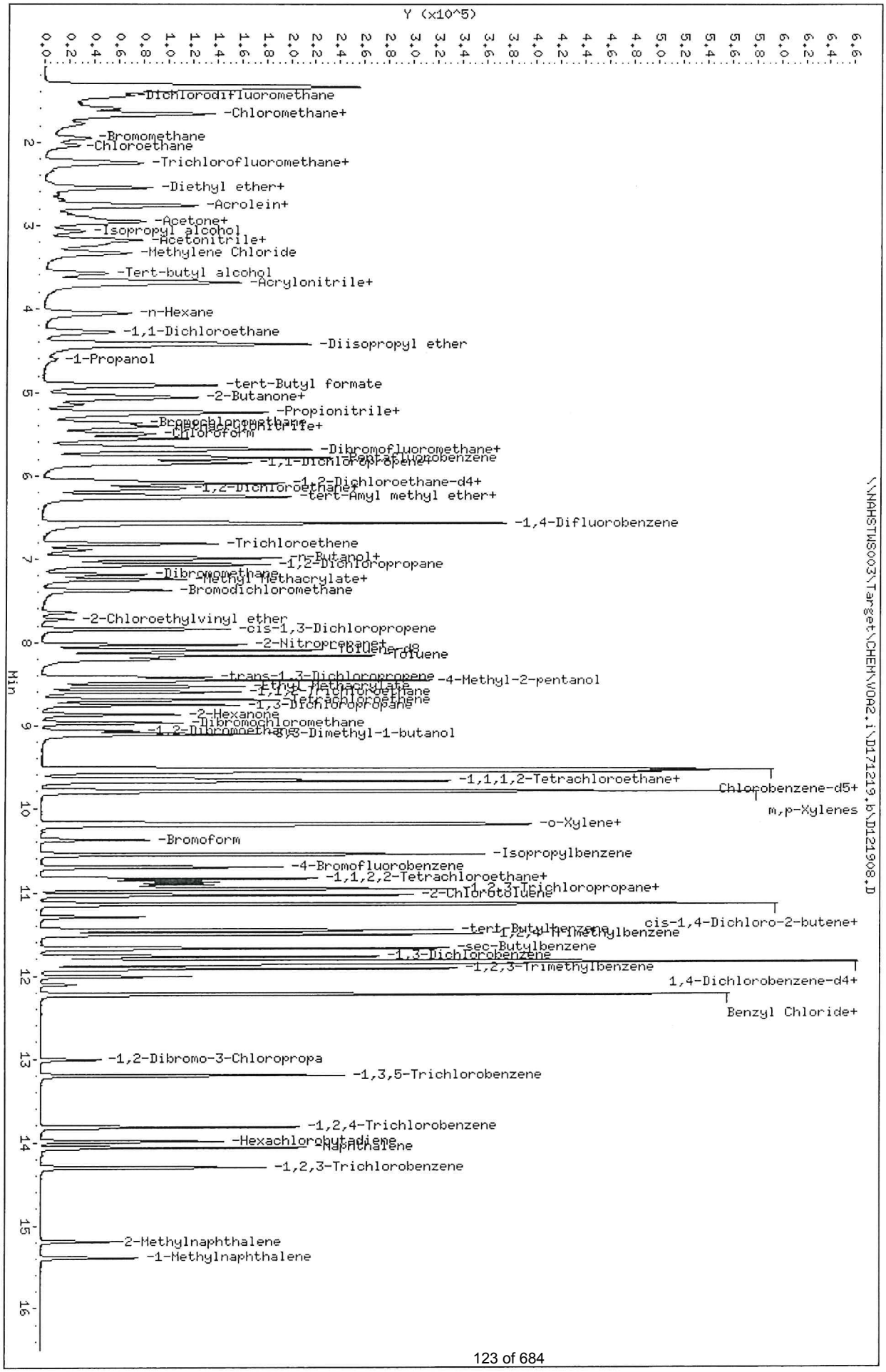
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 17:30

	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	11.860	11.860	(1.002)	103710	20.0000	19.06
24	2-Butanone	43	5.141	5.141	(0.889)	48984	40.0000	36.67
52	2-Hexanone	43	8.866	8.866	(0.931)	75537	40.0000	37.84
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	116500	40.0000	37.69
10	Acetone	43	2.856	2.856	(0.494)	33367	40.0000	39.27
37	Benzene	78	6.087	6.087	(0.926)	188661	20.0000	18.99
39	Bromodichloromethane	83	7.377	7.377	(1.123)	70757	20.0000	20.12
66	Bromoform	173	10.374	10.374	(1.089)	41520	20.0000	20.54
6	Bromomethane	94	1.941	1.941	(0.336)	37890	20.0000	20.97(M)
19	Carbon Disulfide	76	2.952	2.952	(0.511)	193500	40.0000	41.47
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	68216	20.0000	19.02(MH)
59	Chlorobenzene	112	9.553	9.553	(1.003)	138156	20.0000	19.69
7	Chloroethane	64	2.047	2.047	(0.354)	40521	20.0000	20.23(M)
28	Chloroform	83	5.494	5.494	(0.950)	88595	20.0000	19.63
3	Chloromethane	50	1.595	1.595	(0.276)	90594	20.0000	21.34
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	53810	20.0000	19.10
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	83791	20.0000	20.75
55	Dibromochloromethane	129	8.969	8.969	(0.941)	60863	20.0000	20.69
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	47446	20.0000	22.42
61	Ethylbenzene	106	9.675	9.675	(1.015)	75990	20.0000	20.23(H)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	237346	20.0000	20.43
17	Methylene Chloride	84	3.331	3.331	(0.576)	50656	20.0000	18.69
56	Tetrachloroethene	164	8.686	8.686	(0.912)	46886	20.0000	21.37
50	Toluene	91	8.157	8.157	(0.856)	217602	20.0000	20.15
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	45649	20.0000	20.65
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	71936	20.0000	20.93
38	Trichloroethene	130	6.822	6.822	(1.038)	56994	20.0000	20.38
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	67183	20.0000	22.01
5	Vinyl Chloride	62	1.681	1.681	(0.291)	63525	20.0000	20.94
62	m,p-Xylenes	106	9.790	9.790	(1.028)	184416	40.0000	40.15
63	o-Xylene	106	10.175	10.175	(1.068)	95335	20.0000	19.84
M 95	Xylenes (total)	106				279751	60.0000	(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	69837	20.0000	19.27
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	57198	20.0000	22.15
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	197269	20.0000	19.47
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	192655	20.0000	19.53
26	2,2-Dichloropropane	77	5.048	5.048	(0.873)	72639	20.0000	20.14
54	1,3-Dichloropropane	76	8.751	8.751	(0.918)	81872	20.0000	19.47
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	167050	20.0000	19.33
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	180539	20.0000	19.19
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	189137	20.0000	20.20
29	Bromochloromethane	128	5.365	5.365	(0.928)	28167	20.0000	21.01
74	Bromobenzene	156	10.833	10.833	(0.915)	64552	20.0000	19.13
44	Dibromomethane	93	7.191	7.191	(1.094)	32043	20.0000	20.79
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	30591	20.0000	21.69
73	n-Propylbenzene	91	10.955	10.955	(0.926)	257005	20.0000	19.99
87	n-Butylbenzene	91	12.223	12.223	(1.033)	149001	20.0000	21.41
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	223410	20.0000	20.44
92	Naphthalene	128	14.061	14.061	(1.188)	161007	20.0000	20.32
78	tert-Butylbenzene	119	11.453	11.453	(0.968)	164758	20.0000	19.91
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	55350	20.0000	20.36
64	Styrene	104	10.198	10.198	(1.070)	156998	20.0000	20.48

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 17:30

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.


Y (x10^5)
Min
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Date : 19-DEC-2017 12:14
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
-Dichlorodifluoromethane
-Chloromethane+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2-Butanone+
-Propionitrile+
-Bromochloromethane
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene
-1,2-Dichloroethane-d4+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+-d6
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene
-4-Methyl-2-pentanol
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane
-3,3-Dimethyl-1-butanol
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
1,2,3-Trichloropropane+
-2-Chlorotoluene
cis-1,4-Dichloro-2-butene+
-tert-Butylbenzene
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,2,3-Trimethylbenzene
1,4-Dichlorobenzene-d4+
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
2-Methylnaphthalene
-1-Methylnaphthalene

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 17:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 19-DEC-2017 12:39
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	186795	50.0000	51.22
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	235952	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	101827	50.0000	47.89
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	375071	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	130826	50.0000	49.82
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	338284	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	393321	50.0000	44.09
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	152091	50.0000	46.69
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	148533	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.918)	161093	50.0000	45.46
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	99527	50.0000	48.09
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	151900	50.0000	52.00
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	247818	50.0000	50.30
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	103192	50.0000	52.98
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.167)	164262	50.0000	56.13
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	30643	50.0000	50.13
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	128740	50.0000	49.67
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	257317	50.0000	48.19
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	175492	50.0000	52.99
	42 1,2-Dichloropropane	63	7.069	7.069	(1.076)	140543	50.0000	47.57
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	265949	50.0000	47.86

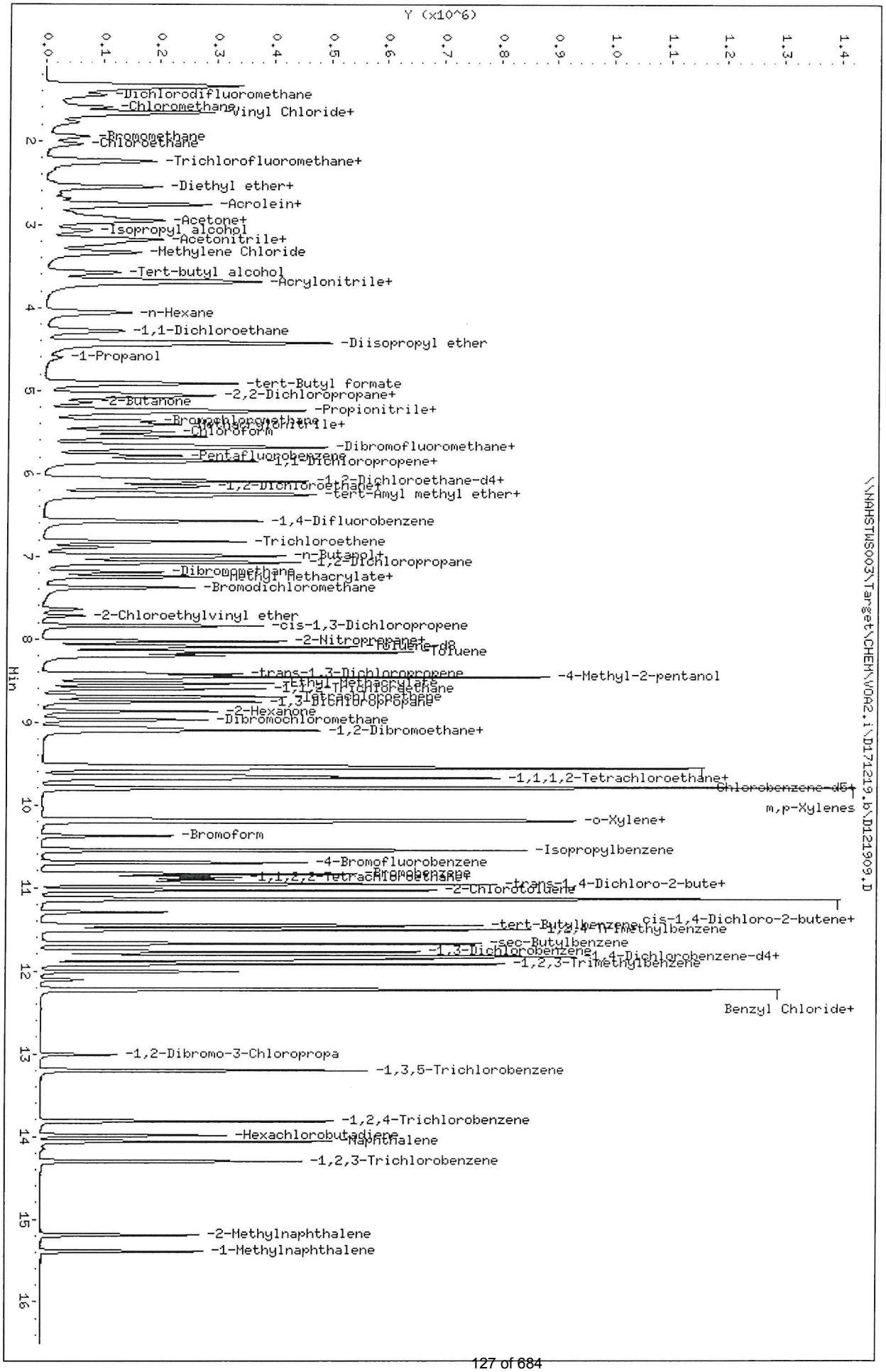
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 17:30

	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	11.860	11.860	(1.002)	253757	50.0000	47.75
	24 2-Butanone	43	5.147	5.147	(0.890)	124936	100.000	98.12
	52 2-Hexanone	43	8.866	8.866	(0.931)	187852	100.000	94.77
	45 4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	288559	100.000	94.02
	10 Acetone	43	2.862	2.862	(0.495)	83806	100.000	107.31
	37 Benzene	78	6.097	6.097	(0.928)	475144	50.0000	48.14
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	173751	50.0000	49.74
	66 Bromoform	173	10.374	10.374	(1.089)	107385	50.0000	53.51
	6 Bromomethane	94	1.944	1.944	(0.336)	88179	50.0000	54.81
	19 Carbon Disulfide	76	2.952	2.952	(0.511)	464487	100.000	104.44
	34 Carbon Tetrachloride	117	5.830	5.830	(0.887)	153362	50.0000	43.04(H)
	59 Chlorobenzene	112	9.556	9.556	(1.003)	330208	50.0000	47.39
	7 Chloroethane	64	2.041	2.041	(0.353)	86782	50.0000	45.45(M)
	28 Chloroform	83	5.494	5.494	(0.950)	215735	50.0000	50.15
	3 Chloromethane	50	1.595	1.595	(0.276)	201934	50.0000	51.19
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	133957	50.0000	49.90
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	211359	50.0000	52.69
	55 Dibromochloromethane	129	8.969	8.969	(0.941)	149132	50.0000	51.06
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.250)	110936	50.0000	54.99
	61 Ethylbenzene	106	9.672	9.672	(1.015)	175926	50.0000	47.18(H)
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	550664	50.0000	47.73
	17 Methylene Chloride	84	3.334	3.334	(0.577)	123761	50.0000	47.92
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	108668	50.0000	52.16
	50 Toluene	91	8.160	8.160	(0.857)	501085	50.0000	46.74
	20 trans-1,2-Dichloroethene	96	3.668	3.668	(0.634)	115924	50.0000	55.03
	51 trans-1,3-Dichloropropene	75	8.420	8.420	(1.281)	182394	50.0000	53.43
	38 Trichloroethene	130	6.819	6.819	(1.038)	136623	50.0000	49.17
	8 Trichlorofluoromethane	101	2.256	2.256	(0.390)	157909	50.0000	54.27
	5 Vinyl Chloride	62	1.681	1.681	(0.291)	146127	50.0000	50.52
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	427108	100.000	93.66
	63 o-Xylene	106	10.179	10.179	(1.068)	229237	50.0000	48.05
M	95 Xylenes (total)	106				656345	150.000	(a)
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	172192	50.0000	48.66
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	135765	50.0000	53.84
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	454906	50.0000	45.97
	75 1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	445617	50.0000	46.25
	26 2,2-Dichloropropane	77	5.041	5.041	(0.872)	174913	50.0000	50.88
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	195730	50.0000	46.89
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	384723	50.0000	45.59
	77 4-Chlorotoluene	91	11.141	11.141	(0.941)	427083	50.0000	46.48
	82 p-Isopropyltoluene	119	11.818	11.818	(0.998)	433050	50.0000	47.36
	29 Bromochloromethane	128	5.365	5.365	(0.928)	65939	50.0000	51.61
	74 Bromobenzene	156	10.833	10.833	(0.915)	156920	50.0000	47.62
	44 Dibromomethane	93	7.191	7.191	(1.094)	77818	50.0000	50.83
	91 Hexachlorobutadiene	225	13.991	13.991	(1.182)	68105	50.0000	50.01
	73 n-Propylbenzene	91	10.955	10.955	(0.925)	584086	50.0000	46.51
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	339560	50.0000	49.97
	81 sec-Butylbenzene	105	11.667	11.667	(0.986)	510740	50.0000	47.83
	92 Naphthalene	128	14.061	14.061	(1.188)	395649	50.0000	51.94
	78 tert-Butylbenzene	119	11.452	11.452	(0.967)	385055	50.0000	47.64
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	134297	50.0000	49.74
	64 Styrene	104	10.201	10.201	(1.071)	374411	50.0000	49.20

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 17:30

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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Date : 19-DEC-2017 12:39
Client ID: VSTD050
Sample Info: VSTD050;VSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Y (x10^6)
Min
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Bromochloromethane
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene
-4-Methyl-2-pentanol
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
-Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene
-1,1,2,2-Tetrachloroethane
-trans-1,4-Dichloro-2-bute+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 17:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 19-DEC-2017 13:03
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:39 Cal File: D121909.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.657	5.657	(0.978)	359337	100.000	100.16
*	1 Pentafluorobenzene	168	5.786	5.786	(1.000)	232106	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	196966	100.000	94.18
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	367391	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	261877	100.000	101.39
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	334258	50.0000	
$	48 Toluene-d8	98	8.096	8.096	(0.850)	740602	100.000	84.03
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	294343	100.000	91.46
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	145669	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.875	10.875	(0.919)	316208	100.000	90.99
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.902)	192511	100.000	94.14
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	286474	100.000	100.99
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	476188	100.000	98.26
	11 1,1-Dichloroethene	96	2.750	2.750	(0.475)	200113	100.000	104.46
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	328605	100.000	114.50
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	61519	100.000	102.05
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	256307	100.000	100.08
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	479561	100.000	91.59
	33 1,2-Dichloroethane	62	6.148	6.148	(0.935)	337824	100.000	104.25
	42 1,2-Dichloropropane	63	7.069	7.069	(1.075)	271672	100.000	93.88
	83 1,3-Dichlorobenzene	146	11.770	11.770	(0.994)	508346	100.000	93.29

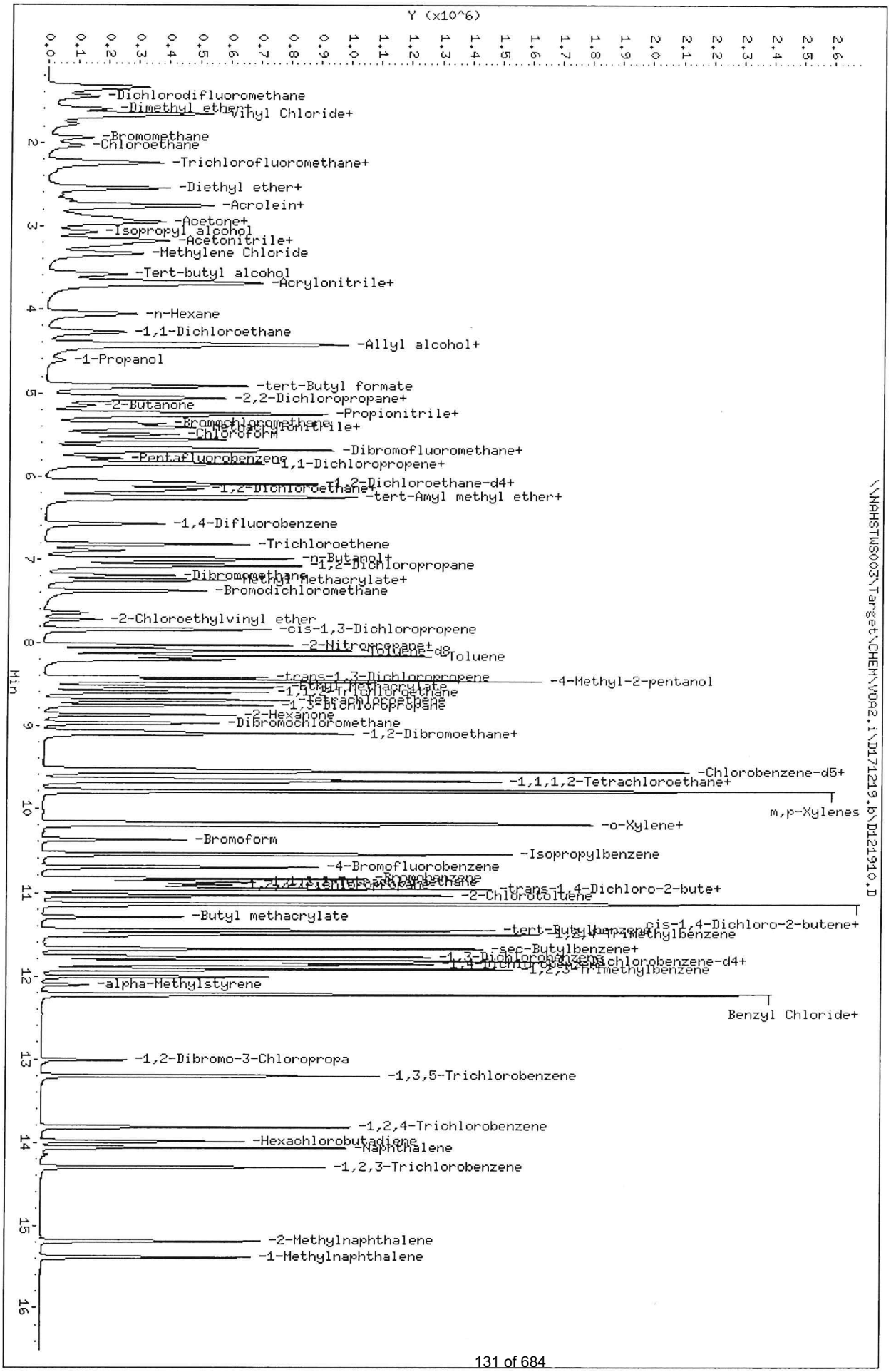
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 17:30

	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	11.863	11.863	(1.002)	493502	100.000	94.69
	24 2-Butanone	43	5.150	5.150	(0.890)	260350	200.000	207.87(A)
	52 2-Hexanone	43	8.869	8.869	(0.931)	381694	200.000	194.89
	45 4-Methyl-2-Pentanone	43	8.032	8.032	(0.843)	569796	200.000	187.89
	10 Acetone	43	2.862	2.862	(0.495)	155352	200.000	204.30(A)
	37 Benzene	78	6.094	6.094	(0.927)	907206	100.000	93.85
	39 Bromodichloromethane	83	7.377	7.377	(1.122)	343436	100.000	100.37
	66 Bromoform	173	10.378	10.378	(1.089)	219356	100.000	110.63
	6 Bromomethane	94	1.938	1.938	(0.335)	161998	100.000	104.53
	19 Carbon Disulfide	76	2.955	2.955	(0.511)	891341	200.000	203.74(A)
	34 Carbon Tetrachloride	117	5.837	5.837	(0.888)	314365	100.000	90.08(MH)
	59 Chlorobenzene	112	9.556	9.556	(1.003)	627395	100.000	91.14
	7 Chloroethane	64	2.038	2.038	(0.352)	169642	100.000	90.33
	28 Chloroform	83	5.497	5.497	(0.950)	415480	100.000	98.18
	3 Chloromethane	50	1.595	1.595	(0.276)	389398	100.000	101.26
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	260493	100.000	98.64
	46 cis-1,3-Dichloropropene	75	7.842	7.842	(1.193)	413879	100.000	105.33
	55 Dibromochloromethane	129	8.972	8.972	(0.942)	294218	100.000	101.95
	2 Dichlorodifluoromethane	85	1.450	1.450	(0.251)	216165	100.000	108.94
	61 Ethylbenzene	106	9.675	9.675	(1.015)	328547	100.000	89.17(H)
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	1024383	100.000	89.87
	17 Methylene Chloride	84	3.334	3.334	(0.576)	243786	100.000	95.95
	56 Tetrachloroethene	164	8.693	8.693	(0.912)	206898	100.000	102.09
	50 Toluene	91	8.160	8.160	(0.857)	942268	100.000	88.95
	20 trans-1,2-Dichloroethene	96	3.668	3.668	(0.634)	220029	100.000	106.18
	51 trans-1,3-Dichloropropene	75	8.420	8.420	(1.281)	370545	100.000	110.82
	38 Trichloroethene	130	6.822	6.822	(1.038)	264221	100.000	97.09
	8 Trichlorofluoromethane	101	2.249	2.249	(0.389)	302337	100.000	105.64
	5 Vinyl Chloride	62	1.681	1.681	(0.291)	289377	100.000	101.71
	62 m,p-Xylenes	106	9.794	9.794	(1.028)	794645	200.000	176.35
	63 o-Xylene	106	10.182	10.182	(1.069)	430424	100.000	91.30
M	95 Xylenes (total)	106				1225069	300.000	(a)
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	342153	100.000	98.60
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	286124	100.000	115.71
	79 1,2,4-Trimethylbenzene	105	11.504	11.504	(0.972)	847846	100.000	87.38
	75 1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	830511	100.000	87.89
	26 2,2-Dichloropropane	77	5.044	5.044	(0.872)	339030	100.000	100.26
	54 1,3-Dichloropropane	76	8.757	8.757	(0.919)	385871	100.000	93.56
	76 2-Chlorotoluene	91	11.032	11.032	(0.932)	725093	100.000	87.62
	77 4-Chlorotoluene	91	11.141	11.141	(0.941)	797152	100.000	88.47
	82 p-Isopropyltoluene	119	11.822	11.822	(0.999)	821994	100.000	91.67
	29 Bromochloromethane	128	5.368	5.368	(0.928)	132951	100.000	105.79
	74 Bromobenzene	156	10.833	10.833	(0.915)	300219	100.000	92.90
	44 Dibromomethane	93	7.194	7.194	(1.094)	154979	100.000	103.34
	91 Hexachlorobutadiene	225	13.988	13.988	(1.182)	134255	100.000	100.96
	73 n-Propylbenzene	91	10.958	10.958	(0.926)	1101290	100.000	89.41
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	641790	100.000	96.30
	81 sec-Butylbenzene	105	11.671	11.671	(0.986)	958811	100.000	91.57
	92 Naphthalene	128	14.065	14.065	(1.188)	794606	100.000	106.92
	78 tert-Butylbenzene	119	11.453	11.453	(0.967)	717972	100.000	90.57
	60 1,1,1,2-Tetrachloroethane	131	9.649	9.649	(1.013)	262051	100.000	98.24
	64 Styrene	104	10.201	10.201	(1.071)	698309	100.000	92.88

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 17:30

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Date : 19-DEC-2017 13:03
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 09-Feb-2018 17:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 19-DEC-2017 13:27
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD200;VSTD200;1;9;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:03 Cal File: D121910.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.661	5.661	(0.978)	716255	200.000	189.95
*	1 Pentafluorobenzene	168	5.786	5.786	(1.000)	243965	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	380348	200.000	173.03
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	381634	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	509778	200.000	187.78
*	47 Chlorobenzene-d5	117	9.531	9.531	(1.000)	346750	50.0000	
$	48 Toluene-d8	98	8.096	8.096	(0.850)	1426526	200.000	156.03
$	69 4-Bromofluorobenzene	95	10.702	10.702	(1.123)	567658	200.000	170.03
*	70 1,4-Dichlorobenzene-d4	152	11.841	11.841	(1.000)	146695	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.878	10.878	(0.919)	606455	200.000	173.30
	53 1,1,2-Trichloroethane	83	8.603	8.603	(0.903)	381912	200.000	180.04
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	583601	200.000	198.95
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	939835	200.000	184.52
	11 1,1-Dichloroethene	96	2.741	2.741	(0.474)	381816	200.000	189.62
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.167)	633301	200.000	219.14(A)
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.099)	121157	200.000	199.07
	57 1,2-Dibromoethane	107	9.075	9.075	(0.952)	509836	200.000	191.90
	88 1,2-Dichlorobenzene	146	12.229	12.229	(1.033)	893240	200.000	169.40
	33 1,2-Dichloroethane	62	6.148	6.148	(0.935)	662291	200.000	196.84
	42 1,2-Dichloropropane	63	7.073	7.073	(1.076)	535297	200.000	178.08
	83 1,3-Dichlorobenzene	146	11.774	11.774	(0.994)	974555	200.000	177.60

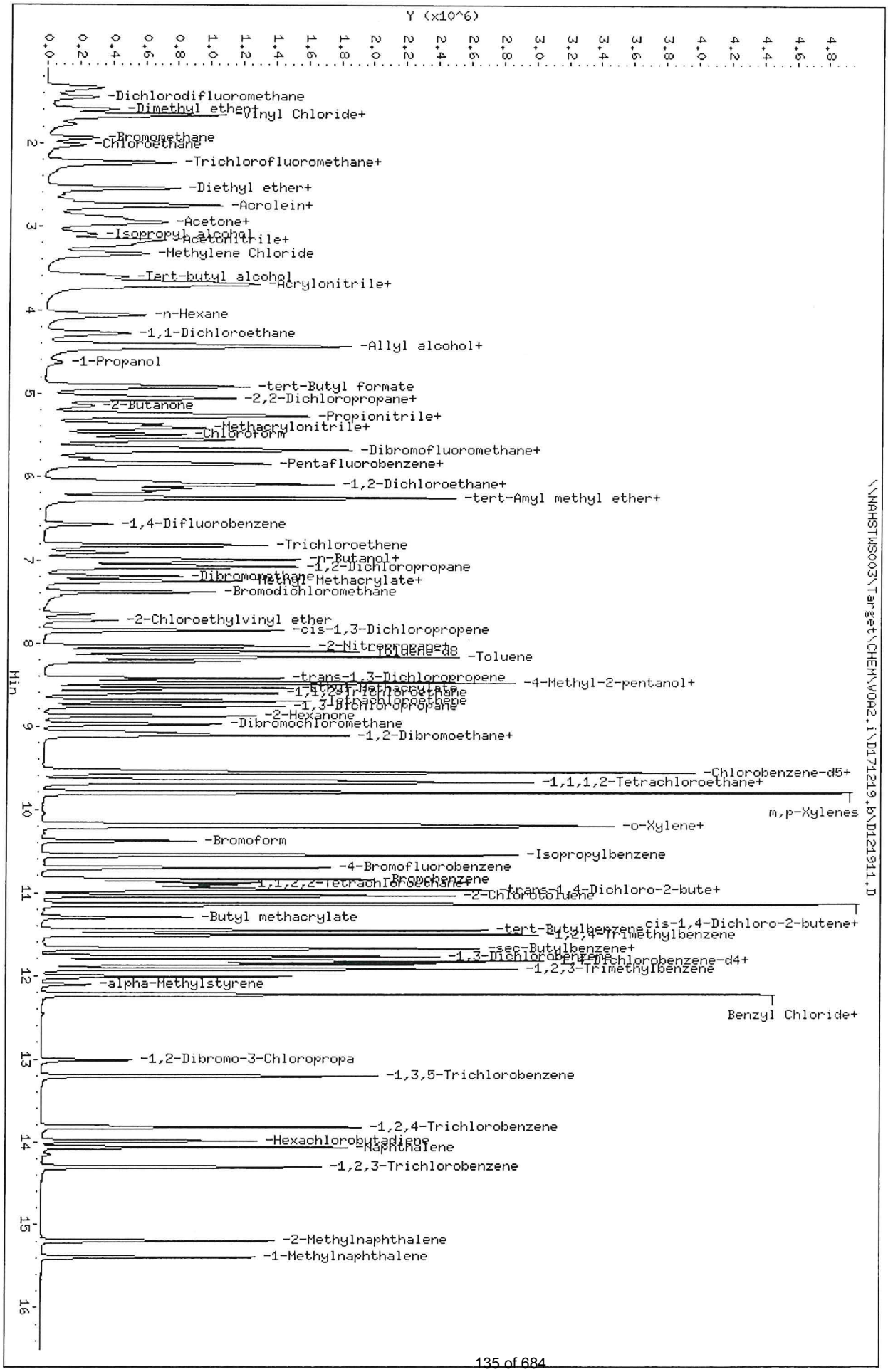
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 09-Feb-2018 17:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	11.867	11.867	(1.002)	947137	200.000	180.46
24	2-Butanone	43	5.150	5.150	(0.890)	514478	400.000	390.80(A)
52	2-Hexanone	43	8.876	8.876	(0.931)	755178	400.000	371.70(A)
45	4-Methyl-2-Pentanone	43	8.038	8.038	(0.843)	1095468	400.000	348.22(A)
10	Acetone	43	2.866	2.866	(0.495)	314789	400.000	396.04(A)
37	Benzene	78	6.100	6.100	(0.928)	1754958	200.000	174.77
39	Bromodichloromethane	83	7.381	7.381	(1.122)	670027	200.000	188.52
66	Bromoform	173	10.378	10.378	(1.089)	437607	200.000	212.75(A)
6	Bromomethane	94	1.935	1.935	(0.335)	315966	200.000	196.11(M)
19	Carbon Disulfide	76	2.956	2.956	(0.511)	1798818	400.000	391.19(A)
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	620089	200.000	171.05(M)
59	Chlorobenzene	112	9.559	9.559	(1.003)	1205848	200.000	168.86
7	Chloroethane	64	2.015	2.015	(0.348)	326706	200.000	165.51(M)
28	Chloroform	83	5.497	5.497	(0.950)	806092	200.000	181.23
3	Chloromethane	50	1.592	1.592	(0.275)	800291	200.000	198.92
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.876)	513279	200.000	184.92
46	cis-1,3-Dichloropropene	75	7.846	7.846	(1.193)	817440	200.000	200.27(A)
55	Dibromochloromethane	129	8.975	8.975	(0.942)	587599	200.000	196.27
2	Dichlorodifluoromethane	85	1.444	1.444	(0.250)	437112	200.000	209.58(A)
61	Ethylbenzene	106	9.678	9.678	(1.015)	645405	200.000	168.85(H)
67	Isopropylbenzene	105	10.551	10.551	(1.107)	1929664	200.000	163.19
17	Methylene Chloride	84	3.331	3.331	(0.576)	484417	200.000	181.40
56	Tetrachloroethene	164	8.693	8.693	(0.912)	413430	200.000	198.24
50	Toluene	91	8.167	8.167	(0.857)	1826045	200.000	166.17
20	trans-1,2-Dichloroethene	96	3.661	3.661	(0.633)	442346	200.000	203.10(A)
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.281)	745710	200.000	214.71(A)
38	Trichloroethene	130	6.822	6.822	(1.038)	531039	200.000	187.86
8	Trichlorofluoromethane	101	2.240	2.240	(0.387)	605156	200.000	201.17(A)
5	Vinyl Chloride	62	1.678	1.678	(0.290)	570730	200.000	190.86
62	m,p-Xylenes	106	9.800	9.800	(1.028)	1525807	400.000	326.42(A)
63	o-Xylene	106	10.185	10.185	(1.069)	826994	200.000	169.11
M 95	Xylenes (total)	106				2352801	600.000	(a)
71	1,2,3-Trichloropropane	75	10.907	10.907	(0.921)	503444	200.000	144.06
93	1,2,3-Trichlorobenzene	182	14.305	14.305	(1.208)	548103	200.000	220.11(A)
79	1,2,4-Trimethylbenzene	105	11.507	11.507	(0.972)	1593131	200.000	163.04
75	1,3,5-Trimethylbenzene	105	11.141	11.141	(0.941)	1548771	200.000	162.76
26	2,2-Dichloropropane	77	5.045	5.045	(0.872)	669571	200.000	188.38
54	1,3-Dichloropropane	76	8.760	8.760	(0.919)	755983	200.000	176.70
76	2-Chlorotoluene	91	11.039	11.039	(0.932)	1389990	200.000	166.80
77	4-Chlorotoluene	91	11.148	11.148	(0.941)	1499500	200.000	165.26
82	p-Isopropyltoluene	119	11.828	11.828	(0.999)	1563485	200.000	173.15
29	Bromochloromethane	128	5.375	5.375	(0.929)	256786	200.000	194.41
74	Bromobenzene	156	10.840	10.840	(0.915)	580164	200.000	178.28
44	Dibromomethane	93	7.195	7.195	(1.094)	308722	200.000	198.18
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	266365	200.000	199.34
73	n-Propylbenzene	91	10.965	10.965	(0.926)	2079135	200.000	167.63
87	n-Butylbenzene	91	12.226	12.226	(1.033)	1229106	200.000	183.15
81	sec-Butylbenzene	105	11.674	11.674	(0.986)	1819078	200.000	172.51
92	Naphthalene	128	14.065	14.065	(1.188)	1461418	200.000	195.70
78	tert-Butylbenzene	119	11.459	11.459	(0.968)	1361470	200.000	170.56
60	1,1,1,2-Tetrachloroethane	131	9.653	9.653	(1.013)	514128	200.000	185.80
64	Styrene	104	10.208	10.208	(1.071)	1321701	200.000	169.46

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 09-Feb-2018 17:30

QC Flag Legend

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


Y (x10^6)
Min
-Dichlorodifluoromethane
-Dimethyl ether
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Allyl alcohol+
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene
-4-Methyl-2-pentanol+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene
-1,1,2,2-Tetrachloroethane
-trans-1,4-Dichloro-2-bute+
-2-Chlorotoluene
-Butyl methacrylate
-tert-Butylbenzene
-cis-1,4-Dichloro-2-butene+
-1,2,4-Trimethylbenzene
-sec-Butylbenzene+
-1,3-Dichlorobenzene
-4-Chlorobenzene-d4+
-1,2,3-Trimethylbenzene
-alpha-Methylstyrene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Date : 19-DEC-2017 13:27
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;9;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Report Date: 09-Feb-2018 17:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Lab Smp Id: VSTD-ICV Client Smp ID: VSTD-ICV
Inj Date : 19-DEC-2017 14:16
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD-ICV;VSTD-ICV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:27 Cal File: D121911.D
Als bottle: 13 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

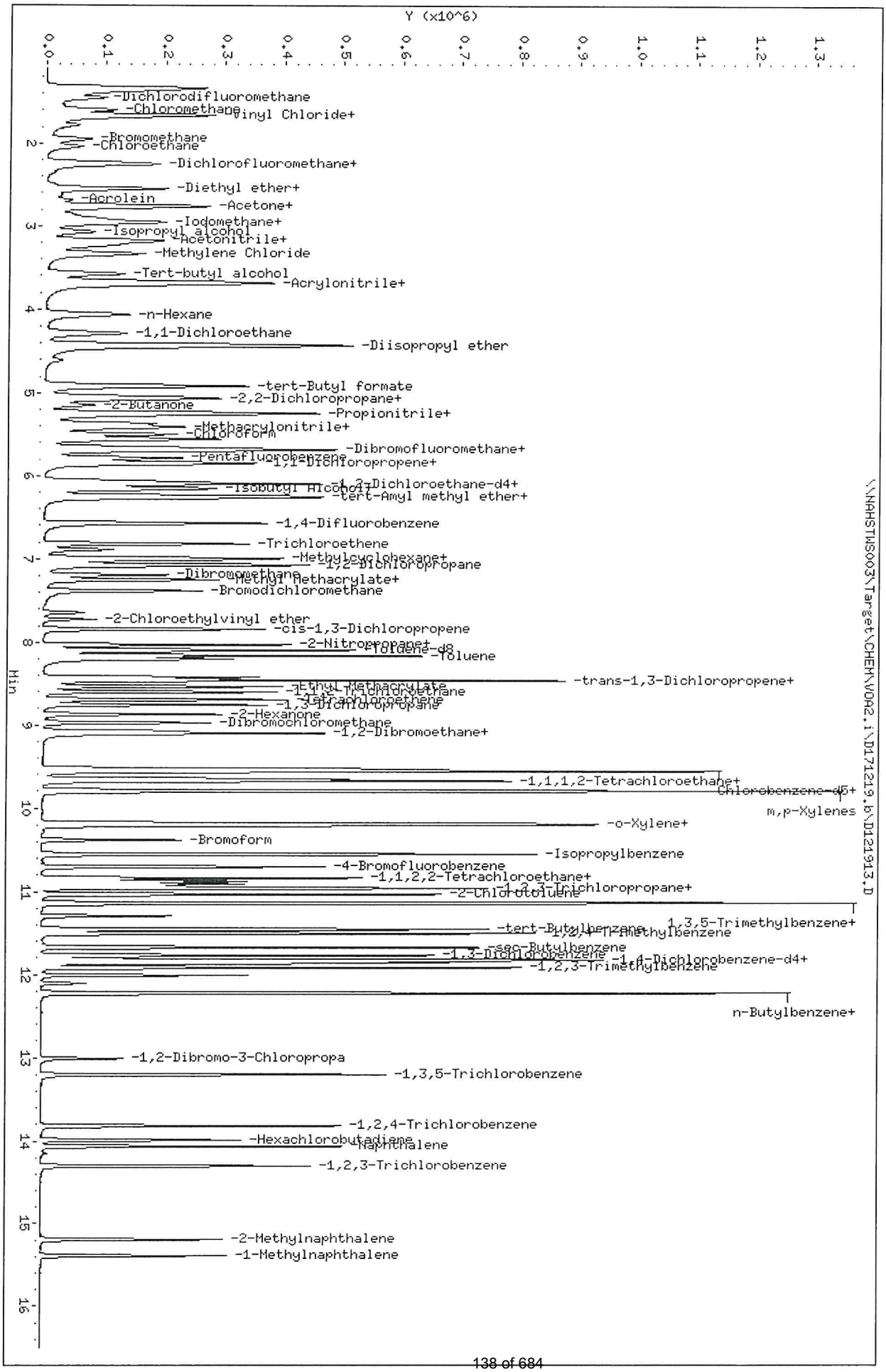
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.661	(0.978)	179115	49.0617	49.06
*	1 Pentafluorobenzene	168	5.779	5.786	(1.000)	236216	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	101991	47.9227	47.92
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	371286	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.049)	130923	49.8088	49.80
*	47 Chlorobenzene-d5	117	9.527	9.531	(1.000)	338097	50.0000	
$	48 Toluene-d8	98	8.093	8.096	(0.849)	388288	43.5582	43.55
$	69 4-Bromofluorobenzene	95	10.695	10.702	(1.123)	150830	46.3351	46.33
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.841	(1.000)	149771	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.869	10.878	(0.918)	162360	45.4433	45.44
	53 1,1,2-Trichloroethane	83	8.597	8.603	(0.902)	100546	48.6143	48.61
	32 1,1-Dichloropropene	75	5.853	5.856	(0.890)	148378	51.3040	51.30
	22 1,1-Dichloroethane	63	4.281	4.281	(0.741)	237141	48.0860	48.08
	11 1,1-Dichloroethene	96	2.753	2.741	(0.476)	98125	50.3313	50.33
	90 1,2,4-Trichlorobenzene	180	13.818	13.821	(1.168)	162937	55.2230	55.22
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.012	(1.099)	29561	47.9848	47.98
	57 1,2-Dibromoethane	107	9.065	9.075	(0.952)	129329	49.9262	49.92
	88 1,2-Dichlorobenzene	146	12.223	12.229	(1.033)	254978	47.3643	47.36
	33 1,2-Dichloroethane	62	6.145	6.148	(0.935)	168706	51.4651	51.46
	42 1,2-Dichloropropane	63	7.066	7.073	(1.075)	139163	47.5870	47.58
	83 1,3-Dichlorobenzene	146	11.767	11.774	(0.994)	263425	47.0213	47.02

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Report Date: 09-Feb-2018 17:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	84 1,4-Dichlorobenzene	146	11.860	11.867	(1.002)	251434	46.9240	46.92
	24 2-Butanone	43	5.144	5.150	(0.890)	125859	98.7418	98.74
	52 2-Hexanone	43	8.866	8.876	(0.931)	188174	94.9905	94.99
	45 4-Methyl-2-Pentanone	43	8.029	8.038	(0.843)	288228	93.9658	93.96
	10 Acetone	43	2.856	2.866	(0.494)	79464	101.521	101.52
	37 Benzene	78	6.094	6.100	(0.927)	468722	47.9805	47.98
	39 Bromodichloromethane	83	7.377	7.381	(1.122)	172162	49.7905	49.79
	66 Bromoform	173	10.374	10.378	(1.089)	107206	53.4548	53.45
	6 Bromomethane	94	1.945	1.935	(0.337)	87966	54.6082	54.60
	19 Carbon Disulfide	76	2.955	2.956	(0.511)	453389	101.834	101.83
	34 Carbon Tetrachloride	117	5.834	5.837	(0.887)	150248	42.6028	42.60
	59 Chlorobenzene	112	9.556	9.559	(1.003)	324514	46.6069	46.60
	7 Chloroethane	64	2.038	2.015	(0.353)	80390	42.0641	42.06
	28 Chloroform	83	5.494	5.497	(0.951)	210974	48.9888	48.98
	3 Chloromethane	50	1.598	1.592	(0.277)	216344	54.8507	54.85
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	133003	49.4916	49.49
	46 cis-1,3-Dichloropropene	75	7.839	7.846	(1.192)	209138	52.6682	52.66
	55 Dibromochloromethane	129	8.972	8.975	(0.942)	147898	50.6666	50.66
	2 Dichlorodifluoromethane	85	1.450	1.444	(0.251)	108668	53.8135	53.81
	61 Ethylbenzene	106	9.672	9.678	(1.015)	172020	46.1581	46.15
	67 Isopropylbenzene	105	10.548	10.551	(1.107)	539189	46.7681	46.76
	17 Methylene Chloride	84	3.331	3.331	(0.576)	125545	48.5572	48.55
	56 Tetrachloroethene	164	8.690	8.693	(0.912)	105833	50.7856	50.78
	50 Toluene	91	8.160	8.167	(0.857)	492502	45.9648	45.96
	20 trans-1,2-Dichloroethene	96	3.668	3.661	(0.635)	111703	52.9702	52.97
	51 trans-1,3-Dichloropropene	75	8.417	8.420	(1.280)	183760	54.3849	54.38
	38 Trichloroethene	130	6.816	6.822	(1.037)	132301	48.1090	48.10
	8 Trichlorofluoromethane	101	2.253	2.240	(0.390)	154364	52.9999	52.99
	5 Vinyl Chloride	62	1.681	1.678	(0.291)	149803	51.7410	51.74
	62 m,p-Xylenes	106	9.794	9.800	(1.028)	417543	91.6149	91.61
	63 o-Xylene	106	10.179	10.185	(1.068)	222400	46.6435	46.64
M	95 Xylenes (total)	106				639943	138.258	138.25
	71 1,2,3-Trichloropropane	75	10.904	10.907	(0.921)	174309	48.8560	48.85
	93 1,2,3-Trichlorobenzene	182	14.302	14.305	(1.209)	139440	54.8472	54.84
	79 1,2,4-Trimethylbenzene	105	11.501	11.507	(0.972)	442889	44.3952	44.39
	75 1,3,5-Trimethylbenzene	105	11.132	11.141	(0.941)	436227	44.9020	44.90
	26 2,2-Dichloropropane	77	5.044	5.045	(0.873)	169895	49.3690	49.36
	54 1,3-Dichloropropane	76	8.754	8.760	(0.919)	196311	47.0599	47.05
	76 2-Chlorotoluene	91	11.029	11.039	(0.932)	378502	44.4881	44.48
	77 4-Chlorotoluene	91	11.138	11.148	(0.941)	413336	44.6186	44.61
	82 p-Isopropyltoluene	119	11.818	11.828	(0.999)	427373	46.3580	46.35
	29 Bromochloromethane	128	5.365	5.375	(0.928)	67528	52.8019	52.80
	74 Bromobenzene	156	10.833	10.840	(0.915)	154221	46.4200	46.42
	44 Dibromomethane	93	7.191	7.195	(1.094)	77635	51.2278	51.22
	91 Hexachlorobutadiene	225	13.988	13.991	(1.182)	68432	49.8346	49.83
	73 n-Propylbenzene	91	10.955	10.965	(0.926)	571686	45.1465	45.14
	87 n-Butylbenzene	91	12.223	12.226	(1.033)	330221	48.1964	48.19
	81 sec-Butylbenzene	105	11.671	11.674	(0.986)	500608	46.5017	46.50
	92 Naphthalene	128	14.061	14.065	(1.188)	397816	51.7926	51.79
	78 tert-Butylbenzene	119	11.453	11.459	(0.968)	371229	45.5516	45.55
	60 1,1,1,2-Tetrachloroethane	131	9.649	9.653	(1.013)	134061	49.6900	49.68
	64 Styrene	104	10.201	10.208	(1.071)	365703	48.0891	48.08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Min
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14
15
16
-Dichlorodifluoromethane
-Chloromethane
Vinyl Chloride+
-Bromomethane
-Chloroethane
-Dichlorofluoromethane+
-Diethyl ether+
-Acrolein
-Acetone+
-Iodomethane+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
1,1-Dichloropropene+
-Isobutyl Alcohol
1,2-Dichloroethane-d4+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-Methylcyclohexane+
-1,2-Dichloropropane
-Dibromomethane
Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
Ethyl Methacrylate
1,1,2-Trichloroethane
Tetrachloroethene
1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
1,2,3-Trichloropropane+
-2-Chlorotoluene
1,3,5-Trimethylbenzene+
-tert-Butylbenzene
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
n-Butylbenzene+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
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Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Date : 19-DEC-2017 14:16
Client ID: VSTD-ICV
Sample Info: VSTD-ICV;VSTD-ICV;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID: D122501 BFB Injection Date: 12/25/17

Instrument ID: VOA2 BFB Injection Time: 1208

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.8
75	30.0 - 60.0% of mass 95	45.9
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	84.1
175	5.0 - 9.0% of mass 174	6.5 (7.7)1
176	95.0 - 101.0% of mass 174	81.6 (97.1)1
177	5.0 - 9.0% of mass 176	5.4 (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	D122502	12/25/17	1232
02	VLCSW-171226	VLCSW-171226	D122503	12/25/17	1257
03	VLCSDW-17122	VLCSDW-171225	D122505	12/25/17	1321
04	VBLKW-171225	VBLKW-171225	D122507	12/25/17	1410
05	HS17120912-1	HS17120912-12	D122508	12/25/17	1435
06	HS17120844-0	HS17120844-03M	D122511	12/25/17	1548
07	HS17120844-0	HS17120844-03M	D122512	12/25/17	1613
08	HS17120912-0	HS17120912-04	D122514	12/25/17	1705
09	HS17120912-0	HS17120912-06	D122515	12/25/17	1729
10	HS17120912-0	HS17120912-07	D122516	12/25/17	1754
11	HS17120912-0	HS17120912-08	D122517	12/25/17	1818
12	HS17120912-1	HS17120912-11	D122518	12/25/17	1843
13	HS17120912-0	HS17120912-01	D122525	12/25/17	2137
14	HS17120912-0	HS17120912-01	D122526	12/25/17	2205
15	HS17120912-0	HS17120912-02	D122527	12/25/17	2232
16	HS17120912-0	HS17120912-02	D122528	12/25/17	2259
17	CCV_END	CCV_END	D122529	12/25/17	2324
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Instrument ID: VOA2 Calibration Date: 12/25/17 Time: 1232

Lab File ID: D122502 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7642956	0.7642956	0.1	-1.13	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.4030474	0.4030474	0.1	1.01	20.00	AVRG
tert-Butylbenzene	2.7210000	2.2579737	2.2579737	0.1	-17.02	20.00	AVRG
Naphthalene	48.935133	50.000000	2.5110959	0.2	-2.13	20.00	LINR
sec-Butylbenzene	3.5940000	3.0660133	3.0660133	0.1	-14.69	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	1.0727588	1.0727588	0.3	-10.08	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3070800	0.3070800	0.1	0.35	20.00	AVRG
1,1-Dichloropropene	52.551509	50.000000	0.4091767	0.1	5.10	20.00	LINR
1,1-Dichloroethane	1.0440000	1.0547934	1.0547934	0.2	1.03	20.00	AVRG
1,1-Dichloroethene	0.4120000	0.4440784	0.4440784	0.1	7.79	20.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	0.9937738	0.9937738	0.2	0.89	20.00	AVRG
1,2-Dibromo-3-Chloropropane	47.448551	50.000000	0.1951437	0.05	-5.10	20.00	LINR
1,2-Dibromoethane	0.3830000	0.4048382	0.4048382	0.1	5.70	20.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5963621	1.5963621	0.4	-11.16	20.00	AVRG
1,2-Dichloroethane	54.416031	50.000000	0.4803864	0.1	8.83	20.00	LINR
1,2-Dichloropropane	0.3940000	0.3925706	0.3925706	0.1	-0.36	20.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6642023	1.6642023	0.6	-11.00	20.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.6029365	1.6029365	0.4	-10.40	20.00	AVRG
2-Butanone	0.2700000	0.2804545	0.2804545	0.1	3.87	20.00	AVRG
2-Hexanone	0.2930000	0.2962349	0.2962349	0.1	1.10	20.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4558936	0.4558936	0.1	0.42	20.00	AVRG
Acetone	107.53323	100.00000	0.1779387	0.1	7.53	20.00	LINR
Benzene	1.3160000	1.3196183	1.3196183	0.5	0.27	20.00	AVRG
Bromodichloromethane	0.4660000	0.4734059	0.4734059	0.2	1.59	20.00	AVRG
Bromoform	0.2970000	0.3137855	0.3137855	0.1	5.65	20.00	AVRG
Bromomethane	57.510893	50.000000	0.3913243	0.1	15.02	20.00	LINR
Carbon Disulfide	0.9420000	0.9834872	0.9834872	0.1	4.40	20.00	AVRG
Carbon Tetrachloride	0.4750000	0.3982402	0.3982402	0.1	-16.16	20.00	AVRG
Chlorobenzene	1.0300000	1.0014170	1.0014170	0.5	-2.78	20.00	AVRG
Chloroethane	0.4040000	0.3689170	0.3689170	0.1	-8.68	20.00	AVRG
Chloroform	0.9120000	0.9071292	0.9071292	0.2	-0.53	20.00	AVRG
Chloromethane	55.257958	50.000000	0.9225581	0.1	10.52	20.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5830548	0.5830548	0.1	2.47	20.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5804364	0.5804364	0.2	8.49	20.00	AVRG
Dibromochloromethane	0.4320000	0.4427969	0.4427969	0.1	2.50	20.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4866526	0.4866526	0.1	13.97	20.00	AVRG
Ethylbenzene	0.5510000	0.5166219	0.5166219	0.1	-6.24	20.00	AVRG
Isopropylbenzene	1.7050000	1.5904586	1.5904586	0.1	-6.72	20.00	AVRG
Methylene Chloride	0.5470000	0.5367722	0.5367722	0.1	-1.87	20.00	AVRG
Tetrachloroethene	52.034661	50.000000	0.3204737	0.2	4.07	20.00	LINR
Toluene	1.5840000	1.5200820	1.5200820	0.4	-4.04	20.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4963218	0.4963218	0.1	11.28	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date: 12/25/17 Time: 1232

Lab File ID: D122502 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.5044910	0.5044910	0.1	10.88	20.00	AVRG
Trichloroethene	0.3700000	0.3700619	0.3700619	0.2	0.02	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.6646073	0.6646073	0.1	7.89	20.00	AVRG
Vinyl Chloride	0.6130000	0.6657054	0.6657054	0.1	8.60	20.00	AVRG
m,p-Xylenes	0.6740000	0.6328118	0.6328118	0.1	-6.11	20.00	AVRG
o-Xylene	0.7050000	0.6759938	0.6759938	0.3	-4.11	20.00	AVRG
Xylenes (total)	0.6190000	0.5843443	0.5843443	0.1	-5.60	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.1325276	1.1325276	0.1	-4.91	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8614417	0.8614417	0.1	1.46	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.7387391	2.7387391	0.1	-17.76	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.7039606	2.7039606	0.1	-16.62	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.7729110	0.7729110	0.1	6.17	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.6091061	0.6091061	0.1	-1.28	20.00	AVRG
2-Chlorotoluene	2.8400000	2.3724154	2.3724154	0.1	-16.46	20.00	AVRG
4-Chlorotoluene	3.0920000	2.6474484	2.6474484	0.1	-14.38	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.6177412	2.6177412	0.1	-14.95	20.00	AVRG
Bromochloromethane	0.2700000	0.2920302	0.2920302	0.1	8.16	20.00	AVRG
Bromobenzene	1.1090000	0.9774660	0.9774660	0.1	-11.86	20.00	AVRG
Dibromomethane	0.2040000	0.2203062	0.2203062	0.1	7.99	20.00	AVRG
Hexachlorobutadiene	46.335492	50.000000	0.4251088	0.1	-7.33	20.00	LINR
n-Propylbenzene	4.2270000	3.5722272	3.5722272	0.1	-15.49	20.00	AVRG
n-Butylbenzene	2.2870000	2.0636059	2.0636059	0.05	-9.77	20.00	AVRG
Styrene	1.1240000	1.1178692	1.1178692	0.3	-0.54	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5383972	0.5383972	0.1	-3.16	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4358170	0.4358170	0.1	-3.15	20.00	AVRG
Toluene-d8	1.3180000	1.2480512	1.2480512	0.1	-5.31	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4803093	0.4803093	0.1	-0.14	20.00	AVRG

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID (Standard): D122502 Date Analyzed: 12/25/17

Instrument ID: VOA2 Time Analyzed: 1232

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

		IS1		IS2(DFB)		IS3(CBZ)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	248625	5.78	382209	6.57	345086	9.53
	UPPER LIMIT	497250	6.28	764418	7.07	690172	10.03
	LOWER LIMIT	124313	5.28	191105	6.07	172543	9.03
	CLIENT SAMPLE NO.						
01	VLCSW-171226	248743	5.78	375262	6.57	343326	9.53
02	VLCSDW-171225	252121	5.78	376454	6.57	349938	9.52
03	VBLKW-171225	270837	5.78	385984	6.57	355603	9.52
04	HS17120912-12	265995	5.78	375639	6.57	349665	9.52
05	HS17120844-03	248207	5.78	375558	6.57	337906	9.53
06	HS17120844-03	249020	5.78	373619	6.57	337839	9.53
07	HS17120912-04	268241	5.78	380677	6.57	345531	9.52
08	HS17120912-06	266218	5.78	382599	6.57	353334	9.52
09	HS17120912-07	266445	5.78	379555	6.57	340339	9.52
10	HS17120912-08	261928	5.78	380743	6.57	345319	9.52
11	HS17120912-11	266737	5.78	381790	6.57	350051	9.52
12	HS17120912-01	263252	5.77	374278	6.57	334844	9.53
13	HS17120912-01	278529	5.77	396083	6.57	351343	9.52
14	HS17120912-02	262876	5.77	367296	6.57	332659	9.52
15	HS17120912-02	270535	5.77	383099	6.57	337306	9.52
16							
17							
18							
19							
20							

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

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

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

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID (Standard): D122502 Date Analyzed: 12/25/17

Instrument ID: VOA2 Time Analyzed: 1232

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	163664	11.83				
	UPPER LIMIT	327328	12.33				
	LOWER LIMIT	81832	11.33				
	CLIENT SAMPLE NO.						
01	VLCSW-171226	162024	11.84				
02	VLCSDW-171225	166083	11.83				
03	VBLKW-171225	162002	11.84				
04	HS17120912-12	159106	11.83				
05	HS17120844-03	157050	11.84				
06	HS17120844-03	159564	11.83				
07	HS17120912-04	156869	11.83				
08	HS17120912-06	160015	11.83				
09	HS17120912-07	154734	11.84				
10	HS17120912-08	155274	11.83				
11	HS17120912-11	161089	11.83				
12	HS17120912-01	151933	11.83				
13	HS17120912-01	153520	11.83				
14	HS17120912-02	152656	11.83				
15	HS17120912-02	148422	11.83				
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 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Instrument ID: VOA2 Calibration Date: 12/25/17 Time: 2324

Lab File ID: D122529 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7850467	0.7850467	0.1	1.56	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3778303	0.3778303	0.1	-5.30	50.00	AVRG
tert-Butylbenzene	2.7210000	2.4260646	2.4260646	0.1	-10.84	50.00	AVRG
Naphthalene	46.265831	50.000000	2.3755848	0.2	-7.47	50.00	LINR
sec-Butylbenzene	3.5940000	3.2660646	3.2660646	0.1	-9.12	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.9469552	0.9469552	0.3	-20.62	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2832466	0.2832466	0.1	-7.44	50.00	AVRG
1,1-Dichloropropene	53.388981	50.000000	0.4155836	0.1	6.78	50.00	LINR
1,1-Dichloroethane	1.0440000	1.0212624	1.0212624	0.2	-2.18	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.4446164	0.4446164	0.1	7.92	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	0.9751521	0.9751521	0.2	-1.00	50.00	AVRG
1,2-Dibromo-3-Chloropropane	42.463422	50.000000	0.1744058	0.05	-15.07	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3637610	0.3637610	0.1	-5.02	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5420257	1.5420257	0.4	-14.19	50.00	AVRG
1,2-Dichloroethane	49.167834	50.000000	0.4341402	0.1	-1.66	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3706624	0.3706624	0.1	-5.92	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6215491	1.6215491	0.6	-13.29	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.5383004	1.5383004	0.4	-14.01	50.00	AVRG
2-Butanone	0.2700000	0.2464519	0.2464519	0.1	-8.72	50.00	AVRG
2-Hexanone	0.2930000	0.2657205	0.2657205	0.1	-9.31	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4087128	0.4087128	0.1	-9.98	50.00	AVRG
Acetone	99.874305	100.00000	0.1655359	0.1	-0.12	50.00	LINR
Benzene	1.3160000	1.2617799	1.2617799	0.5	-4.12	50.00	AVRG
Bromodichloromethane	0.4660000	0.4419058	0.4419058	0.2	-5.17	50.00	AVRG
Bromoform	0.2970000	0.2889968	0.2889968	0.1	-2.69	50.00	AVRG
Bromomethane	57.783152	50.000000	0.3930996	0.1	15.57	50.00	LINR
Carbon Disulfide	0.9420000	0.9858074	0.9858074	0.1	4.65	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.4141435	0.4141435	0.1	-12.81	50.00	AVRG
Chlorobenzene	1.0300000	0.9429996	0.9429996	0.5	-8.45	50.00	AVRG
Chloroethane	0.4040000	0.3889945	0.3889945	0.1	-3.71	50.00	AVRG
Chloroform	0.9120000	0.8640486	0.8640486	0.2	-5.26	50.00	AVRG
Chloromethane	54.890441	50.000000	0.9165265	0.1	9.78	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5569311	0.5569311	0.1	-2.12	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5311510	0.5311510	0.2	-0.72	50.00	AVRG
Dibromochloromethane	0.4320000	0.4116753	0.4116753	0.1	-4.70	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4667177	0.4667177	0.1	9.30	50.00	AVRG
Ethylbenzene	0.5510000	0.5132572	0.5132572	0.1	-6.85	50.00	AVRG
Isopropylbenzene	1.7050000	1.6374229	1.6374229	0.1	-3.96	50.00	AVRG
Methylene Chloride	0.5470000	0.4965893	0.4965893	0.1	-9.22	50.00	AVRG
Tetrachloroethene	53.335493	50.000000	0.3282305	0.2	6.67	50.00	LINR
Toluene	1.5840000	1.4761667	1.4761667	0.4	-6.81	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4865384	0.4865384	0.1	9.09	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date: 12/25/17 Time: 2324

Lab File ID: D122529 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4515950	0.4515950	0.1	-0.75	50.00	AVRG
Trichloroethene	0.3700000	0.3893485	0.3893485	0.2	5.23	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.6689242	0.6689242	0.1	8.59	50.00	AVRG
Vinyl Chloride	0.6130000	0.6600584	0.6600584	0.1	7.68	50.00	AVRG
m,p-Xylenes	0.6740000	0.6276371	0.6276371	0.1	-6.88	50.00	AVRG
o-Xylene	0.7050000	0.6644418	0.6644418	0.3	-5.75	50.00	AVRG
Xylenes (total)	0.6190000	0.5798515	0.5798515	0.1	-6.32	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0343744	1.0343744	0.1	-13.15	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8375980	0.8375980	0.1	-1.34	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.7725368	2.7725368	0.1	-16.74	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.7719849	2.7719849	0.1	-14.52	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.6546298	0.6546298	0.1	-10.08	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5592238	0.5592238	0.1	-9.36	50.00	AVRG
2-Chlorotoluene	2.8400000	2.3907934	2.3907934	0.1	-15.82	50.00	AVRG
4-Chlorotoluene	3.0920000	2.6065224	2.6065224	0.1	-15.70	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.7192098	2.7192098	0.1	-11.66	50.00	AVRG
Bromochloromethane	0.2700000	0.2729535	0.2729535	0.1	1.09	50.00	AVRG
Bromobenzene	1.1090000	0.9492944	0.9492944	0.1	-14.40	50.00	AVRG
Dibromomethane	0.2040000	0.2004291	0.2004291	0.1	-1.75	50.00	AVRG
Hexachlorobutadiene	46.560038	50.000000	0.4271496	0.1	-6.88	50.00	LINR
n-Propylbenzene	4.2270000	3.7328943	3.7328943	0.1	-11.69	50.00	AVRG
n-Butylbenzene	2.2870000	2.1188586	2.1188586	0.05	-7.35	50.00	AVRG
Styrene	1.1240000	1.0709035	1.0709035	0.3	-4.72	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5363081	0.5363081	0.1	-3.54	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4381249	0.4381249	0.1	-2.64	50.00	AVRG
Toluene-d8	1.3180000	1.2466751	1.2466751	0.1	-5.41	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4806893	0.4806893	0.1	-0.06	50.00	AVRG

MSVOA02 -Logbook

Batch: 30178
Date: 12-25-2017
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-25-2017 12:08 pm	1.00	50 mL	50 mL	D122501.D	Liquid	Y	NA
2	*Auto find/pured* CCV	CCV	12-25-2017 12:32 pm	1.00	50 mL	50 mL	D122502.D	Liquid	Y	NA
3	*10 uL cal std/50 ml DI* VLCSW-171226	LCS	12-25-2017 12:57 pm	1.00	50 mL	50 mL	D122503.D	Liquid	Y	NA
4	*10 uL cal std/50 ml DI* VLCSDW-171225	LCSD	12-25-2017 01:21 pm	1.00	50 mL	50 mL	D122505.D	Liquid	Y	NA
5	*10 uL cal std/50 ml DI* BLK	SAMP	12-25-2017 01:46 pm	1.00	50 mL	50 mL	D122506.D	Liquid	Y	NA
6	*Cleanup blk* VBLKW-171225	MBLK	12-25-2017 02:10 pm	1.00	50 mL	50 mL	D122507.D	Liquid	Y	NA
7	HS17120912-12	SAMP	12-25-2017 02:35 pm	1.00	50 mL	50 mL	D122508.D	Liquid	Y	<2
8	HS17120844-01	SAMP	12-25-2017 02:59 pm	1.00	50 mL	50 mL	D122509.D	Liquid	Y	<2
9	HS17120844-03	SAMP	12-25-2017 03:24 pm	1.00	50 mL	50 mL	D122510.D	Liquid	Y	<2
10	HS17120844-03MS	MS	12-25-2017 03:48 pm	1.00	50 mL	50 mL	D122511.D	Liquid	Y	<2
11	*8 uL cal std/40 ml sample* HS17120844-03MSD	MSD	12-25-2017 04:13 pm	1.00	50 mL	50 mL	D122512.D	Liquid	Y	<2
12	*8 uL cal std/40 ml sample* HS17120869-08	SAMP	12-25-2017 04:40 pm	5.00	10 mL	50 mL	D122513.D	Liquid	Y	<2
13	HS17120912-04	SAMP	12-25-2017 05:05 pm	1.00	50 mL	50 mL	D122514.D	Liquid	Y	<2
14	HS17120912-06	SAMP	12-25-2017 05:29 pm	1.00	50 mL	50 mL	D122515.D	Liquid	Y	<2
15	HS17120912-07	SAMP	12-25-2017 05:54 pm	1.00	50 mL	50 mL	D122516.D	Liquid	Y	<2
16	HS17120912-08	SAMP	12-25-2017 06:18 pm	1.00	50 mL	50 mL	D122517.D	Liquid	Y	<2
17	HS17120912-11	SAMP	12-25-2017 06:43 pm	1.00	50 mL	50 mL	D122518.D	Liquid	Y	<2
18	HS17120844-02	SAMP	12-25-2017 07:07 pm	1.00	50 mL	50 mL	D122519.D	Liquid	Y	<2
19	HS17120844-04	SAMP	12-25-2017 07:32 pm	1.00	50 mL	50 mL	D122520.D	Liquid	Y	<2
20	HS17120844-05	SAMP	12-25-2017 07:56 pm	1.00	50 mL	50 mL	D122521.D	Liquid	Y	<2
21	HS17120844-06	SAMP	12-25-2017 08:21 pm	1.00	50 mL	50 mL	D122522.D	Liquid	Y	<2
22	HS17120844-07	SAMP	12-25-2017 08:46 pm	1.00	50 mL	50 mL	D122523.D	Liquid	Y	<2
23	HS17120844-08	SAMP	12-25-2017 09:10 pm	1.00	50 mL	50 mL	D122524.D	Liquid	Y	<2
24	HS17120912-01	SAMP	12-25-2017 09:37 pm	5.00	10 mL	50 mL	D122525.D	Liquid	Y	<2
25	HS17120912-01	SAMP	12-25-2017 10:05 pm	50.00	1 mL	50 mL	D122526.D	Liquid	Y	<2
26	HS17120912-02	SAMP	12-25-2017 10:32 pm	5.00	10 mL	50 mL	D122527.D	Liquid	Y	<2
27	HS17120912-02	SAMP	12-25-2017 10:59 pm	50.00	1 mL	50 mL	D122528.D	Liquid	Y	<2
28	CCV_END	CCV	12-25-2017 11:24 pm	1.00	50 mL	50 mL	D122529.D	Liquid	Y	NA
29	*10 uL cal std/50 ml DI* BFB	TUNE	12-25-2017 11:48 pm	1.00	50 mL	50 mL	E122501.D	Liquid	Y	NA
30	*Auto find/purged* CCV	CCV	12-26-2017 12:13 am	1.00	50 mL	50 mL	E122502.D	Liquid	Y	NA
31	*10 uL cal std/50 ml DI* CCV	CCV	12-26-2017 12:37 am	1.00	50 mL	50 mL	E122503.D	Liquid	Y	NA
32	*10 uL cal std/50 ml DI* VLCSW-171225	LCS	12-26-2017 01:02 am	1.00	50 mL	50 mL	E122504.D	Liquid	Y	<2
33	*10 uL cal std/50 ml DI* BLK	SAMP	12-26-2017 01:26 am	1.00	50 mL	50 mL	E122505.D	Liquid	Y	NA
34	*Cleanup blk* VBLKW-171225	MBLK	12-26-2017 01:51 am	1.00	50 mL	50 mL	E122506.D	Liquid	Y	NA

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
35	HS17120618-21	SAMP	12-26-2017 02:16 am	1.00	50 mL	50 mL	E122507.D	Liquid	Y	<2
36	HS17120850-08	SAMP	12-26-2017 02:40 am	1.00	50 mL	50 mL	E122508.D	Liquid	Y	<2
37	HS17120847-01	SAMP	12-26-2017 03:05 am	1.00	50 mL	50 mL	E122509.D	Liquid	Y	<2
38	HS17120847-02	SAMP	12-26-2017 03:29 am	1.00	50 mL	50 mL	E122510.D	Liquid	Y	<2
39	HS17120847-01MS	MS	12-26-2017 03:54 am	1.00	50 mL	50 mL	E122511.D	Liquid	Y	<2
40	*8 uL cal std/40 ml sample* HS17120847-01MSD	MSD	12-26-2017 04:18 am	1.00	50 mL	50 mL	E122512.D	Liquid	Y	<2
41	*8 uL cal std/40 ml sample* BLK	SAMP	12-26-2017 04:43 am	1.00	50 mL	50 mL	E122513.D	Liquid	Y	NA
42	*Cleanup blk* HS17120850-01	SAMP	12-26-2017 05:07 am	1.00	50 mL	50 mL	E122514.D	Liquid	Y	<2
43	HS17120850-02	SAMP	12-26-2017 05:32 am	1.00	50 mL	50 mL	E122515.D	Liquid	Y	<2
44	HS17120850-03	SAMP	12-26-2017 05:56 am	1.00	50 mL	50 mL	E122516.D	Liquid	Y	<2
45	HS17120850-04	SAMP	12-26-2017 06:21 am	1.00	50 mL	50 mL	E122517.D	Liquid	Y	<2
46	HS17120850-05	SAMP	12-26-2017 06:45 am	1.00	50 mL	50 mL	E122518.D	Liquid	Y	<2
47	HS17120850-06	SAMP	12-26-2017 08:03 am	1.00	50 mL	50 mL	E122519.D	Liquid	Y	<2
48	HS17120850-07	SAMP	12-26-2017 09:46 am	1.00	50 mL	50 mL	E122520.D	Liquid	Y	<2

Chemical	Value
SURR ID	29814-95-03
IS ID	29814-95-04
LCS/MS ID	29814-97-01
CAL STD ID	29814-97-01
BFB ID	29814-95-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122501.D

Date : 25-DEC-2017 12:08

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

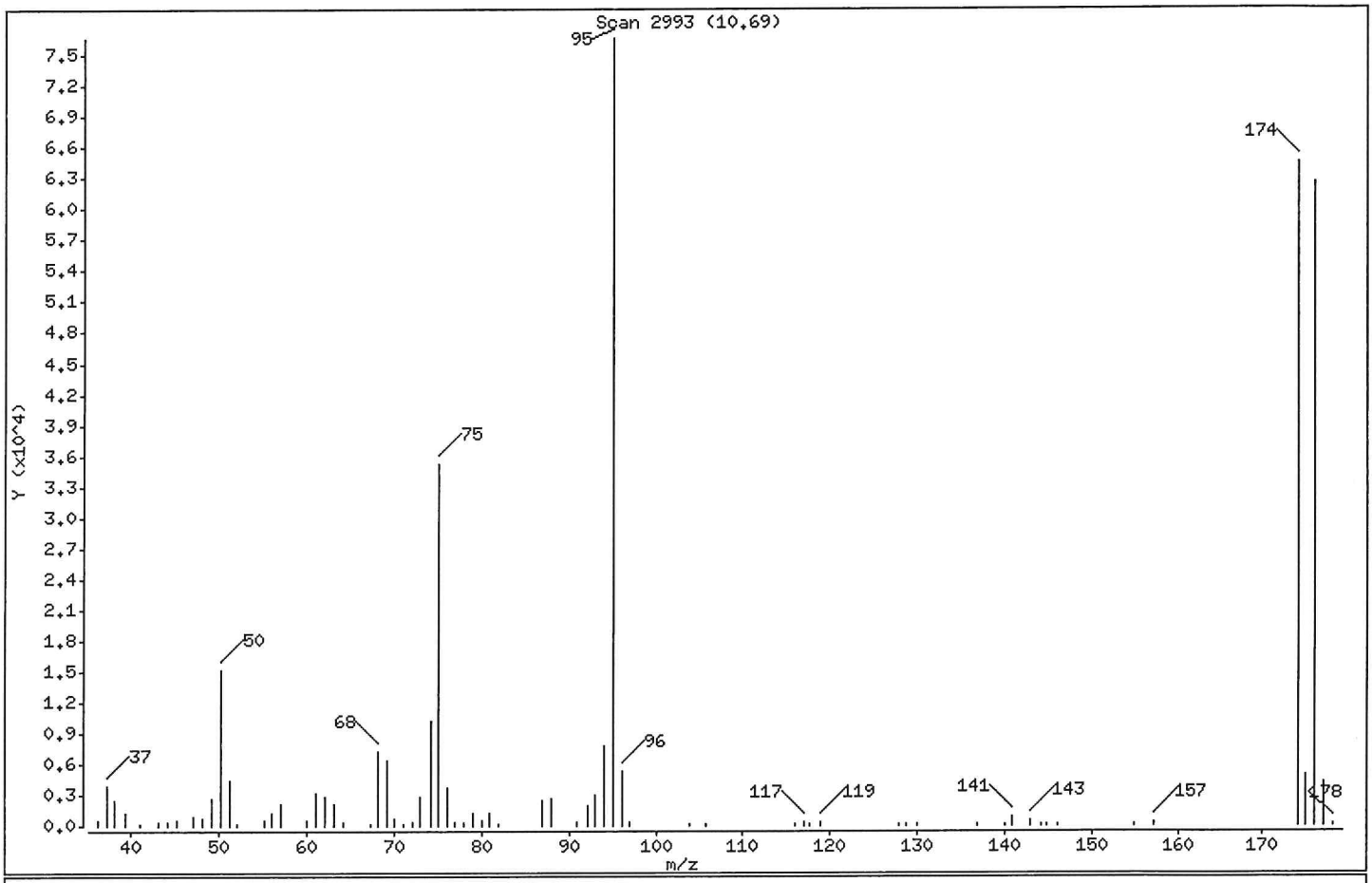
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

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	19.80
75	30.00 - 60.00% of mass 95	45.94
96	5.00 - 9.00% of mass 95	6.87
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	84.07
175	5.00 - 9.00% of mass 174	6.50 (7.74)
176	95.00 - 101.00% of mass 174	81.59 (97.06)
177	5.00 - 9.00% of mass 176	5.44 (6.66)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122501.D

Date : 25-DEC-2017 12:08

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: D122501.D
Spectrum: Scan 2993 (10.69)
Location of Maximum: 95.10
Number of points: 70

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	537	61.10	3097	80.90	1207	128.80	219
37.10	3919	62.10	2804	81.90	232	130.00	180
38.10	2518	63.10	2109	87.00	2451	136.90	170
39.20	1250	64.10	299	88.00	2613	140.00	153
41.00	230	67.20	201	91.00	312	140.90	811
43.10	411	68.10	7193	92.10	1929	143.00	473
44.10	311	69.10	6392	93.00	2966	144.10	156
45.10	597	70.10	718	94.00	7776	144.90	151
47.00	942	71.10	191	95.10	76616	146.10	244
48.00	666	72.10	405	96.10	5264	154.90	187
49.10	2706	73.00	2797	97.00	318	157.10	280
50.10	15171	74.10	10150	103.80	264	174.00	64408
51.10	4370	75.10	35200	105.80	244	175.00	4983
52.10	157	76.10	3627	116.00	164	176.00	62512
55.20	496	76.90	408	117.00	426	177.00	4166
56.00	1155	77.90	335	117.60	172	178.10	210
57.10	2116	79.00	1232	118.90	270		
59.90	553	80.00	536	127.90	202		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122501.D

Date : 25-DEC-2017 12:08

Client ID: BFB

Instrument: VOA2.i

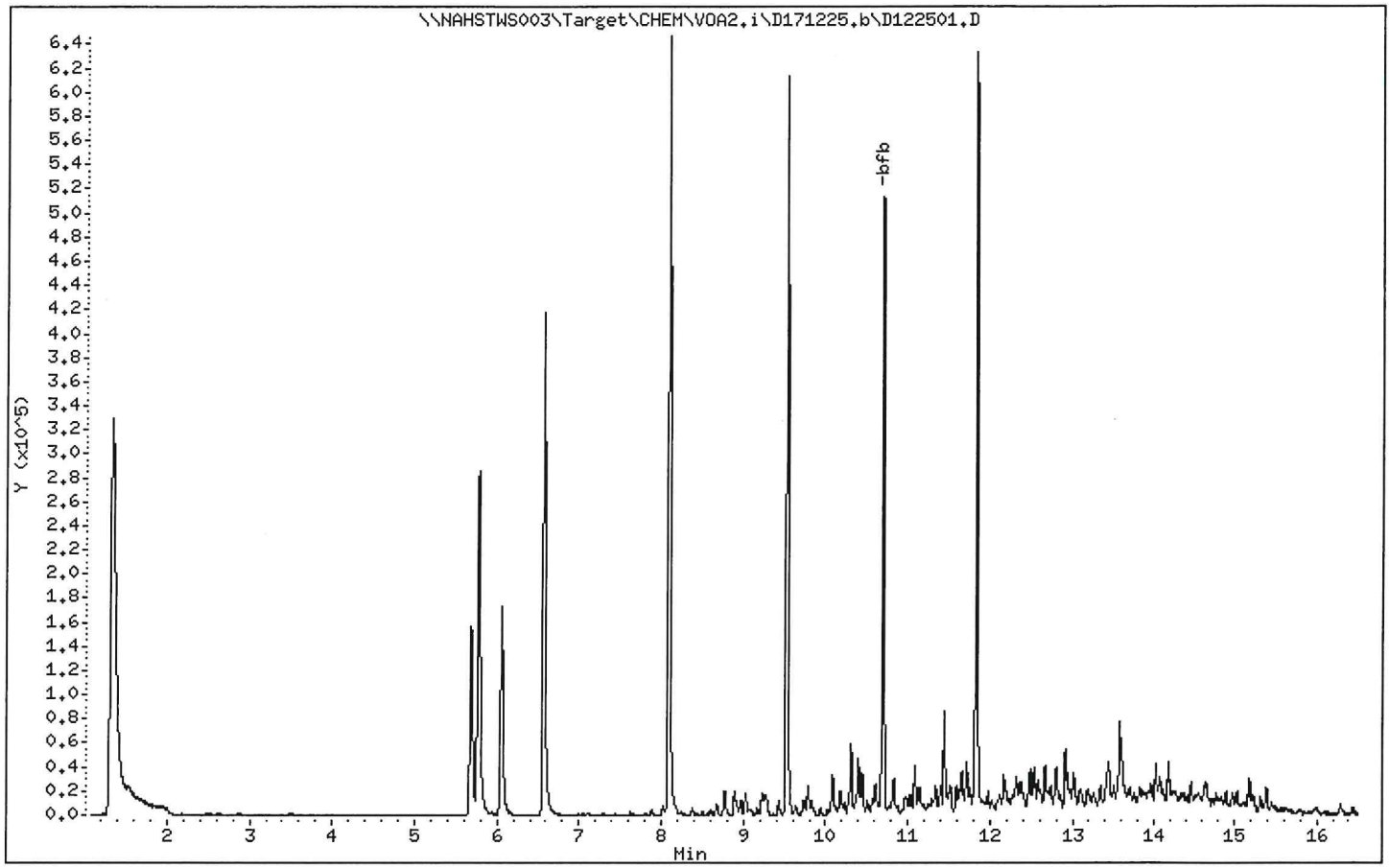
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122502.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 25-DEC-2017 12:32
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

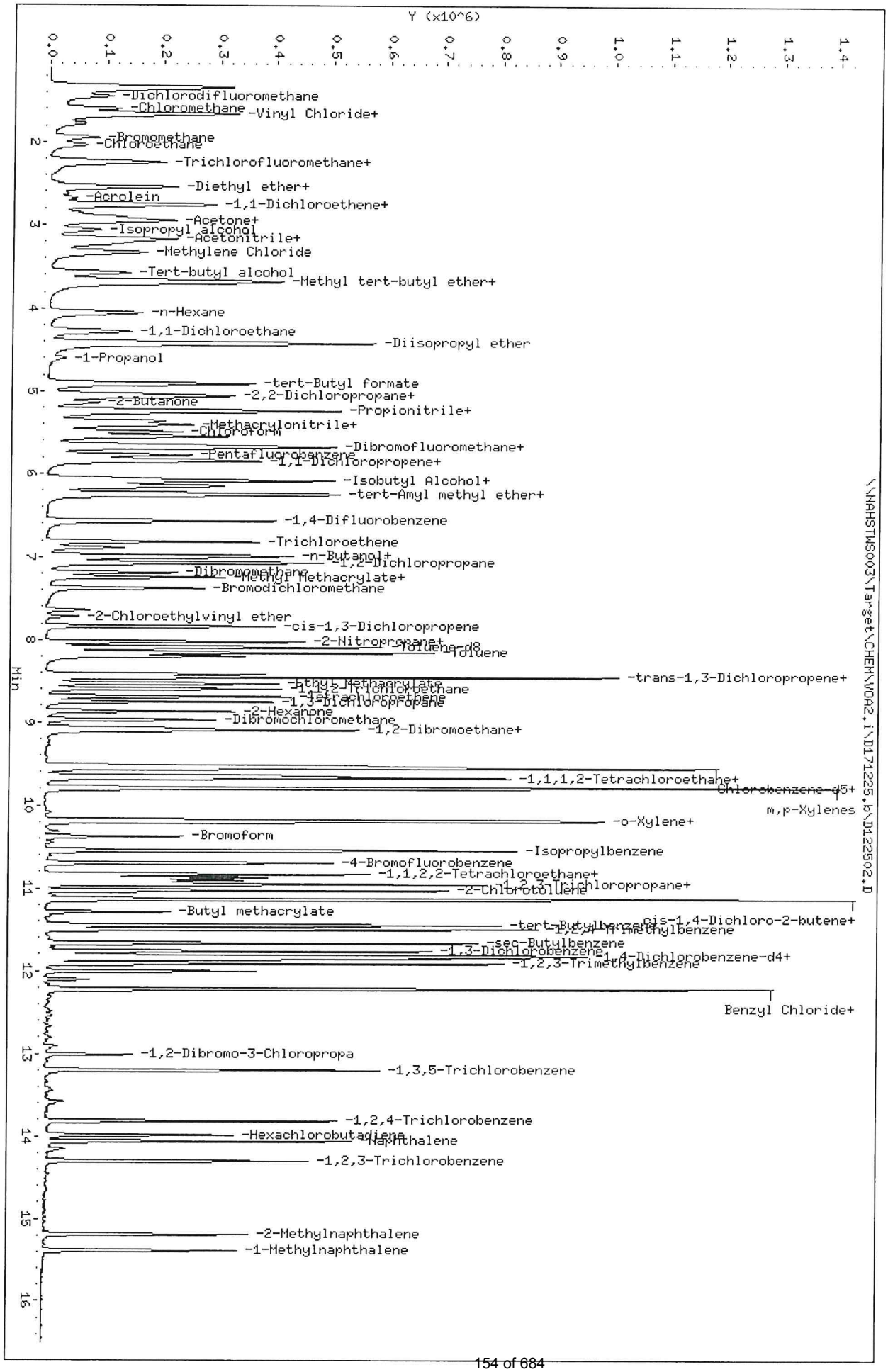
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.979)	190023	50.0000	49.45
*	1 Pentafluorobenzene	168	5.776	5.776	(1.000)	248625	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	108355	50.0000	48.37
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	382209	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.049)	133859	50.0000	48.38
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	345086	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	430685	50.0000	47.33
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	165748	50.0000	49.88
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	163664	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	175572	50.0000	44.96
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	105969	50.0000	50.19
	32 1,1-Dichloropropene	75	5.850	5.850	(0.890)	156391	50.0000	52.55
	22 1,1-Dichloroethane	63	4.277	4.277	(0.741)	262248	50.0000	50.52
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	110409	50.0000	53.80
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.168)	162645	50.0000	50.44
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	31938	50.0000	47.44
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	139704	50.0000	52.83
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	261267	50.0000	44.41
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	183608	50.0000	54.41
	42 1,2-Dichloropropane	63	7.063	7.063	(1.075)	150044	50.0000	49.84
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	272370	50.0000	44.49

	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	11.860	11.860	(1.002)	262343	50.0000	44.80
	24 2-Butanone	43	5.144	5.144	(0.891)	139456	100.000	103.94
	52 2-Hexanone	43	8.866	8.866	(0.931)	204453	100.000	101.11
	45 4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	314645	100.000	100.50
	10 Acetone	43	2.856	2.856	(0.494)	88480	100.000	107.53
	37 Benzene	78	6.094	6.094	(0.927)	504370	50.0000	50.15
	39 Bromodichloromethane	83	7.374	7.374	(1.122)	180940	50.0000	50.83
	66 Bromoform	173	10.374	10.374	(1.089)	108283	50.0000	52.89
	6 Bromomethane	94	1.941	1.941	(0.336)	97293	50.0000	57.51
	19 Carbon Disulfide	76	2.955	2.955	(0.512)	489039	100.000	104.35
	34 Carbon Tetrachloride	117	5.834	5.834	(0.888)	152211	50.0000	41.92
	59 Chlorobenzene	112	9.553	9.553	(1.003)	345575	50.0000	48.62
	7 Chloroethane	64	2.031	2.031	(0.352)	91722	50.0000	45.59
	28 Chloroform	83	5.490	5.490	(0.951)	225535	50.0000	49.75
	3 Chloromethane	50	1.598	1.598	(0.277)	229371	50.0000	55.25
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	144962	50.0000	51.24
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	221848	50.0000	54.27
	55 Dibromochloromethane	129	8.972	8.972	(0.942)	152803	50.0000	51.28
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.251)	120994	50.0000	56.92
	61 Ethylbenzene	106	9.672	9.672	(1.015)	178279	50.0000	46.86
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	548845	50.0000	46.64
	17 Methylene Chloride	84	3.334	3.334	(0.577)	133455	50.0000	49.04
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	110591	50.0000	52.03
	50 Toluene	91	8.157	8.157	(0.856)	524559	50.0000	47.96
	20 trans-1,2-Dichloroethene	96	3.661	3.661	(0.634)	123398	50.0000	55.59
	51 trans-1,3-Dichloropropene	75	8.414	8.414	(1.280)	192821	50.0000	55.43
	38 Trichloroethene	130	6.816	6.816	(1.037)	141441	50.0000	49.96
	8 Trichlorofluoromethane	101	2.253	2.253	(0.390)	165238	50.0000	53.90
	5 Vinyl Chloride	62	1.678	1.678	(0.291)	165511	50.0000	54.31
	62 m,p-Xylenes	106	9.793	9.793	(1.028)	436749	100.000	93.88
	63 o-Xylene	106	10.179	10.179	(1.068)	233276	50.0000	47.93
M	95 Xylenes (total)	106				670025	150.000	(a)
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	185354	50.0000	47.54
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	140987	50.0000	50.74
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	448233	50.0000	41.11
	75 1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	442541	50.0000	41.68
	26 2,2-Dichloropropane	77	5.041	5.041	(0.873)	192165	50.0000	53.05
	54 1,3-Dichloropropane	76	8.751	8.751	(0.918)	210194	50.0000	49.36
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	388279	50.0000	41.76
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	433292	50.0000	42.80
	82 p-Isopropyltoluene	119	11.818	11.818	(0.999)	428430	50.0000	42.52
	29 Bromochloromethane	128	5.365	5.365	(0.929)	72606	50.0000	53.93
	74 Bromobenzene	156	10.830	10.830	(0.915)	159976	50.0000	44.06
	44 Dibromomethane	93	7.191	7.191	(1.094)	84203	50.0000	53.97
	91 Hexachlorobutadiene	225	13.991	13.991	(1.182)	69575	50.0000	46.33
	73 n-Propylbenzene	91	10.952	10.952	(0.925)	584645	50.0000	42.25
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	337738	50.0000	45.10
	81 sec-Butylbenzene	105	11.667	11.667	(0.986)	501796	50.0000	42.65
	92 Naphthalene	128	14.061	14.061	(1.188)	410976	50.0000	48.93
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	369549	50.0000	41.49
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	139086	50.0000	50.50
	64 Styrene	104	10.198	10.198	(1.070)	385761	50.0000	49.69

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122502.D
Date : 25-DEC-2017 12:32
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122502.D

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

ALS Laboratory Group

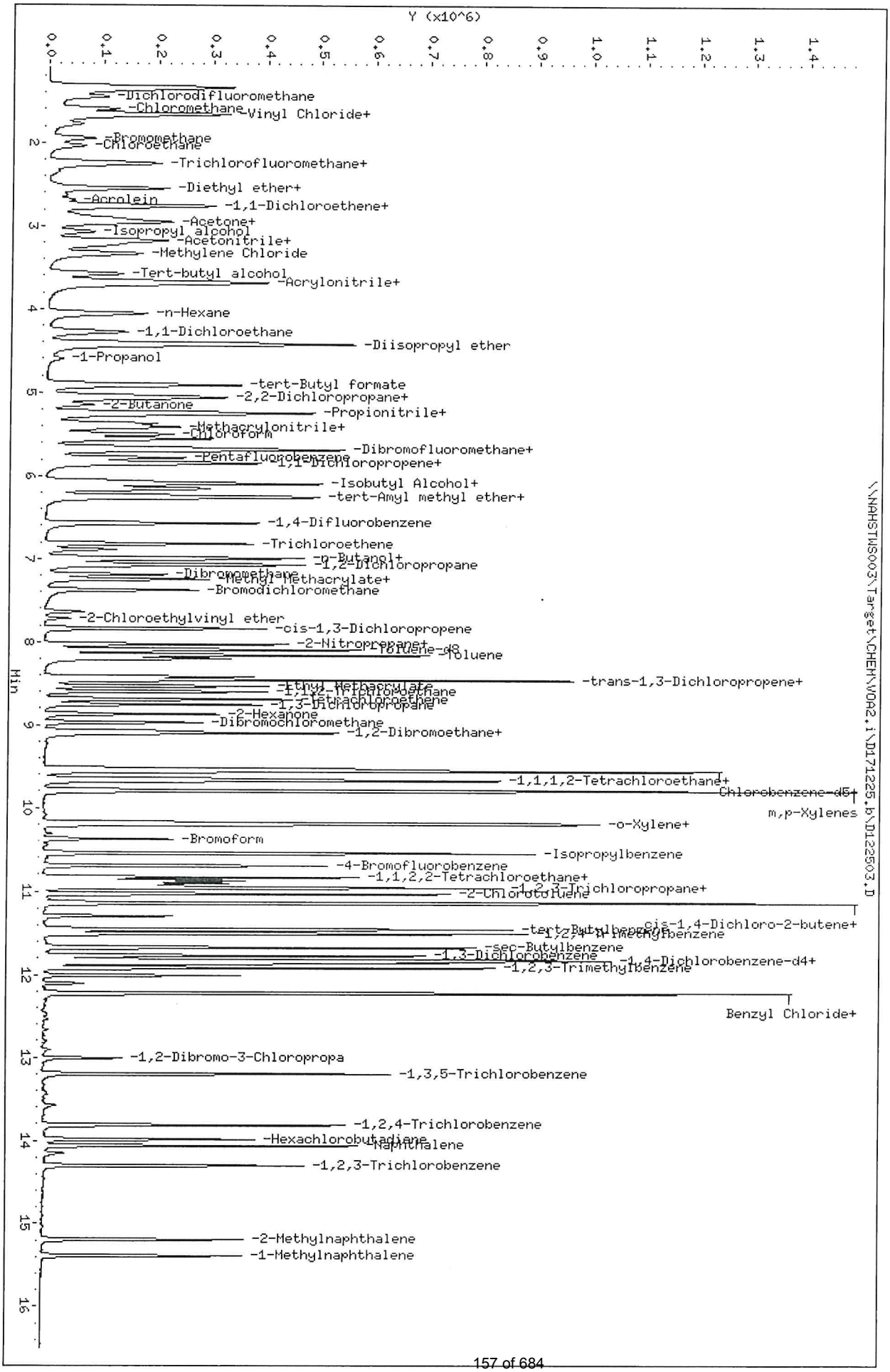
Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122503.D
Lab Smp Id: VLCSW-171226 Client Smp ID: VLCSW-171226
Inj Date : 25-DEC-2017 12:57
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171226;VLCSW-171226;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	198239	51.5654	51.56
*	1 Pentafluorobenzene	168	5.783	5.776	(1.000)	248743	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.686	(0.983)	105308	46.9893	46.98
*	36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	375262	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	130825	47.2650	47.26
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	343326	50.0000	
$	48 Toluene-d8	98	8.093	8.090	(0.849)	424180	46.8598	46.85
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	165191	49.9739	49.97
*	70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	162024	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	170621	44.1440	44.14
	53 1,1,2-Trichloroethane	83	8.594	8.593	(0.902)	104833	49.9151	49.91
	32 1,1-Dichloropropene	75	5.853	5.850	(0.891)	162163	55.5522	55.55
	22 1,1-Dichloroethane	63	4.274	4.277	(0.739)	261430	50.3415	50.34
	11 1,1-Dichloroethene	96	2.753	2.750	(0.476)	113615	55.3417	55.34
	90 1,2,4-Trichlorobenzene	180	13.818	13.817	(1.168)	173635	54.3984	54.39
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	30105	45.2038	45.20
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	135447	51.4916	51.49
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	268464	46.0980	46.09
	33 1,2-Dichloroethane	62	6.145	6.142	(0.936)	177493	53.5760	53.57
	42 1,2-Dichloropropane	63	7.063	7.063	(1.075)	148646	50.2912	50.29
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	280024	46.2041	46.20

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	84 1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	268400	46.3022	46.30
	24 2-Butanone	43	5.144	5.144	(0.890)	133198	99.2368	99.23
	52 2-Hexanone	43	8.866	8.866	(0.931)	201010	99.9247	99.92
	45 4-Methyl-2-Pentanone	43	8.026	8.025	(0.842)	307325	98.6657	98.66
	10 Acetone	43	2.859	2.856	(0.494)	82496	100.053	100.05
	37 Benzene	78	6.091	6.094	(0.927)	504710	51.1170	51.11
	39 Bromodichloromethane	83	7.374	7.374	(1.123)	181183	51.8443	51.84
	66 Bromoform	173	10.374	10.374	(1.089)	107904	52.9834	52.98
	6 Bromomethane	94	1.941	1.941	(0.336)	97937	57.8795	57.87
	19 Carbon Disulfide	76	2.955	2.955	(0.511)	501981	107.070	107.06
	34 Carbon Tetrachloride	117	5.834	5.834	(0.888)	154741	43.4119	43.41
	59 Chlorobenzene	112	9.553	9.553	(1.003)	348284	49.2589	49.25
	7 Chloroethane	64	2.038	2.031	(0.352)	94550	46.9818	46.98
	28 Chloroform	83	5.494	5.490	(0.950)	225967	49.8277	49.82
	3 Chloromethane	50	1.595	1.598	(0.276)	234789	56.5585	56.55
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	143906	50.8520	50.85
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	220257	54.8806	54.88
	55 Dibromochloromethane	129	8.969	8.972	(0.941)	152804	51.5500	51.55
	2 Dichlorodifluoromethane	85	1.450	1.447	(0.251)	119408	56.1541	56.15
	61 Ethylbenzene	106	9.672	9.672	(1.015)	185922	49.1286	49.12
	67 Isopropylbenzene	105	10.545	10.548	(1.107)	587989	50.2241	50.22
	17 Methylene Chloride	84	3.331	3.334	(0.576)	132366	48.6171	48.61
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	115591	54.7525	54.75
	50 Toluene	91	8.157	8.157	(0.856)	535666	49.2319	49.23
	20 trans-1,2-Dichloroethene	96	3.661	3.661	(0.633)	120531	54.2780	54.27
	51 trans-1,3-Dichloropropene	75	8.417	8.414	(1.281)	189780	55.5715	55.57
	38 Trichloroethene	130	6.816	6.816	(1.038)	145707	52.4225	52.42
	8 Trichlorofluoromethane	101	2.253	2.253	(0.390)	169369	55.2232	55.22
	5 Vinyl Chloride	62	1.682	1.678	(0.291)	166824	54.7181	54.71
	62 m,p-Xylenes	106	9.790	9.793	(1.028)	453974	98.0913	98.09
	63 o-Xylene	106	10.179	10.179	(1.068)	239199	49.4027	49.40
M	95 Xylenes (total)	106				693173	147.494	147.49
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	177829	46.0733	46.07
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	147797	53.7380	53.73
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	473157	43.8424	43.84
	75 1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	466996	44.4339	44.43
	26 2,2-Dichloropropane	77	5.041	5.041	(0.872)	197268	54.4364	54.43
	54 1,3-Dichloropropane	76	8.754	8.751	(0.919)	207009	48.8687	48.86
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	405570	44.0646	44.06
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	446421	44.5457	44.54
	82 p-Isopropyltoluene	119	11.818	11.818	(0.999)	463708	46.4955	46.49
	29 Bromochloromethane	128	5.362	5.365	(0.927)	71847	53.3498	53.34
	74 Bromobenzene	156	10.833	10.830	(0.915)	161895	45.0447	45.04
	44 Dibromomethane	93	7.191	7.191	(1.095)	82229	53.6843	53.68
	91 Hexachlorobutadiene	225	13.991	13.991	(1.182)	75525	50.8495	50.84
	73 n-Propylbenzene	91	10.955	10.952	(0.926)	625716	45.6765	45.67
	87 n-Butylbenzene	91	12.220	12.223	(1.033)	365562	49.3196	49.31
	81 sec-Butylbenzene	105	11.668	11.667	(0.986)	546974	46.9663	46.96
	92 Naphthalene	128	14.062	14.061	(1.188)	417737	50.2578	50.25
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	401991	45.5960	45.59
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	139297	50.8444	50.84
	64 Styrene	104	10.198	10.198	(1.070)	394322	51.0627	51.06



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Date : 25-DEC-2017 12:57
Client ID: VLCSW-171226
Sample Info: VLCSW-171226;VLCSW-171226;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

\\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122503.D

ALS Laboratory Group

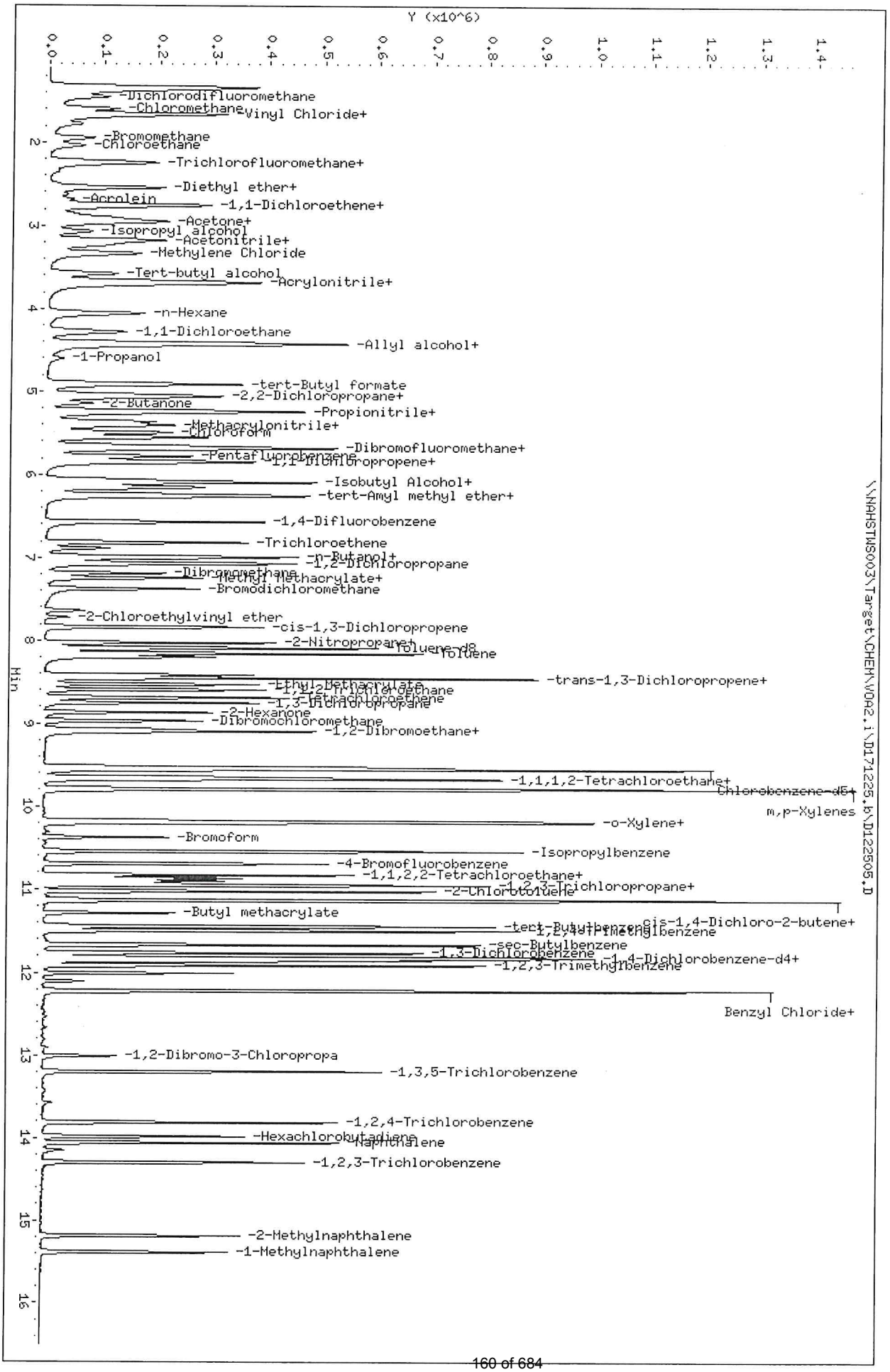
Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122505.D
Lab Smp Id: VLCSDW-171225 Client Smp ID: VLCSDW-171225
Inj Date : 25-DEC-2017 13:21
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSDW-171225;VLCSDW-171225;3;;LCSD
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 4 QC Sample: LCSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.654	(0.978)	188541	48.3857	48.38
*	1 Pentafluorobenzene	168	5.779	5.776	(1.000)	252121	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	108093	47.5857	47.58
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	376454	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	132522	47.2366	47.23
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	349938	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	430558	46.6657	46.66
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	168375	49.9747	49.97
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	166083	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	165309	41.7244	41.72
	53 1,1,2-Trichloroethane	83	8.597	8.593	(0.903)	102161	47.7237	47.72
	32 1,1-Dichloropropene	75	5.853	5.850	(0.891)	155038	52.8994	52.89
	22 1,1-Dichloroethane	63	4.281	4.277	(0.741)	252764	48.0206	48.02
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	105588	50.7426	50.74
	90 1,2,4-Trichlorobenzene	180	13.818	13.817	(1.168)	172079	52.5933	52.59
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	28544	41.8529	41.85
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	130873	48.8127	48.81
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	263878	44.2032	44.20
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	170515	51.3025	51.30
	42 1,2-Dichloropropane	63	7.063	7.063	(1.075)	144153	48.6166	48.61
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	273063	43.9544	43.95

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.857	11.860	(1.002)	262116	44.1130	44.11
24	2-Butanone	43	5.144	5.144	(0.890)	125076	91.9372	91.93
52	2-Hexanone	43	8.866	8.866	(0.931)	187506	91.4505	91.45
45	4-Methyl-2-Pentanone	43	8.029	8.025	(0.843)	285075	89.7931	89.79
10	Acetone	43	2.859	2.856	(0.495)	76360	91.1669	91.16
37	Benzene	78	6.090	6.094	(0.927)	490482	49.5187	49.51
39	Bromodichloromethane	83	7.377	7.374	(1.123)	176737	50.4120	50.41
66	Bromoform	173	10.378	10.374	(1.090)	105046	50.6054	50.60
6	Bromomethane	94	1.941	1.941	(0.336)	93022	54.0808	54.08
19	Carbon Disulfide	76	2.952	2.955	(0.511)	485177	102.099	102.09
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	152962	42.7769	42.77
59	Chlorobenzene	112	9.553	9.553	(1.003)	341336	47.3641	47.36
7	Chloroethane	64	2.041	2.031	(0.353)	91910	45.0581	45.05
28	Chloroform	83	5.490	5.490	(0.950)	218457	47.5263	47.52
3	Chloromethane	50	1.595	1.598	(0.276)	226467	53.7766	53.77
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	141134	49.2042	49.20
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	217503	54.0228	54.02
55	Dibromochloromethane	129	8.969	8.972	(0.942)	148614	49.1892	49.18
2	Dichlorodifluoromethane	85	1.450	1.447	(0.251)	116056	53.8465	53.84
61	Ethylbenzene	106	9.672	9.672	(1.015)	180102	46.6915	46.69
67	Isopropylbenzene	105	10.548	10.548	(1.107)	567722	47.5767	47.57
17	Methylene Chloride	84	3.334	3.334	(0.577)	128620	46.6083	46.60
56	Tetrachloroethene	164	8.690	8.690	(0.912)	111390	51.6724	51.67
50	Toluene	91	8.157	8.157	(0.856)	517967	46.7057	46.70
20	trans-1,2-Dichloroethene	96	3.661	3.661	(0.634)	121449	53.9586	53.95
51	trans-1,3-Dichloropropene	75	8.417	8.414	(1.281)	187330	54.6804	54.68
38	Trichloroethene	130	6.816	6.816	(1.037)	139800	50.1380	50.13
8	Trichlorofluoromethane	101	2.249	2.253	(0.389)	161499	51.9517	51.95
5	Vinyl Chloride	62	1.681	1.678	(0.291)	157074	50.8298	50.82
62	m,p-Xylenes	106	9.790	9.793	(1.028)	443800	94.0811	94.08
63	o-Xylene	106	10.179	10.179	(1.069)	234140	47.4441	47.44
M 95	Xylenes (total)	106				677940	141.525	141.52
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	173734	43.9123	43.91
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	145546	51.6262	51.62
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	466693	42.1866	42.18
75	1,3,5-Trimethylbenzene	105	11.135	11.132	(0.941)	454912	42.2263	42.22
26	2,2-Dichloropropane	77	5.048	5.041	(0.873)	186155	50.6814	50.68
54	1,3-Dichloropropane	76	8.751	8.751	(0.919)	202480	46.8964	46.89
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	393519	41.7103	41.71
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	435257	42.3702	42.37
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	451724	44.1869	44.18
29	Bromochloromethane	128	5.365	5.365	(0.928)	69407	50.8475	50.84
74	Bromobenzene	156	10.833	10.830	(0.915)	161262	43.7720	43.77
44	Dibromomethane	93	7.188	7.191	(1.094)	80695	52.5160	52.51
91	Hexachlorobutadiene	225	13.988	13.991	(1.182)	73356	48.1591	48.15
73	n-Propylbenzene	91	10.955	10.952	(0.926)	607322	43.2502	43.25
87	n-Butylbenzene	91	12.223	12.223	(1.033)	357178	47.0108	47.01
81	sec-Butylbenzene	105	11.668	11.667	(0.986)	530911	44.4729	44.47
92	Naphthalene	128	14.061	14.061	(1.188)	412004	48.3366	48.33
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	390359	43.1945	43.19
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	136210	48.7782	48.77
64	Styrene	104	10.198	10.198	(1.071)	387018	49.1699	49.16



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122505.D
Date : 25-DEC-2017 13:21
Client ID: VLCSDW-171225
Sample Info: VLCSDW-171225;VLCSDW-171225;3;;LCSD
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122507.D
Lab Smp Id: VBLKW-171225 Client Smp ID: VBLKW-171225
Inj Date : 25-DEC-2017 14:10
Operator : AP Inst ID: VOA2.i
Smp Info : VBLKW-171225;VBLKW-171225;3;;BLANK
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.776	(1.000)	270837	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	120118	49.2253	49.22
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	385984	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	138053	45.8076	45.80
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	355603	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	448782	47.8660	47.86
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	168942	49.3442	49.34
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	162002	50.0000	

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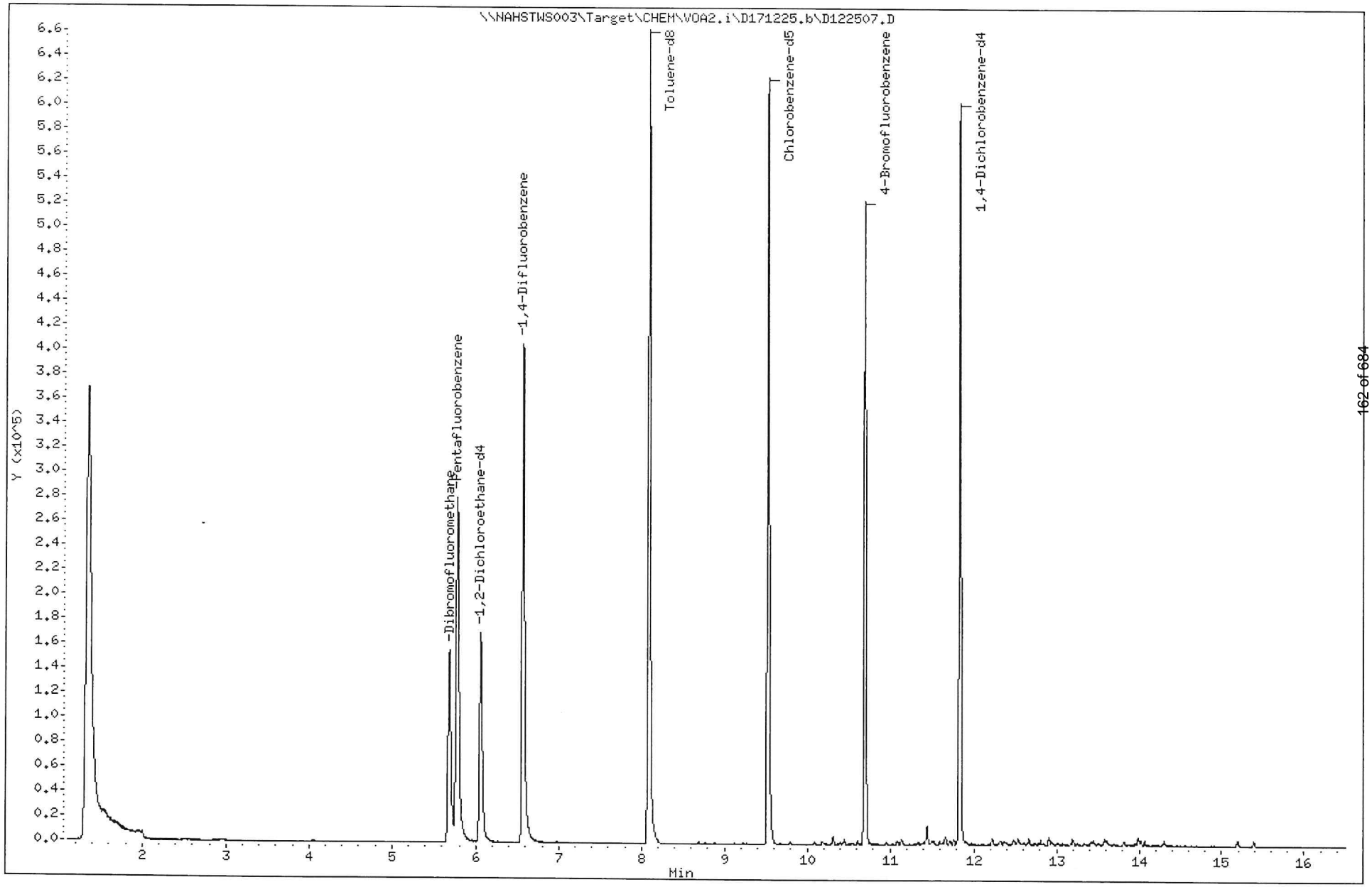
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122507.D
Date : 25-DEC-2017 14:10
Client ID: VBLKW-171225
Sample Info: VBLKW-171225;VBLKW-171225;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i

Operator: AP
Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122508.D Page 1
Report Date: 09-Feb-2018 19:09

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122508.D
Lab Smp Id: HS17120912-12 Client Smp ID: HS17120912-12
Inj Date : 25-DEC-2017 14:35
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-12;HS17120912-12;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

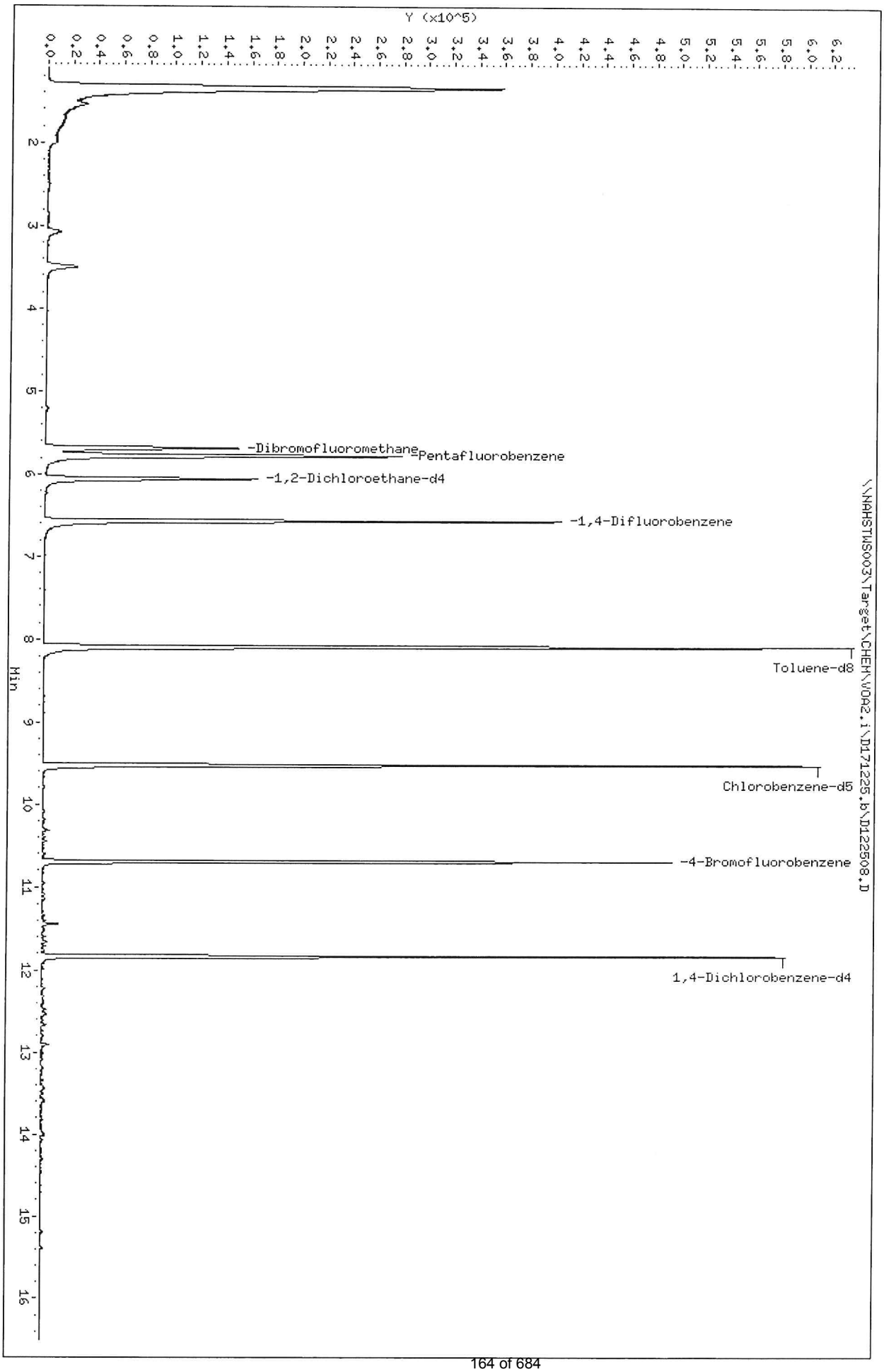
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.776	(1.000)	265995	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	118662	49.5138	49.51
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	375639	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.049)	136193	46.0130	46.01
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	349665	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	437881	47.4965	47.49
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	163590	48.5924	48.59
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	159106	50.0000	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122508.D
Date : 25-DEC-2017 14:35
Client ID: HS17120912-12
Sample Info: HS17120912-12;HS17120912-12;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18



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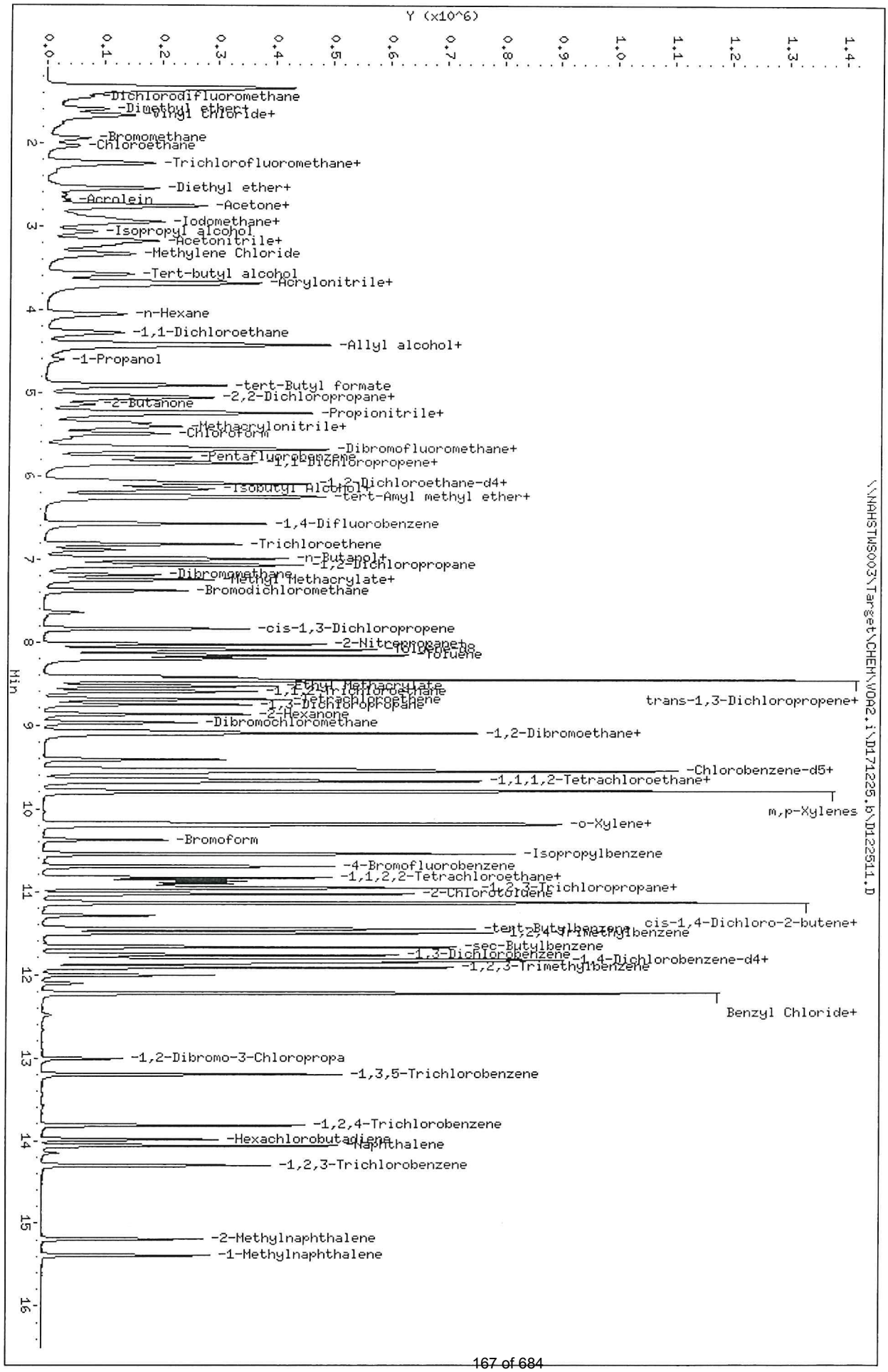
Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122511.D
Lab Smp Id: HS17120844-03MS Client Smp ID: HS17120844-03MS
Inj Date : 25-DEC-2017 15:48
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120844-03MS;HS17120844-03MS;3;;MS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 10 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.979)	186331	48.5726	48.57
*	1 Pentafluorobenzene	168	5.776	5.776	(1.000)	248207	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.686	(0.984)	108112	48.3446	48.34
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	375558	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.059	6.058	(1.049)	133572	48.3616	48.36
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	337906	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	423323	47.5153	47.51
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	164854	50.6719	50.67
*	70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	157050	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	164358	43.8704	43.87
	53 1,1,2-Trichloroethane	83	8.597	8.593	(0.902)	94977	45.9476	45.94
	32 1,1-Dichloropropene	75	5.853	5.850	(0.891)	149135	50.9732	50.97
	22 1,1-Dichloroethane	63	4.278	4.277	(0.741)	241407	46.5862	46.58
	11 1,1-Dichloroethene	96	2.747	2.750	(0.476)	103409	50.4791	50.47
	90 1,2,4-Trichlorobenzene	180	13.818	13.817	(1.168)	146033	47.1999	47.19
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	30574	47.3363	47.33
	57 1,2-Dibromoethane	107	9.068	9.065	(0.952)	122829	47.4437	47.44
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	238669	42.2799	42.27
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	159898	48.2169	48.21
	42 1,2-Dichloropropane	63	7.066	7.063	(1.075)	134722	45.5444	45.54
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	246561	41.9712	41.97

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.857	11.860	(1.002)	234247	41.6902	41.69
24	2-Butanone	43	5.144	5.144	(0.891)	129641	96.7953	96.79
52	2-Hexanone	43	8.866	8.866	(0.931)	221605	111.930	111.92
45	4-Methyl-2-Pentanone	43	8.026	8.025	(0.842)	340324	111.012	111.01
10	Acetone	43	2.853	2.856	(0.494)	80740	98.0901	98.09
37	Benzene	78	6.091	6.094	(0.927)	469907	47.5547	47.55
39	Bromodichloromethane	83	7.377	7.374	(1.123)	161037	46.0433	46.04
66	Bromoform	173	10.374	10.374	(1.089)	100439	50.1089	50.10
6	Bromomethane	94	1.938	1.941	(0.336)	85293	50.1976	50.19
19	Carbon Disulfide	76	2.952	2.955	(0.511)	450049	96.2002	96.20
34	Carbon Tetrachloride	117	5.831	5.834	(0.887)	151515	42.4734	42.47
59	Chlorobenzene	112	9.553	9.553	(1.003)	312764	44.9447	44.94
7	Chloroethane	64	2.041	2.031	(0.353)	85450	42.5517	42.55
28	Chloroform	83	5.494	5.490	(0.951)	205029	45.3084	45.30
3	Chloromethane	50	1.595	1.598	(0.276)	183254	44.0314	44.03
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	129979	46.0298	46.02
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	196630	48.9550	48.95
55	Dibromochloromethane	129	8.972	8.972	(0.942)	137711	47.2034	47.20
2	Dichlorodifluoromethane	85	1.447	1.447	(0.251)	62158	29.2942	29.29
61	Ethylbenzene	106	9.672	9.672	(1.015)	168000	45.1049	45.10
67	Isopropylbenzene	105	10.545	10.548	(1.107)	536384	46.5511	46.55
17	Methylene Chloride	84	3.334	3.334	(0.577)	119400	43.9495	43.94
56	Tetrachloroethene	164	8.690	8.690	(0.912)	107295	51.5408	51.54
50	Toluene	91	8.157	8.157	(0.856)	490491	45.8030	45.80
20	trans-1,2-Dichloroethene	96	3.665	3.661	(0.634)	112858	50.9324	50.93
51	trans-1,3-Dichloropropene	75	8.414	8.414	(1.280)	167980	49.1492	49.14
38	Trichloroethene	130	6.819	6.816	(1.038)	132800	47.7412	47.74
8	Trichlorofluoromethane	101	2.253	2.253	(0.390)	155094	50.6780	50.67
5	Vinyl Chloride	62	1.678	1.678	(0.291)	140801	46.2823	46.28
62	m,p-Xylenes	106	9.790	9.793	(1.028)	411993	90.4483	90.44
63	o-Xylene	106	10.176	10.179	(1.068)	219654	46.0937	46.09
M 95	Xylenes (total)	106				631647	136.542	136.54
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	169509	45.3086	45.30
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	124692	46.7731	46.77
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	419587	40.1100	40.11
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	418266	41.0577	41.05
26	2,2-Dichloropropane	77	5.041	5.041	(0.873)	173313	47.9292	47.92
54	1,3-Dichloropropane	76	8.754	8.751	(0.919)	190632	45.7244	45.72
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	363218	40.7129	40.71
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	395612	40.7260	40.72
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	407278	42.1307	42.13
29	Bromochloromethane	128	5.365	5.365	(0.929)	64185	47.7633	47.76
74	Bromobenzene	156	10.833	10.830	(0.915)	146658	42.0976	42.09
44	Dibromomethane	93	7.191	7.191	(1.094)	74406	48.5386	48.53
91	Hexachlorobutadiene	225	13.988	13.991	(1.182)	63201	43.8398	43.83
73	n-Propylbenzene	91	10.955	10.952	(0.926)	558826	42.0856	42.08
87	n-Butylbenzene	91	12.223	12.223	(1.033)	310030	43.1523	43.15
81	sec-Butylbenzene	105	11.668	11.667	(0.986)	483060	42.7919	42.79
92	Naphthalene	128	14.062	14.061	(1.188)	395194	49.0388	49.03
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	361655	42.3200	42.32
60	1,1,1,2-Tetrachloroethane	131	9.643	9.646	(1.012)	126052	46.7478	46.74
64	Styrene	104	10.198	10.198	(1.070)	349650	46.0042	46.00



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Date : 25-DEC-2017 15:48
Client ID: HS17120844-03MS
Sample Info: HS17120844-03MS;HS17120844-03MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: WOA2.i
Operator: AP
Column diameter: 0.18

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122512.D
Lab Smp Id: HS17120844-03MSD Client Smp ID: HS17120844-03MSD
Inj Date : 25-DEC-2017 16:13
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120844-03MSD;HS17120844-03MSD;3;;MSD
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 10 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

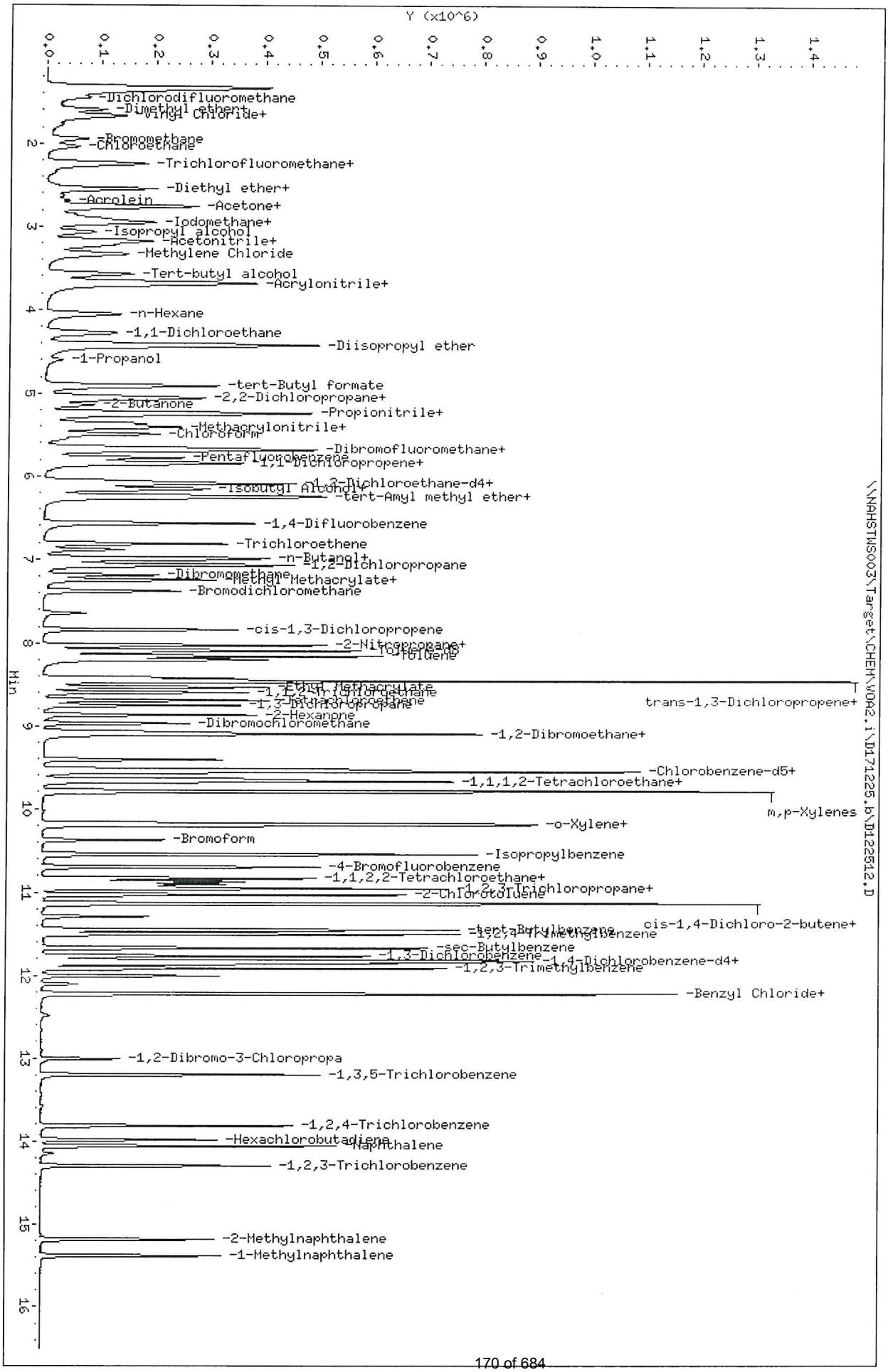
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.654	(0.978)	183661	47.7203	47.72
*	1 Pentafluorobenzene	168	5.779	5.776	(1.000)	249020	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.686	(0.983)	107326	47.8365	47.83
*	36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	373619	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	134901	48.6833	48.68
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	337839	50.0000	
$	48 Toluene-d8	98	8.093	8.090	(0.849)	419814	47.1308	47.13
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	164696	50.6334	50.63
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	159564	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	168326	44.2217	44.22
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	96010	46.4565	46.45
	32 1,1-Dichloropropene	75	5.856	5.850	(0.892)	146664	50.3781	50.37
	22 1,1-Dichloroethane	63	4.274	4.277	(0.740)	237163	45.6178	45.61
	11 1,1-Dichloroethene	96	2.756	2.750	(0.477)	99462	48.3939	48.39
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.168)	145674	46.3420	46.34
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	32109	48.9115	48.91
	57 1,2-Dibromoethane	107	9.068	9.065	(0.952)	125070	48.3189	48.31
	88 1,2-Dichlorobenzene	146	12.226	12.223	(1.033)	233754	40.7568	40.75
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	161409	48.9267	48.92
	42 1,2-Dichloropropane	63	7.066	7.063	(1.076)	136389	46.3472	46.34
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	243240	40.7535	40.75

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122512.D Page 2
Report Date: 09-Feb-2018 19:09

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.857	11.860	(1.002)	229733	40.2427	40.24
24	2-Butanone	43	5.144	5.144	(0.890)	136336	101.462	101.46
52	2-Hexanone	43	8.866	8.866	(0.931)	238607	120.541	120.54
45	4-Methyl-2-Pentanone	43	8.029	8.025	(0.843)	355938	116.129	116.12
10	Acetone	43	2.853	2.856	(0.494)	86020	104.309	104.30
37	Benzene	78	6.090	6.094	(0.927)	459201	46.7124	46.71
39	Bromodichloromethane	83	7.377	7.374	(1.123)	160521	46.1340	46.13
66	Bromoform	173	10.377	10.374	(1.089)	100571	50.1847	50.18
6	Bromomethane	94	1.941	1.941	(0.336)	85286	50.0213	50.02
19	Carbon Disulfide	76	2.952	2.955	(0.511)	446151	95.0556	95.05
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	144654	40.7605	40.76
59	Chlorobenzene	112	9.553	9.553	(1.003)	309051	44.4200	44.41
7	Chloroethane	64	2.041	2.031	(0.353)	83254	41.3228	41.32
28	Chloroform	83	5.494	5.490	(0.951)	203947	44.9221	44.92
3	Chloromethane	50	1.591	1.598	(0.275)	181695	43.5030	43.50
27	cis-1,2-Dichloroethene	96	5.070	5.067	(0.877)	130126	45.9314	45.93
46	cis-1,3-Dichloropropene	75	7.836	7.839	(1.193)	198520	49.6820	49.68
55	Dibromochloromethane	129	8.969	8.972	(0.941)	137206	47.0396	47.03
2	Dichlorodifluoromethane	85	1.454	1.447	(0.252)	60666	28.4977	28.49
61	Ethylbenzene	106	9.672	9.672	(1.015)	165019	44.3133	44.31
67	Isopropylbenzene	105	10.544	10.548	(1.107)	524402	45.5202	45.52
17	Methylene Chloride	84	3.334	3.334	(0.577)	117652	43.1647	43.16
56	Tetrachloroethene	164	8.690	8.690	(0.912)	104543	50.1853	50.18
50	Toluene	91	8.157	8.157	(0.856)	482716	45.0859	45.08
20	trans-1,2-Dichloroethene	96	3.664	3.661	(0.634)	109800	49.3905	49.39
51	trans-1,3-Dichloropropene	75	8.417	8.414	(1.281)	170658	50.1919	50.19
38	Trichloroethene	130	6.819	6.816	(1.038)	130286	47.0805	47.08
8	Trichlorofluoromethane	101	2.256	2.253	(0.390)	154637	50.3637	50.36
5	Vinyl Chloride	62	1.688	1.678	(0.292)	140448	46.0155	46.01
62	m,p-Xylenes	106	9.790	9.793	(1.028)	401737	88.2142	88.21
63	o-Xylene	106	10.179	10.179	(1.068)	214768	45.0773	45.07
M 95	Xylenes (total)	106				616505	133.291	133.29
71	1,2,3-Trichloropropane	75	10.901	10.904	(0.921)	175701	46.2238	46.22
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	127698	47.1459	47.14
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	415725	39.1147	39.11
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	408892	39.5052	39.50
26	2,2-Dichloropropane	77	5.044	5.041	(0.873)	169184	46.6346	46.63
54	1,3-Dichloropropane	76	8.754	8.751	(0.919)	190890	45.7954	45.79
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	355085	39.1742	39.17
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	389031	39.4176	39.41
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	396141	40.3330	40.33
29	Bromochloromethane	128	5.365	5.365	(0.928)	63198	46.8753	46.87
74	Bromobenzene	156	10.833	10.830	(0.915)	143279	40.4797	40.47
44	Dibromomethane	93	7.191	7.191	(1.095)	76290	50.0259	50.02
91	Hexachlorobutadiene	225	13.988	13.991	(1.182)	64605	44.1103	44.11
73	n-Propylbenzene	91	10.955	10.952	(0.926)	550695	40.8198	40.81
87	n-Butylbenzene	91	12.223	12.223	(1.033)	306489	41.9873	41.98
81	sec-Butylbenzene	105	11.667	11.667	(0.986)	473442	41.2791	41.27
92	Naphthalene	128	14.061	14.061	(1.188)	411105	50.2220	50.22
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	356637	41.0753	41.07
60	1,1,1,2-Tetrachloroethane	131	9.643	9.646	(1.012)	126274	46.8395	46.83
64	Styrene	104	10.198	10.198	(1.070)	343790	45.2421	45.24



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Date : 25-DEC-2017 16:13
Client ID: HS17120844-03MSD
Sample Info: HS17120844-03MSD;HS17120844-03MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122514.D
Lab Smp Id: HS17120912-04 Client Smp ID: HS17120912-04
Inj Date : 25-DEC-2017 17:05
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-04;HS17120912-04;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

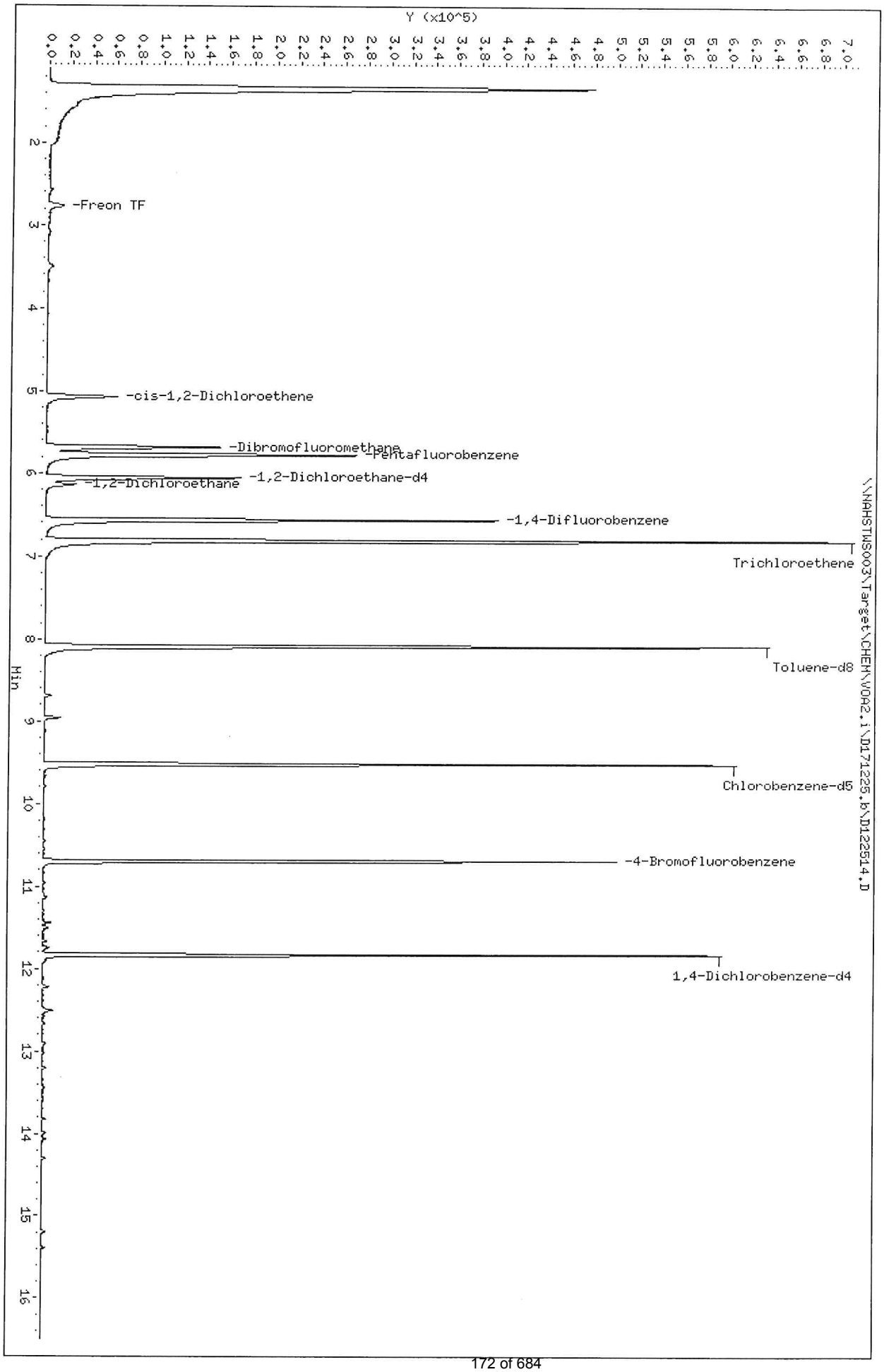
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.776	(1.000)	268241	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.983)	118100	48.8667	48.86
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	380677	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	137880	46.1929	46.19
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	345531	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	439962	48.2931	48.29
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	164913	49.5714	49.57
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	156869	50.0000	
33 1,2-Dichloroethane	62	6.148	6.142	(0.936)	20880	6.12448	6.12(M)
27 cis-1,2-Dichloroethene	96	5.070	5.067	(0.877)	39005	12.7813	12.78
38 Trichloroethene	130	6.819	6.816	(1.038)	290004	102.854	102.85

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122514.D
Date : 25-DEC-2017 17:05
Client ID: HS17120912-04
Sample Info: HS17120912-04;HS17120912-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122514.D

Date : 25-DEC-2017 17:05

Client ID: HS17120912-04

Instrument: VOA2.i

Sample Info: HS17120912-04;HS17120912-04;;;

Purge Volume: 5.0

Operator: AP

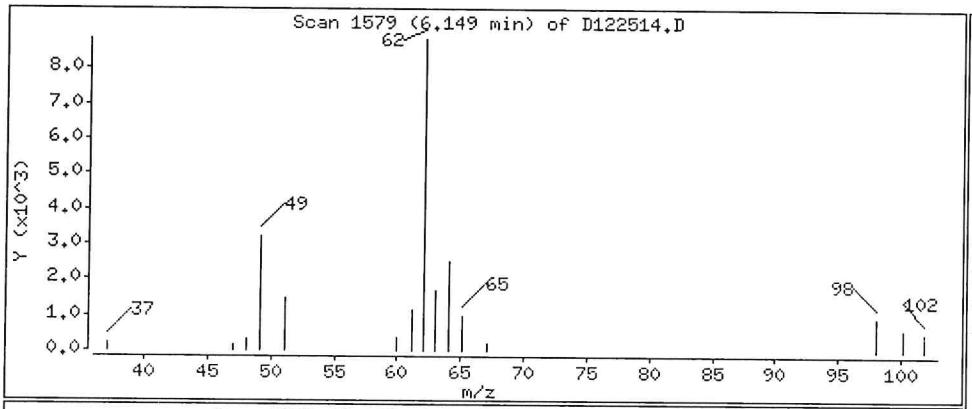
Column phase: DB624

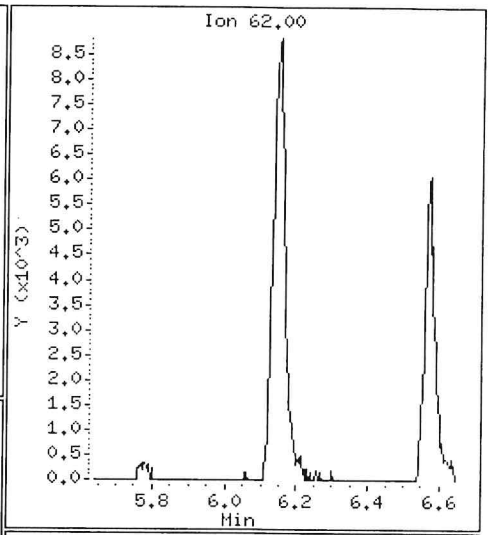
Column diameter: 0.18

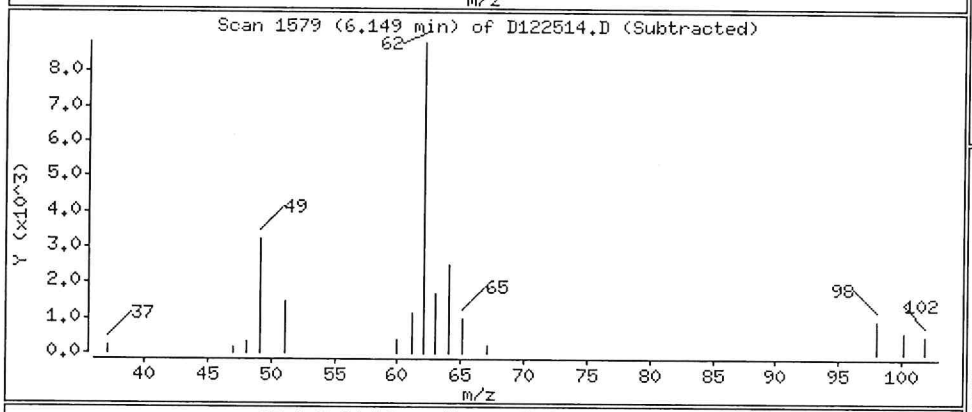
33 1,2-Dichloroethane

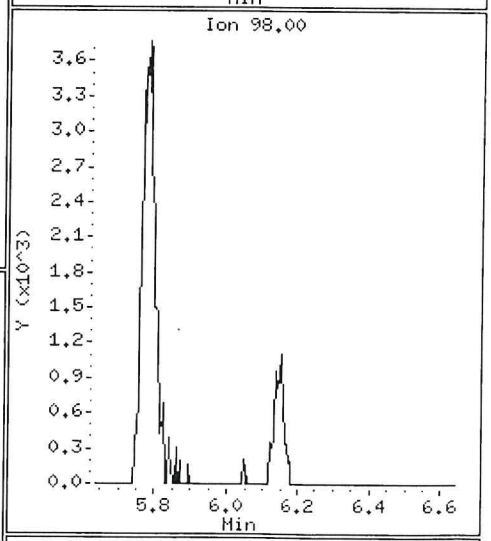
Concentration: 6.12 ug/l

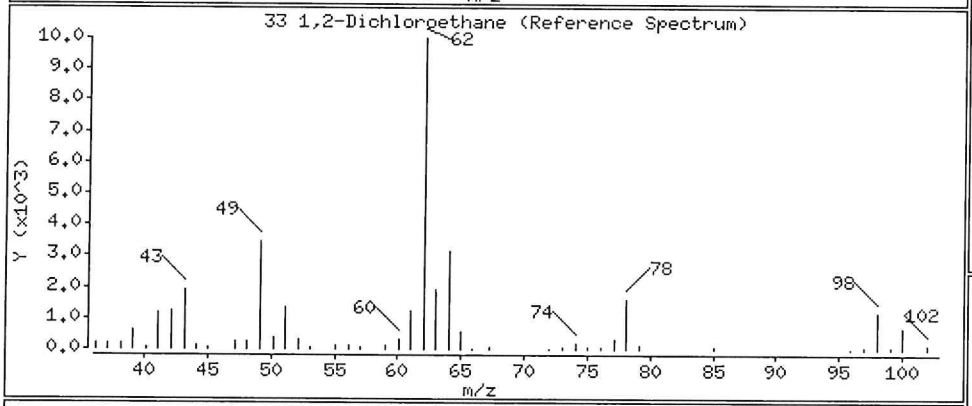
Review Code:

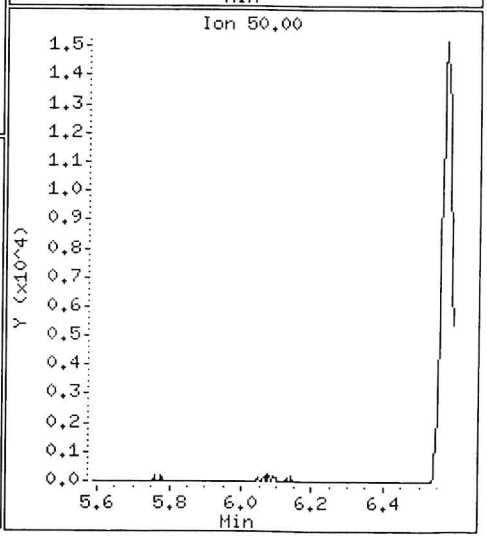


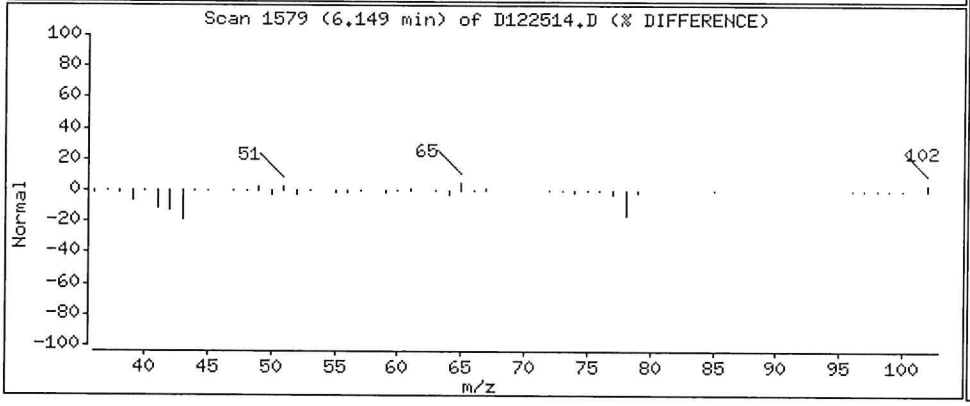












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122514.D

Date : 25-DEC-2017 17:05

Client ID: HS17120912-04

Instrument: VOA2.i

Sample Info: HS17120912-04;HS17120912-04;;;

Purge Volume: 5.0

Operator: AP

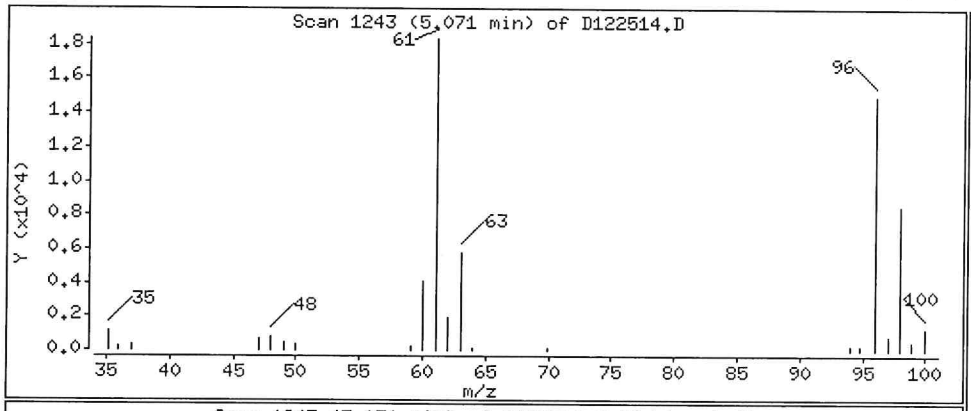
Column phase: DB624

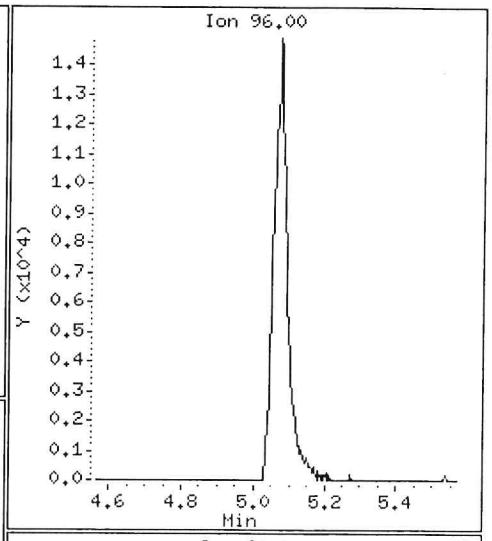
Column diameter: 0.18

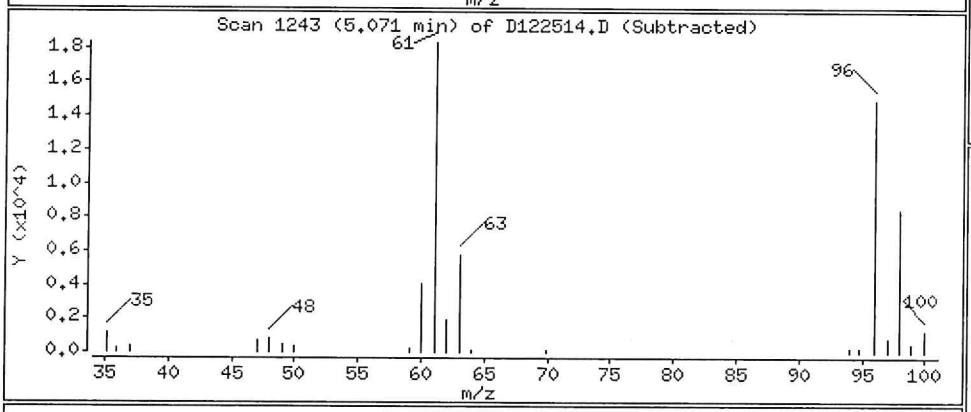
27 cis-1,2-Dichloroethene

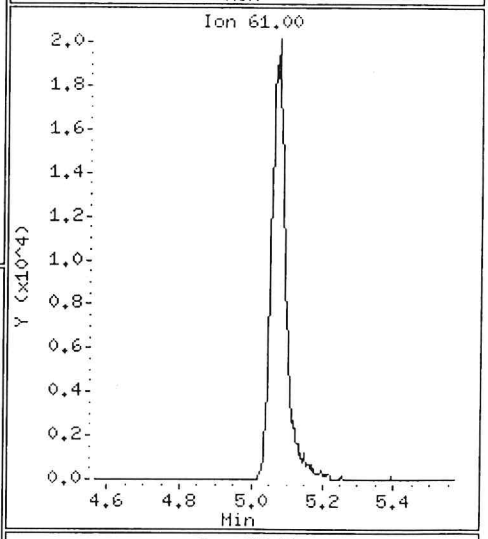
Concentration: 12.78 ug/l

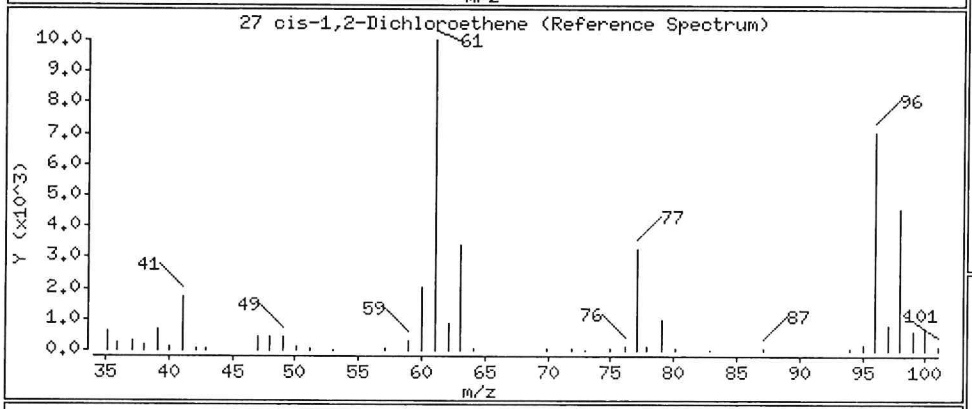
Review Code:

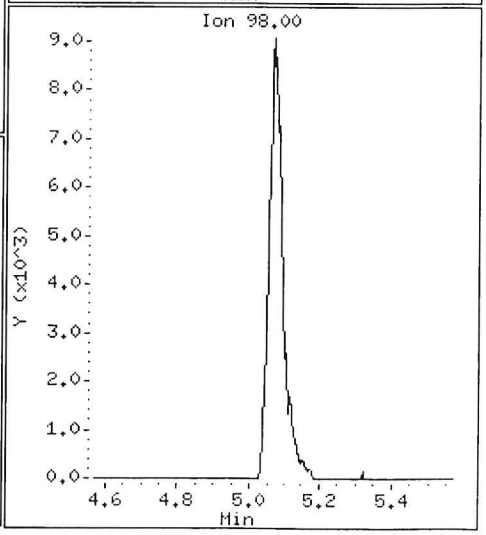


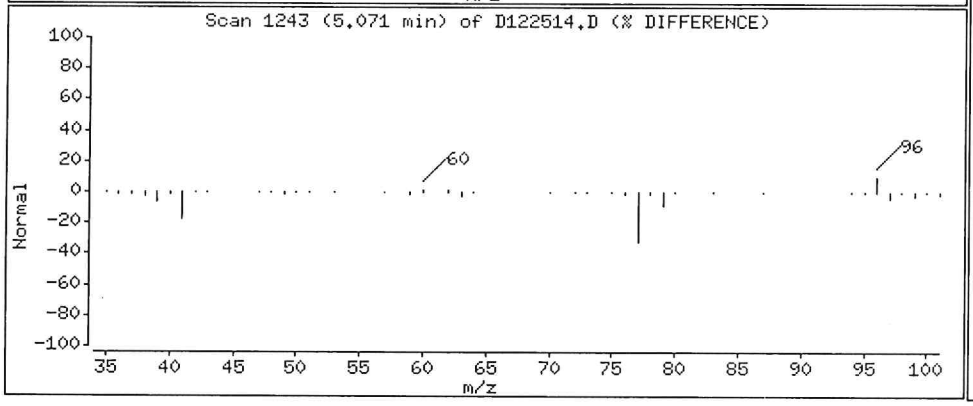












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Date : 25-DEC-2017 17:05

Client ID: HS17120912-04

Instrument: VOA2.i

Sample Info: HS17120912-04;HS17120912-04;;;

Purge Volume: 5.0

Operator: AP

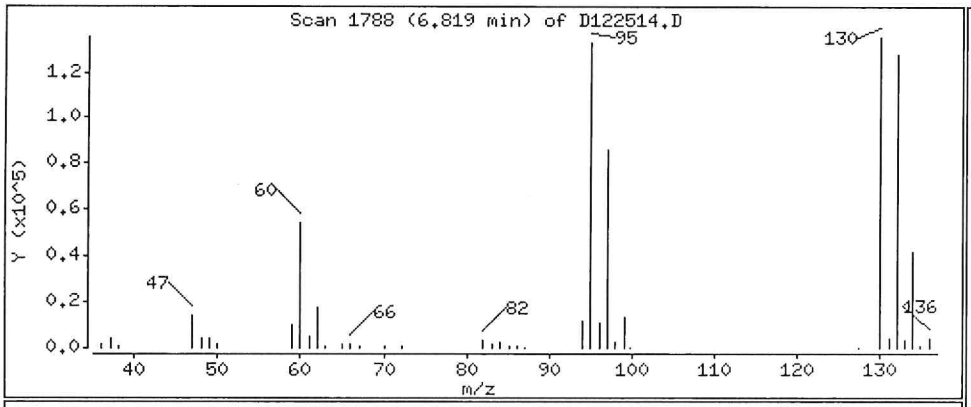
Column phase: DB624

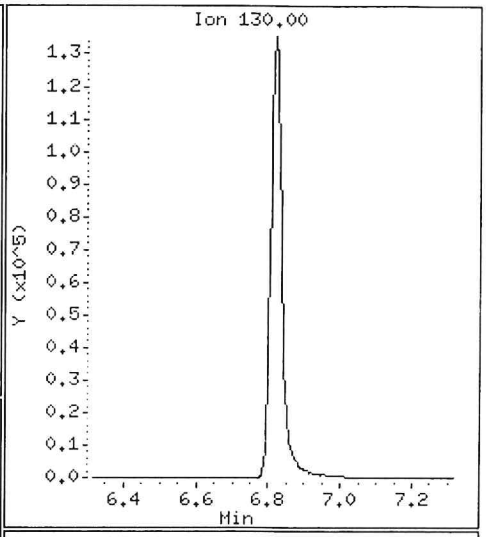
Column diameter: 0.18

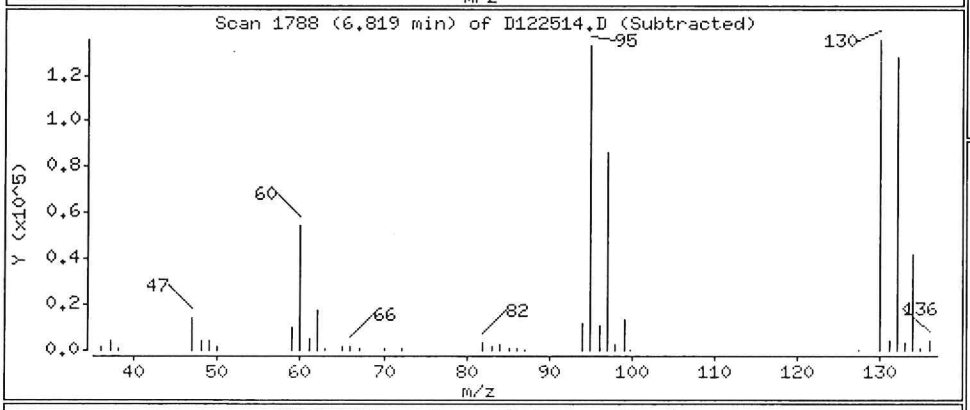
38 Trichloroethene

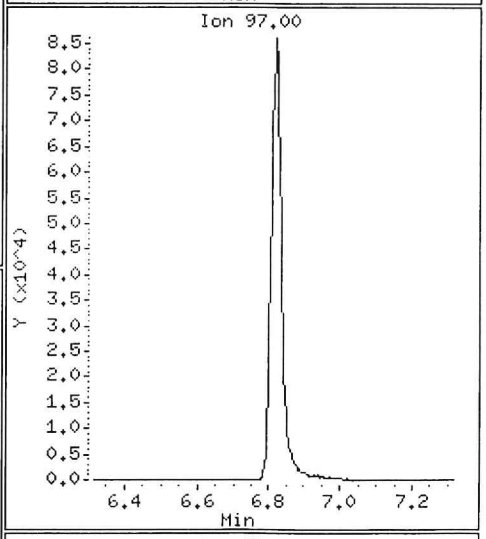
Concentration: 102.85 ug/l

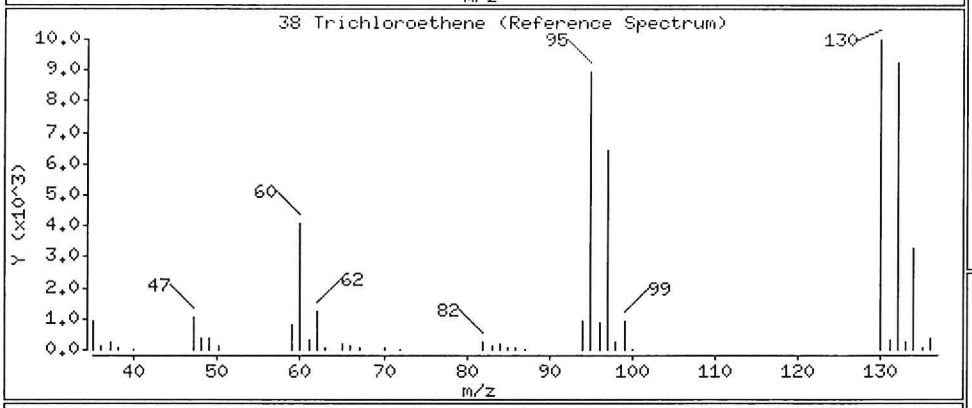
Review Code:

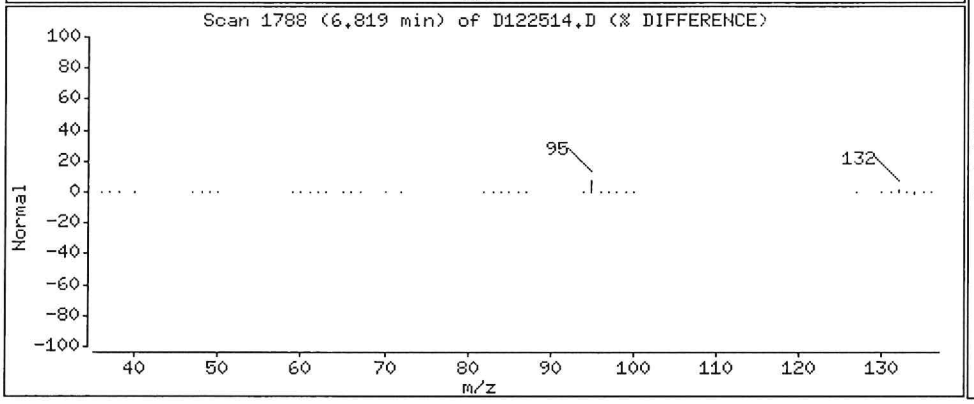


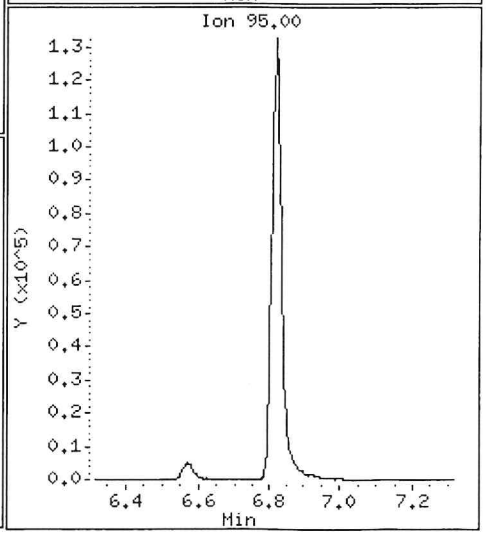












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122515.D
Lab Smp Id: HS17120912-06 Client Smp ID: HS17120912-06
Inj Date : 25-DEC-2017 17:29
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-06;HS17120912-06;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

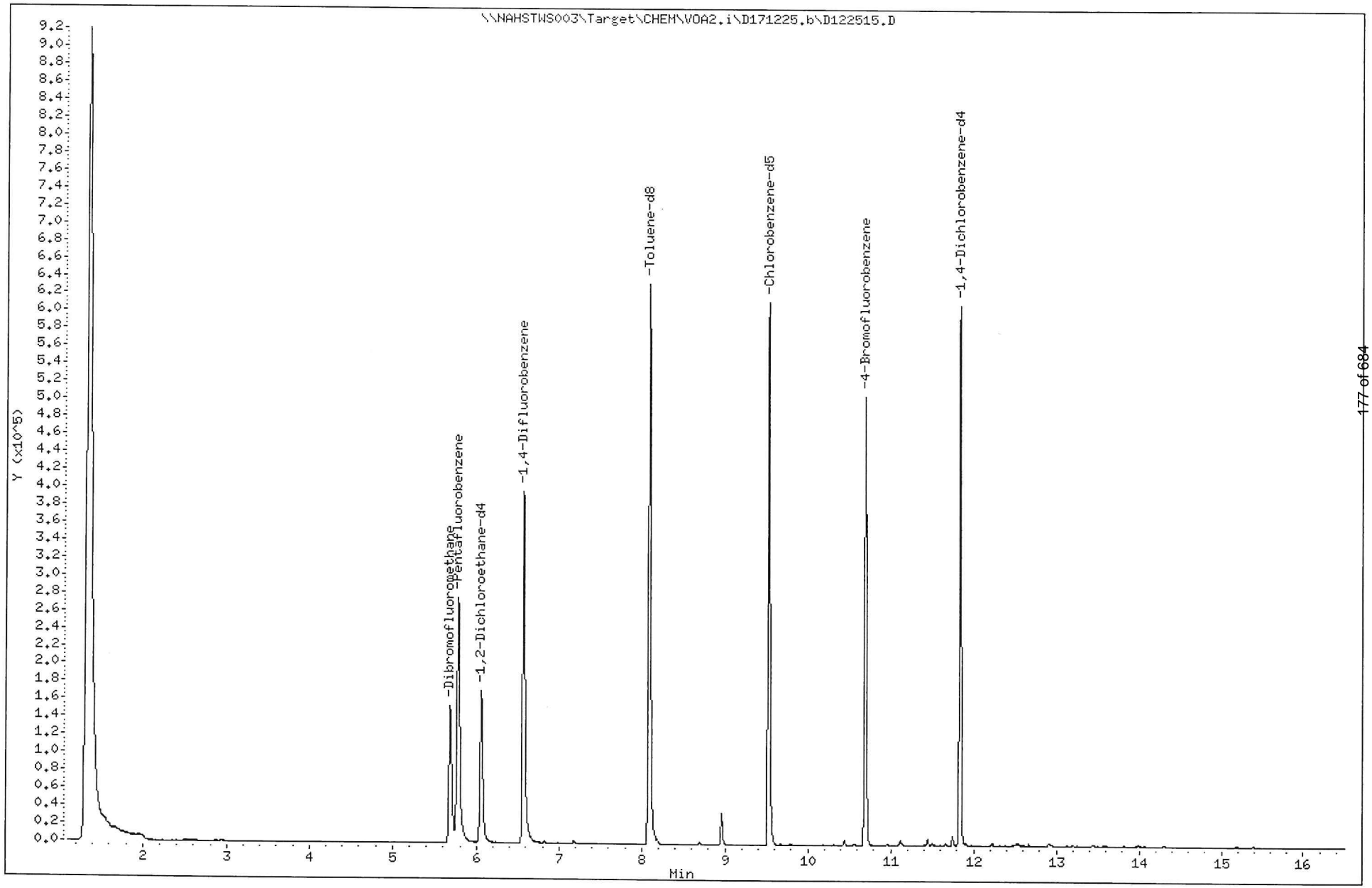
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.779	5.776	(1.000)	266218	50.0000	
$ 30 Dibromofluoromethane	113	5.680	5.686	(0.983)	119887	49.9831	49.98
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	382599	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	136846	46.1949	46.19
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	353334	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	446257	47.9024	47.90
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	166434	48.9238	48.92
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	160015	50.0000	

00872758

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122515.D
Date : 25-DEC-2017 17:29
Client ID: HS17120912-06
Sample Info: HS17120912-06;HS17120912-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i

Operator: AP
Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122516.D Page 1
Report Date: 09-Feb-2018 19:09

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122516.D
Lab Smp Id: HS17120912-07 Client Smp ID: HS17120912-07
Inj Date : 25-DEC-2017 17:54
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-07;HS17120912-07;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

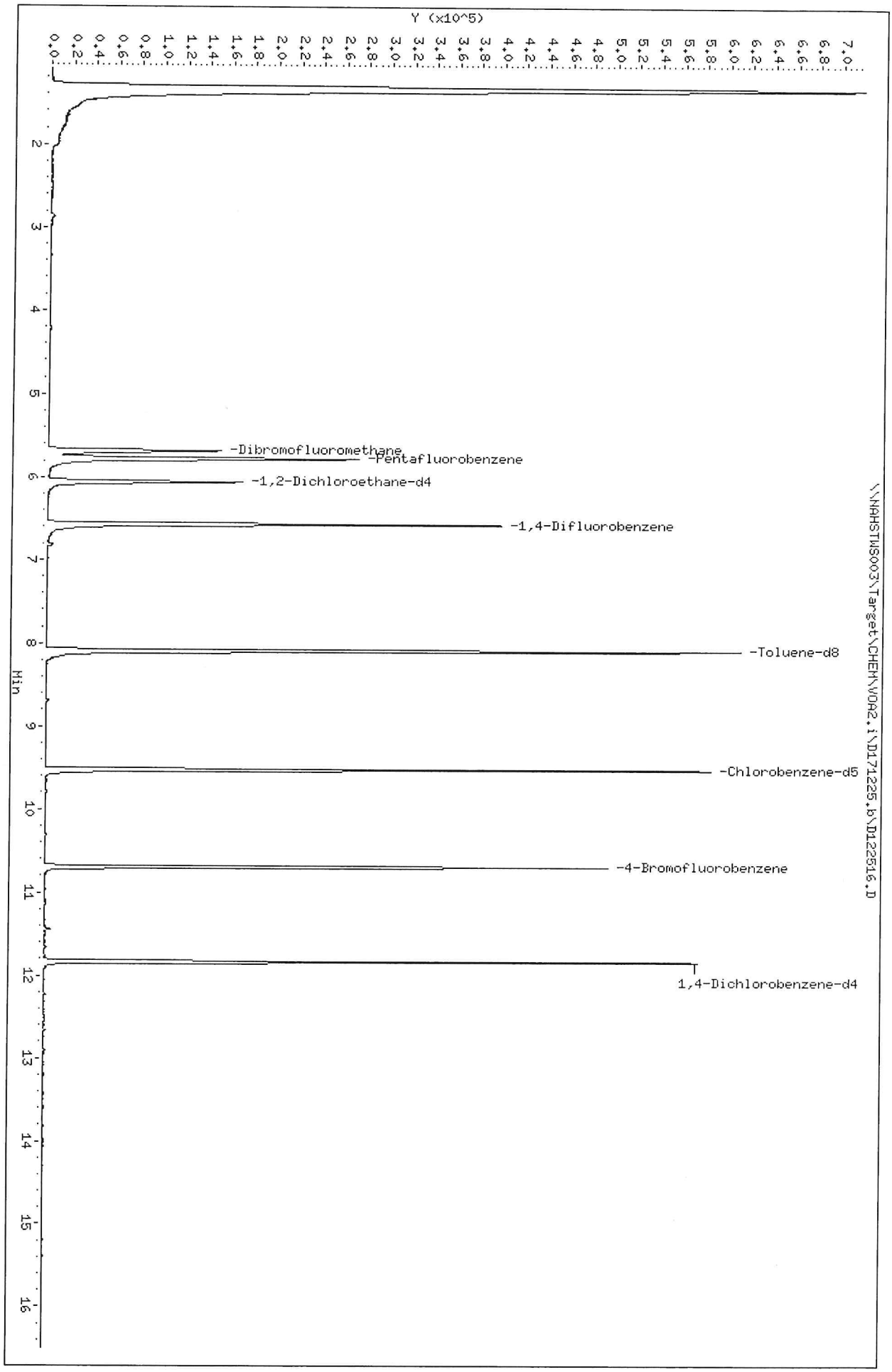
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.776	(1.000)	266445	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.983)	117683	49.0224	49.02
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	379555	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	136342	45.9856	45.98
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	340339	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	435618	48.5458	48.54
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	162245	49.5134	49.51
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	154734	50.0000	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122516.D
Date : 25-DEC-2017 17:54
Client ID: HS17120912-07
Sample Info: HS17120912-07;HS17120912-07;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122517.D
Lab Smp Id: HS17120912-08 Client Smp ID: HS17120912-08
Inj Date : 25-DEC-2017 18:18
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-08;HS17120912-08;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

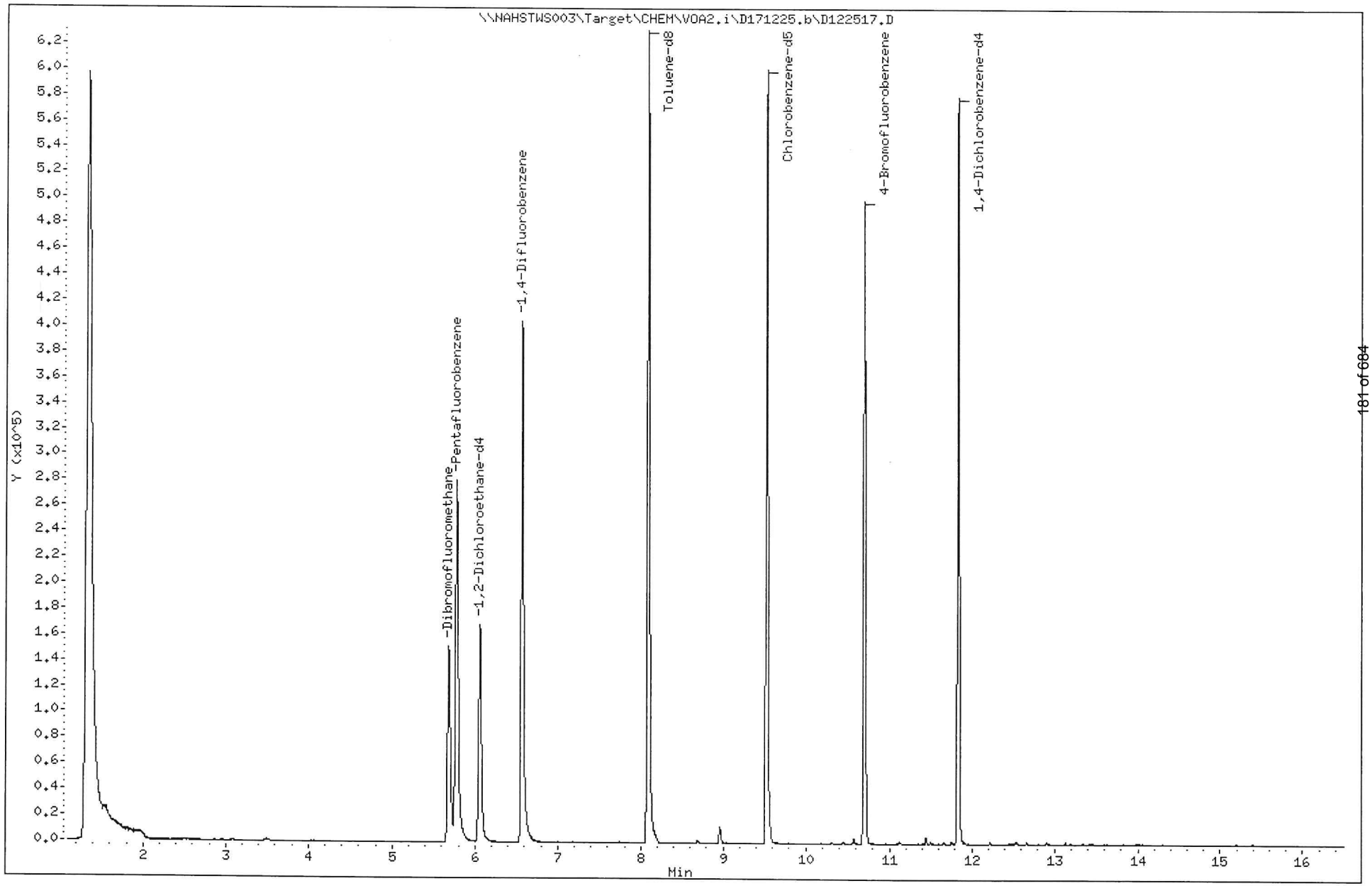
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.779	5.776	(1.000)	261928	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.983)	118968	50.4123	50.41
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	380743	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	137445	47.1570	47.15
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	345319	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	436585	47.9519	47.95
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	163356	49.1335	49.13
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	155274	50.0000	

00872762

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122517.D
Date : 25-DEC-2017 18:18
Client ID: HS17120912-08
Sample Info: HS17120912-08;HS17120912-08;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122518.D
Lab Smp Id: HS17120912-11 Client Smp ID: HS17120912-11
Inj Date : 25-DEC-2017 18:43
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-11;HS17120912-11;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

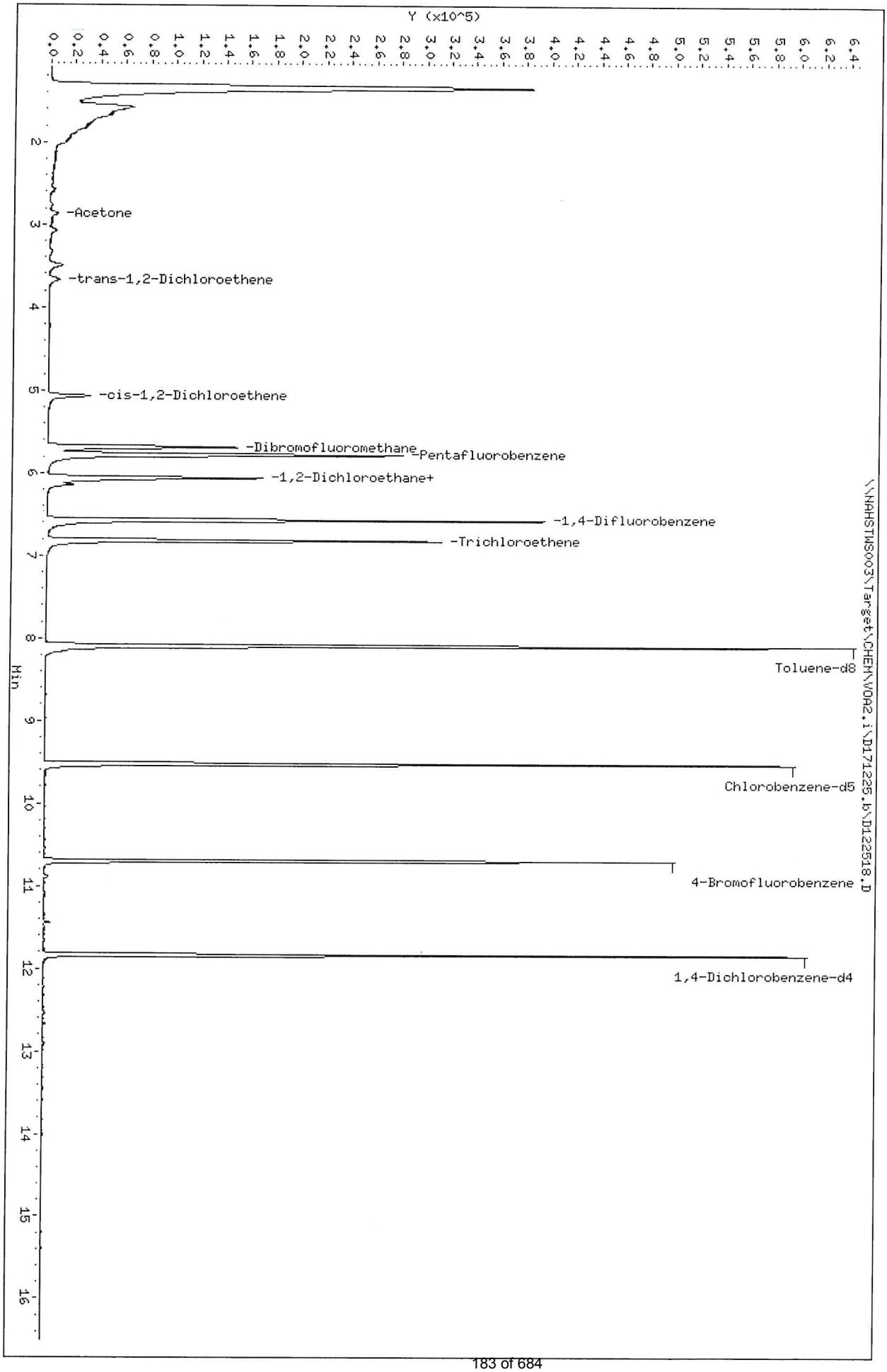
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.776	(1.000)	266737	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	119552	49.7464	49.74
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	381790	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	138285	46.5898	46.58
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	350051	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	439542	47.6240	47.62
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	165836	49.2052	49.20
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	161089	50.0000	
33 1,2-Dichloroethane	62	6.145	6.142	(0.935)	15418	4.48280	4.48(aM)
10 Acetone	43	2.866	2.856	(0.496)	14031	13.8946	13.89
37 Benzene	78	6.094	6.094	(0.927)	20896	2.08016	2.08(a)
27 cis-1,2-Dichloroethene	96	5.064	5.067	(0.877)	21750	7.16730	7.16
20 trans-1,2-Dichloroethene	96	3.674	3.661	(0.636)	5555	2.33279	2.33(a)
38 Trichloroethene	130	6.819	6.816	(1.038)	122398	43.2835	43.28

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122518.D
Date : 25-DEC-2017 18:43
Client ID: HS17120912-11
Sample Info: HS17120912-11;HS17120912-11;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122518.D

Date : 25-DEC-2017 18:43

Client ID: HS17120912-11

Instrument: VOA2.i

Sample Info: HS17120912-11;HS17120912-11;;;

Purge Volume: 5.0

Operator: AP

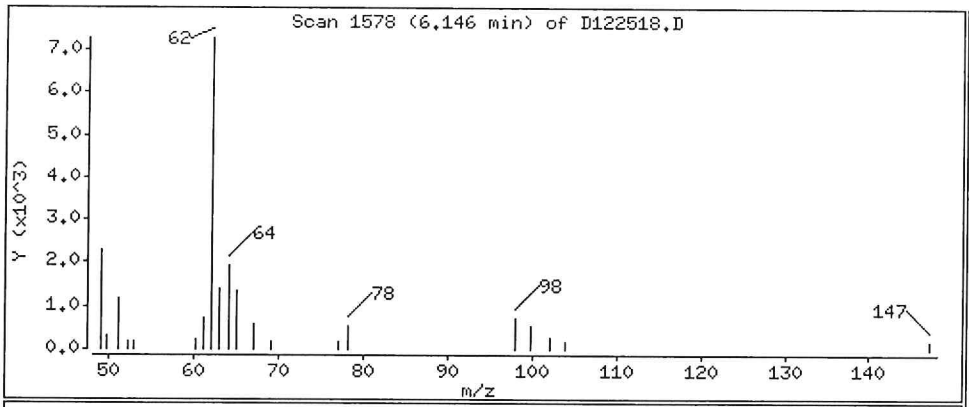
Column phase: DB624

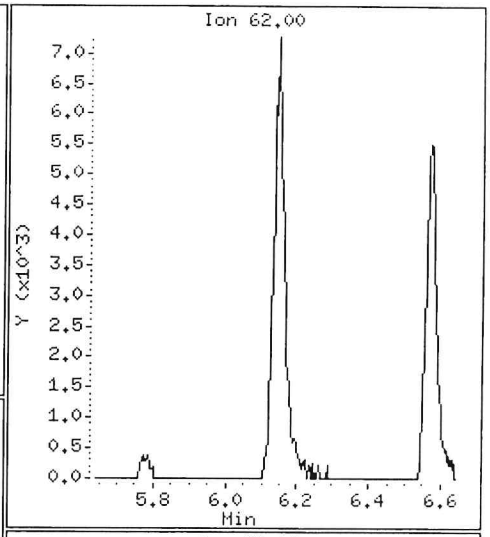
Column diameter: 0.18

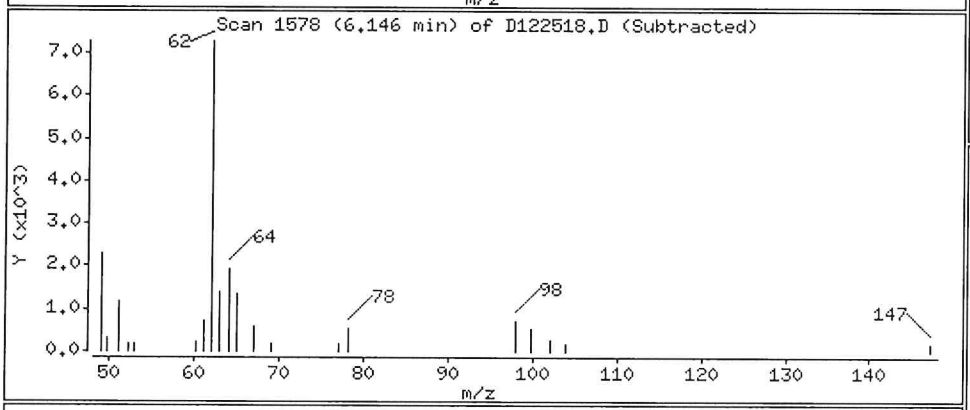
33 1,2-Dichloroethane

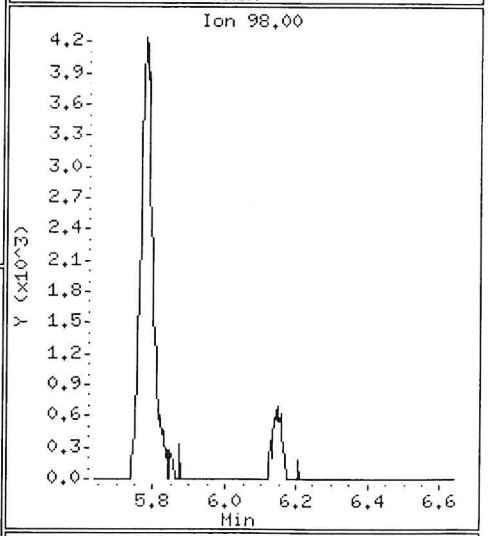
Concentration: 4.48 ug/l

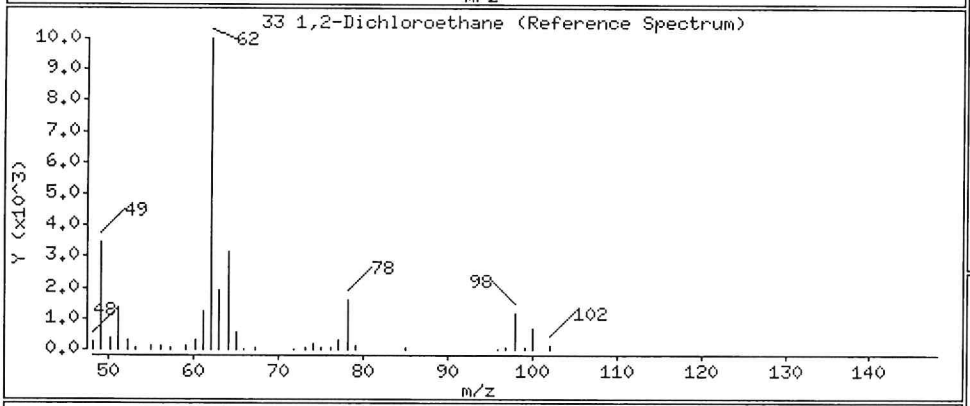
Review Code:

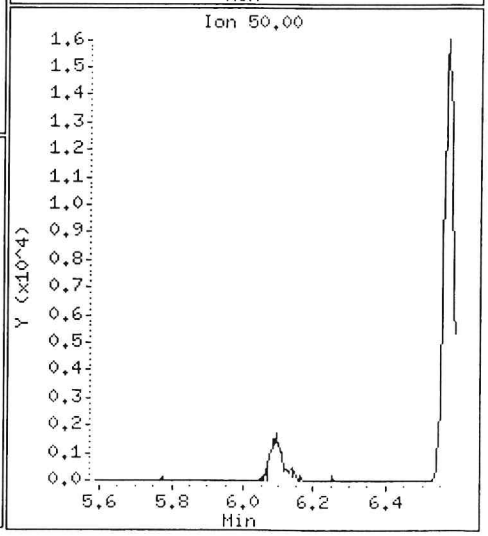


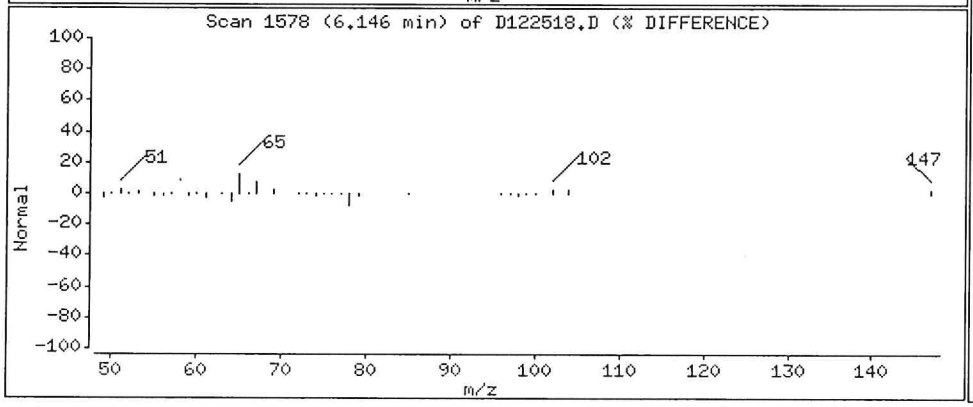












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122518.D

Date : 25-DEC-2017 18:43

Client ID: HS17120912-11

Instrument: VOA2.i

Sample Info: HS17120912-11;HS17120912-11;;;

Purge Volume: 5.0

Operator: AP

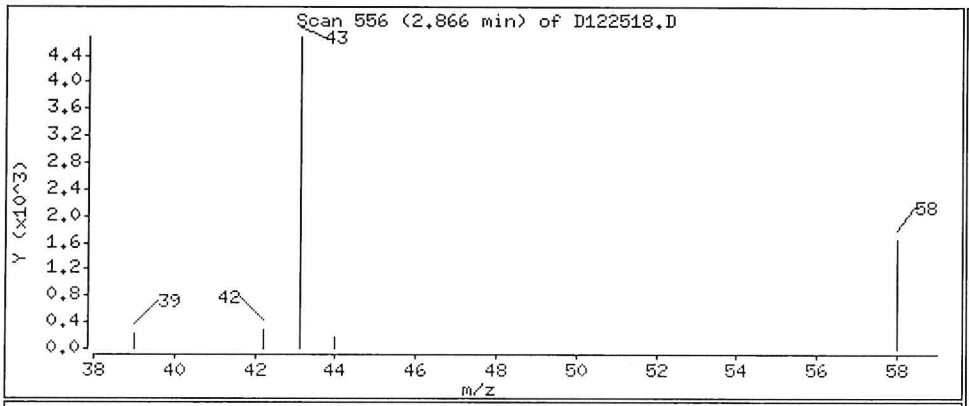
Column phase: DB624

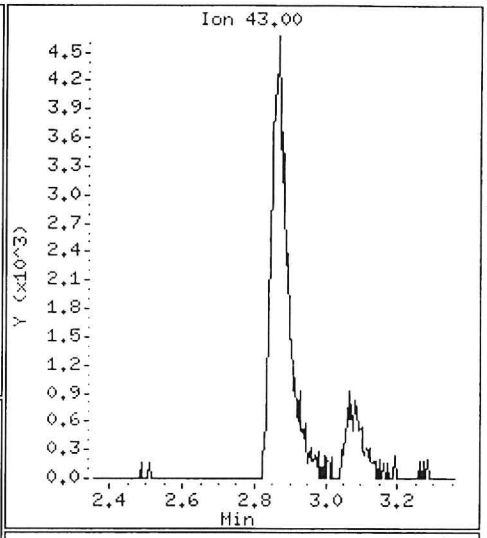
Column diameter: 0.18

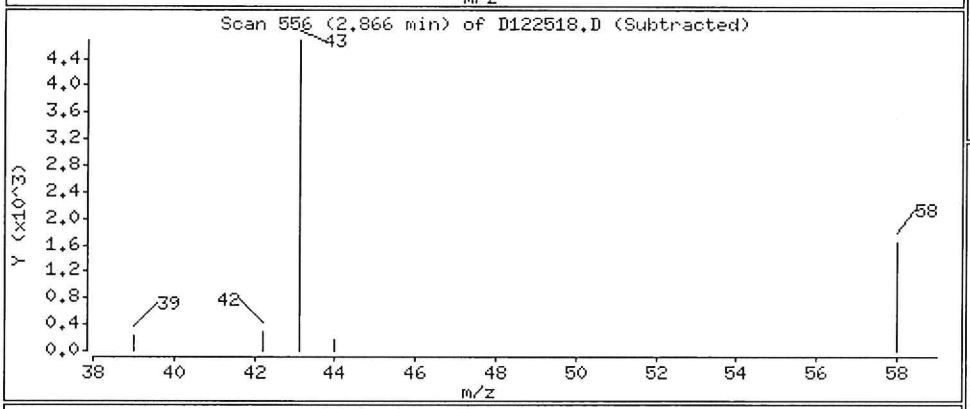
10 Acetone

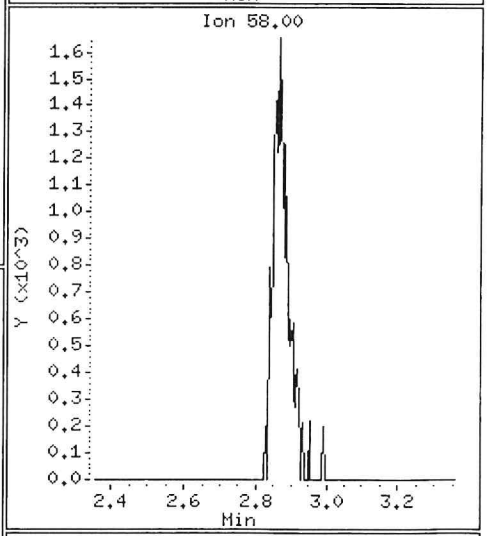
Concentration: 13.89 ug/l

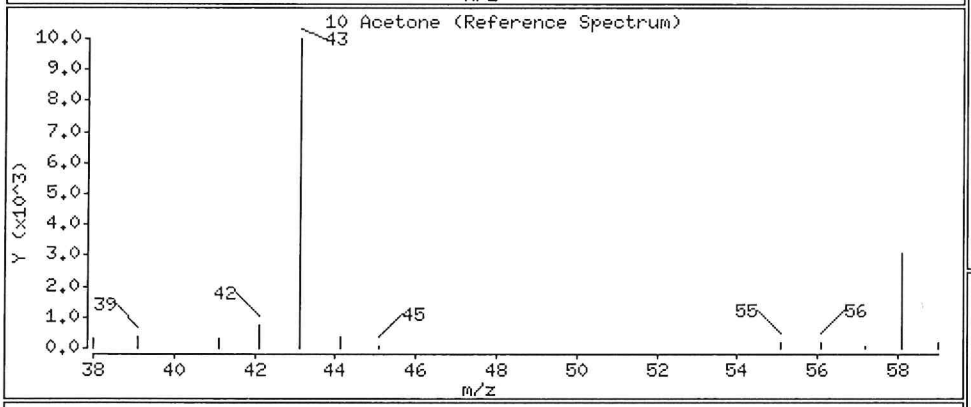
Review Code:

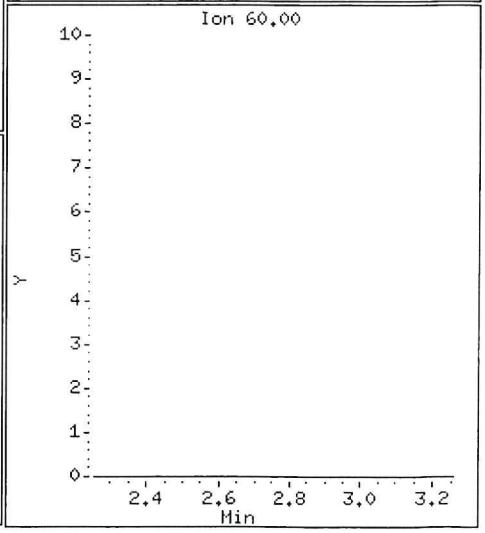


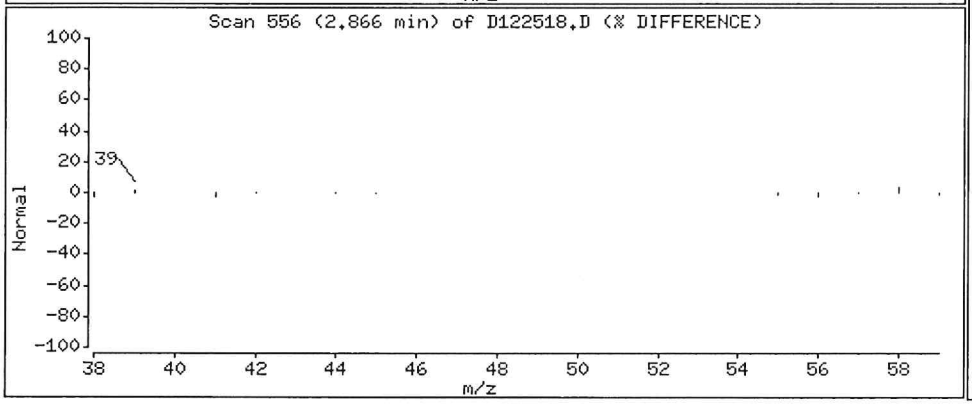












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122518.D

Date : 25-DEC-2017 18:43

Client ID: HS17120912-11

Instrument: VOA2.i

Sample Info: HS17120912-11;HS17120912-11;;;

Purge Volume: 5.0

Operator: AP

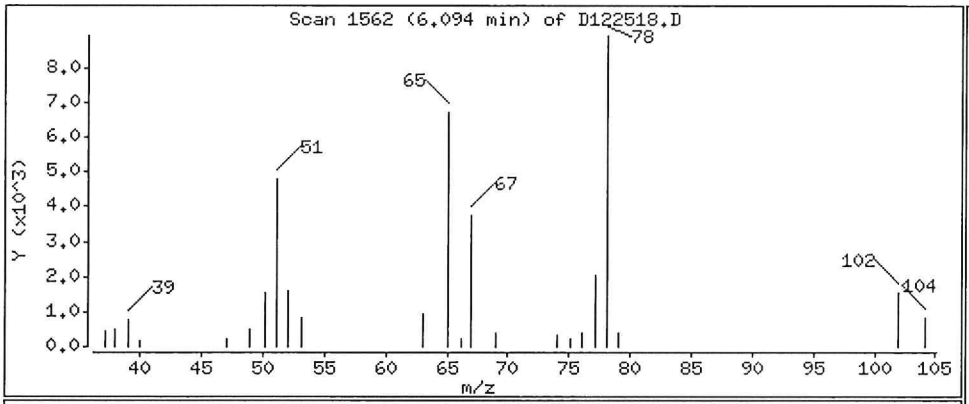
Column phase: DB624

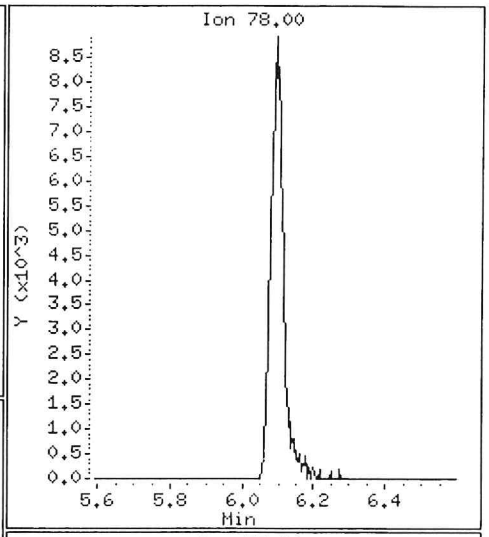
Column diameter: 0.18

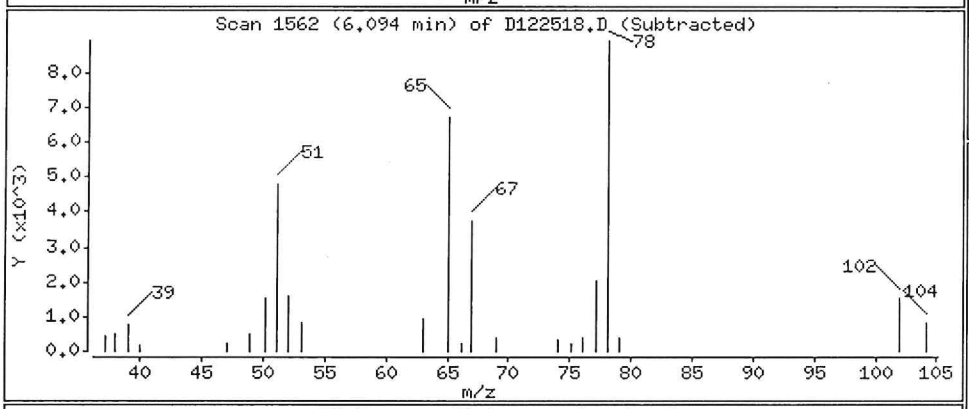
37 Benzene

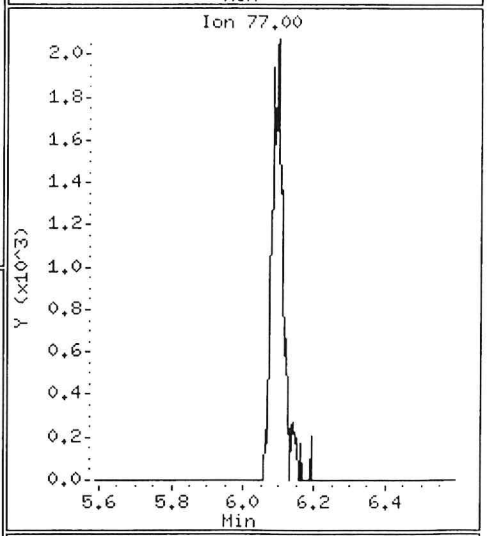
Concentration: 2.08 ug/l

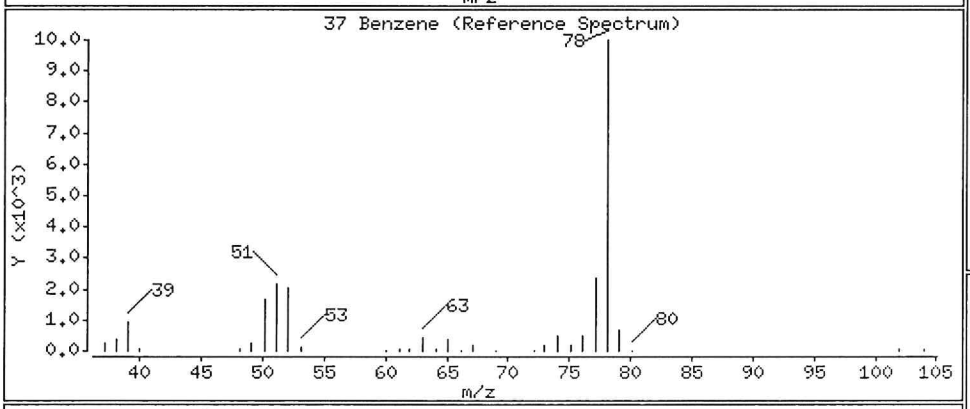
Review Code:

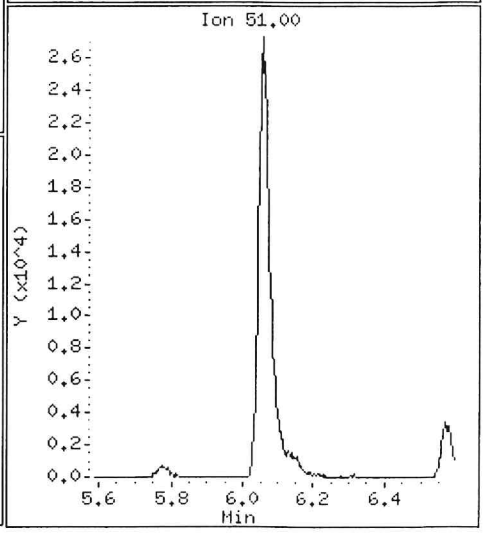


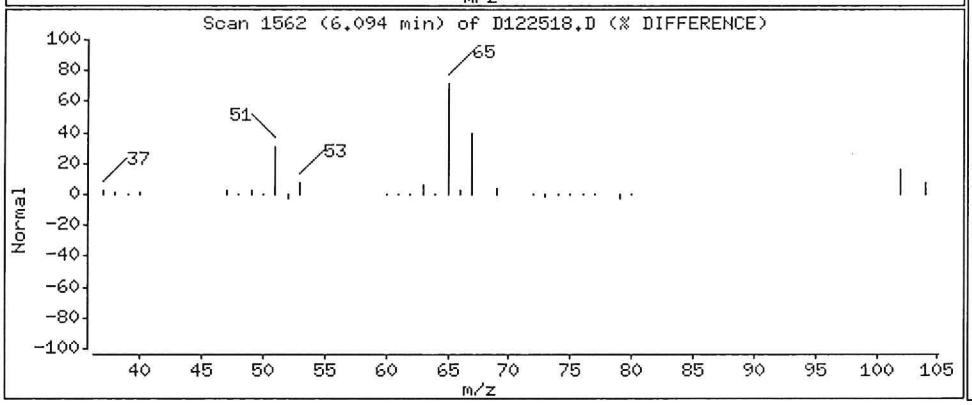












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122518.D

Date : 25-DEC-2017 18:43

Client ID: HS17120912-11

Instrument: VOA2.i

Sample Info: HS17120912-11;HS17120912-11;;;

Purge Volume: 5.0

Operator: AP

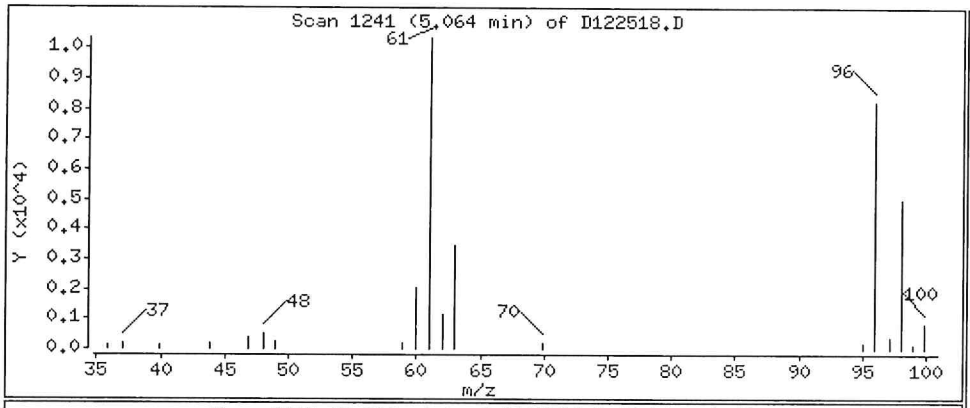
Column phase: DB624

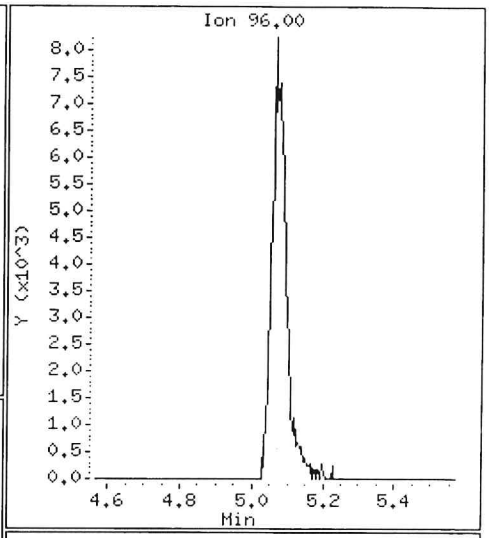
Column diameter: 0.18

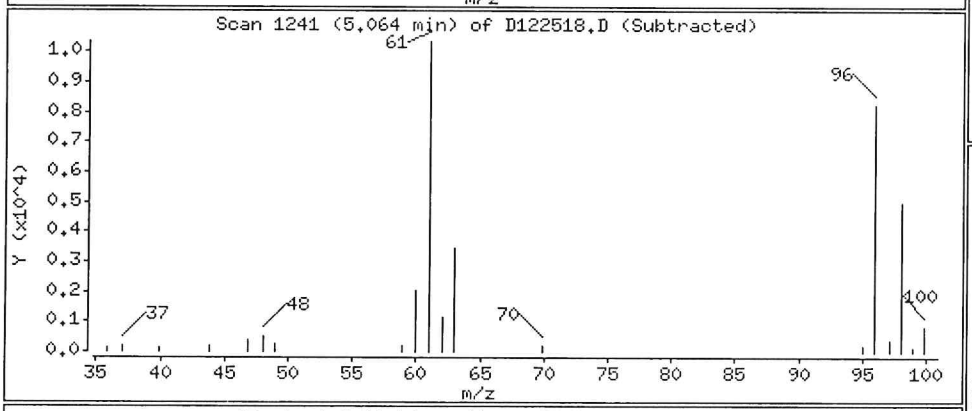
27 cis-1,2-Dichloroethene

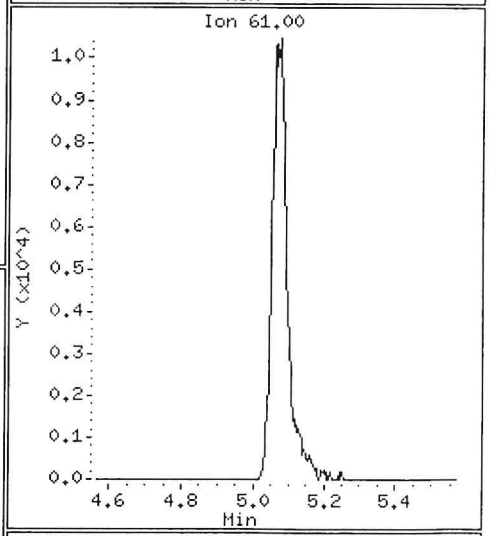
Concentration: 7.16 ug/l

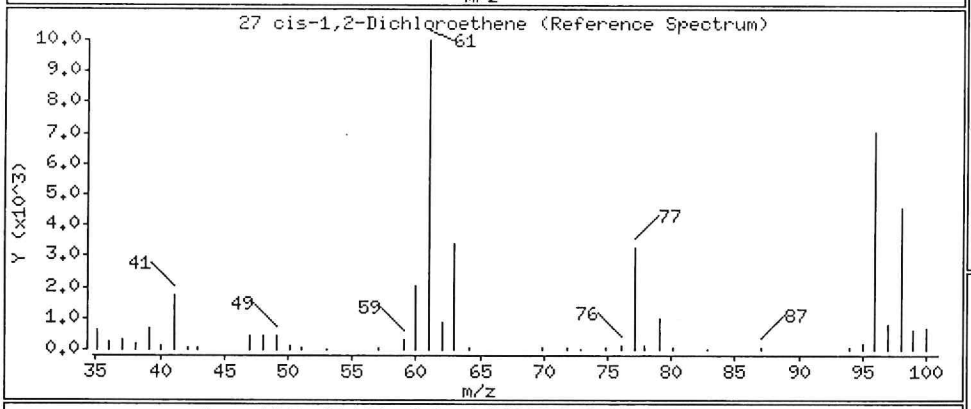
Review Code:

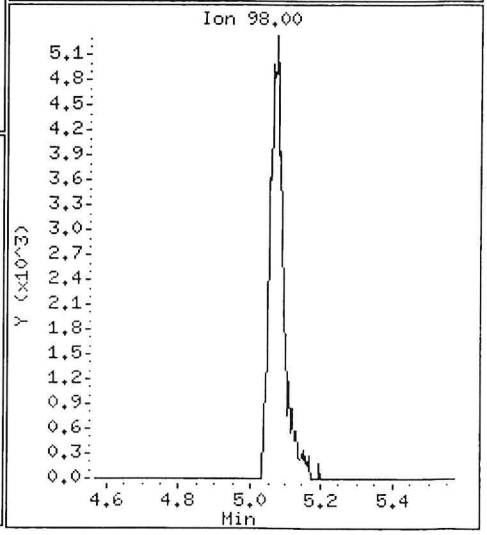


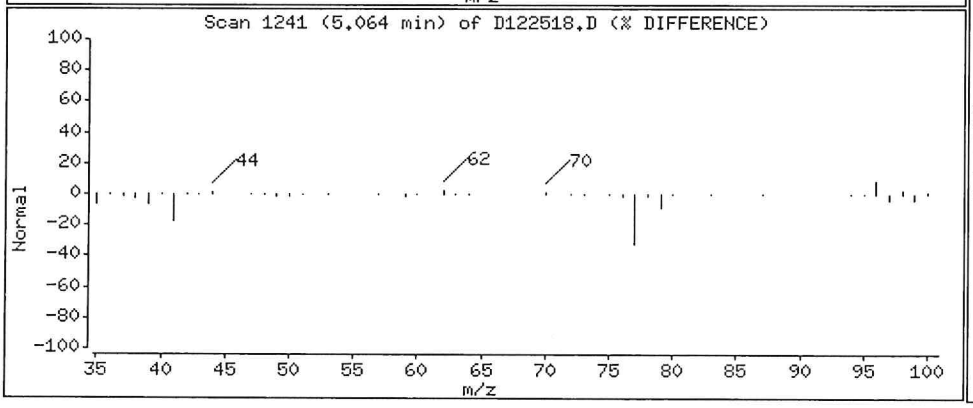












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122518.D

Date : 25-DEC-2017 18:43

Client ID: HS17120912-11

Instrument: VOA2.i

Sample Info: HS17120912-11;HS17120912-11;;;

Purge Volume: 5.0

Operator: AP

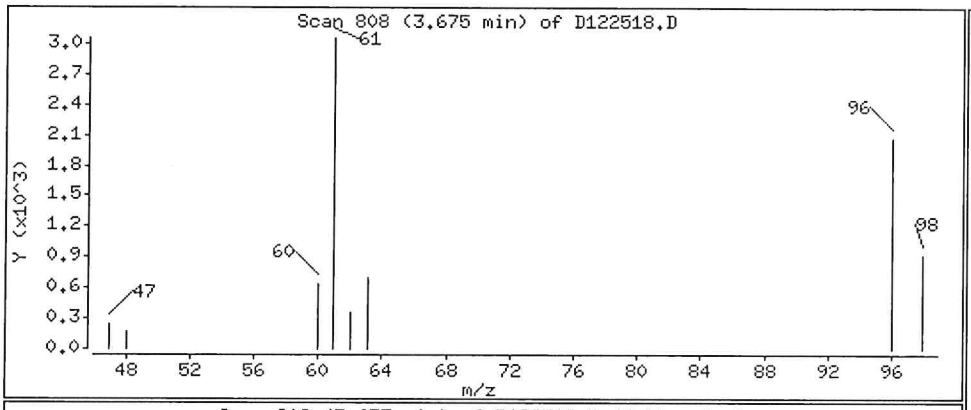
Column phase: DB624

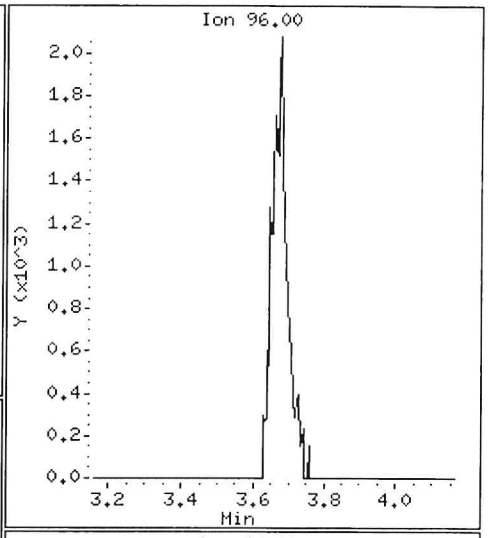
Column diameter: 0.18

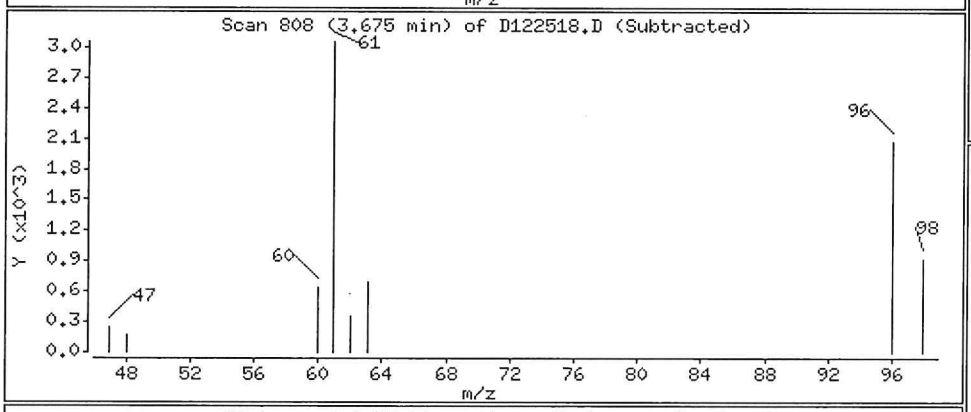
20 trans-1,2-Dichloroethene

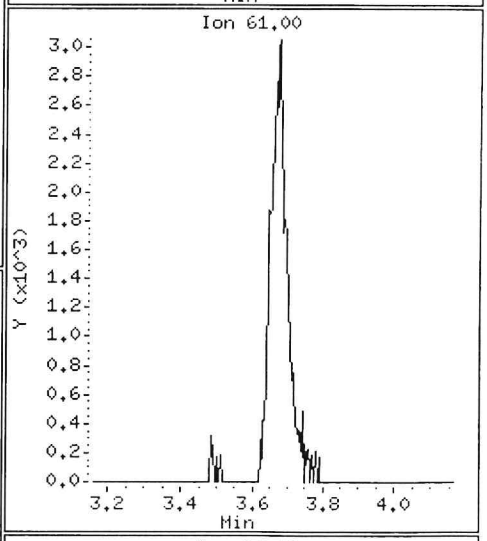
Concentration: 2.33 ug/l

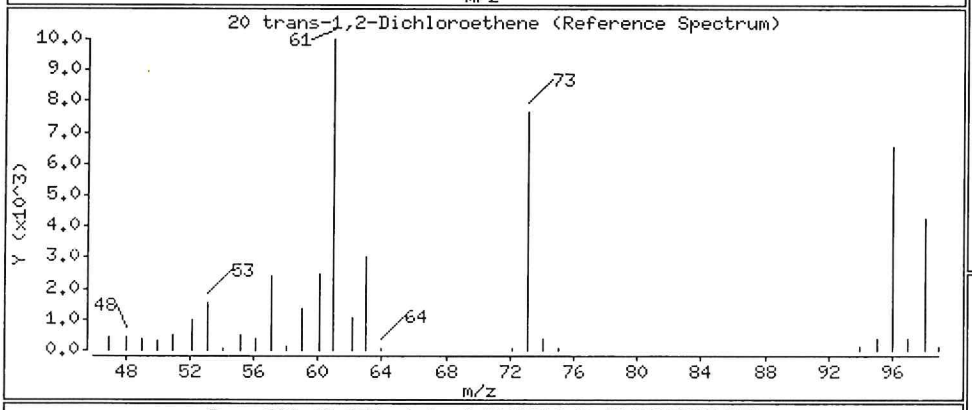
Review Code:

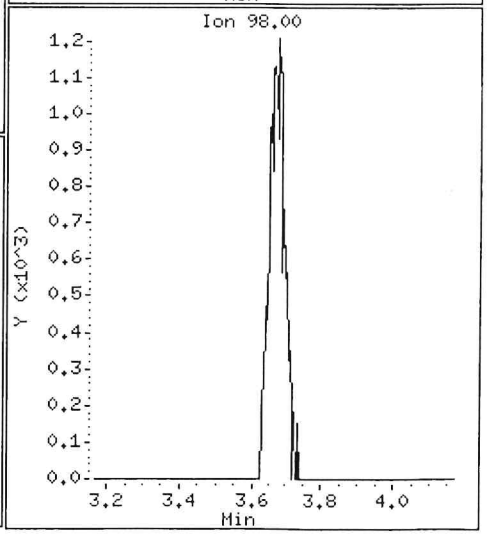


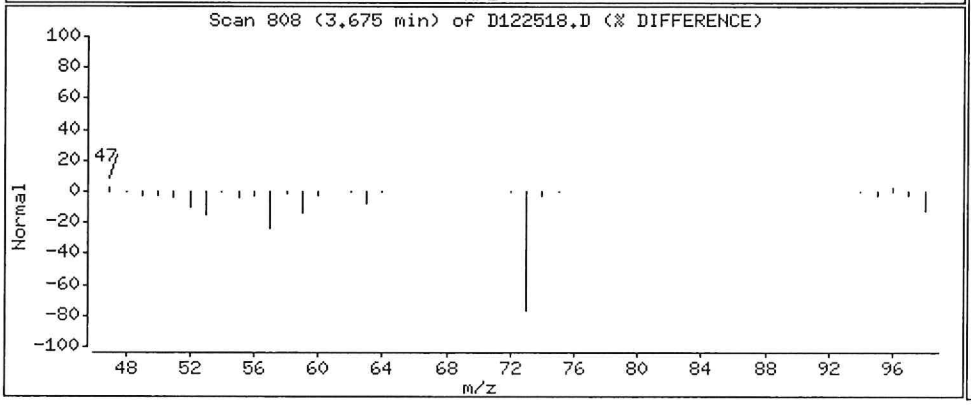












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122518.D

Date : 25-DEC-2017 18:43

Client ID: HS17120912-11

Instrument: VOA2.i

Sample Info: HS17120912-11;HS17120912-11;;;

Purge Volume: 5.0

Operator: AP

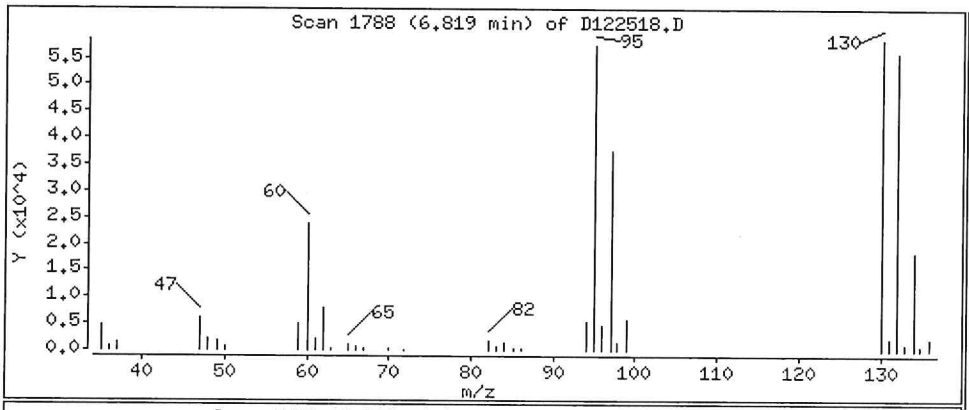
Column phase: DB624

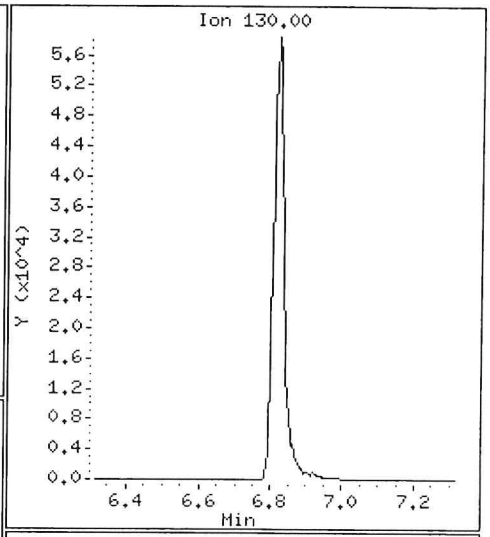
Column diameter: 0.18

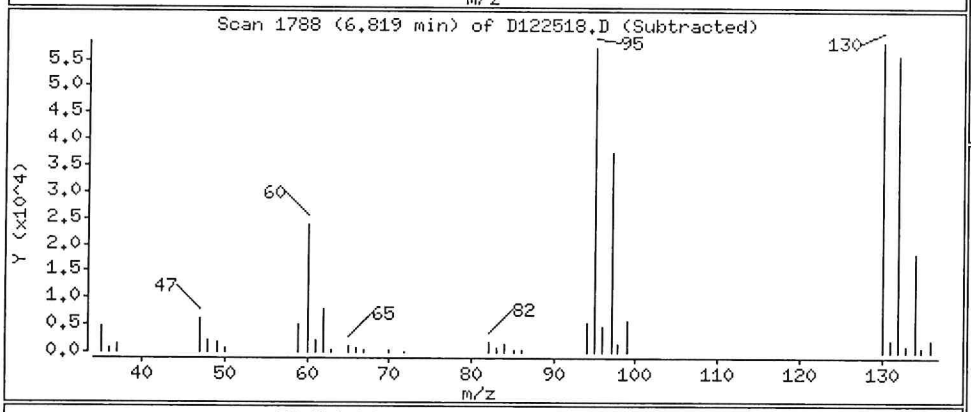
38 Trichloroethene

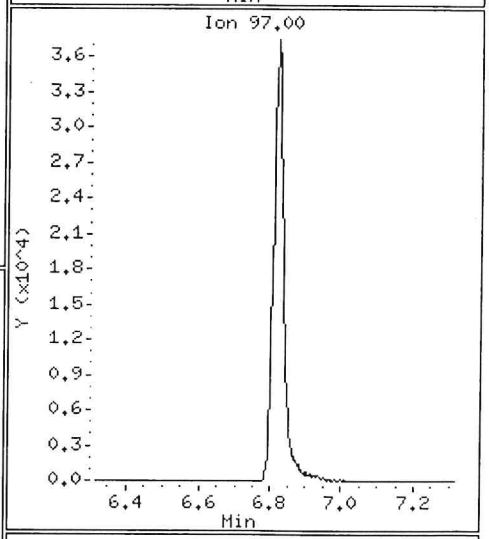
Concentration: 43.28 ug/l

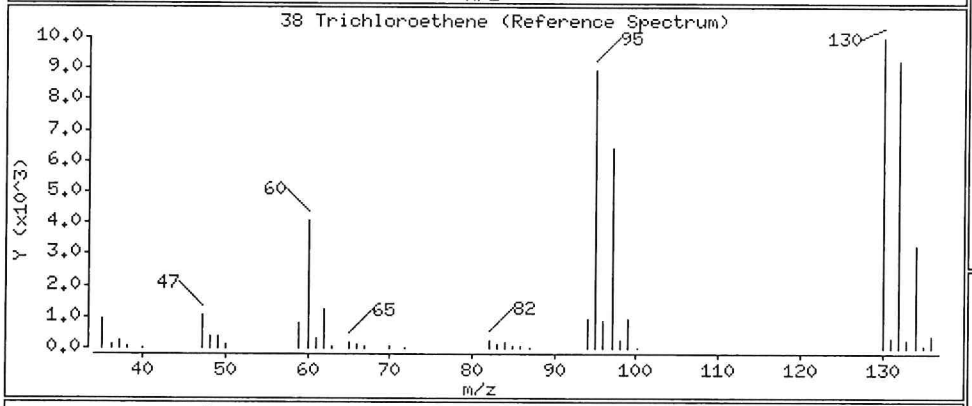
Review Code:

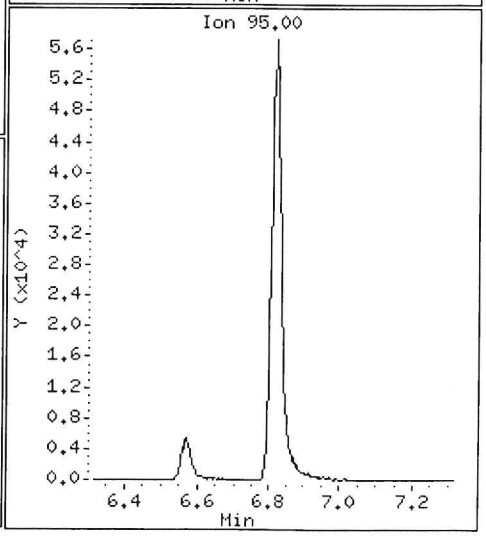


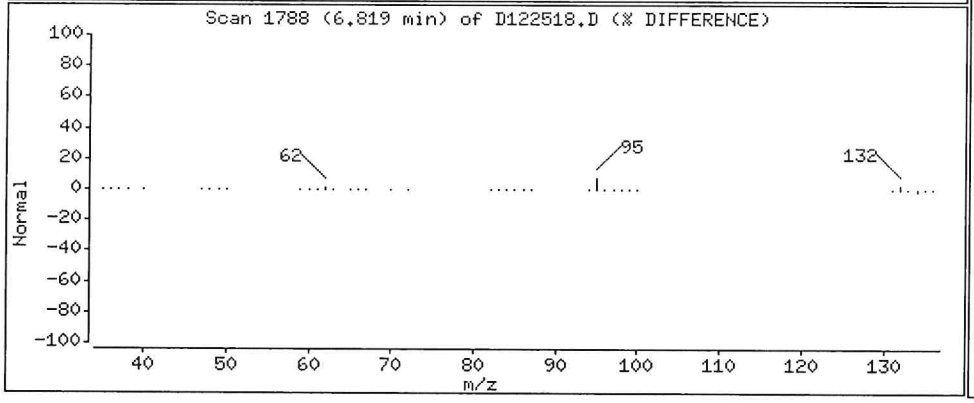












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122525.D
Lab Smp Id: HS17120912-01 Client Smp ID: HS17120912-01
Inj Date : 25-DEC-2017 21:37
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-01;HS17120912-01;;;
Misc Info : HS15080001;WATER;0;5;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 23
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

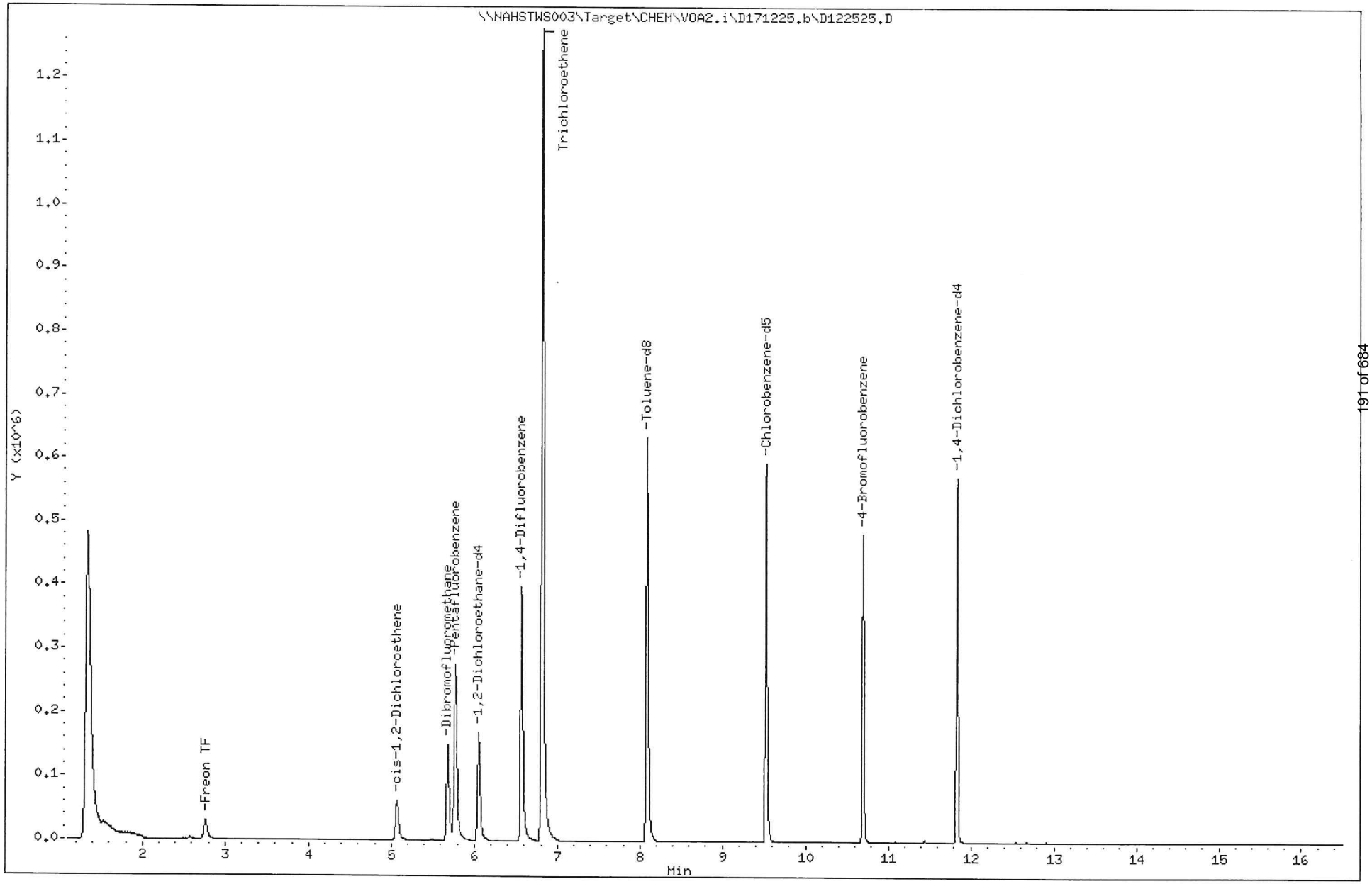
Name	Value	Description
DF	5.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.773	5.776	(1.000)	263252	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.985)	118393	49.9163	49.91
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	374278	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.049)	134886	46.0463	46.04
* 47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	334844	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	431517	48.8779	48.87
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	158410	49.1364	49.13
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	151933	50.0000	
27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.878)	39979	13.3487	66.74
38 Trichloroethene	130	6.819	6.816	(1.038)	516813	186.428	932.14

00872772

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122525.D
Date : 25-DEC-2017 21:37
Client ID: HS17120912-01
Sample Info: HS17120912-01;HS17120912-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122525.D

Date : 25-DEC-2017 21:37

Client ID: HS17120912-01

Instrument: VOA2.i

Sample Info: HS17120912-01;HS17120912-01;;;

Purge Volume: 5.0

Operator: AP

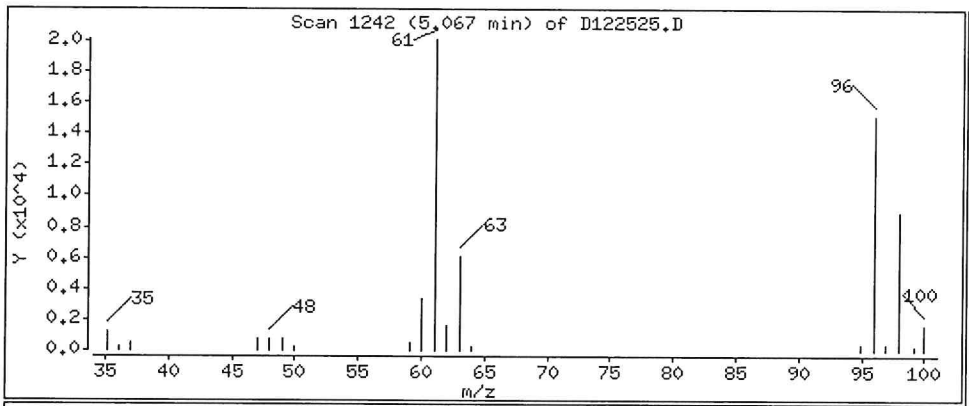
Column phase: DB624

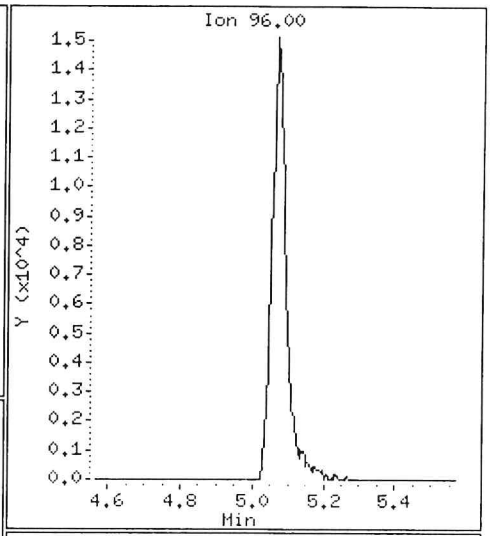
Column diameter: 0.18

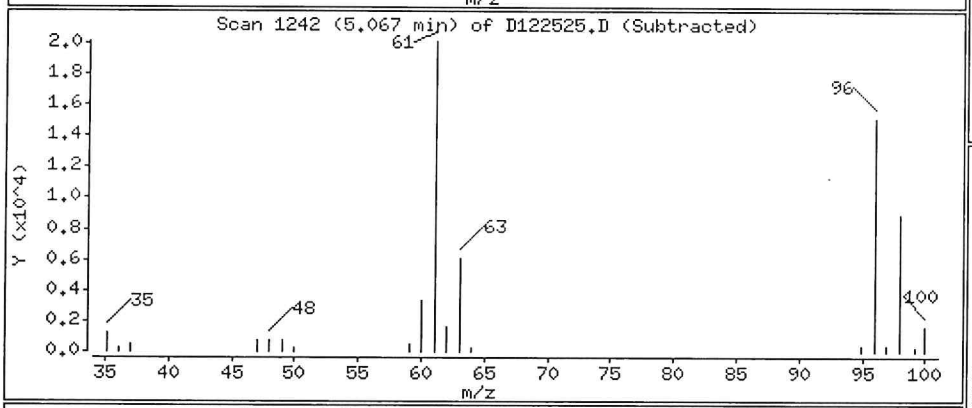
27 cis-1,2-Dichloroethene

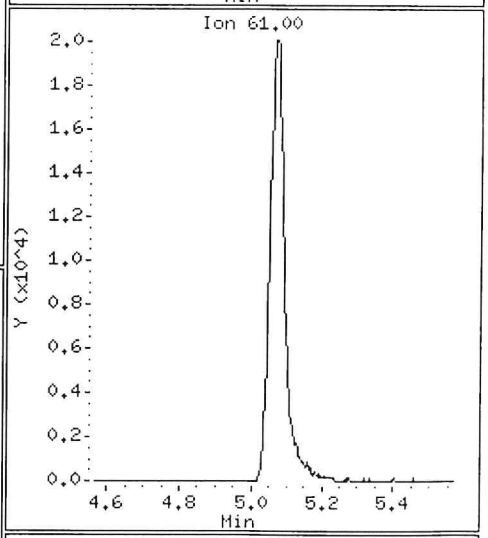
Concentration: 66.74 ug/l

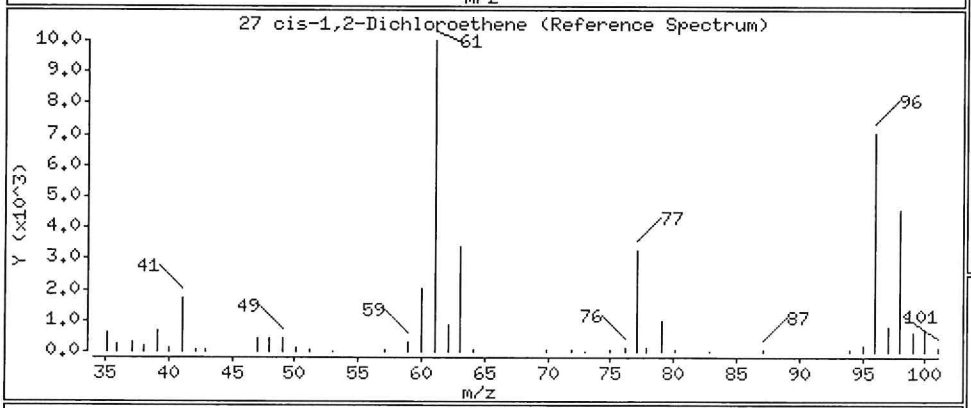
Review Code:

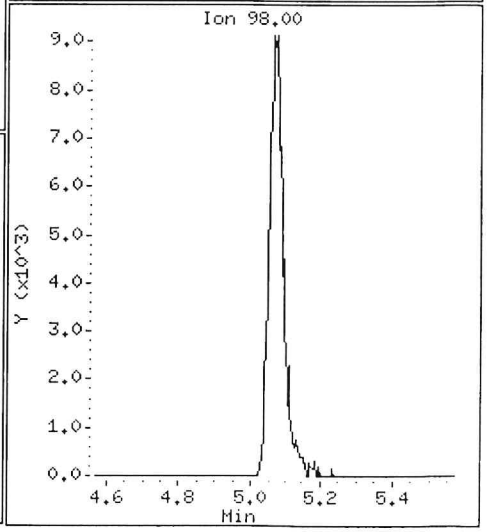


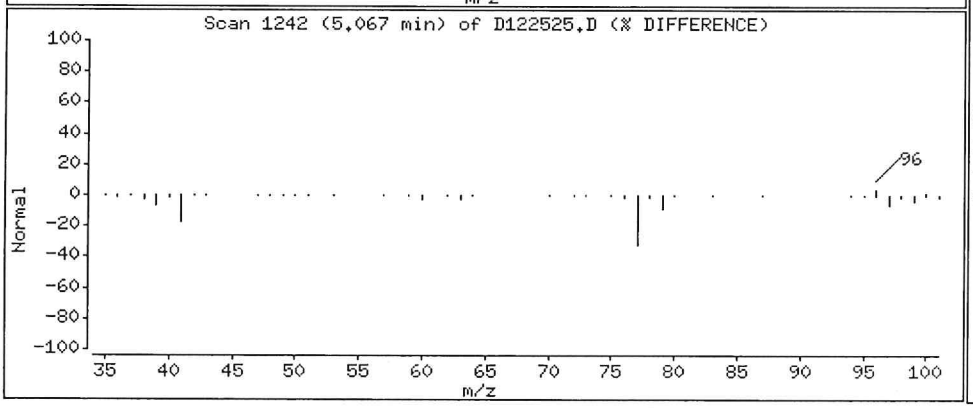












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122525.D Page 4

Date : 25-DEC-2017 21:37

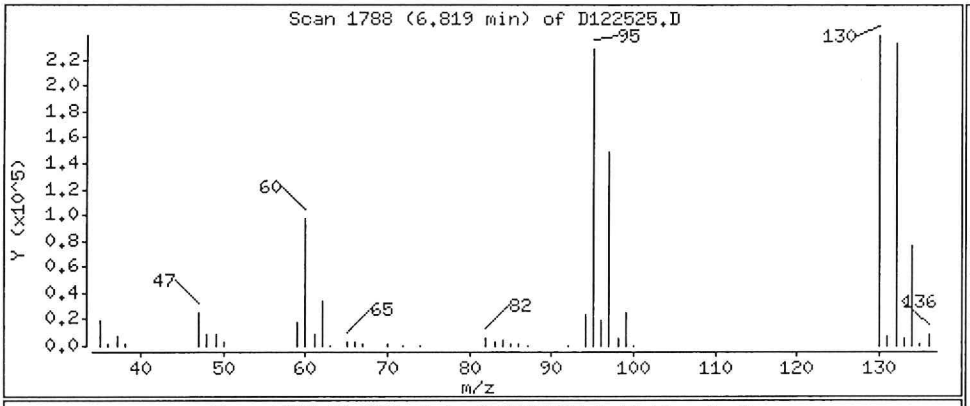
Client ID: HS17120912-01 Instrument: VOA2.i

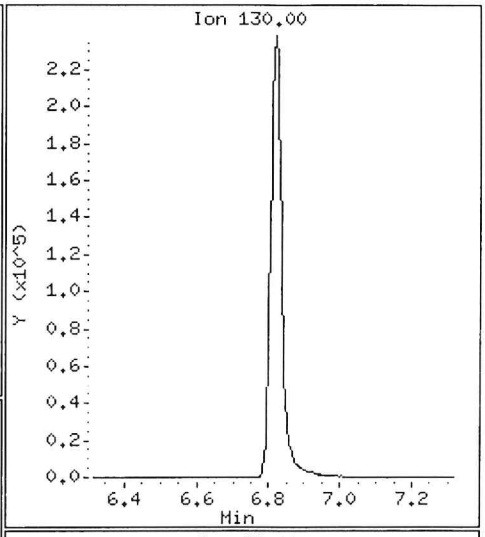
Sample Info: HS17120912-01;HS17120912-01;;;

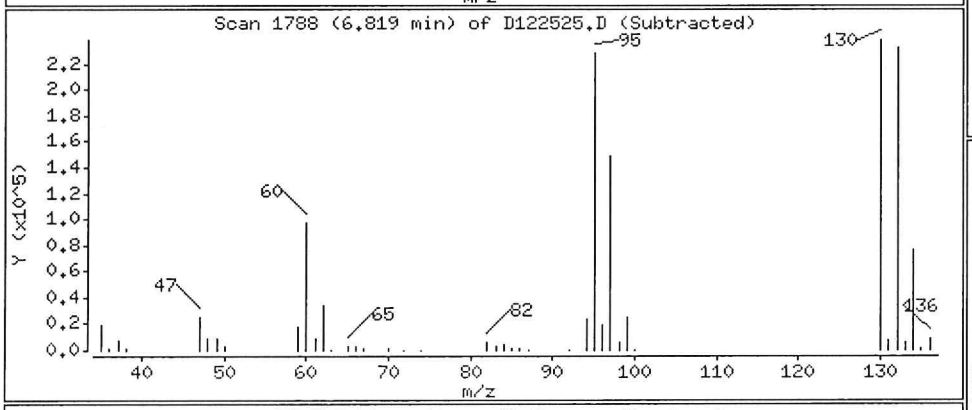
Purge Volume: 5.0 Operator: AP

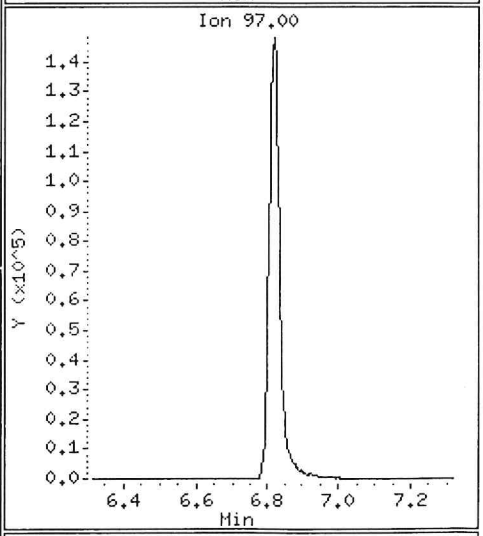
Column phase: DB624 Column diameter: 0.18

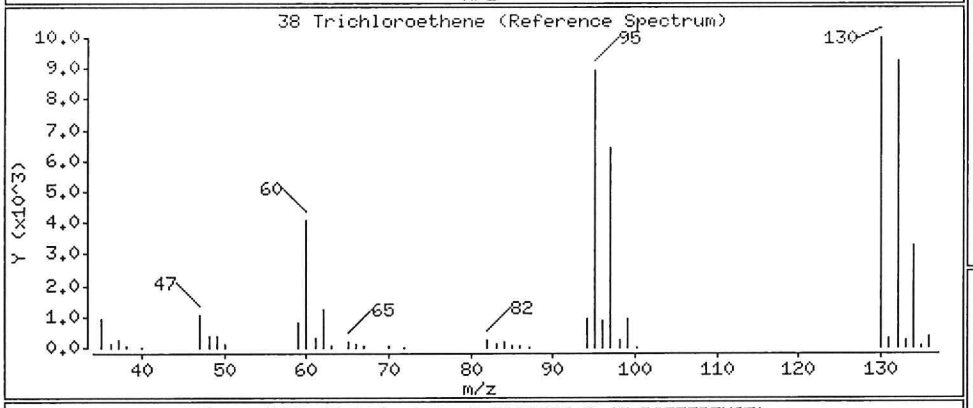
38 Trichloroethene Concentration: 932.14 ug/l Review Code:

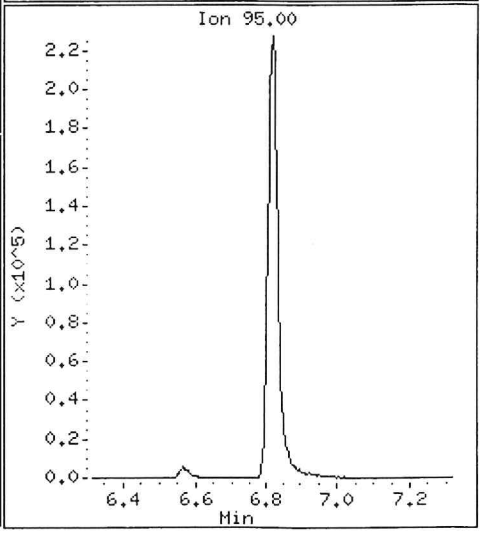


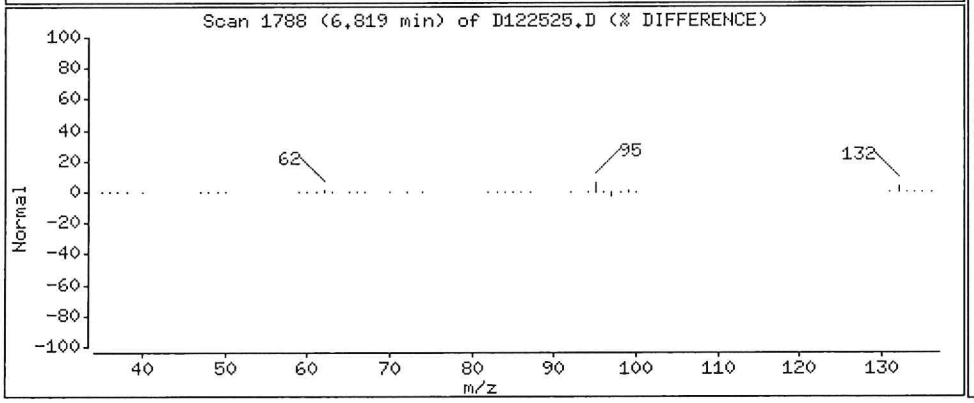












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122526.D
Lab Smp Id: HS17120912-01 Client Smp ID: HS17120912-01
Inj Date : 25-DEC-2017 22:05
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-01;HS17120912-01;;;
Misc Info : HS15080001;WATER;0;50;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 23
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	50.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

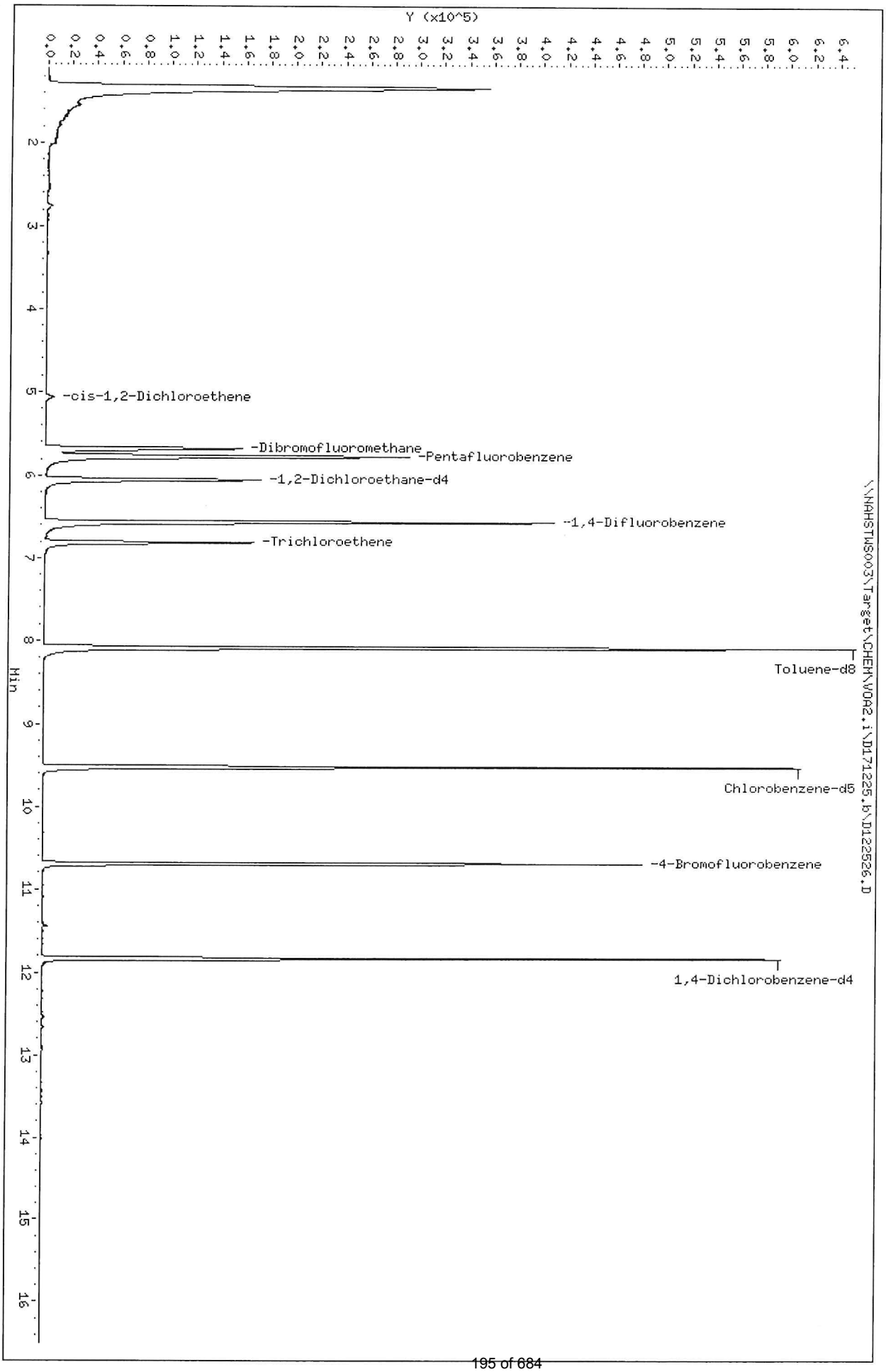
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.773	5.776	(1.000)	278529	50.0000	
$ 30 Dibromofluoromethane	113	5.680	5.686	(0.984)	120899	48.1771	48.17
* 36 1,4-Difluorobenzene	114	6.565	6.572	(1.000)	396083	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.049)	144836	46.7310	46.73
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	351343	50.0000	
$ 48 Toluene-d8	98	8.086	8.090	(0.849)	455393	49.1600	49.16
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	159712	47.2139	47.21
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	153520	50.0000	
27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.878)	4144	1.30776	65.38(a)
38 Trichloroethene	130	6.816	6.816	(1.038)	65453	22.3108	1115.54

QC Flag Legend

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122526.D
Date : 25-DEC-2017 22:05
Client ID: HS17120912-01
Sample Info: HS17120912-01;HS17120912-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122526.D

Date : 25-DEC-2017 22:05

Client ID: HS17120912-01

Instrument: VOA2.i

Sample Info: HS17120912-01;HS17120912-01;;;

Purge Volume: 5.0

Operator: AP

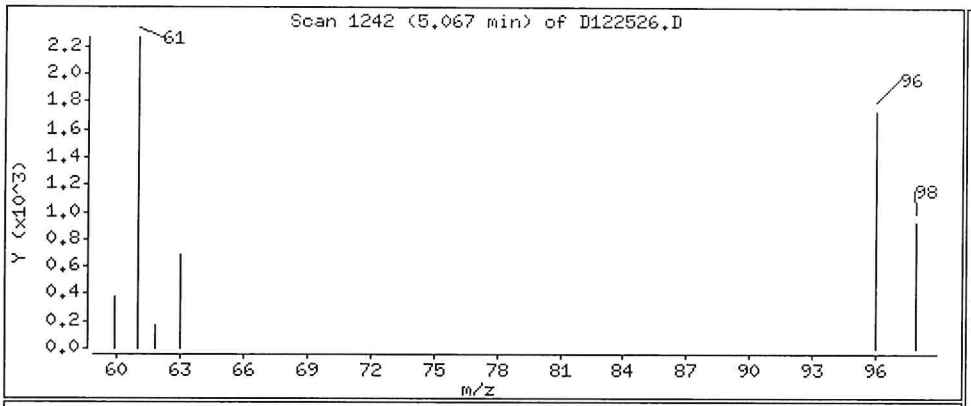
Column phase: DB624

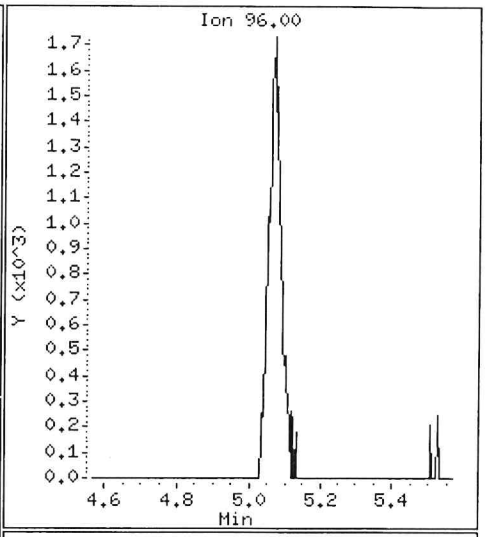
Column diameter: 0.18

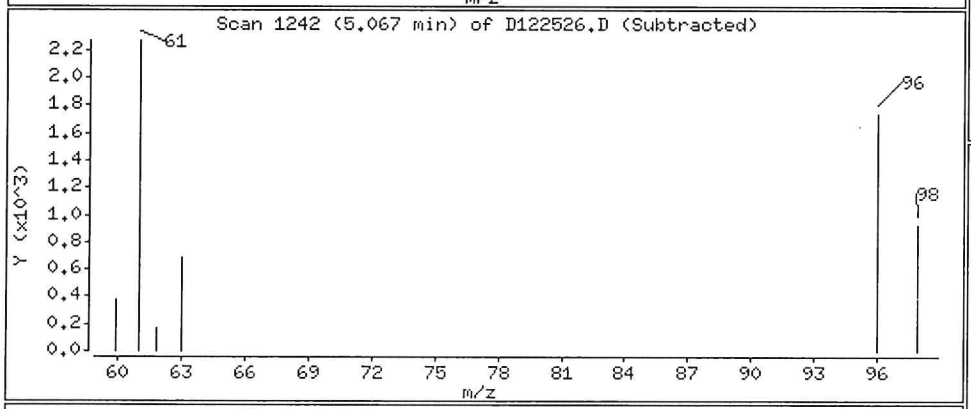
27 cis-1,2-Dichloroethene

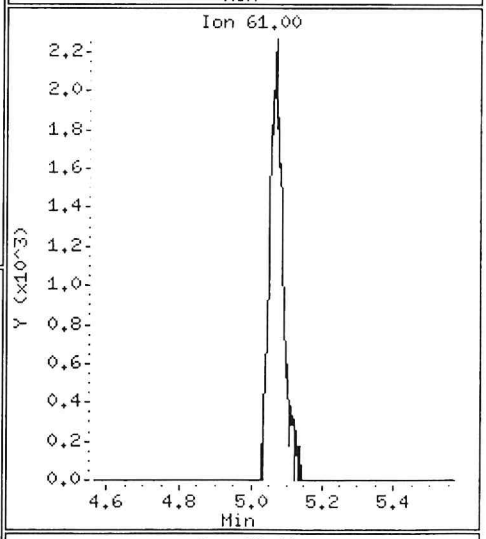
Concentration: 65.38 ug/l

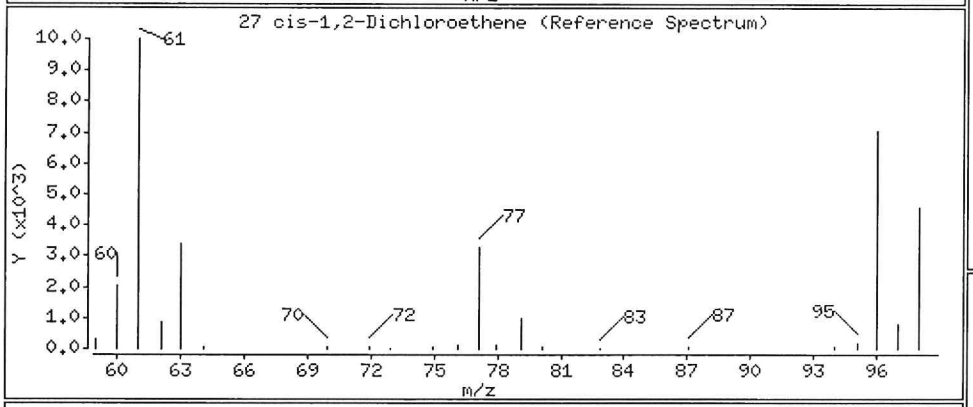
Review Code:

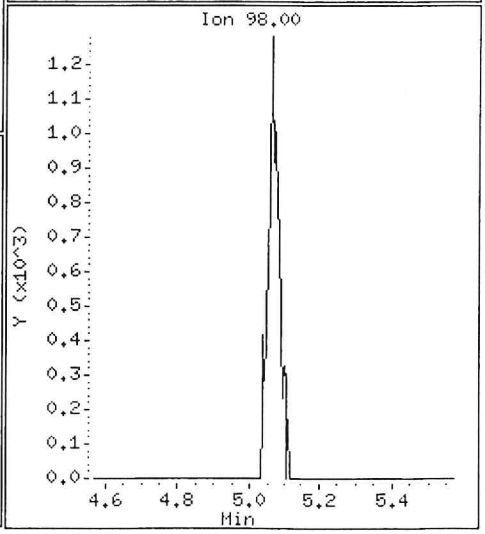


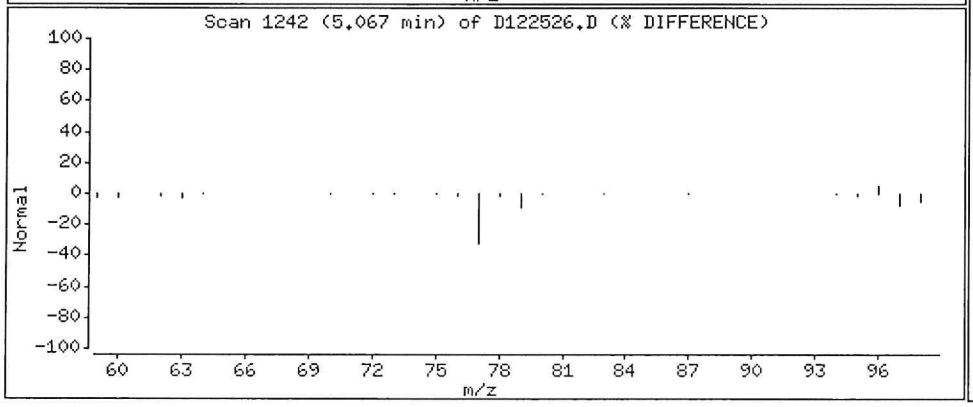












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122526.D

Date : 25-DEC-2017 22:05

Client ID: HS17120912-01

Instrument: VOA2.i

Sample Info: HS17120912-01;HS17120912-01;;;

Purge Volume: 5.0

Operator: AP

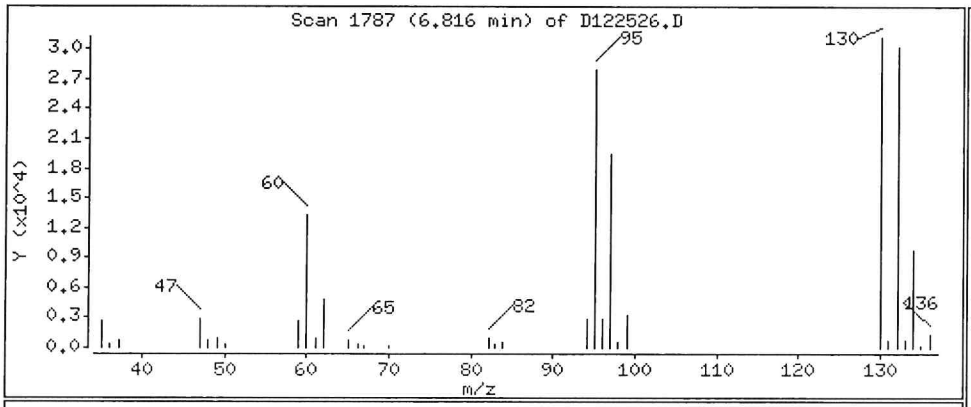
Column phase: DB624

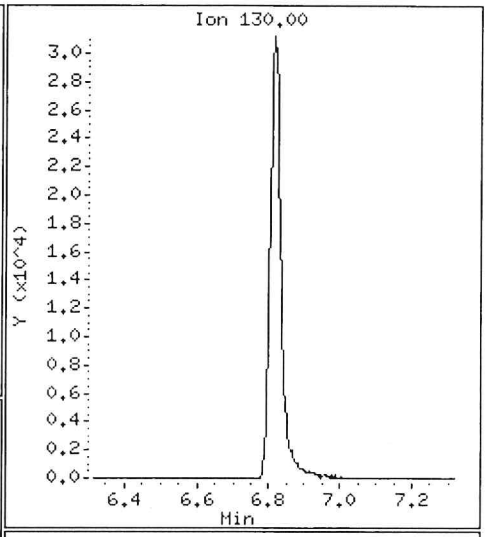
Column diameter: 0.18

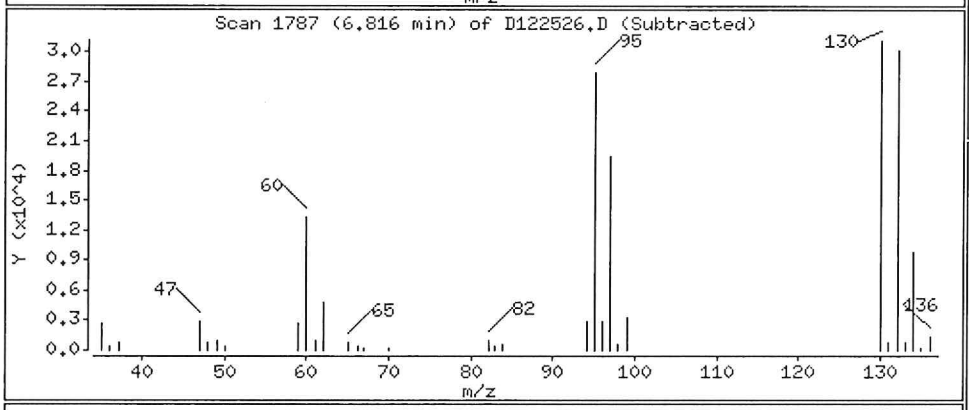
38 Trichloroethene

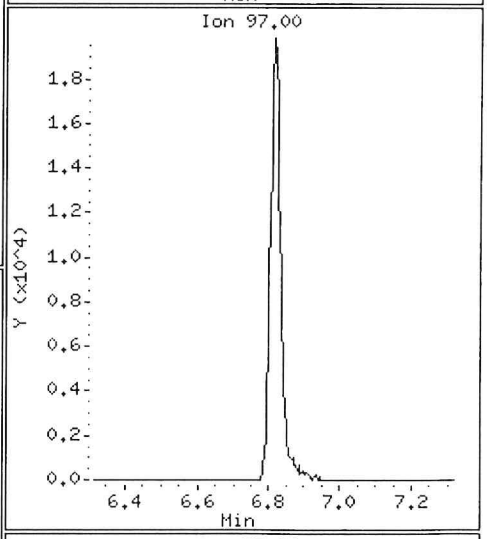
Concentration: 1115.54 ug/l

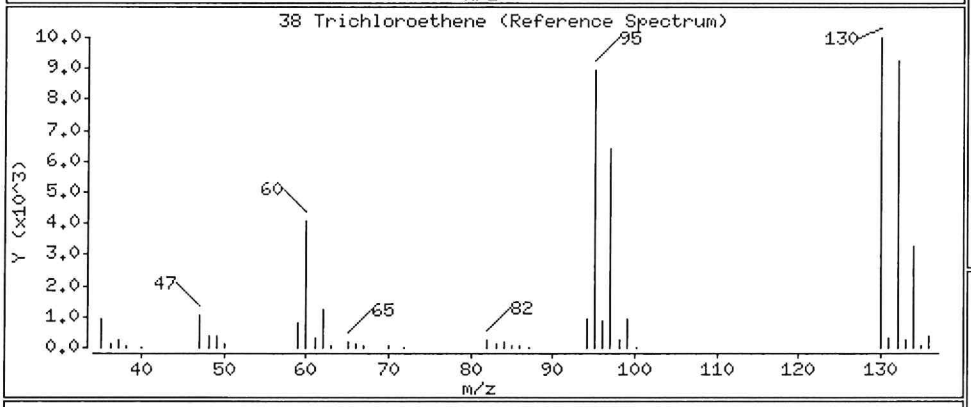
Review Code:

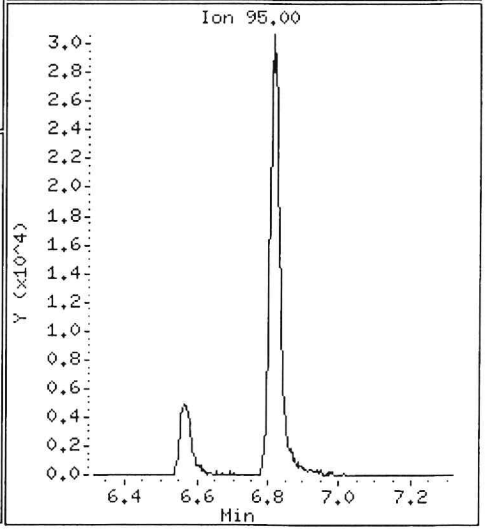


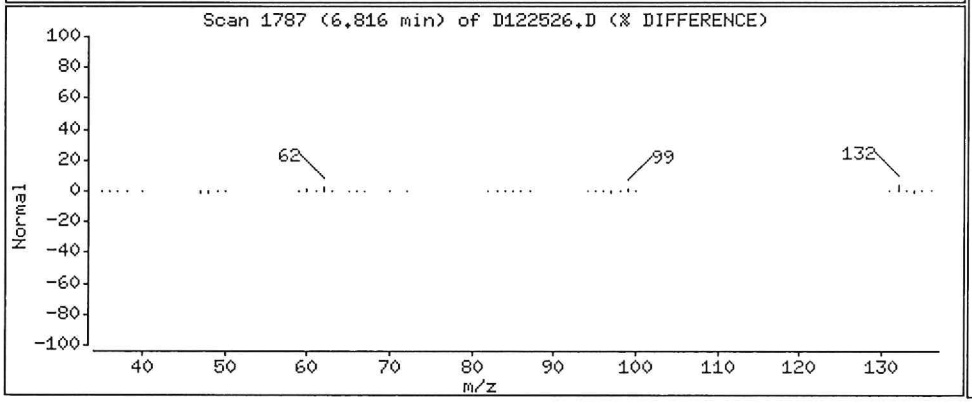












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122527.D
Lab Smp Id: HS17120912-02 Client Smp ID: HS17120912-02
Inj Date : 25-DEC-2017 22:32
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-02;HS17120912-02;;;
Misc Info : HS15080001;WATER;0;5;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 24
Dil Factor: 5.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	5.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

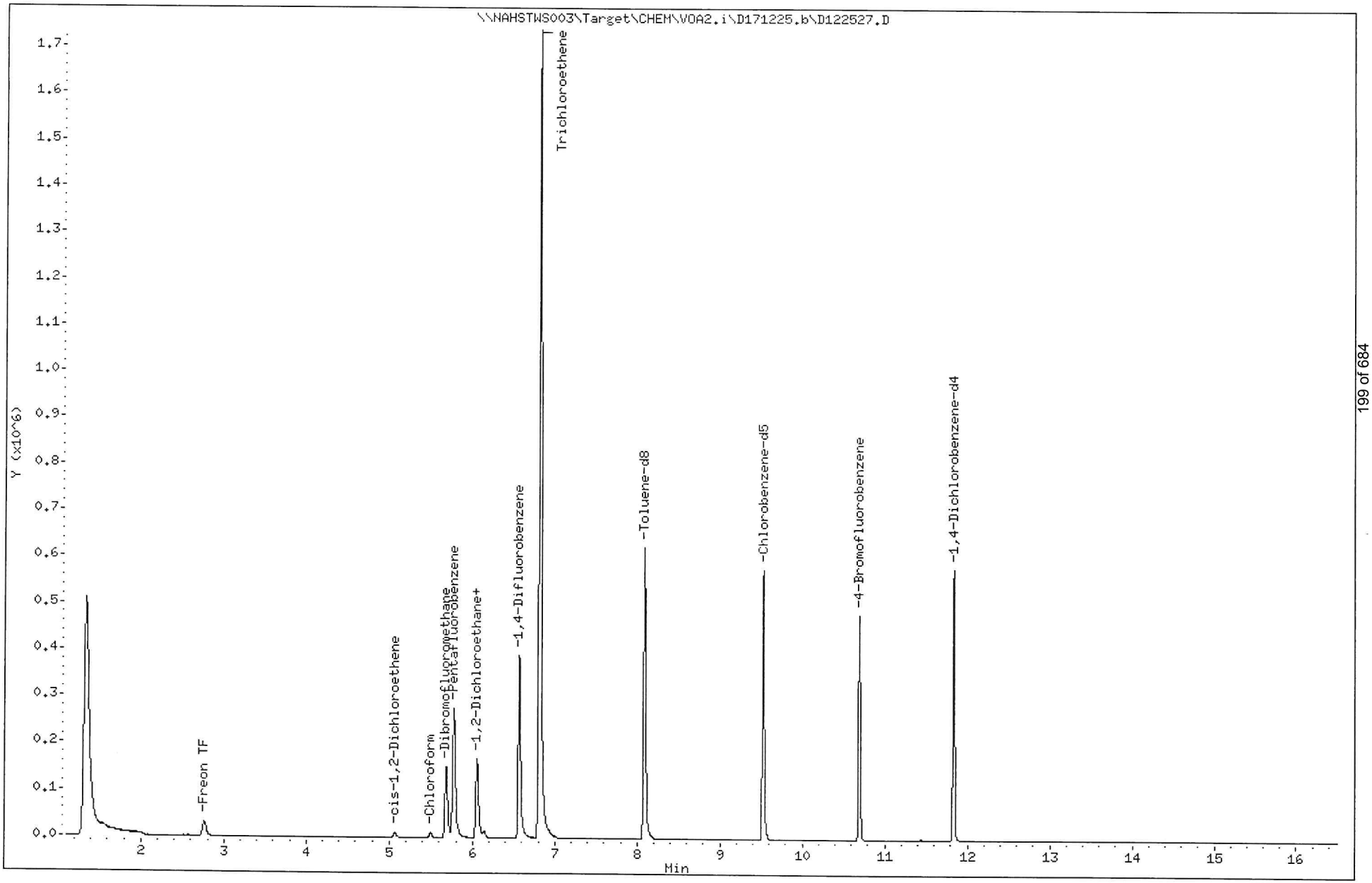
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.773	5.776	(1.000)	262876	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.984)	118800	50.1596	50.15
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	367296	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.049)	138231	47.2557	47.25
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	332659	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	426954	48.6787	48.67
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	156359	48.8188	48.81
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	152656	50.0000	
33 1,2-Dichloroethane	62	6.145	6.142	(0.936)	11603	3.48492	17.42(aM)
37 Benzene	78	6.087	6.094	(0.927)	2926	0.30277	1.51(a)
28 Chloroform	83	5.494	5.490	(0.952)	10351	2.15977	10.79(a)
27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.878)	6659	2.22658	11.13(a)
38 Trichloroethene	130	6.819	6.816	(1.038)	696200	255.912	1279.55(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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122527.D
Date : 25-DEC-2017 22:32
Client ID: HS17120912-02
Sample Info: HS17120912-02;HS17120912-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122527.D

Date : 25-DEC-2017 22:32

Client ID: HS17120912-02

Instrument: VOA2.i

Sample Info: HS17120912-02;HS17120912-02;;;

Purge Volume: 5.0

Operator: AP

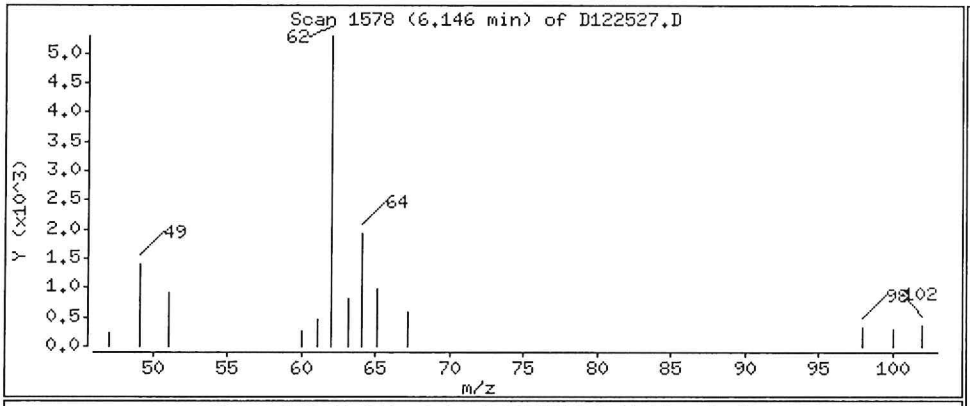
Column phase: DB624

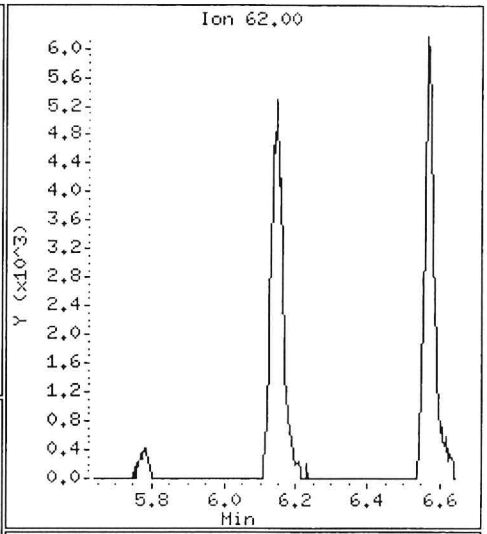
Column diameter: 0.18

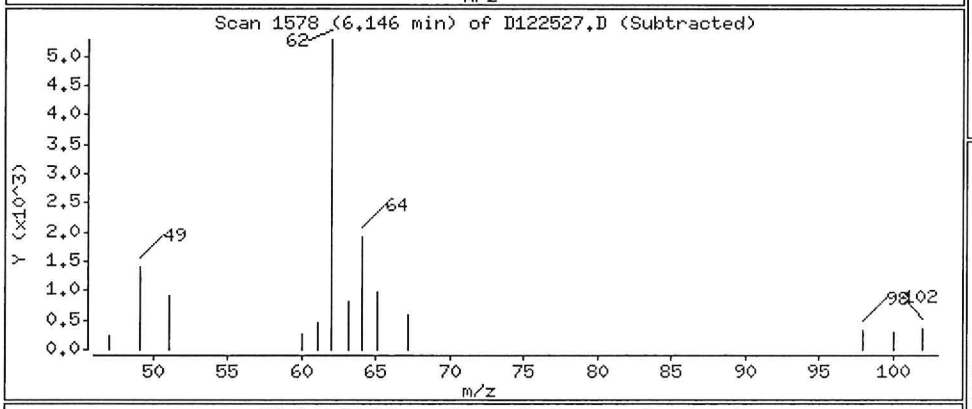
33 1,2-Dichloroethane

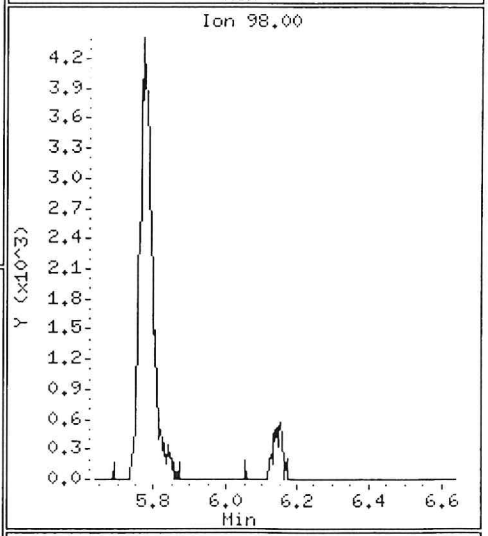
Concentration: 17.42 ug/l

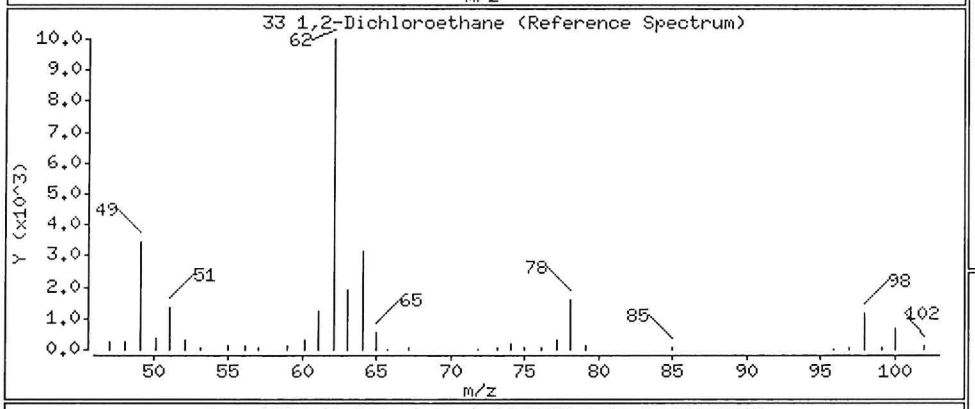
Review Code:

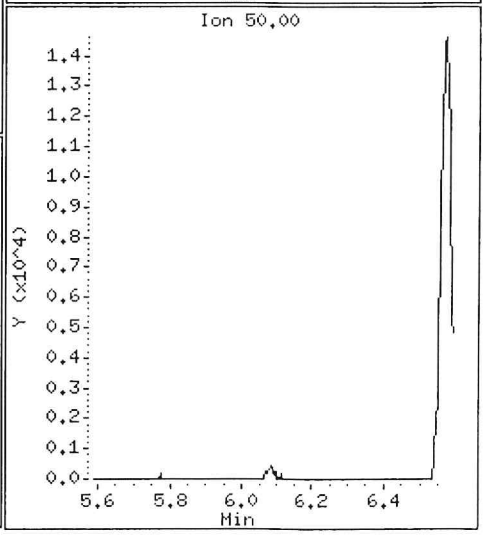


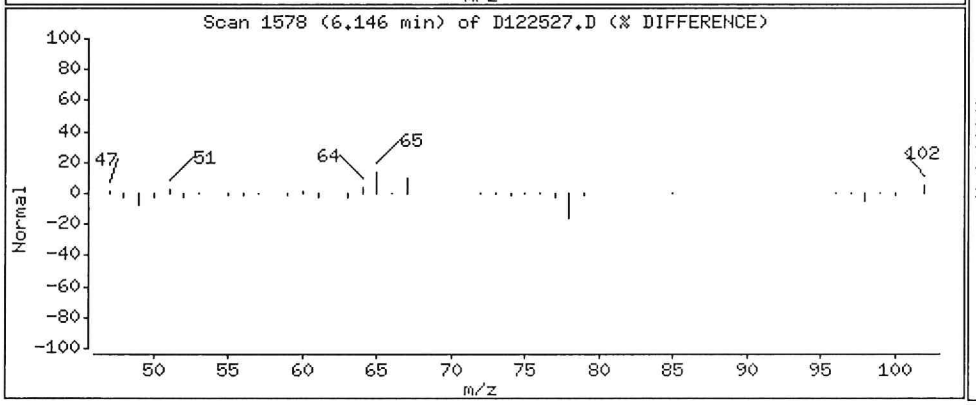












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122527.D

Date : 25-DEC-2017 22:32

Client ID: HS17120912-02

Instrument: VOA2.i

Sample Info: HS17120912-02;HS17120912-02;;;

Purge Volume: 5.0

Operator: AP

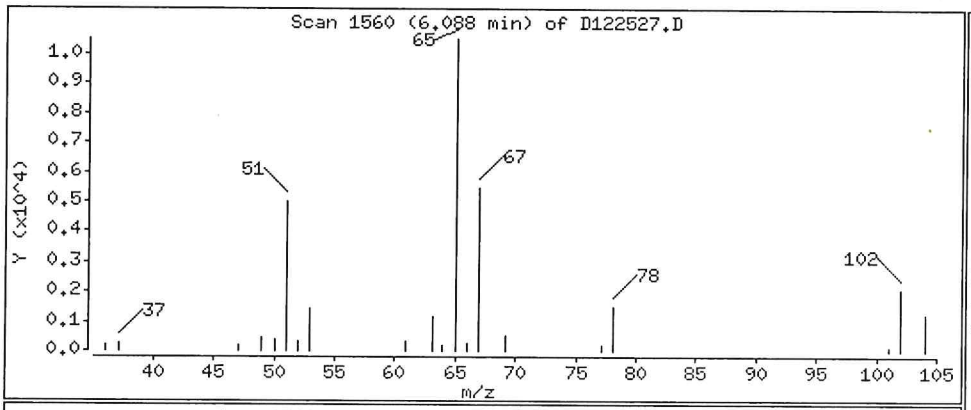
Column phase: DB624

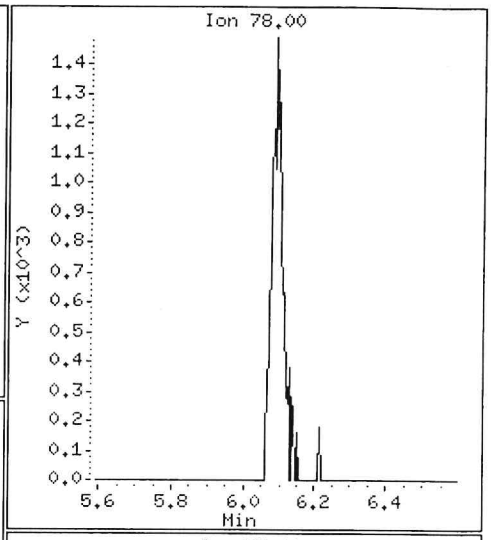
Column diameter: 0.18

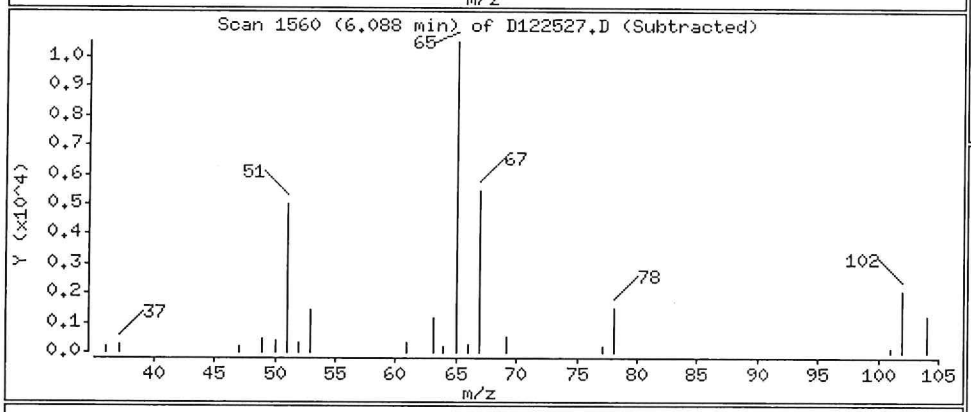
37 Benzene

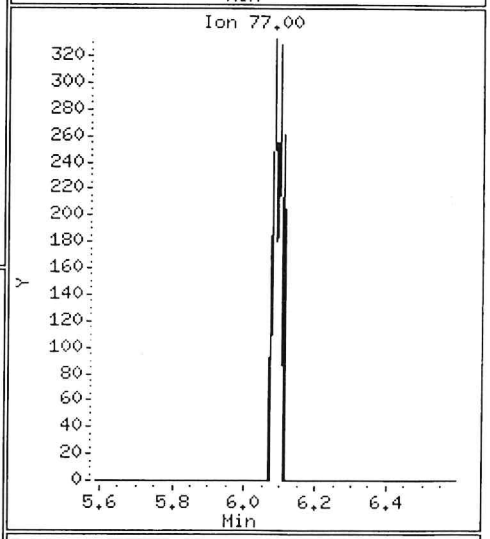
Concentration: 1.51 ug/l

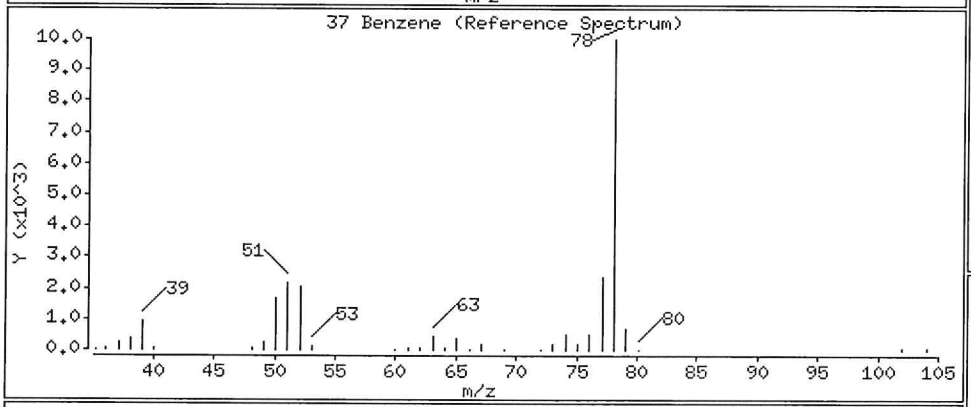
Review Code:

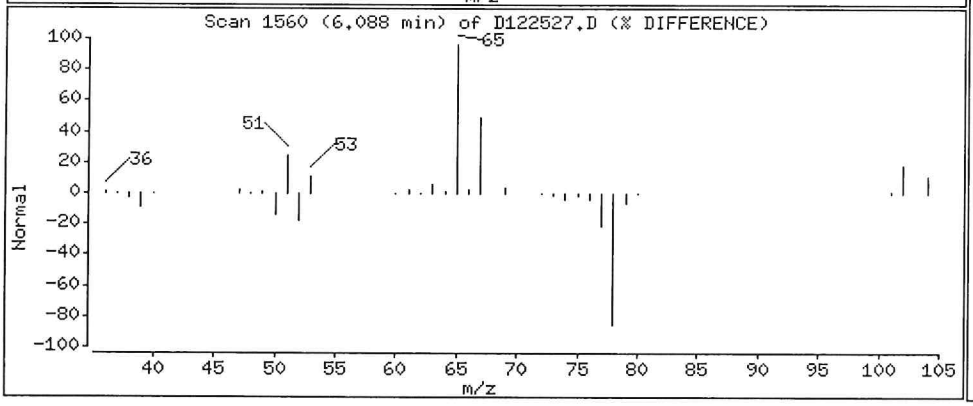


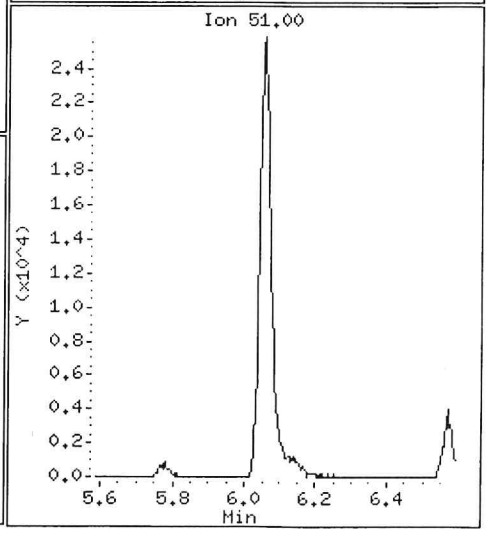












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122527.D

Date : 25-DEC-2017 22:32

Client ID: HS17120912-02

Instrument: VOA2.i

Sample Info: HS17120912-02;HS17120912-02;;;

Purge Volume: 5.0

Operator: AP

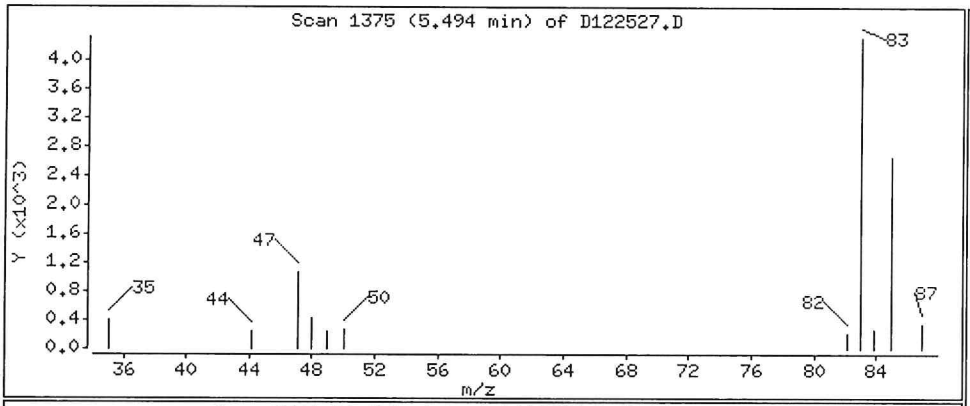
Column phase: DB624

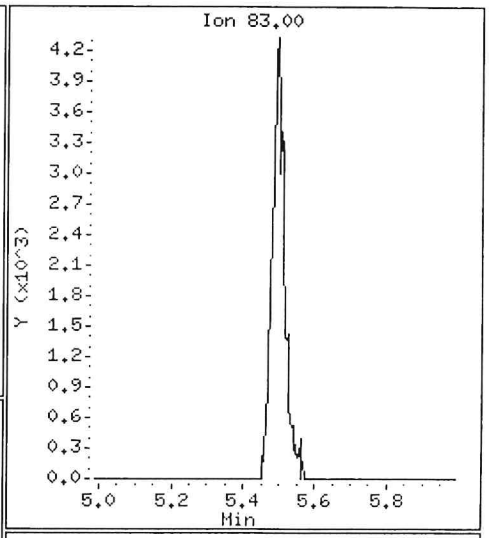
Column diameter: 0.18

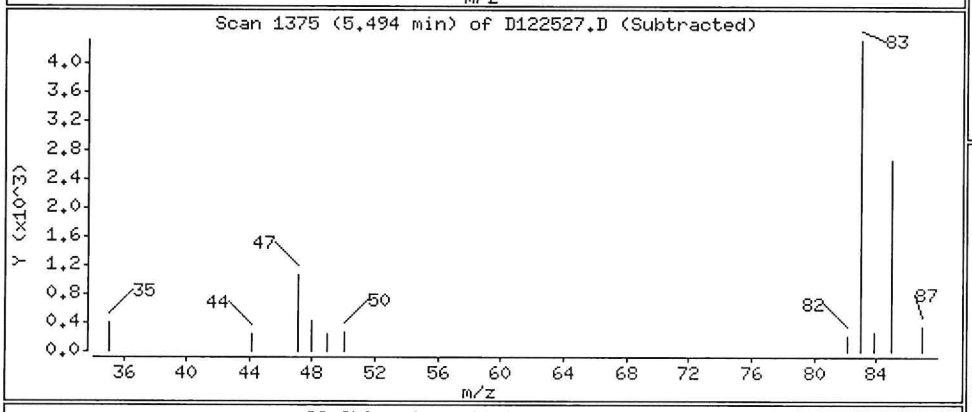
28 Chloroform

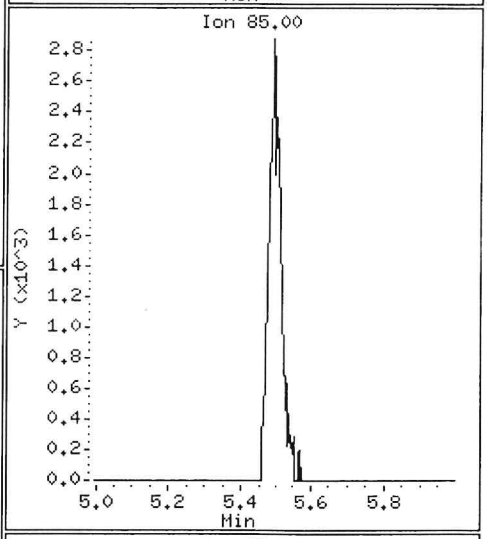
Concentration: 10.79 ug/l

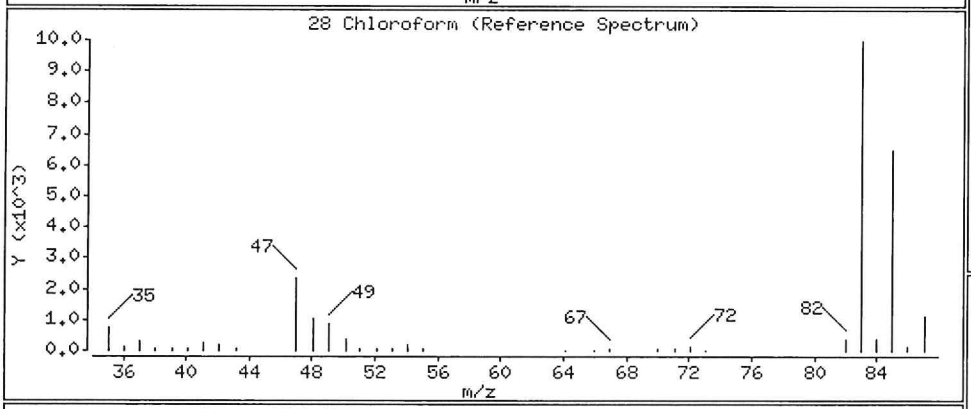
Review Code:

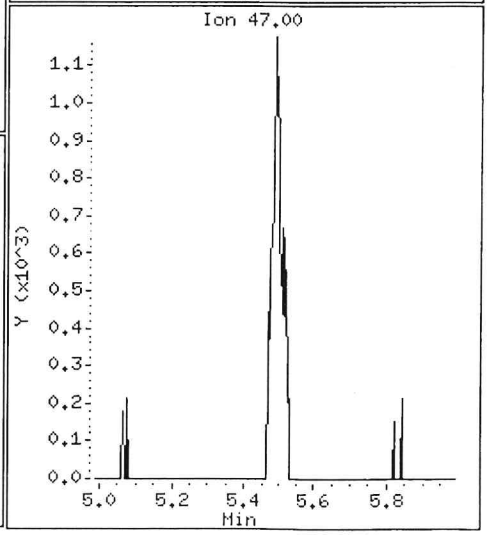


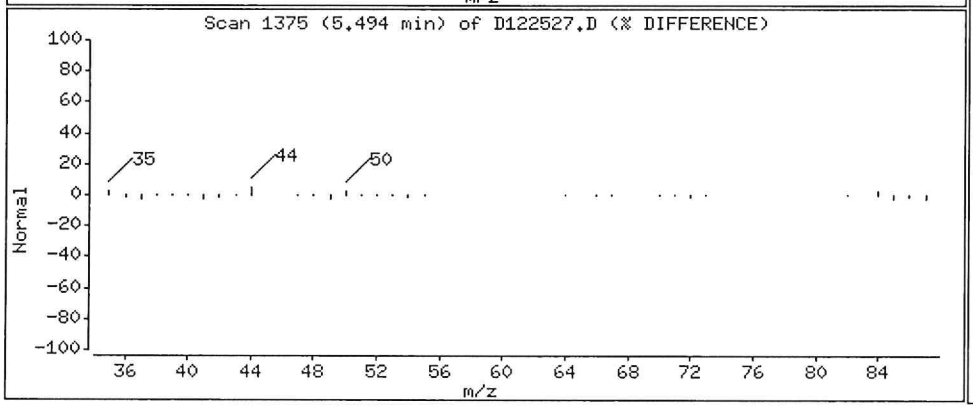












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122527.D

Page 6

Date : 25-DEC-2017 22:32

Client ID: HS17120912-02

Instrument: VOA2.i

Sample Info: HS17120912-02;HS17120912-02;;;

Purge Volume: 5.0

Operator: AP

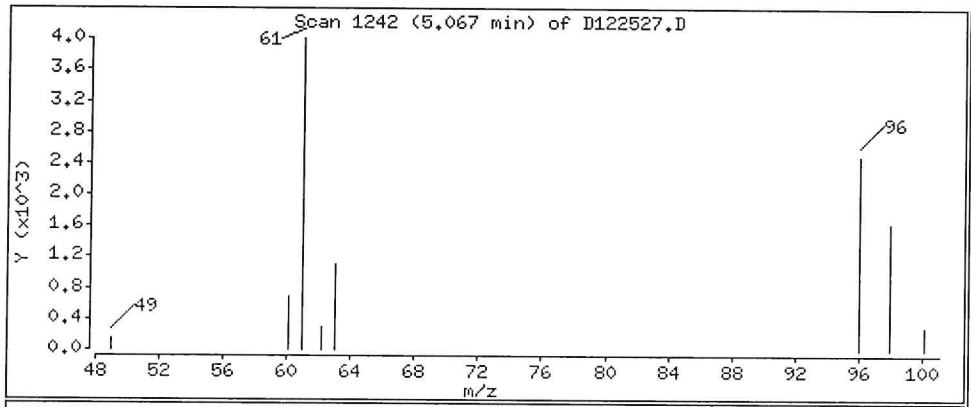
Column phase: DB624

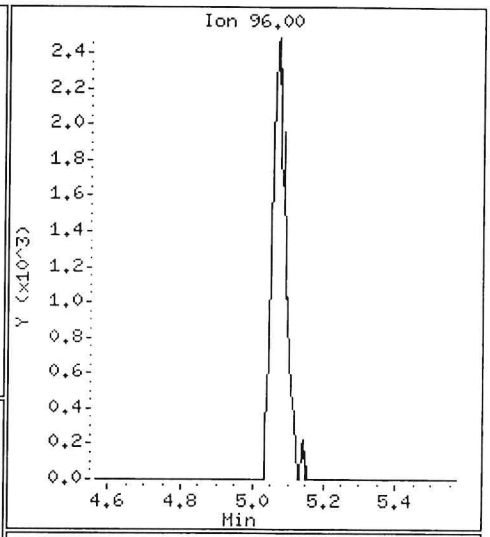
Column diameter: 0.18

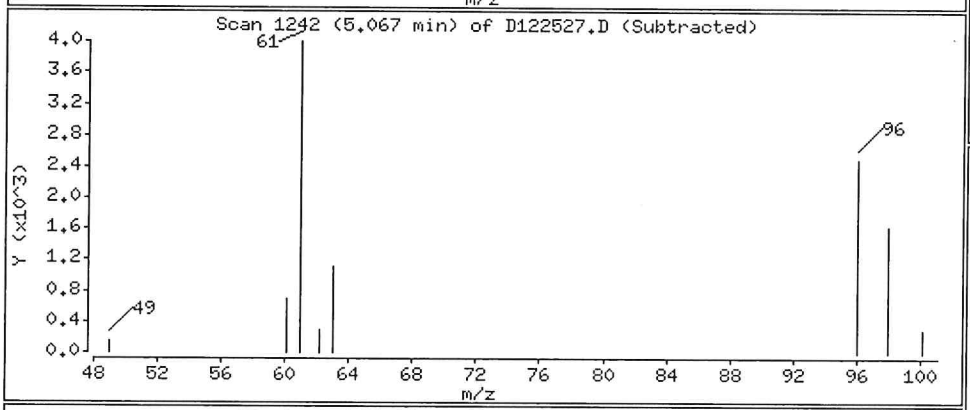
27 cis-1,2-Dichloroethene

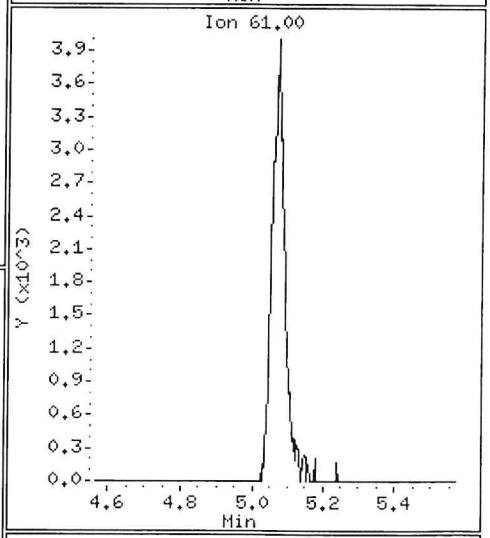
Concentration: 11.13 ug/l

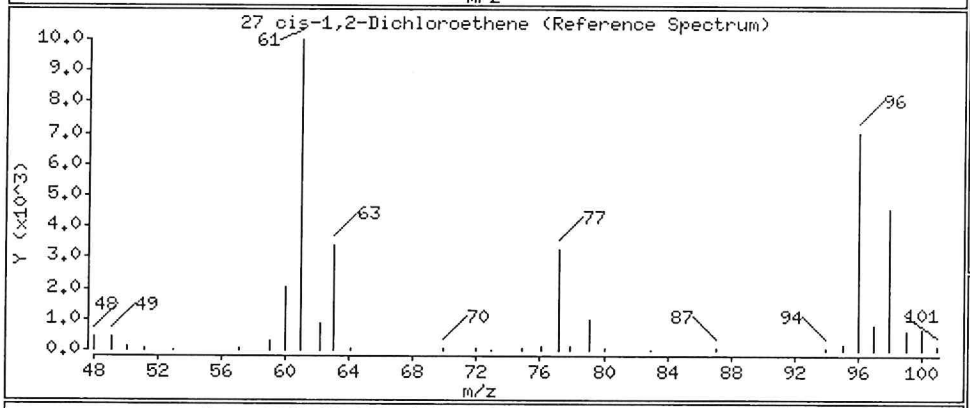
Review Code:

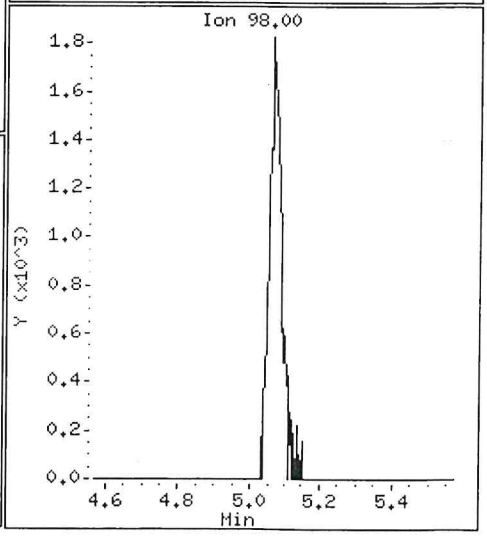


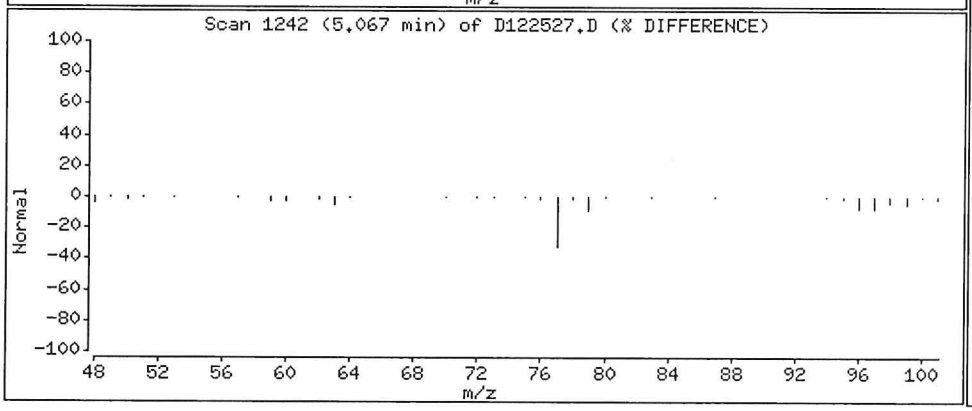












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122527.D

Date : 25-DEC-2017 22:32

Client ID: HS17120912-02

Instrument: VOA2.i

Sample Info: HS17120912-02;HS17120912-02;;;

Purge Volume: 5.0

Operator: AP

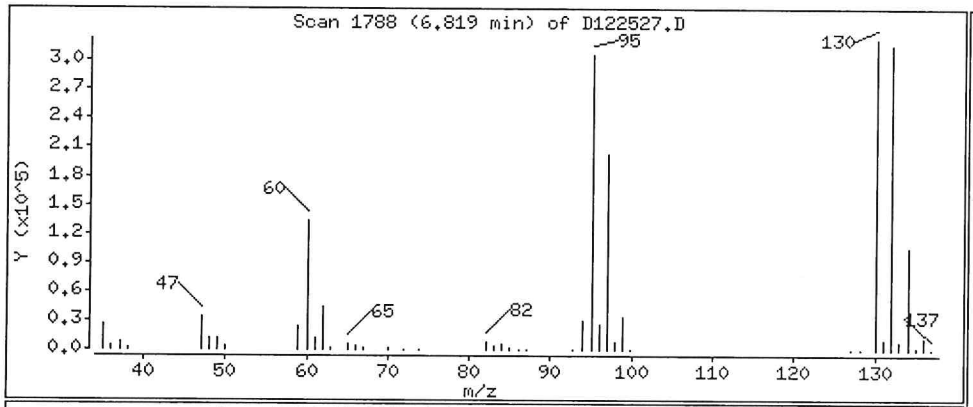
Column phase: DB624

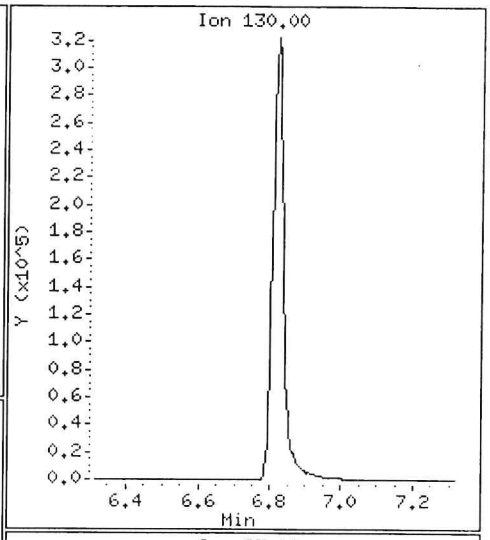
Column diameter: 0.18

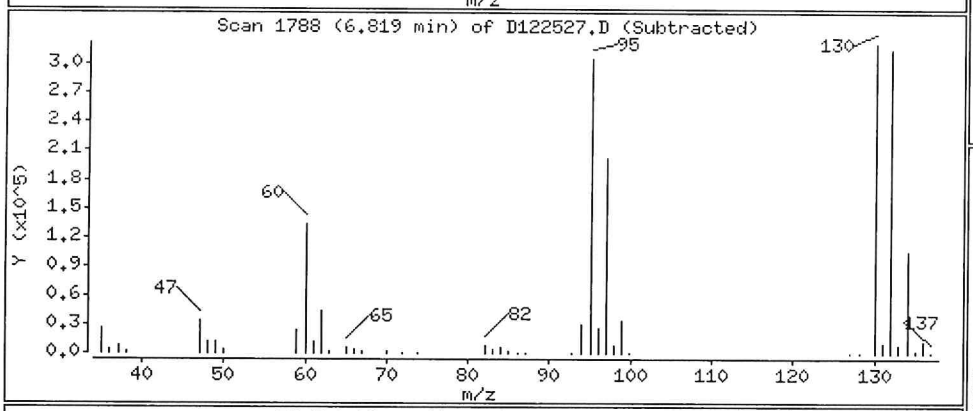
38 Trichloroethene

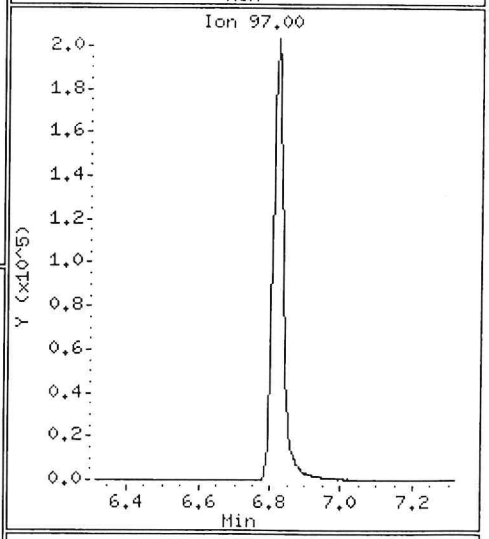
Concentration: 1279.55 ug/l

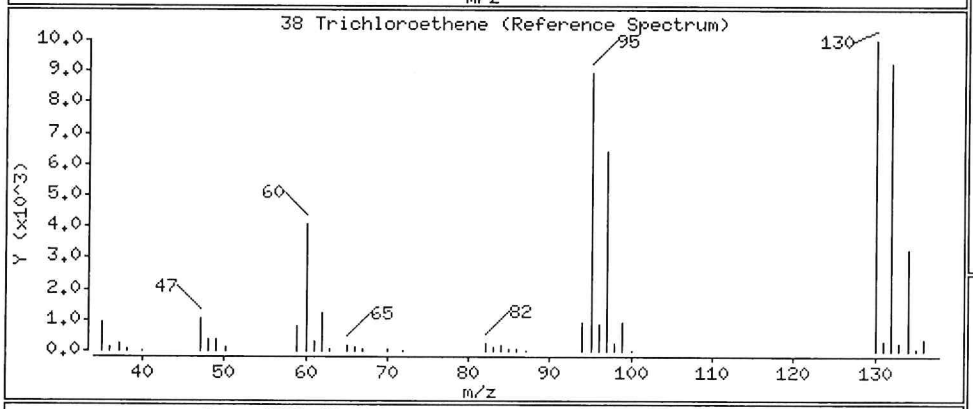
Review Code:

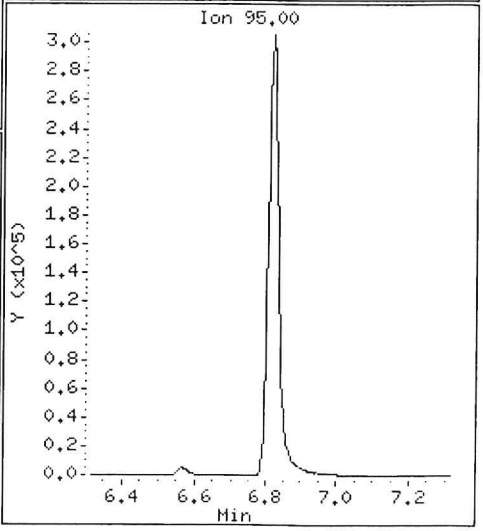


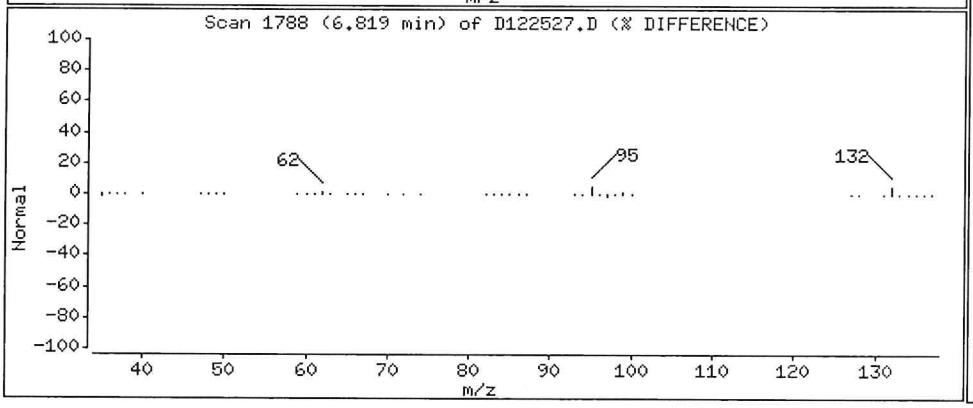












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122528.D
Lab Smp Id: HS17120912-02 Client Smp ID: HS17120912-02
Inj Date : 25-DEC-2017 22:59
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-02;HS17120912-02;;;
Misc Info : HS15080001;WATER;0;50;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 24
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

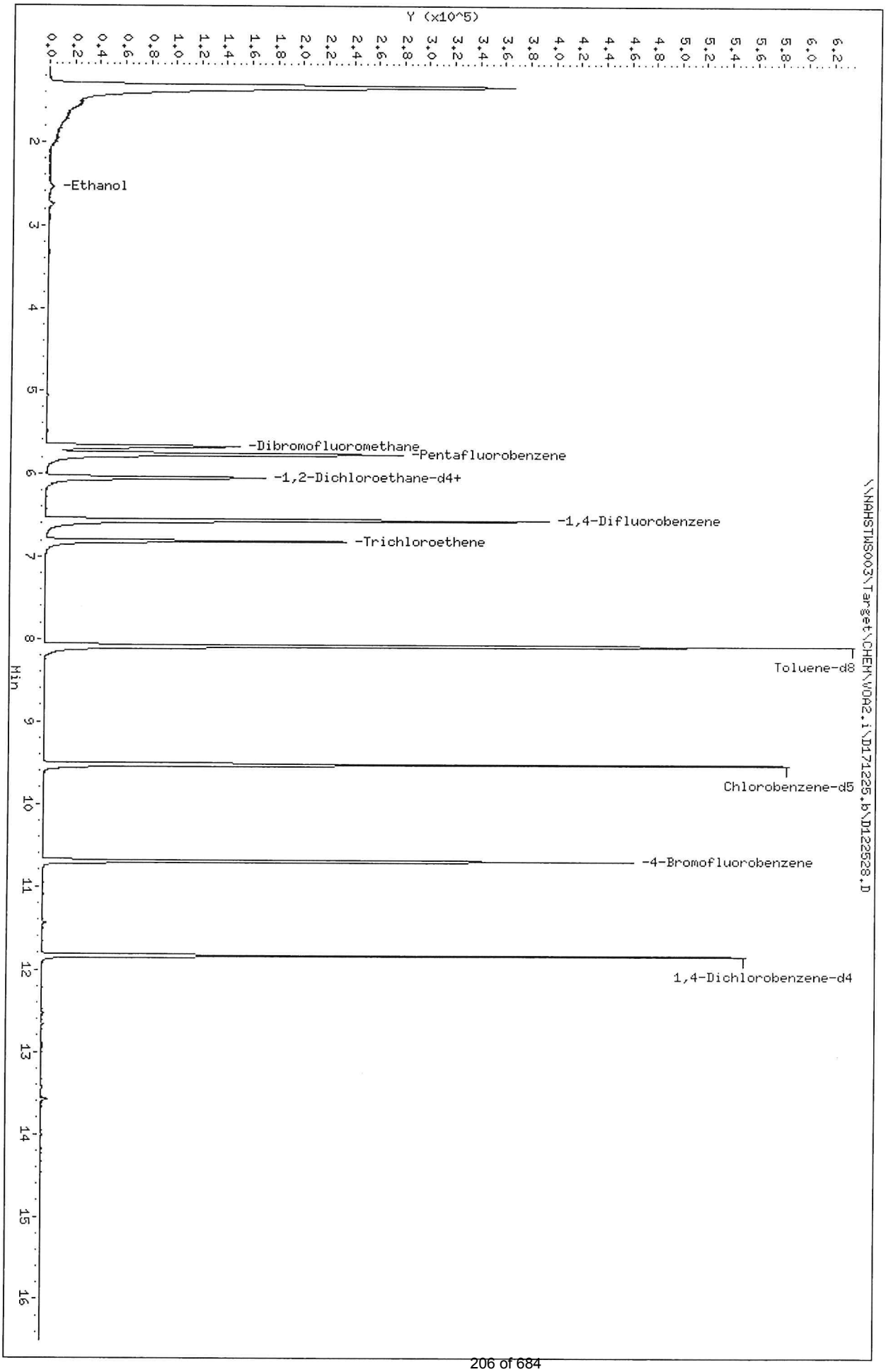
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	50.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.773	5.776	(1.000)	270535	50.0000	
$ 30 Dibromofluoromethane	113	5.680	5.686	(0.984)	119501	49.0271	49.02
* 36 1,4-Difluorobenzene	114	6.565	6.572	(1.000)	383099	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.052	6.058	(1.048)	139895	46.4706	46.47
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	337306	50.0000	
$ 48 Toluene-d8	98	8.086	8.090	(0.849)	439077	49.3712	49.37
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	157726	48.5672	48.56
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	148422	50.0000	
33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	1513	0.34812	17.40(aM)
38 Trichloroethene	130	6.816	6.816	(1.038)	90750	31.9822	1599.10

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122528.D
Date : 25-DEC-2017 22:59
Client ID: HS17120912-02
Sample Info: HS17120912-02;HS17120912-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122528.D

Date : 25-DEC-2017 22:59

Client ID: HS17120912-02

Instrument: VOA2.i

Sample Info: HS17120912-02;HS17120912-02;;;

Purge Volume: 5.0

Operator: AP

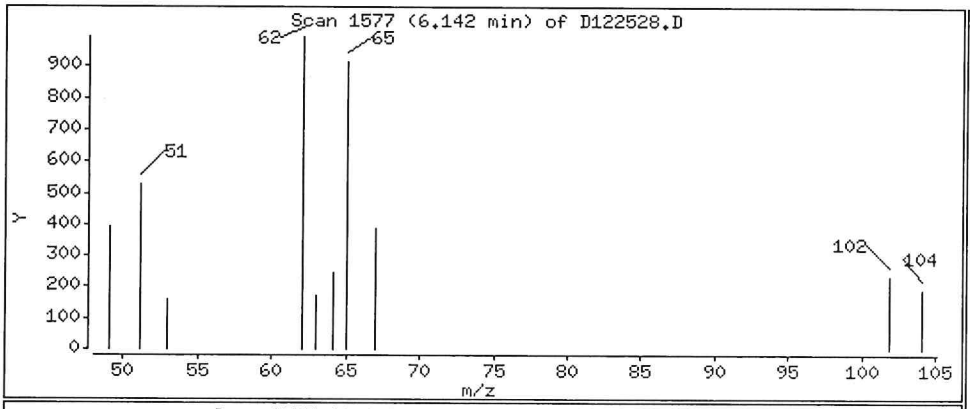
Column phase: DB624

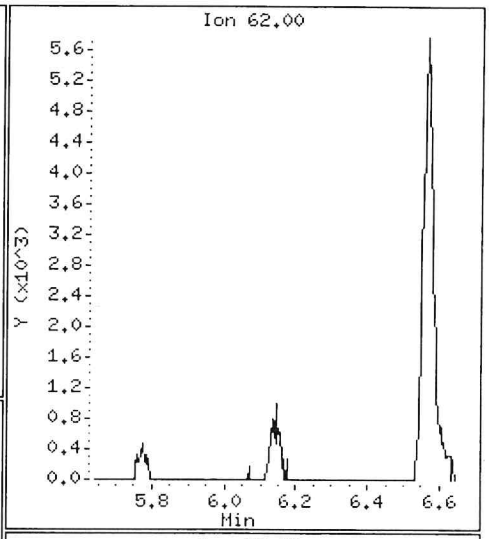
Column diameter: 0.18

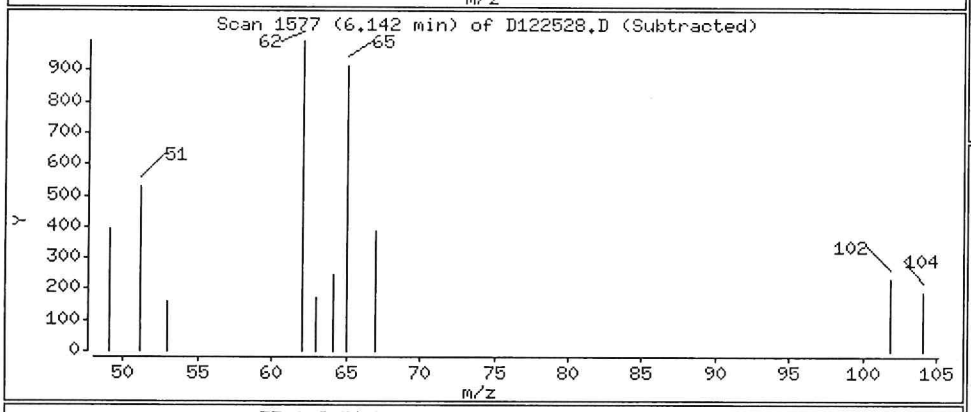
33 1,2-Dichloroethane

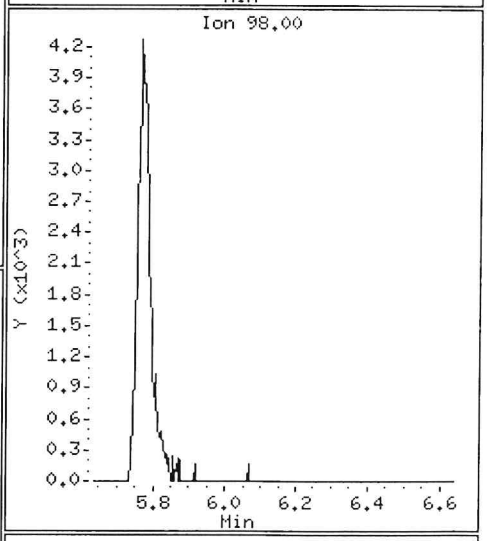
Concentration: 17.40 ug/l

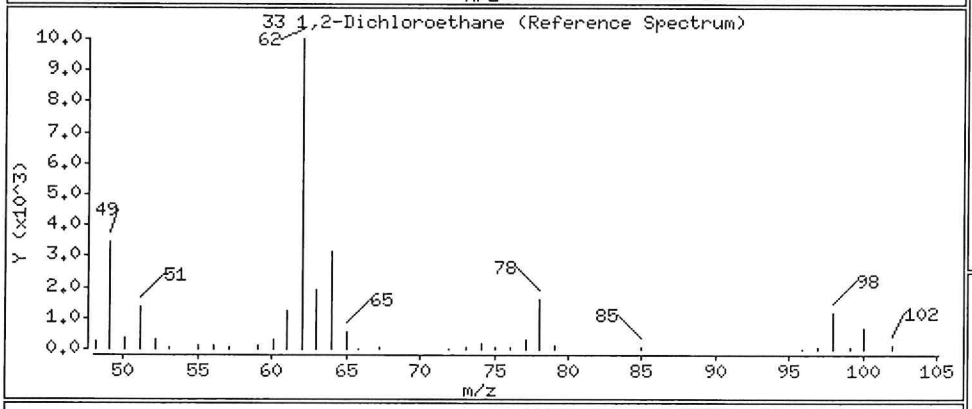
Review Code:

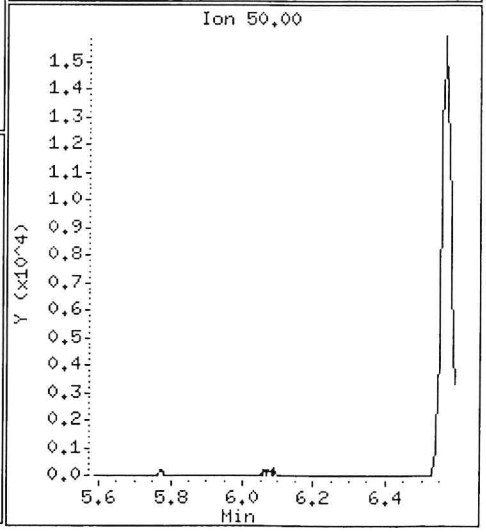


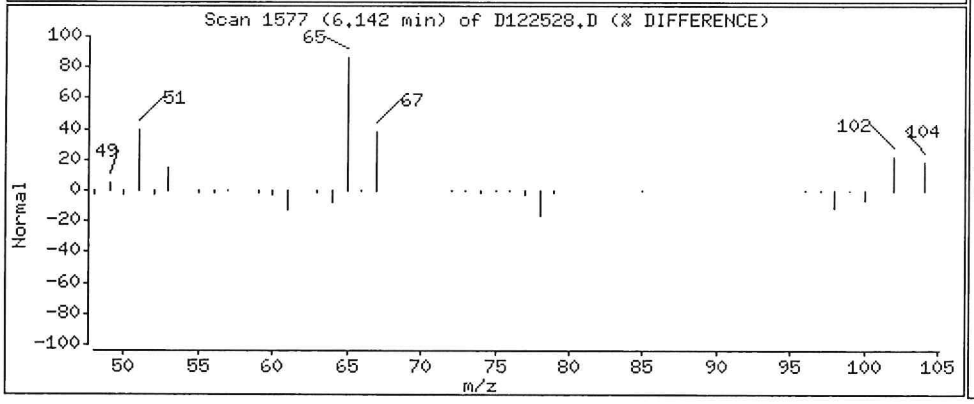












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122528.D

Date : 25-DEC-2017 22:59

Client ID: HS17120912-02

Instrument: VOA2.i

Sample Info: HS17120912-02;HS17120912-02;;;

Purge Volume: 5.0

Operator: AP

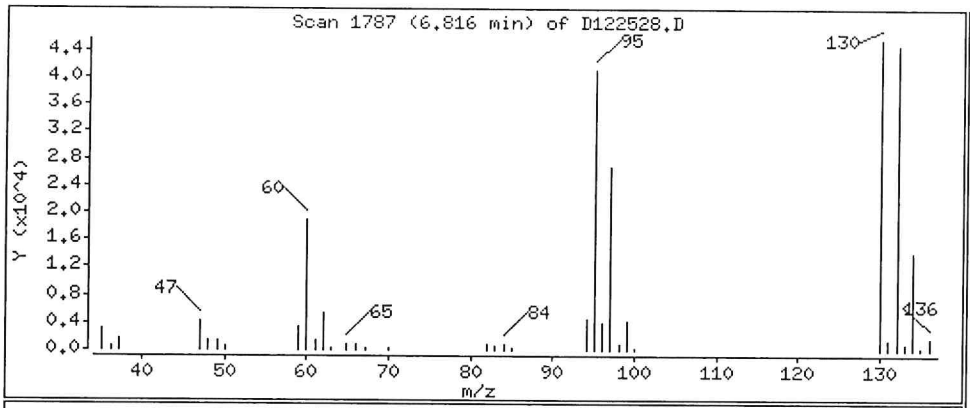
Column phase: DB624

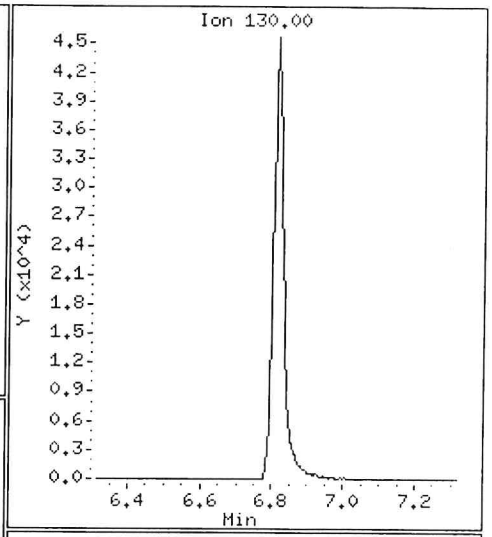
Column diameter: 0.18

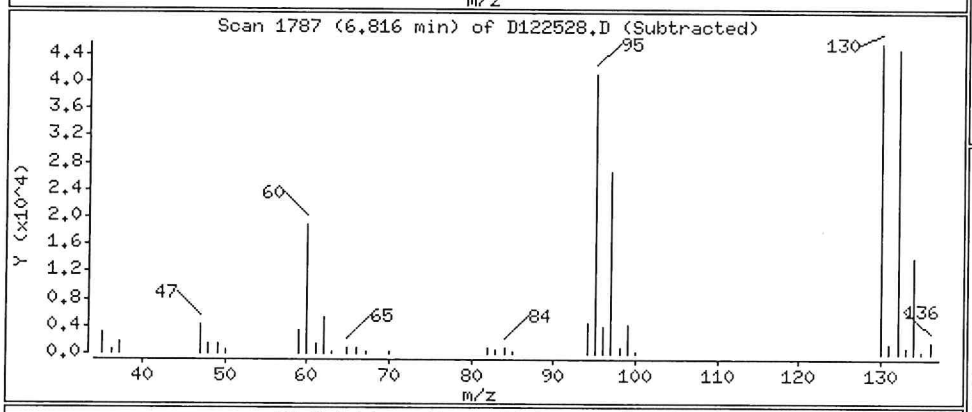
38 Trichloroethene

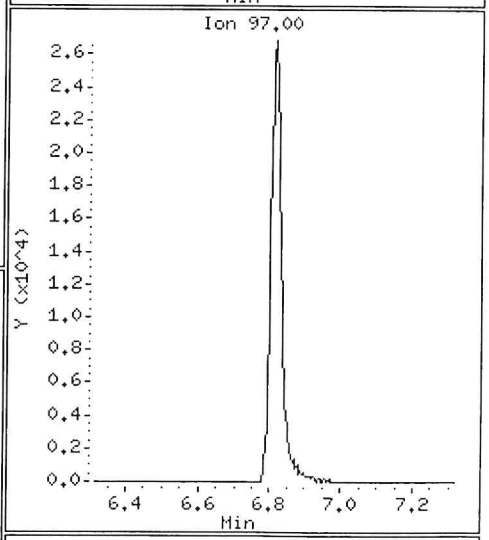
Concentration: 1599.10 ug/l

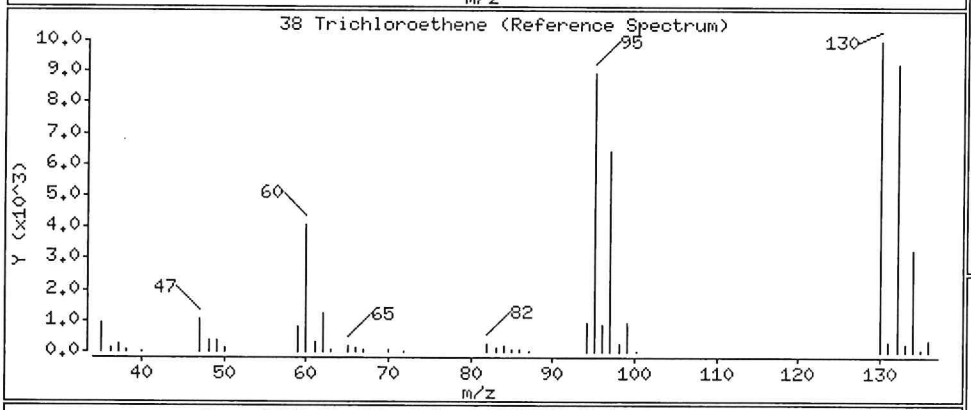
Review Code:

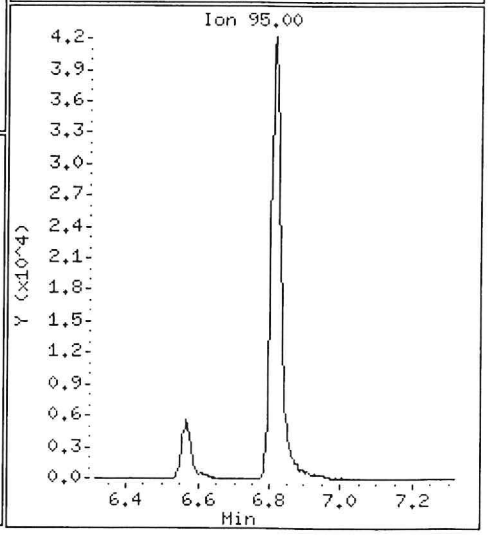


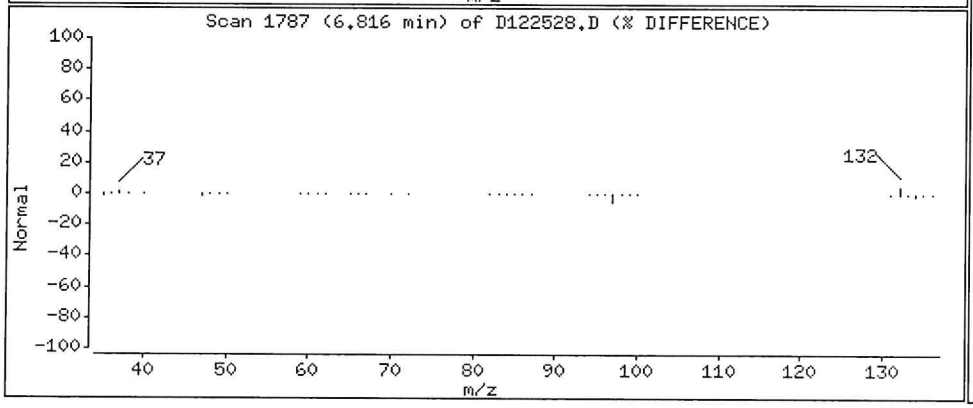












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122529.D
Lab Smp Id: CCV_END Client Smp ID: CCV_END
Inj Date : 25-DEC-2017 23:24
Operator : AP Inst ID: VOA2.i
Smp Info : CCV_END;CCV_END;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171225.b\8260LL.m
Meth Date : 09-Feb-2018 19:09 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 25 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

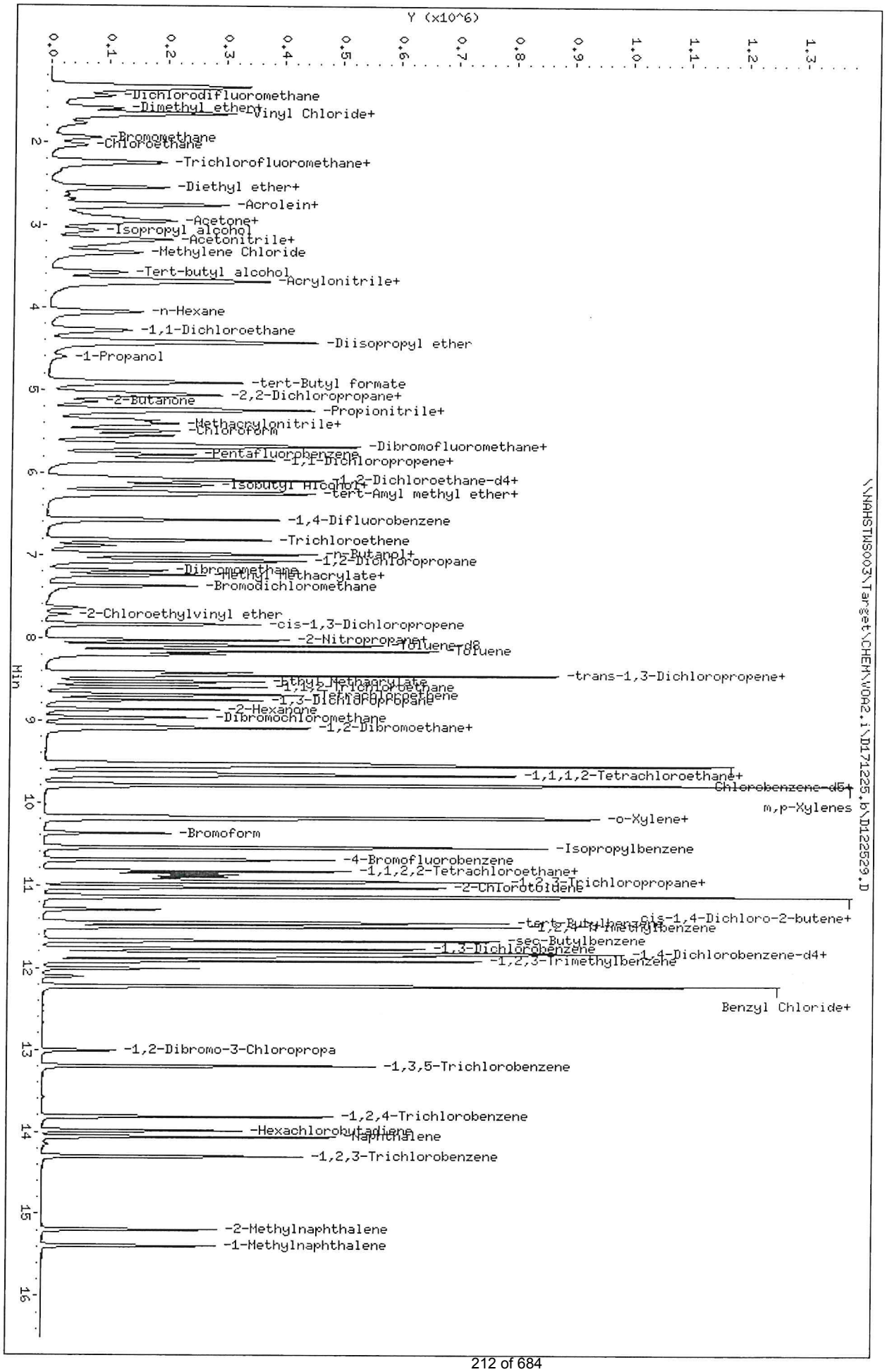
	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	192769	50.0000	50.79
*	1 Pentafluorobenzene	168	5.783	5.783	(1.000)	245551	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.683	(0.983)	107582	50.0000	48.62
*	36 1,4-Difluorobenzene	114	6.569	6.569	(1.000)	378463	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	131691	50.0000	48.19
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	342945	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	427541	50.0000	47.28
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	164850	50.0000	49.92
*	70 1,4-Dichlorobenzene-d4	152	11.835	11.835	(1.000)	159450	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	150992	50.0000	39.69
	53 1,1,2-Trichloroethane	83	8.594	8.594	(0.902)	97138	50.0000	46.30
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	157283	50.0000	53.38
	22 1,1-Dichloroethane	63	4.278	4.278	(0.740)	250772	50.0000	48.91
	11 1,1-Dichloroethene	96	2.757	2.757	(0.477)	109176	50.0000	53.87
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	155488	50.0000	49.49
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	27809	50.0000	42.46
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	124750	50.0000	47.47
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	245876	50.0000	42.90
	33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	164306	50.0000	49.16
	42 1,2-Dichloropropane	63	7.066	7.066	(1.076)	140282	50.0000	47.05
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	258556	50.0000	43.35

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122529.D Page 2
Report Date: 09-Feb-2018 19:09

	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	11.860	11.860	(1.002)	245282	50.0000	42.99
	24 2-Butanone	43	5.144	5.144	(0.890)	121033	100.000	91.34
	52 2-Hexanone	43	8.869	8.869	(0.931)	182255	100.000	90.70
	45 4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	280332	100.000	90.09
	10 Acetone	43	2.856	2.856	(0.494)	81295	100.000	99.87
	37 Benzene	78	6.091	6.091	(0.927)	477537	50.0000	47.95
	39 Bromodichloromethane	83	7.374	7.374	(1.123)	167245	50.0000	47.45
	66 Bromoform	173	10.374	10.374	(1.089)	99110	50.0000	48.71
	6 Bromomethane	94	1.945	1.945	(0.336)	96526	50.0000	57.78
	19 Carbon Disulfide	76	2.952	2.952	(0.511)	484132	100.000	104.60
	34 Carbon Tetrachloride	117	5.834	5.834	(0.888)	156738	50.0000	43.60
	59 Chlorobenzene	112	9.553	9.553	(1.003)	323397	50.0000	45.78
	7 Chloroethane	64	2.038	2.038	(0.352)	95518	50.0000	48.07
	28 Chloroform	83	5.494	5.494	(0.950)	212168	50.0000	47.39
	3 Chloromethane	50	1.595	1.595	(0.276)	225054	50.0000	54.89
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	136755	50.0000	48.95
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	201021	50.0000	49.66
	55 Dibromochloromethane	129	8.969	8.969	(0.941)	141182	50.0000	47.68
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.250)	114603	50.0000	54.59
	61 Ethylbenzene	106	9.672	9.672	(1.015)	176019	50.0000	46.56
	67 Isopropylbenzene	105	10.545	10.545	(1.107)	561546	50.0000	48.01
	17 Methylene Chloride	84	3.331	3.331	(0.576)	121938	50.0000	45.36
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	112565	50.0000	53.33
	50 Toluene	91	8.157	8.157	(0.856)	506244	50.0000	46.57
	20 trans-1,2-Dichloroethene	96	3.668	3.668	(0.634)	119470	50.0000	54.49
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	170912	50.0000	49.62
	38 Trichloroethene	130	6.819	6.819	(1.038)	147354	50.0000	52.56
	8 Trichlorofluoromethane	101	2.256	2.256	(0.390)	164255	50.0000	54.25
	5 Vinyl Chloride	62	1.682	1.682	(0.291)	162078	50.0000	53.85
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	430490	100.000	93.12
	63 o-Xylene	106	10.179	10.179	(1.068)	227867	50.0000	47.11
M	95 Xylenes (total)	106				658357	150.000	(a)
	71 1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	164931	50.0000	43.42
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	133555	50.0000	49.34
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	442081	50.0000	41.62
	75 1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	441993	50.0000	42.73
	26 2,2-Dichloropropane	77	5.048	5.048	(0.873)	160745	50.0000	44.93
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	191783	50.0000	45.32
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	381212	50.0000	42.08
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	415610	50.0000	42.14
	82 p-Isopropyltoluene	119	11.818	11.818	(0.999)	433578	50.0000	44.17
	29 Bromochloromethane	128	5.365	5.365	(0.928)	67024	50.0000	50.41
	74 Bromobenzene	156	10.830	10.830	(0.915)	151365	50.0000	42.79
	44 Dibromomethane	93	7.188	7.188	(1.094)	75855	50.0000	49.10
	91 Hexachlorobutadiene	225	13.988	13.988	(1.182)	68109	50.0000	46.56
	73 n-Propylbenzene	91	10.955	10.955	(0.926)	595210	50.0000	44.15
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	337852	50.0000	46.31
	81 sec-Butylbenzene	105	11.668	11.668	(0.986)	520774	50.0000	45.43
	92 Naphthalene	128	14.062	14.062	(1.188)	378787	50.0000	46.26
	78 tert-Butylbenzene	119	11.453	11.453	(0.968)	386836	50.0000	44.58
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	129575	50.0000	47.34
	64 Styrene	104	10.198	10.198	(1.070)	367261	50.0000	47.61

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122529.D
Date : 25-DEC-2017 23:24
Client ID: CCV_END
Sample Info: CCV_END;CCV_END;2;;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS003\Target\CHEM\VOA2.i\D171225.b\D122529.D

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID: D122601 BFB Injection Date: 12/26/17

Instrument ID: VOA2 BFB Injection Time: 1016

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.9
75	30.0 - 60.0% of mass 95	43.0
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	80.2
175	5.0 - 9.0% of mass 174	6.9 (8.7)1
176	95.0 - 101.0% of mass 174	76.7 (95.6)1
177	5.0 - 9.0% of mass 176	5.8 (7.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	D122603	12/26/17	1105
02	VLCSW-171226	VLCSW-171226	D122604	12/26/17	1129
03	VBLKW-171226	VBLKW-171226	D122606	12/26/17	1218
04	HS17120912-0	HS17120912-01	D122614	12/26/17	1534
05	HS17120844-0	HS17120844-09M	D122615	12/26/17	1559
06	HS17120844-0	HS17120844-09M	D122616	12/26/17	1623
07	HS17120912-0	HS17120912-05	D122618	12/26/17	1713
08	HS17120912-0	HS17120912-05	D122619	12/26/17	1740
09	HS17120912-0	HS17120912-09	D122620	12/26/17	1807
10	HS17120912-0	HS17120912-09	D122621	12/26/17	1834
11	HS17120912-1	HS17120912-10	D122622	12/26/17	1901
12	HS17120912-1	HS17120912-10	D122623	12/26/17	1929
13	HS17120912-0	HS17120912-03	D122624	12/26/17	1953
14	HS17120912-0	HS17120912-03	D122625	12/26/17	2020
15	CCV_END	CCV_END	D122629	12/26/17	2201
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Instrument ID: VOA2 Calibration Date: 12/26/17 Time: 1105

Lab File ID: D122603 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7676762	0.7676762	0.1	-0.69	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.4036123	0.4036123	0.1	1.16	20.00	AVRG
tert-Butylbenzene	2.7210000	2.4618628	2.4618628	0.1	-9.52	20.00	AVRG
Naphthalene	50.416700	50.000000	2.5863099	0.2	0.83	20.00	LINR
sec-Butylbenzene	3.5940000	3.3086363	3.3086363	0.1	-7.94	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	1.0377074	1.0377074	0.3	-13.02	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.3005167	0.3005167	0.1	-1.79	20.00	AVRG
1,1-Dichloropropene	53.338321	50.000000	0.4151960	0.1	6.68	20.00	LINR
1,1-Dichloroethane	1.0440000	1.0248304	1.0248304	0.2	-1.84	20.00	AVRG
1,1-Dichloroethene	0.4120000	0.4403001	0.4403001	0.1	6.87	20.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0368981	1.0368981	0.2	5.27	20.00	AVRG
1,2-Dibromo-3-Chloropropane	45.748822	50.000000	0.1880729	0.05	-8.50	20.00	LINR
1,2-Dibromoethane	0.3830000	0.3903056	0.3903056	0.1	1.91	20.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.6361264	1.6361264	0.4	-8.95	20.00	AVRG
1,2-Dichloroethane	52.193930	50.000000	0.4608056	0.1	4.39	20.00	LINR
1,2-Dichloropropane	0.3940000	0.3925304	0.3925304	0.1	-0.37	20.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.7241585	1.7241585	0.6	-7.80	20.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.6466543	1.6466543	0.4	-7.96	20.00	AVRG
2-Butanone	0.2700000	0.2594027	0.2594027	0.1	-3.92	20.00	AVRG
2-Hexanone	0.2930000	0.2829914	0.2829914	0.1	-3.42	20.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4373770	0.4373770	0.1	-3.66	20.00	AVRG
Acetone	94.729318	100.00000	0.1572041	0.1	-5.27	20.00	LINR
Benzene	1.3160000	1.3299189	1.3299189	0.5	1.06	20.00	AVRG
Bromodichloromethane	0.4660000	0.4818897	0.4818897	0.2	3.41	20.00	AVRG
Bromoform	0.2970000	0.3126598	0.3126598	0.1	5.27	20.00	AVRG
Bromomethane	58.422832	50.000000	0.3972708	0.1	16.84	20.00	LINR
Carbon Disulfide	0.9420000	0.9799038	0.9799038	0.1	4.02	20.00	AVRG
Carbon Tetrachloride	0.4750000	0.4309705	0.4309705	0.1	-9.27	20.00	AVRG
Chlorobenzene	1.0300000	1.0053203	1.0053203	0.5	-2.40	20.00	AVRG
Chloroethane	0.4040000	0.3746908	0.3746908	0.1	-7.25	20.00	AVRG
Chloroform	0.9120000	0.8872835	0.8872835	0.2	-2.71	20.00	AVRG
Chloromethane	55.890937	50.000000	0.9329463	0.1	11.78	20.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5657849	0.5657849	0.1	-0.56	20.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5950230	0.5950230	0.2	11.22	20.00	AVRG
Dibromochloromethane	0.4320000	0.4381945	0.4381945	0.1	1.43	20.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4857473	0.4857473	0.1	13.76	20.00	AVRG
Ethylbenzene	0.5510000	0.5322461	0.5322461	0.1	-3.40	20.00	AVRG
Isopropylbenzene	1.7050000	1.6880443	1.6880443	0.1	-0.99	20.00	AVRG
Methylene Chloride	0.5470000	0.5193400	0.5193400	0.1	-5.06	20.00	AVRG
Tetrachloroethene	54.284304	50.000000	0.3338881	0.2	8.57	20.00	LINR
Toluene	1.5840000	1.5397228	1.5397228	0.4	-2.80	20.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4826790	0.4826790	0.1	8.22	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date: 12/26/17 Time: 1105

Lab File ID: D122603 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.5117329	0.5117329	0.1	12.47	20.00	AVRG
Trichloroethene	0.3700000	0.3846959	0.3846959	0.2	3.97	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.6633070	0.6633070	0.1	7.68	20.00	AVRG
Vinyl Chloride	0.6130000	0.6419280	0.6419280	0.1	4.72	20.00	AVRG
m,p-Xylenes	0.6740000	0.6539216	0.6539216	0.1	-2.98	20.00	AVRG
o-Xylene	0.7050000	0.6855579	0.6855579	0.3	-2.76	20.00	AVRG
Xylenes (total)	0.6190000	0.6097720	0.6097720	0.1	-1.49	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.1031214	1.1031214	0.1	-7.38	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.9041252	0.9041252	0.1	6.49	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.9026822	2.9026822	0.1	-12.83	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.8673652	2.8673652	0.1	-11.58	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.7573657	0.7573657	0.1	4.03	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.5981258	0.5981258	0.1	-3.06	20.00	AVRG
2-Chlorotoluene	2.8400000	2.4677103	2.4677103	0.1	-13.11	20.00	AVRG
4-Chlorotoluene	3.0920000	2.7285190	2.7285190	0.1	-11.76	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.7687612	2.7687612	0.1	-10.05	20.00	AVRG
Bromochloromethane	0.2700000	0.2796624	0.2796624	0.1	3.58	20.00	AVRG
Bromobenzene	1.1090000	0.9931424	0.9931424	0.1	-10.45	20.00	AVRG
Dibromomethane	0.2040000	0.2170289	0.2170289	0.1	6.39	20.00	AVRG
Hexachlorobutadiene	50.735652	50.000000	0.4651002	0.1	1.47	20.00	LINR
n-Propylbenzene	4.2270000	3.8041597	3.8041597	0.1	-10.00	20.00	AVRG
n-Butylbenzene	2.2870000	2.2225366	2.2225366	0.05	-2.82	20.00	AVRG
Styrene	1.1240000	1.1282656	1.1282656	0.3	0.38	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5323717	0.5323717	0.1	-4.25	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4280744	0.4280744	0.1	-4.87	20.00	AVRG
Toluene-d8	1.3180000	1.2521034	1.2521034	0.1	-5.00	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4820446	0.4820446	0.1	0.22	20.00	AVRG

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID (Standard): D122603 Date Analyzed: 12/26/17

Instrument ID: VOA2 Time Analyzed: 1105

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

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	250620	5.78	369900	6.57	339452	9.53
	UPPER LIMIT	501240	6.28	739800	7.07	678904	10.03
	LOWER LIMIT	125310	5.28	184950	6.07	169726	9.03
	CLIENT SAMPLE NO.						
01	VLCSW-171226	242370	5.78	368741	6.58	333619	9.52
02	VBLKW-171226	263277	5.78	376228	6.57	335780	9.53
03	HS17120912-01	254925	5.78	374332	6.57	342285	9.52
04	HS17120844-09	239772	5.78	367534	6.57	338716	9.53
05	HS17120844-09	246627	5.78	375858	6.57	338922	9.53
06	HS17120912-05	248257	5.78	369653	6.57	340136	9.52
07	HS17120912-05	281913	5.77	397097	6.57	367437	9.52
08	HS17120912-09	262803	5.78	369364	6.57	319482	9.52
09	HS17120912-09	271934	5.78	387950	6.57	343849	9.52
10	HS17120912-10	264515	5.77	369831	6.57	318743	9.52
11	HS17120912-10	271375	5.78	386245	6.57	341464	9.52
12	HS17120912-03	261134	5.78	374987	6.57	340087	9.52
13	HS17120912-03	263396	5.77	368859	6.57	313917	9.52
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM VIII VOA

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID (Standard): D122603 Date Analyzed: 12/26/17

Instrument ID: VOA2 Time Analyzed: 1105

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	159385	11.84				
	UPPER LIMIT	318770	12.34				
	LOWER LIMIT	79693	11.34				
	CLIENT SAMPLE NO.						
01	VLCSW-171226	156428	11.83				
02	VBLKW-171226	137624	11.83				
03	HS17120912-01	151378	11.83				
04	HS17120844-09	158433	11.83				
05	HS17120844-09	158180	11.84				
06	HS17120912-05	149425	11.84				
07	HS17120912-05	151669	11.83				
08	HS17120912-09	144299	11.83				
09	HS17120912-09	150083	11.83				
10	HS17120912-10	145188	11.83				
11	HS17120912-10	146637	11.84				
12	HS17120912-03	152579	11.83				
13	HS17120912-03	139598	11.83				
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

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Instrument ID: VOA2 Calibration Date: 12/26/17 Time: 2201

Lab File ID: D122629 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7638523	0.7638523	0.1	-1.18	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3749817	0.3749817	0.1	-6.02	50.00	AVRG
tert-Butylbenzene	2.7210000	2.3672719	2.3672719	0.1	-13.00	50.00	AVRG
Naphthalene	51.409348	50.000000	2.6367032	0.2	2.82	50.00	LINR
sec-Butylbenzene	3.5940000	3.2015711	3.2015711	0.1	-10.92	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.8722739	0.8722739	0.3	-26.88	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2843932	0.2843932	0.1	-7.06	50.00	AVRG
1,1-Dichloropropene	53.823999	50.000000	0.4189116	0.1	7.65	50.00	LINR
1,1-Dichloroethane	1.0440000	1.0026777	1.0026777	0.2	-3.96	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.4415022	0.4415022	0.1	7.16	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	0.9201072	0.9201072	0.2	-6.59	50.00	AVRG
1,2-Dibromo-3-Chloropropane	44.433092	50.000000	0.1825995	0.05	-11.13	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3750462	0.3750462	0.1	-2.08	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5205862	1.5205862	0.4	-15.38	50.00	AVRG
1,2-Dichloroethane	51.553935	50.000000	0.4551661	0.1	3.11	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3739554	0.3739554	0.1	-5.09	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6049723	1.6049723	0.6	-14.17	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.5097354	1.5097354	0.4	-15.61	50.00	AVRG
2-Butanone	0.2700000	0.2637942	0.2637942	0.1	-2.30	50.00	AVRG
2-Hexanone	0.2930000	0.2772050	0.2772050	0.1	-5.39	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4271135	0.4271135	0.1	-5.92	50.00	AVRG
Acetone	106.36108	100.00000	0.1760405	0.1	6.36	50.00	LINR
Benzene	1.3160000	1.2846408	1.2846408	0.5	-2.38	50.00	AVRG
Bromodichloromethane	0.4660000	0.4504934	0.4504934	0.2	-3.33	50.00	AVRG
Bromoform	0.2970000	0.2912175	0.2912175	0.1	-1.95	50.00	AVRG
Bromomethane	48.980231	50.000000	0.3356983	0.1	-2.04	50.00	LINR
Carbon Disulfide	0.9420000	0.9457452	0.9457452	0.1	0.40	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.4231469	0.4231469	0.1	-10.92	50.00	AVRG
Chlorobenzene	1.0300000	0.9497063	0.9497063	0.5	-7.80	50.00	AVRG
Chloroethane	0.4040000	0.3682071	0.3682071	0.1	-8.86	50.00	AVRG
Chloroform	0.9120000	0.8429316	0.8429316	0.2	-7.57	50.00	AVRG
Chloromethane	57.342482	50.000000	0.9567685	0.1	14.68	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5381668	0.5381668	0.1	-5.42	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5196065	0.5196065	0.2	-2.88	50.00	AVRG
Dibromochloromethane	0.4320000	0.4084169	0.4084169	0.1	-5.46	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4702430	0.4702430	0.1	10.13	50.00	AVRG
Ethylbenzene	0.5510000	0.5319096	0.5319096	0.1	-3.46	50.00	AVRG
Isopropylbenzene	1.7050000	1.6159172	1.6159172	0.1	-5.22	50.00	AVRG
Methylene Chloride	0.5470000	0.4898165	0.4898165	0.1	-10.45	50.00	AVRG
Tetrachloroethene	51.669264	50.000000	0.3182949	0.2	3.34	50.00	LINR
Toluene	1.5840000	1.4690968	1.4690968	0.4	-7.25	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4600615	0.4600615	0.1	3.15	50.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date: 12/26/17 Time: 2201

Lab File ID: D122629 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4474235	0.4474235	0.1	-1.66	50.00	AVRG
Trichloroethene	0.3700000	0.4193979	0.4193979	0.2	13.35	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.6751246	0.6751246	0.1	9.60	50.00	AVRG
Vinyl Chloride	0.6130000	0.6396856	0.6396856	0.1	4.35	50.00	AVRG
m,p-Xylenes	0.6740000	0.6770680	0.6770680	0.1	0.46	50.00	AVRG
o-Xylene	0.7050000	0.6835740	0.6835740	0.3	-3.04	50.00	AVRG
Xylenes (total)	0.6190000	0.6289451	0.6289451	0.1	1.61	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0377282	1.0377282	0.1	-12.87	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.7998698	0.7998698	0.1	-5.79	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.7513034	2.7513034	0.1	-17.38	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.7305055	2.7305055	0.1	-15.80	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.4766646	0.4766646	0.1	-34.52	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5651571	0.5651571	0.1	-8.40	50.00	AVRG
2-Chlorotoluene	2.8400000	2.3595872	2.3595872	0.1	-16.92	50.00	AVRG
4-Chlorotoluene	3.0920000	2.5385719	2.5385719	0.1	-17.90	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.6513710	2.6513710	0.1	-13.86	50.00	AVRG
Bromochloromethane	0.2700000	0.2600222	0.2600222	0.1	-3.70	50.00	AVRG
Bromobenzene	1.1090000	0.9480020	0.9480020	0.1	-14.52	50.00	AVRG
Dibromomethane	0.2040000	0.2098877	0.2098877	0.1	2.89	50.00	AVRG
Hexachlorobutadiene	43.587581	50.000000	0.4001340	0.1	-12.82	50.00	LINR
n-Propylbenzene	4.2270000	3.6500313	3.6500313	0.1	-13.65	50.00	AVRG
n-Butylbenzene	2.2870000	2.1038506	2.1038506	0.05	-8.01	50.00	AVRG
Styrene	1.1240000	1.0551406	1.0551406	0.3	-6.13	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5338496	0.5338496	0.1	-3.98	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4262059	0.4262059	0.1	-5.29	50.00	AVRG
Toluene-d8	1.3180000	1.2408710	1.2408710	0.1	-5.85	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4804805	0.4804805	0.1	-0.11	50.00	AVRG

MSVOA02 -Logbook

Batch: 30179
Date: 12-26-2017
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-26-2017 10:16 am	1.00	50 mL	50 mL	D122601.D	Liquid	Y	NA
2	*Auto find/purged* CCV	CCV	12-26-2017 10:40 am	1.00	50 mL	50 mL	D122602.D	Liquid	Y	NA
3	*10 uL cal std/50 ml DI* CCV	CCV	12-26-2017 11:05 am	1.00	50 mL	50 mL	D122603.D	Liquid	Y	NA
4	*10 uL cal std/50 ml DI* VLCSW-171226	LCS	12-26-2017 11:29 am	1.00	50 mL	50 mL	D122604.D	Liquid	Y	NA
5	*10 uL cal std/50 ml DI* BLK	SAMP	12-26-2017 11:54 am	1.00	50 mL	50 mL	D122605.D	Liquid	Y	NA
6	*Cleanup blk* VBLKW-171226	MBLK	12-26-2017 12:18 pm	1.00	50 mL	50 mL	D122606.D	Liquid	Y	NA
7	HS17120844-09	SAMP	12-26-2017 12:43 pm	1.00	50 mL	50 mL	D122607.D	Liquid	Y	<2
8	HS17120844-10	SAMP	12-26-2017 01:07 pm	1.00	50 mL	50 mL	D122608.D	Liquid	Y	<2
9	HS17120844-11	SAMP	12-26-2017 01:32 pm	1.00	50 mL	50 mL	D122609.D	Liquid	Y	<2
10	HS17120844-12	SAMP	12-26-2017 01:56 pm	1.00	50 mL	50 mL	D122610.D	Liquid	Y	<2
11	HS17120844-13	SAMP	12-26-2017 02:21 pm	1.00	50 mL	50 mL	D122611.D	Liquid	Y	<2
12	HS17120886-03	SAMP	12-26-2017 02:45 pm	50.00	1 mL	50 mL	D122612.D	Liquid	Y	<2
13	HS17120886-04	SAMP	12-26-2017 03:10 pm	50.00	1 mL	50 mL	D122613.D	Liquid	Y	<2
14	HS17120912-01	SAMP	12-26-2017 03:34 pm	1.00	50 mL	50 mL	D122614.D	Liquid	Y	<2
15	HS17120844-09MS	MS	12-26-2017 03:59 pm	1.00	50 mL	50 mL	D122615.D	Liquid	Y	<2
16	*8 uL cal std/40 ml sample* HS17120844-09MSD	MSD	12-26-2017 04:23 pm	1.00	50 mL	50 mL	D122616.D	Liquid	Y	<2
17	*8 uL cal std/40 ml sample* BLK	SAMP	12-26-2017 04:48 pm	1.00	50 mL	50 mL	D122617.D	Liquid	Y	NA
18	*Cleanup blk* HS17120912-05	SAMP	12-26-2017 05:13 pm	1.00	50 mL	50 mL	D122618.D	Liquid	Y	<2
19	HS17120912-05	SAMP	12-26-2017 05:40 pm	25.00	2 mL	50 mL	D122619.D	Liquid	Y	<2
20	HS17120912-09	SAMP	12-26-2017 06:07 pm	10.00	5 mL	50 mL	D122620.D	Liquid	Y	<2
21	HS17120912-09	SAMP	12-26-2017 06:34 pm	100.0(	500 µL	50 mL	D122621.D	Liquid	Y	<2
22	HS17120912-10	SAMP	12-26-2017 07:01 pm	10.00	5 mL	50 mL	D122622.D	Liquid	Y	<2
23	HS17120912-10	SAMP	12-26-2017 07:29 pm	100.0(	500 µL	50 mL	D122623.D	Liquid	Y	<2
24	HS17120912-03	SAMP	12-26-2017 07:53 pm	500.0(	100 µL	50 mL	D122624.D	Liquid	Y	<2
25	HS17120912-03	SAMP	12-26-2017 08:20 pm	5000.0	10 µL	50 mL	D122625.D	Liquid	Y	<2
26	HS17120724-02	SAMP	12-26-2017 08:45 pm	1.00	50 mL	50 mL	D122626.D	Liquid	Y	<2
27	HS17120724-01	SAMP	12-26-2017 09:10 pm	1000.0	50 µL	50 mL	D122627.D	Liquid	Y	<2
28	HS17120724-01	SAMP	12-26-2017 09:37 pm	10000.(	5 µL	50 mL	D122628.D	Liquid	Y	<2
29	CCV_END	CCV	12-26-2017 10:01 pm	1.00	50 mL	50 mL	D122629.D	Liquid	Y	NA
30	*10 uL cal std/50 ml DI* BFB	TUNE	12-26-2017 10:26 pm	1.00	50 mL	50 mL	E122601.D	Liquid	Y	NA
31	*Auto find/purged* CCV	CCV	12-26-2017 10:50 pm	1.00	50 mL	50 mL	E122602.D	Liquid	Y	NA
32	*10 uL cal std/50 ml DI* CCV	CCV	12-26-2017 11:15 pm	1.00	50 mL	50 mL	E122603.D	Liquid	Y	NA
33	*10 uL cal std/50 ml DI* VLCSW-171226	LCS	12-26-2017 11:39 pm	1.00	50 mL	50 mL	E122604.D	Liquid	Y	NA
34	*10 uL cal std/50 ml DI* BLK	SAMP	12-27-2017 12:04 am	1.00	50 mL	50 mL	E122605.D	Liquid	Y	NA
	Cleanup blk									

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
35	VBLKW-171226	MBLK	12-27-2017 12:29 am	1.00	50 mL	50 mL	E122606.D	Liquid	Y	NA
36	HS17120830-09	SAMP	12-27-2017 12:53 am	1.00	50 mL	50 mL	E122607.D	Liquid	Y	<2
37	HS17120830-11	SAMP	12-27-2017 01:18 am	1.00	50 mL	50 mL	E122608.D	Liquid	Y	<2
38	HS17120830-12	SAMP	12-27-2017 01:42 am	1.00	50 mL	50 mL	E122609.D	Liquid	Y	<2
39	HS17120830-13	SAMP	12-27-2017 02:07 am	1.00	50 mL	50 mL	E122610.D	Liquid	Y	<2
40	HS17120830-02	SAMP	12-27-2017 02:32 am	1.00	50 mL	50 mL	E122611.D	Liquid	Y	<2
41	HS17120830-01	SAMP	12-27-2017 02:56 am	1.00	50 mL	50 mL	E122612.D	Liquid	Y	<2
42	HS17120830-02MS	MS	12-27-2017 03:21 am	1.00	50 mL	50 mL	E122613.D	Liquid	Y	<2
	8 uL cal std/40 ml sample									
43	HS17120830-02MSD	MSD	12-27-2017 03:45 am	1.00	50 mL	50 mL	E122614.D	Liquid	Y	<2
	8 uL cal std/40 ml sample									
44	BLK	SAMP	12-27-2017 04:10 am	1.00	50 mL	50 mL	E122615.D	Liquid	Y	NA
	Cleanup blk									
45	HS17120830-03	SAMP	12-27-2017 04:34 am	1.00	50 mL	50 mL	E122616.D	Liquid	Y	<2
46	HS17120830-04	SAMP	12-27-2017 04:59 am	1.00	50 mL	50 mL	E122617.D	Liquid	Y	<2
47	HS17120830-05	SAMP	12-27-2017 05:24 am	1.00	50 mL	50 mL	E122618.D	Liquid	Y	<2
48	HS17120830-06	SAMP	12-27-2017 05:48 am	1.00	50 mL	50 mL	E122619.D	Liquid	Y	<2
49	HS17120830-07	SAMP	12-27-2017 06:13 am	1.00	50 mL	50 mL	E122620.D	Liquid	Y	<2
50	HS17120830-10	SAMP	12-27-2017 06:38 am	1.00	50 mL	50 mL	E122621.D	Liquid	Y	<2
51	HS17120830-08	SAMP	12-27-2017 07:05 am	10.00	5 mL	50 mL	E122622.D	Liquid	Y	<2
52	HS17120895-01	SAMP	12-27-2017 07:29 am	1.00	50 mL	50 mL	E122623.D	Liquid	Y	<2
53	HS17120895-02	SAMP	12-27-2017 07:54 am	1.00	50 mL	50 mL	E122624.D	Liquid	Y	<2
54	HS17120895-03	SAMP	12-27-2017 08:19 am	1.00	50 mL	50 mL	E122625.D	Liquid	Y	<2
55	HS17120895-04	SAMP	12-27-2017 08:43 am	1.00	50 mL	50 mL	E122626.D	Liquid	Y	<2
56	HS17120895-06	SAMP	12-27-2017 09:08 am	1.00	50 mL	50 mL	E122627.D	Liquid	Y	<2
57	HS17120895-05	SAMP	12-27-2017 09:32 am	1.00	50 mL	50 mL	E122628.D	Liquid	Y	<2
58	HS17120895-05	SAMP	12-27-2017 10:00 am	10.00	5 mL	50 mL	E122629.D	Liquid	Y	<2

Chemical	Value
SURR ID	29814-95-03
IS ID	29814-95-04
LCS/MS ID	29814-97-01
CAL STD ID	29814-97-01
BFB ID	29814-95-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122601.D

Date : 26-DEC-2017 10:16

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

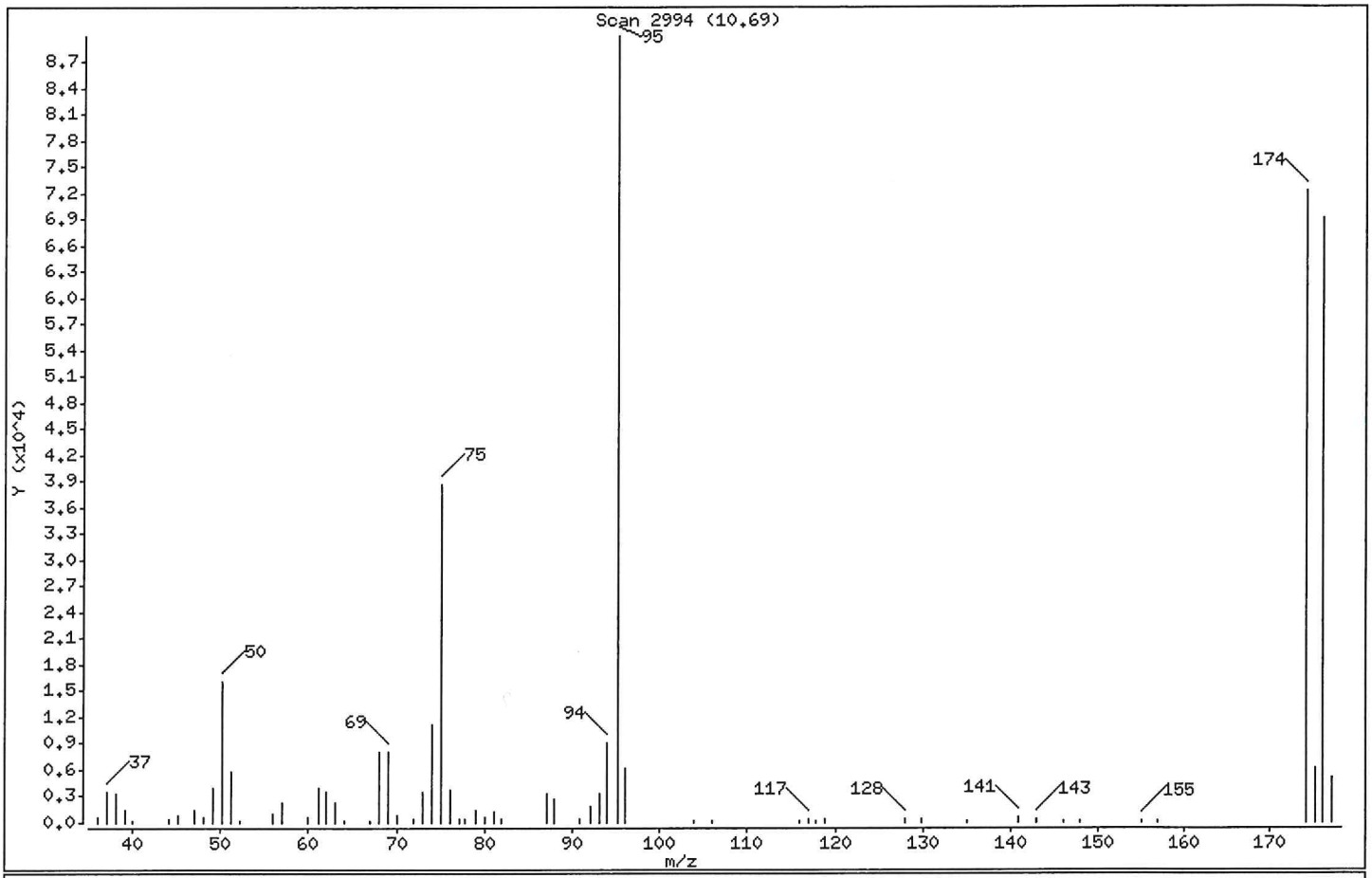
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.94
75	30.00 - 60.00% of mass 95	43.00
96	5.00 - 9.00% of mass 95	6.91
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	80.24
175	5.00 - 9.00% of mass 174	6.94 (8.65)
176	95.00 - 101.00% of mass 174	76.73 (95.62)
177	5.00 - 9.00% of mass 176	5.82 (7.59)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122601.D

Date : 26-DEC-2017 10:16

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: D122601.D
Spectrum: Scan 2994 (10.69)
Location of Maximum: 95.10
Number of points: 62

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	645	61.10	3920	80.00	533	118.90	353
37.10	3499	62.00	3498	81.00	1199	128.00	399
38.10	3318	63.10	2305	81.90	345	129.80	395
39.10	1350	64.10	229	87.00	3371	135.00	203
40.00	181	66.90	248	88.00	2678	140.90	588
44.10	507	68.10	7967	90.90	373	142.90	454
45.10	788	69.10	8001	92.00	1850	146.00	151
47.10	1418	70.00	834	93.10	3264	148.00	238
48.00	571	72.00	345	94.00	9013	154.90	304
49.10	3900	73.00	3596	95.10	89976	156.90	167
50.10	16144	74.10	11089	96.10	6220	174.00	72200
51.10	5699	75.10	38688	104.00	240	175.00	6248
52.20	219	76.10	3629	106.00	235	176.00	69040
56.00	1124	77.10	411	116.00	242	177.00	5238
57.10	2195	77.70	346	116.90	470		
60.00	686	79.00	1542	117.90	239		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122601.D

Date : 26-DEC-2017 10:16

Client ID: BFB

Instrument: VOA2.i

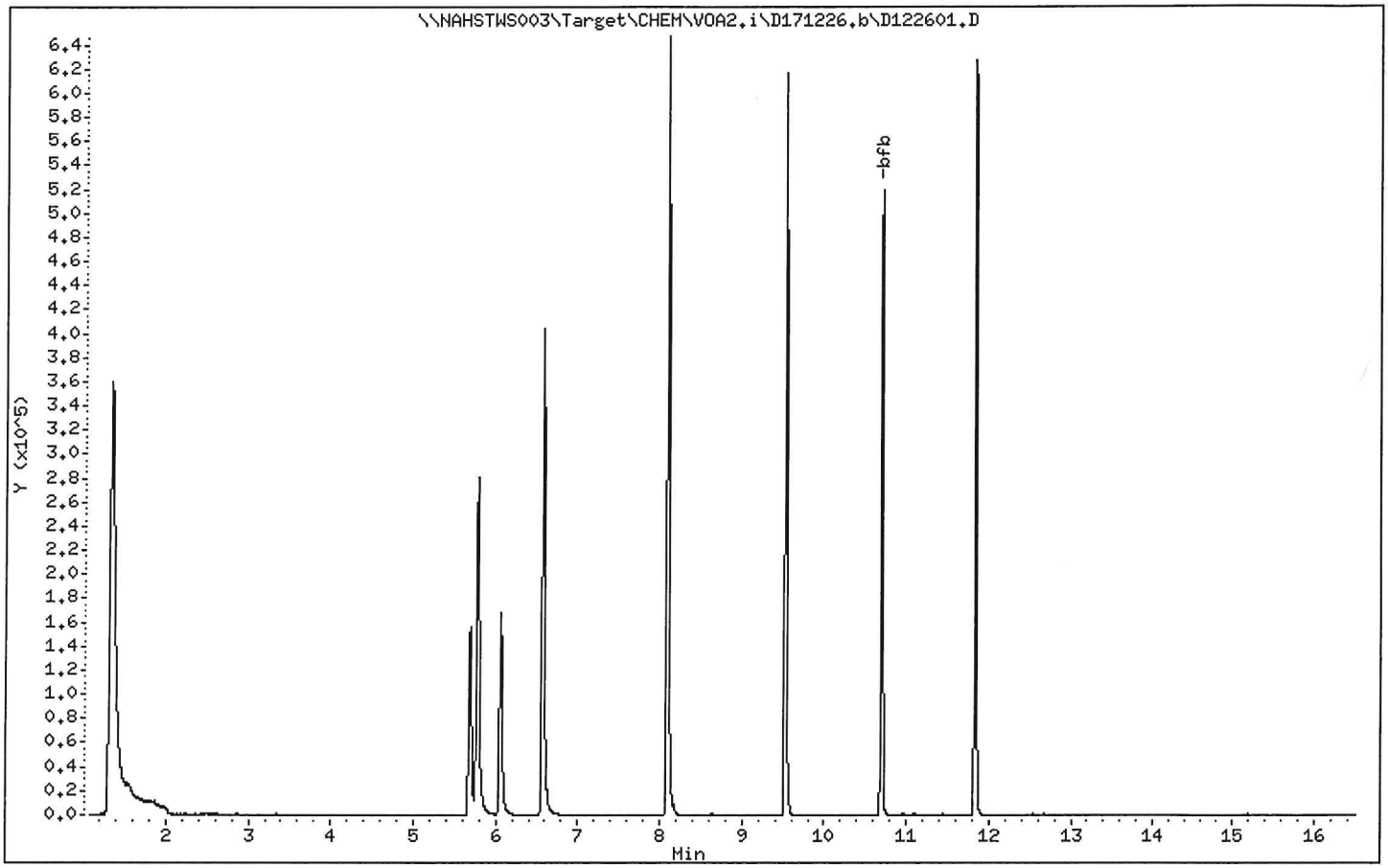
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122603.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 26-DEC-2017 11:05
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

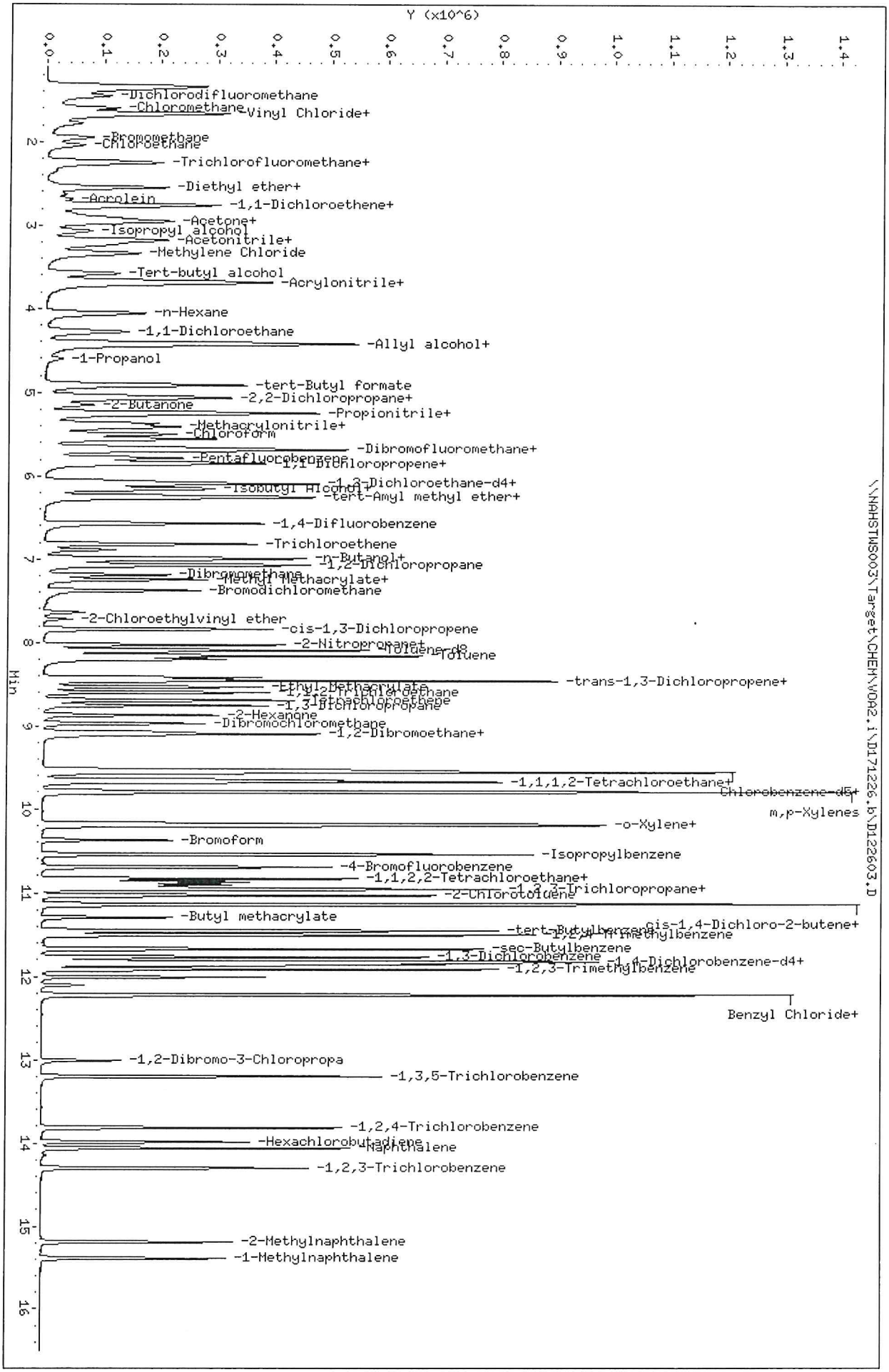
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	192395	50.0000	49.67
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	250620	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	107284	50.0000	47.51
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	369900	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	133423	50.0000	47.84
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	339452	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	425029	50.0000	47.48
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	163631	50.0000	50.06
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	159385	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.918)	165395	50.0000	43.50
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	102011	50.0000	49.12
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	153581	50.0000	53.33
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	256843	50.0000	49.08
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	110348	50.0000	53.34
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.167)	165266	50.0000	52.63
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	29976	50.0000	45.74
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	132490	50.0000	50.94
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	260774	50.0000	45.51
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	170452	50.0000	52.19
	42 1,2-Dichloropropane	63	7.069	7.069	(1.076)	145197	50.0000	49.83
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	274805	50.0000	46.09

	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	11.860	11.860	(1.002)	262452	50.0000	46.02	
24	2-Butanone	43	5.144	5.144	(0.890)	130023	100.000	96.14	
52	2-Hexanone	43	8.866	8.866	(0.931)	192124	100.000	96.59	
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	296937	100.000	96.41	
10	Acetone	43	2.866	2.866	(0.496)	78797	100.000	94.72	
37	Benzene	78	6.094	6.094	(0.927)	491937	50.0000	50.54	
39	Bromodichloromethane	83	7.380	7.380	(1.123)	178251	50.0000	51.74	
66	Bromoform	173	10.374	10.374	(1.089)	106133	50.0000	52.70	
6	Bromomethane	94	1.941	1.941	(0.336)	99564	50.0000	58.42	
19	Carbon Disulfide	76	2.955	2.955	(0.511)	491167	100.000	103.97	
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	159416	50.0000	45.37	
59	Chlorobenzene	112	9.553	9.553	(1.003)	341258	50.0000	48.81	
7	Chloroethane	64	2.041	2.041	(0.353)	93905	50.0000	46.31	
28	Chloroform	83	5.497	5.497	(0.951)	222371	50.0000	48.66	
3	Chloromethane	50	1.595	1.595	(0.276)	233815	50.0000	55.89	
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	141797	50.0000	49.73	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	220099	50.0000	55.63	
55	Dibromochloromethane	129	8.972	8.972	(0.942)	148746	50.0000	50.75	
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	121738	50.0000	56.82	
61	Ethylbenzene	106	9.672	9.672	(1.015)	180672	50.0000	48.28	
67	Isopropylbenzene	105	10.548	10.548	(1.107)	573010	50.0000	49.50	
17	Methylene Chloride	84	3.337	3.337	(0.577)	130157	50.0000	47.44	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	113339	50.0000	54.28	
50	Toluene	91	8.157	8.157	(0.856)	522662	50.0000	48.58	
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.634)	120969	50.0000	54.06	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	189290	50.0000	56.23	
38	Trichloroethene	130	6.816	6.816	(1.037)	142299	50.0000	51.93	
8	Trichlorofluoromethane	101	2.253	2.253	(0.390)	166238	50.0000	53.79	
5	Vinyl Chloride	62	1.685	1.685	(0.291)	160880	50.0000	52.37	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	443950	100.000	97.02	
63	o-Xylene	106	10.179	10.179	(1.068)	232714	50.0000	48.61	
M 95	Xylenes (total)	106				676664	150.000		(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	175821	50.0000	46.30	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	144104	50.0000	53.26	
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	462644	50.0000	43.57	
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.940)	457015	50.0000	44.20	
26	2,2-Dichloropropane	77	5.044	5.044	(0.872)	189811	50.0000	51.98	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	203035	50.0000	48.47	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	393316	50.0000	43.44	
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	434885	50.0000	44.11	
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	441299	50.0000	44.98	
29	Bromochloromethane	128	5.368	5.368	(0.928)	70089	50.0000	51.65	
74	Bromobenzene	156	10.833	10.833	(0.915)	158292	50.0000	44.77	
44	Dibromomethane	93	7.191	7.191	(1.094)	80279	50.0000	53.17	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	74130	50.0000	50.73	
73	n-Propylbenzene	91	10.955	10.955	(0.925)	606326	50.0000	44.99	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	354239	50.0000	48.58	
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	527347	50.0000	46.03	
92	Naphthalene	128	14.061	14.061	(1.188)	412219	50.0000	50.41	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	392384	50.0000	45.24	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	137007	50.0000	50.57	
64	Styrene	104	10.198	10.198	(1.070)	382992	50.0000	50.16	

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122603.D
Date : 26-DEC-2017 11:05
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122603.D

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

ALS Laboratory Group

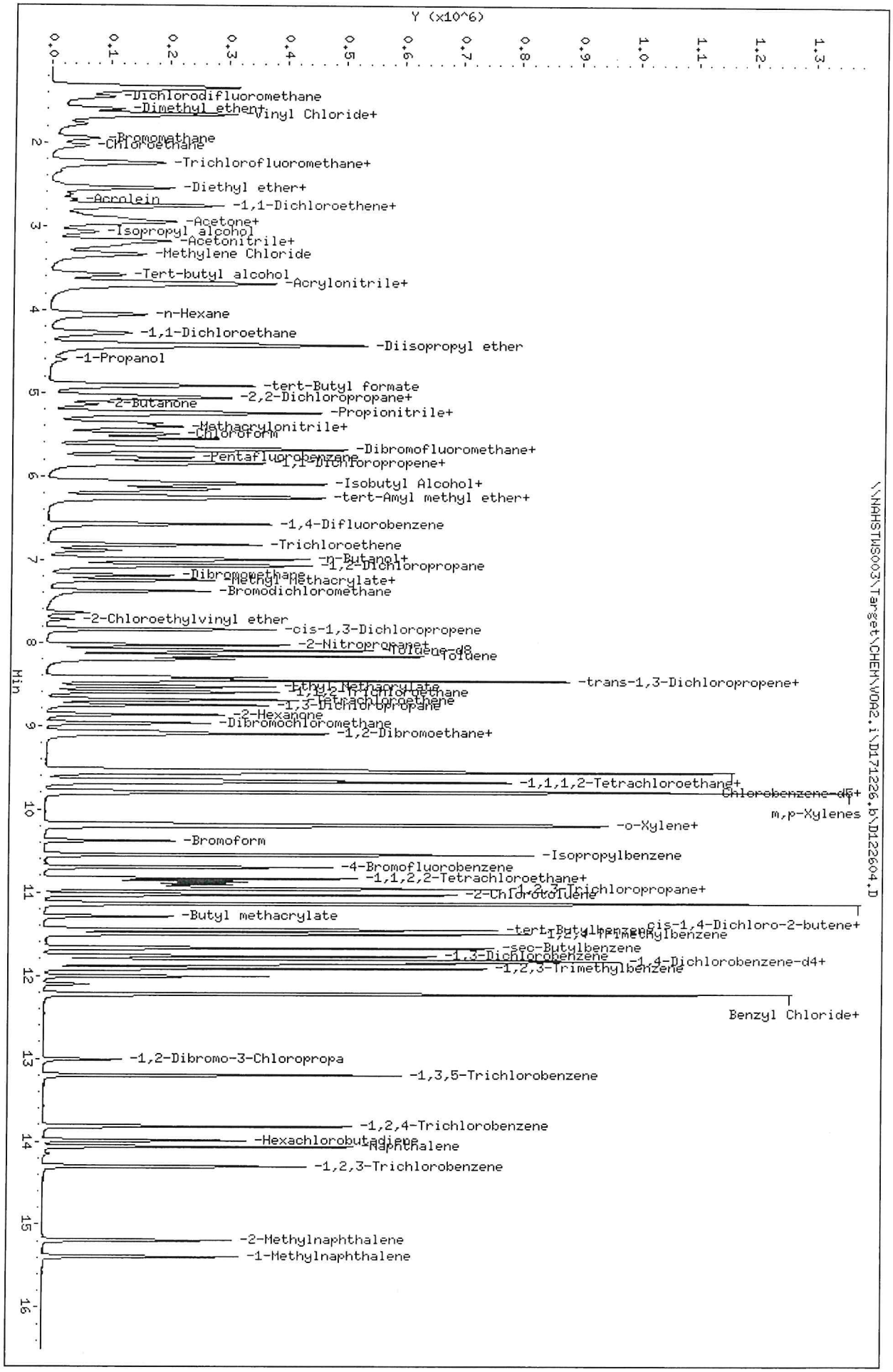
Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122604.D
Lab Smp Id: VLCSW-171226 Client Smp ID: VLCSW-171226
Inj Date : 26-DEC-2017 11:29
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171226;VLCSW-171226;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 4 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	186423	49.7669	49.76
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	242370	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	105497	48.3114	48.31
*	36 1,4-Difluorobenzene	114	6.575	6.572	(1.000)	368741	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	129809	48.1310	48.13
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	333619	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	414443	47.1163	47.11
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	159458	49.6431	49.64
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	156428	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	161319	43.2305	43.23
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	100292	49.1423	49.14
	32 1,1-Dichloropropene	75	5.853	5.853	(0.890)	151570	52.7960	52.79
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	249271	49.2622	49.26
	11 1,1-Dichloroethene	96	2.750	2.753	(0.476)	106073	53.0266	53.02
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	166088	53.8954	53.89
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	28439	44.2415	44.24
	57 1,2-Dibromoethane	107	9.068	9.065	(0.952)	130063	50.8835	50.88
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	252799	44.9611	44.96
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	170359	52.3297	52.32
	42 1,2-Dichloropropane	63	7.066	7.069	(1.075)	144441	49.7327	49.73
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	263286	44.9965	44.99

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	252701	45.1534	45.15
24	2-Butanone	43	5.147	5.144	(0.891)	124512	95.2047	95.20
52	2-Hexanone	43	8.866	8.866	(0.931)	181274	92.7357	92.73
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	283657	93.7168	93.71
10	Acetone	43	2.856	2.866	(0.494)	76910	95.6298	95.62
37	Benzene	78	6.091	6.094	(0.926)	480582	49.5341	49.53
39	Bromodichloromethane	83	7.377	7.380	(1.122)	172366	50.1936	50.19
66	Bromoform	173	10.374	10.374	(1.089)	103311	52.2041	52.20
6	Bromomethane	94	1.945	1.941	(0.337)	91201	55.2050	55.20
19	Carbon Disulfide	76	2.952	2.955	(0.511)	472514	103.435	103.43
34	Carbon Tetrachloride	117	5.834	5.834	(0.887)	148946	42.5251	42.52
59	Chlorobenzene	112	9.553	9.553	(1.003)	331295	48.2194	48.21
7	Chloroethane	64	2.038	2.041	(0.353)	89553	45.6689	45.66
28	Chloroform	83	5.490	5.497	(0.950)	214297	48.4969	48.49
3	Chloromethane	50	1.598	1.595	(0.277)	224863	55.5754	55.57
27	cis-1,2-Dichloroethene	96	5.067	5.070	(0.877)	137338	49.8071	49.80
46	cis-1,3-Dichloropropene	75	7.836	7.839	(1.192)	214387	54.3627	54.36
55	Dibromochloromethane	129	8.969	8.972	(0.942)	145142	50.3898	50.38
2	Dichlorodifluoromethane	85	1.447	1.450	(0.250)	114198	55.1161	55.11
61	Ethylbenzene	106	9.672	9.672	(1.015)	175282	47.6647	47.66
67	Isopropylbenzene	105	10.548	10.548	(1.107)	549079	48.2652	48.26
17	Methylene Chloride	84	3.331	3.337	(0.576)	124698	47.0050	47.00
56	Tetrachloroethene	164	8.687	8.690	(0.912)	107878	52.5182	52.51
50	Toluene	91	8.157	8.157	(0.856)	505288	47.7911	47.79
20	trans-1,2-Dichloroethene	96	3.671	3.668	(0.635)	115308	53.2913	53.29
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.280)	185240	55.2013	55.20
38	Trichloroethene	130	6.816	6.816	(1.037)	136197	49.8676	49.86
8	Trichlorofluoromethane	101	2.253	2.253	(0.390)	157913	52.8418	52.84
5	Vinyl Chloride	62	1.685	1.685	(0.292)	153126	51.5458	51.54
62	m,p-Xylenes	106	9.790	9.790	(1.028)	424663	94.4278	94.42
63	o-Xylene	106	10.179	10.179	(1.069)	226868	48.2192	48.21
M 95	Xylenes (total)	106				651531	142.647	142.64
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	170957	45.8774	45.87
93	1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	139878	52.6781	52.67
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	444487	42.6593	42.65
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	439874	43.3505	43.35
26	2,2-Dichloropropane	77	5.041	5.044	(0.872)	181949	51.5293	51.52
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	197879	48.0725	48.07
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	382484	43.0429	43.04
77	4-Chlorotoluene	91	11.138	11.141	(0.941)	422624	43.6797	43.67
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	431112	44.7735	44.77
29	Bromochloromethane	128	5.369	5.368	(0.929)	68205	51.9771	51.97
74	Bromobenzene	156	10.833	10.833	(0.915)	156093	44.9840	44.98
44	Dibromomethane	93	7.188	7.191	(1.093)	80402	53.4198	53.41
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	69490	48.4393	48.43
73	n-Propylbenzene	91	10.955	10.955	(0.926)	588058	44.4632	44.46
87	n-Butylbenzene	91	12.220	12.223	(1.033)	340200	47.5398	47.53
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	510008	45.3588	45.35
92	Naphthalene	128	14.061	14.061	(1.188)	401013	49.9686	49.96
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	378390	44.4544	44.45
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	133194	50.0313	50.03
64	Styrene	104	10.198	10.198	(1.071)	372325	49.6171	49.61



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122604.D
Date : 26-DEC-2017 11:29
Client ID: WLCSW-171226
Sample Info: WLCSW-171226;WLCSW-171226:3:;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

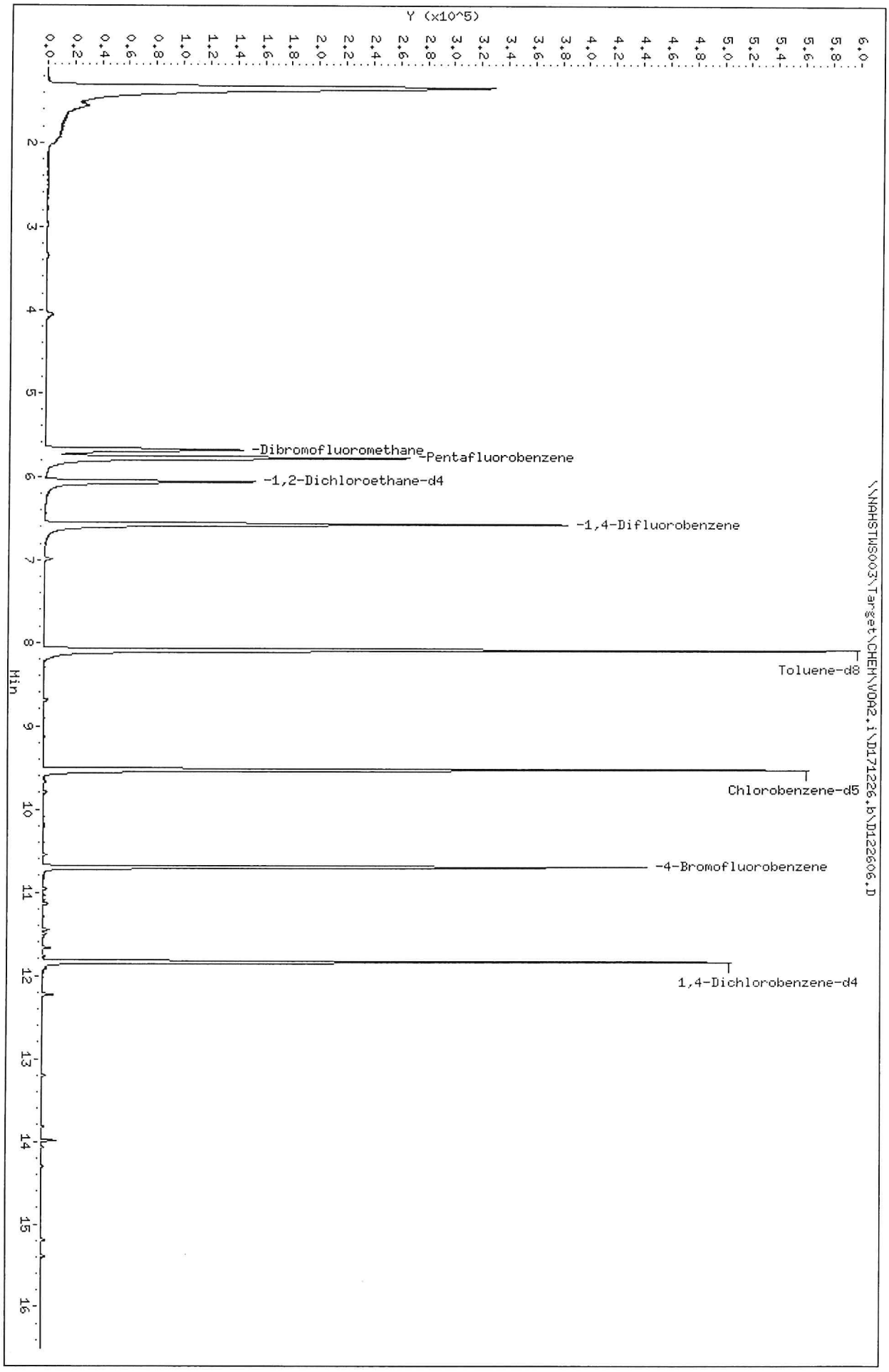
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122606.D
Lab Smp Id: VBLKW-171226 Client Smp ID: VBLKW-171226
Inj Date : 26-DEC-2017 12:18
Operator : AP Inst ID: VOA2.i
Smp Info : VBLKW-171226;VBLKW-171226;3;;BLANK
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	263277	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	116459	49.0963	49.09
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	376228	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	134706	45.9805	45.98
* 47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	335780	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	439182	49.6075	49.60
$ 69 4-Bromofluorobenzene	95	10.698	10.695	(1.123)	152546	47.1856	47.18
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	137624	50.0000	



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122606.D
Date : 26-DEC-2017 12:18
Client ID: VBLKW-171226
Sample Info: VBLKW-171226;VBLKW-171226;3;;BLANK
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122614.D
Lab Smp Id: HS17120912-01 Client Smp ID: HS17120912-01
Inj Date : 26-DEC-2017 15:34
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-01;HS17120912-01;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

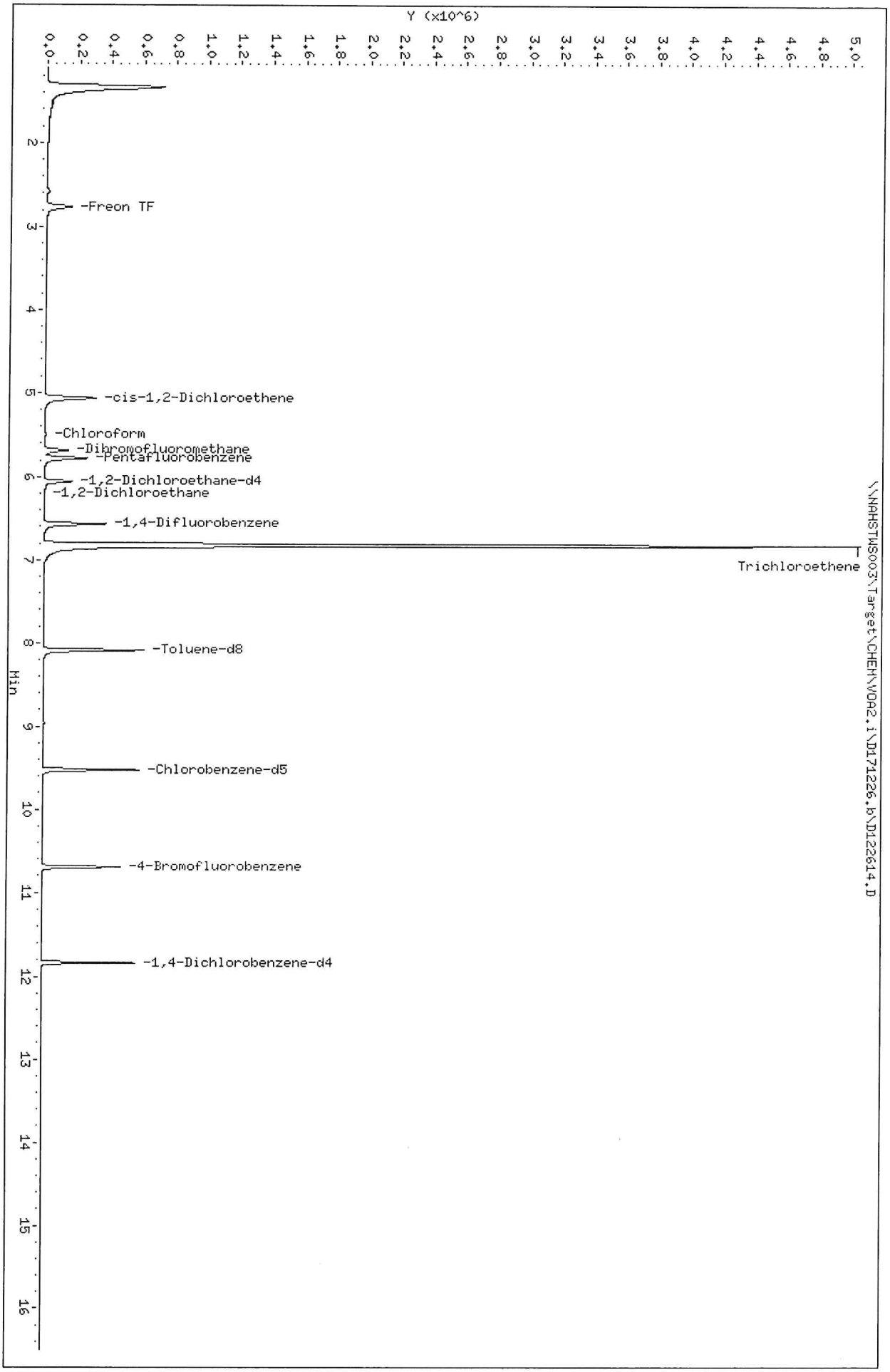
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.782	(1.000)	254925	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.984)	113914	49.5967	49.59
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	374332	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.049)	134409	47.3822	47.38
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	342285	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	431567	47.8209	47.82
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	159896	48.5192	48.51
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	151378	50.0000	
33 1,2-Dichloroethane	62	6.139	6.145	(0.935)	3034	0.81973	0.81(aM)
28 Chloroform	83	5.494	5.497	(0.951)	7769	1.67159	1.67(a)
27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.878)	203475	70.1582	70.15
38 Trichloroethene	130	6.825	6.816	(1.039)	2141967	772.552	772.55(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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122614.D
Date : 26-DEC-2017 15:34
Client ID: HS17120912-01
Sample Info: HS17120912-01;HS17120912-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122614.D

Date : 26-DEC-2017 15:34

Client ID: HS17120912-01

Instrument: VOA2.i

Sample Info: HS17120912-01;HS17120912-01;;;

Purge Volume: 5.0

Operator: AP

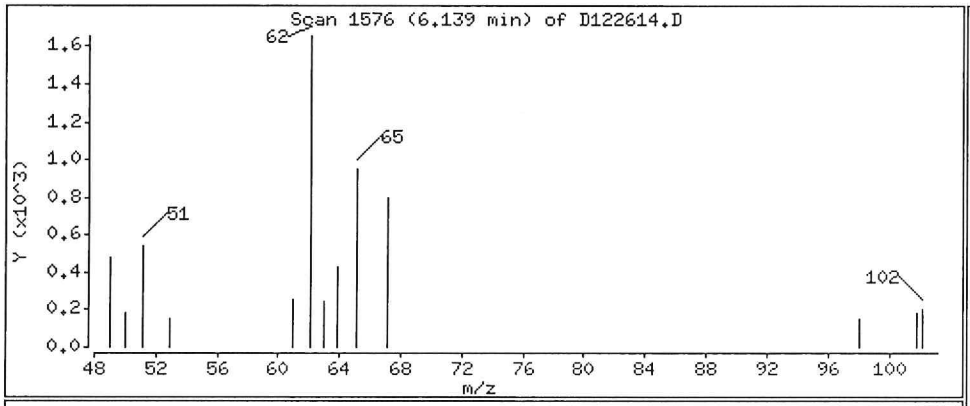
Column phase: DB624

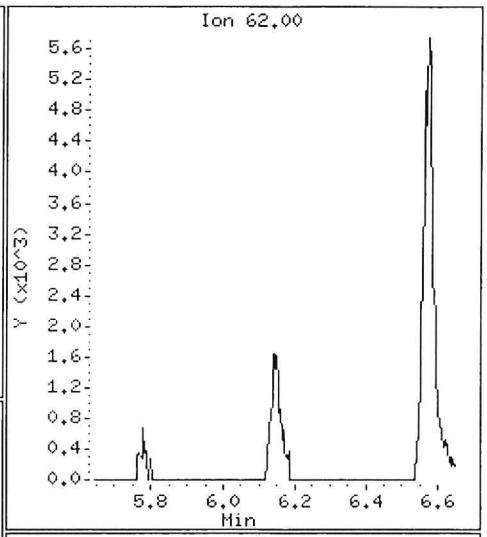
Column diameter: 0.18

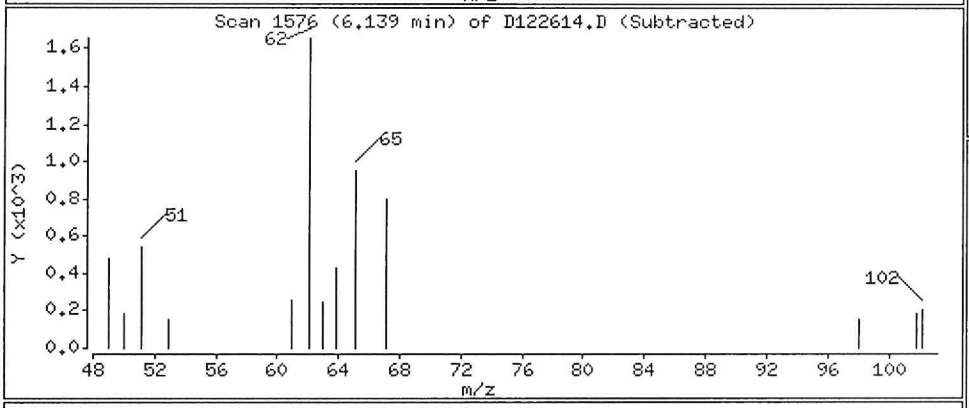
33 1,2-Dichloroethane

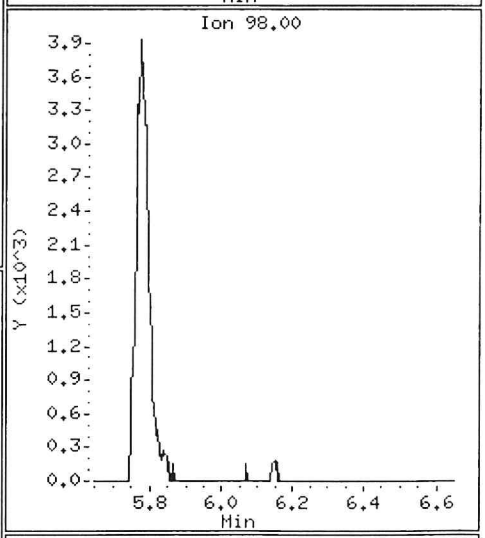
Concentration: 0.81 ug/l

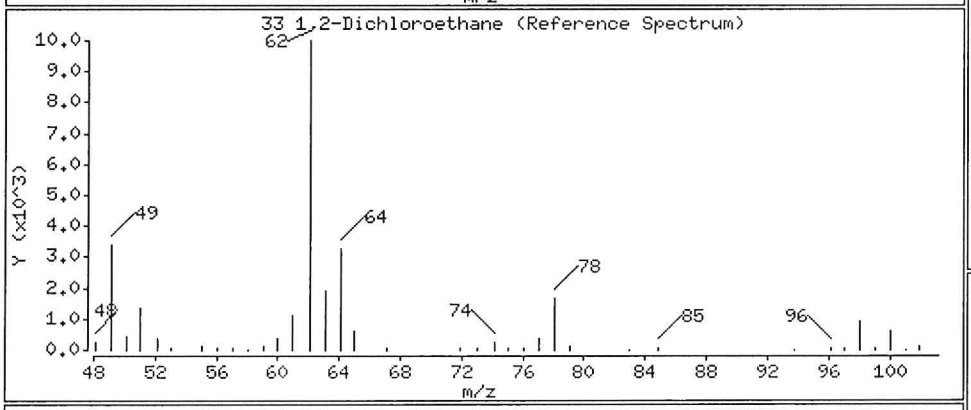
Review Code:

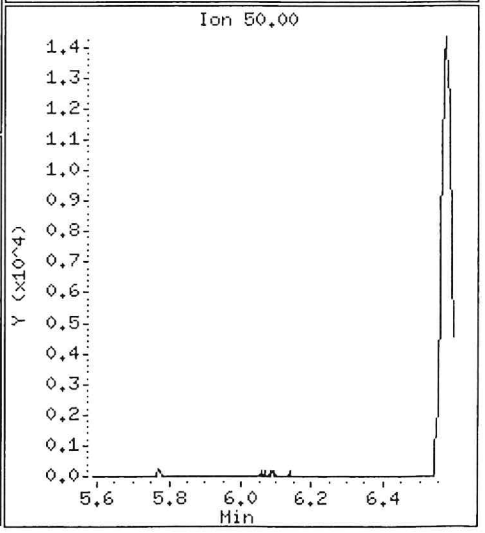


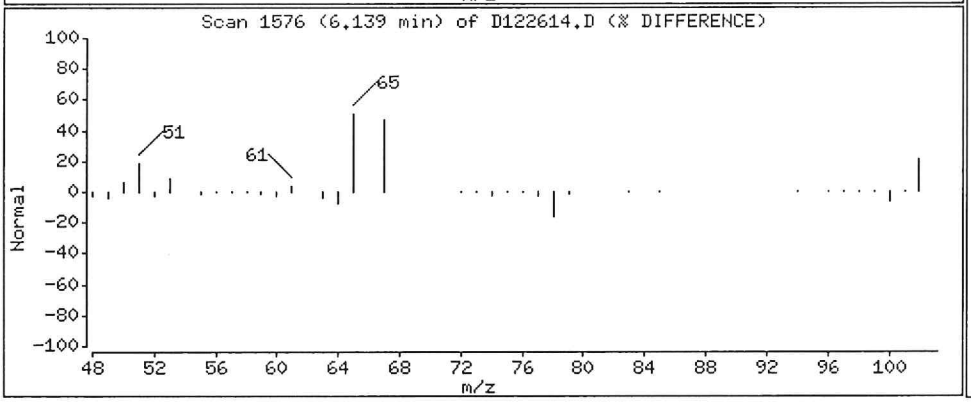












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122614.D

Date : 26-DEC-2017 15:34

Client ID: HS17120912-01

Instrument: VOA2.i

Sample Info: HS17120912-01;HS17120912-01;;;

Purge Volume: 5.0

Operator: AP

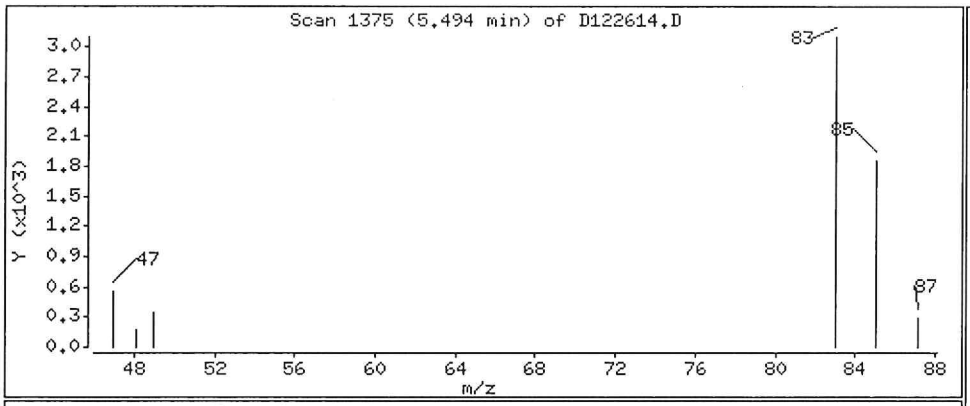
Column phase: DB624

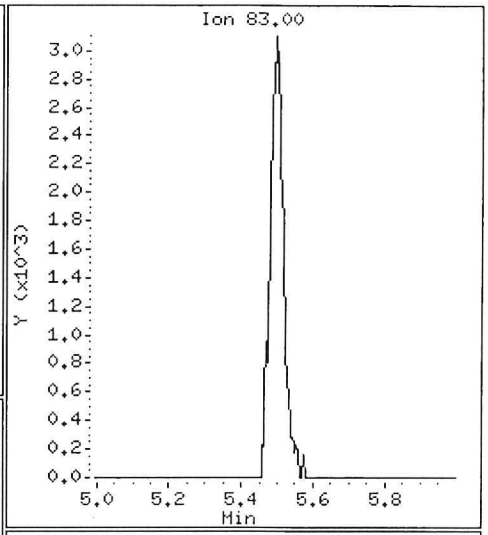
Column diameter: 0.18

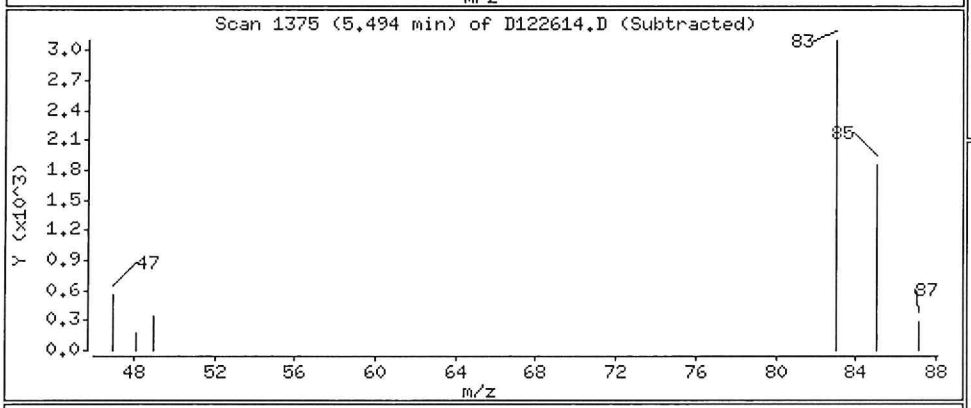
28 Chloroform

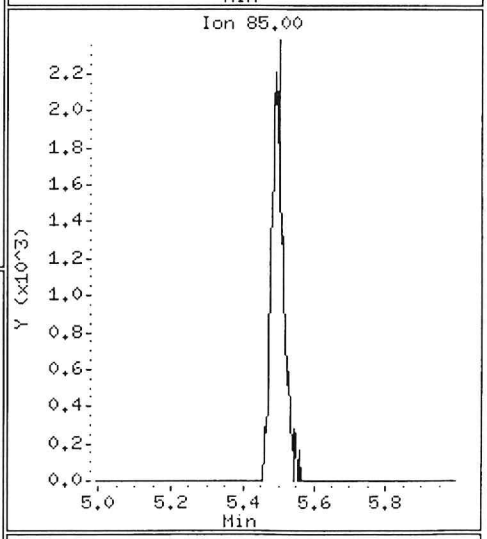
Concentration: 1.67 ug/l

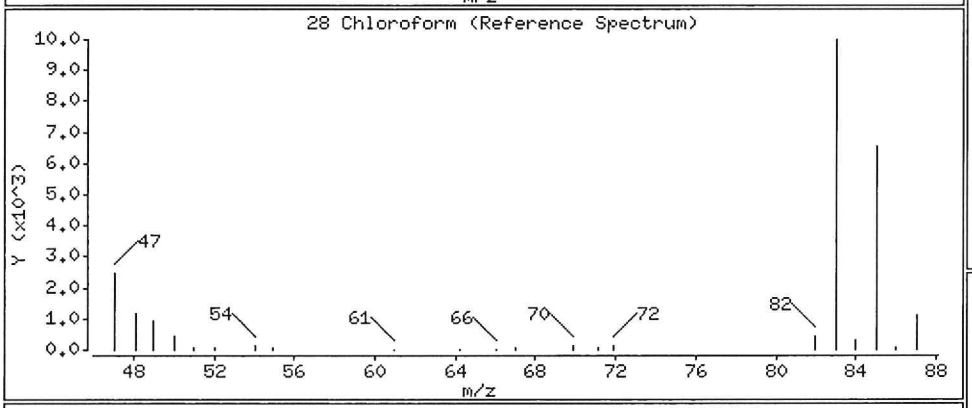
Review Code:

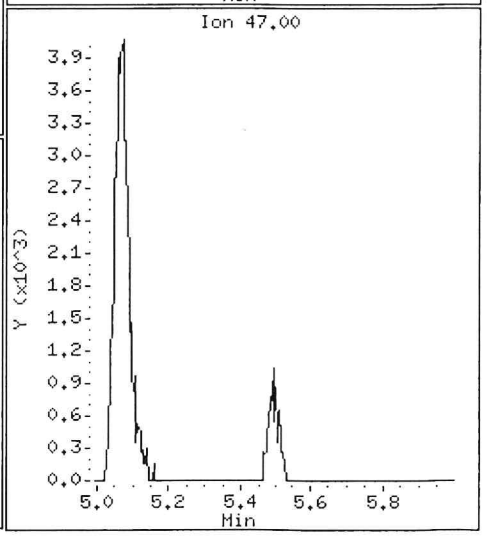


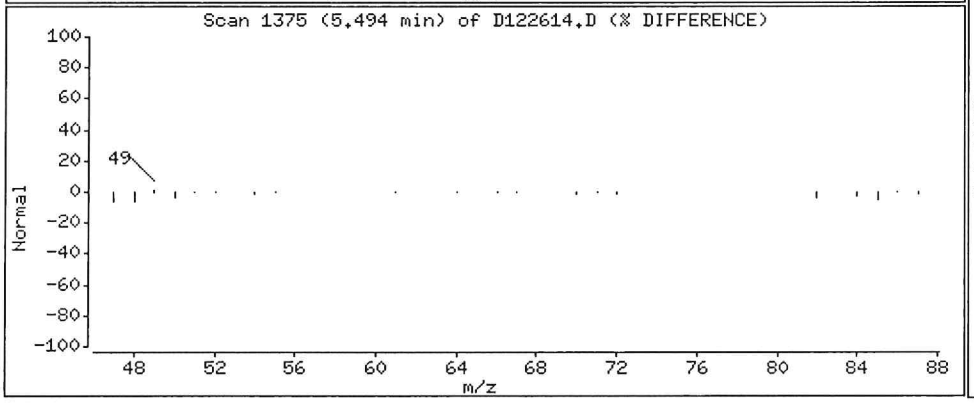












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122614.D

Date : 26-DEC-2017 15:34

Client ID: HS17120912-01

Instrument: VOA2.i

Sample Info: HS17120912-01;HS17120912-01;;;

Purge Volume: 5.0

Operator: AP

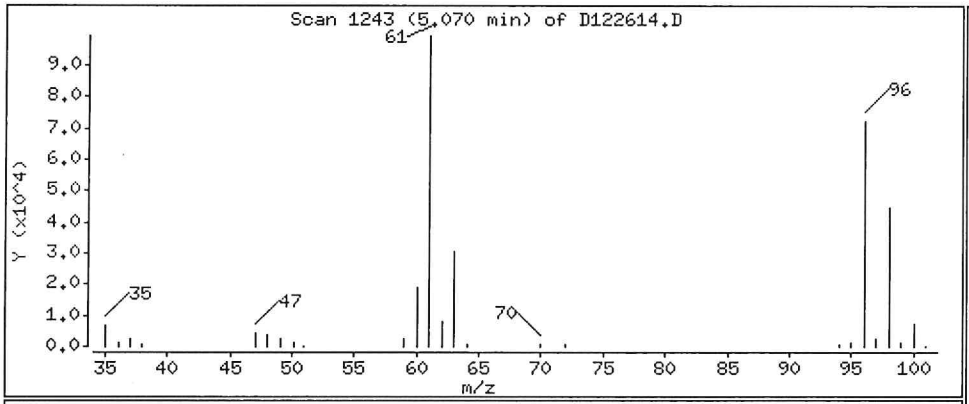
Column phase: DB624

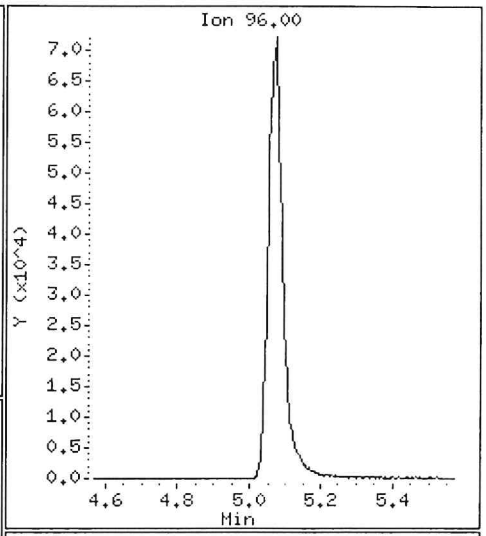
Column diameter: 0.18

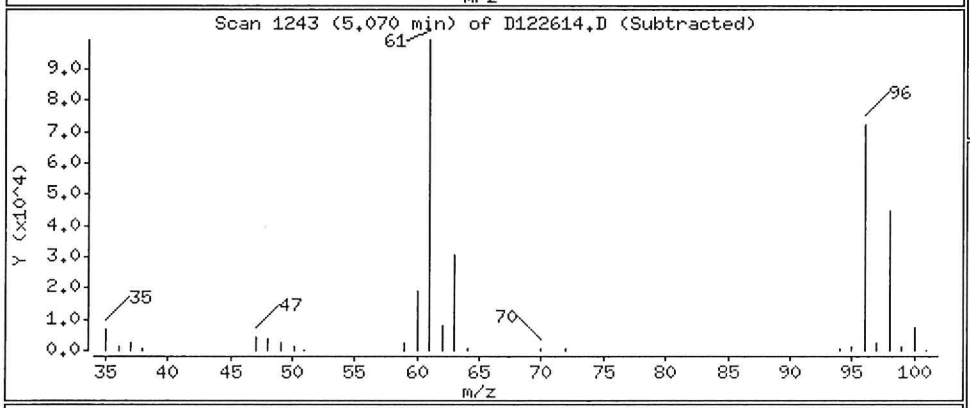
27 cis-1,2-Dichloroethene

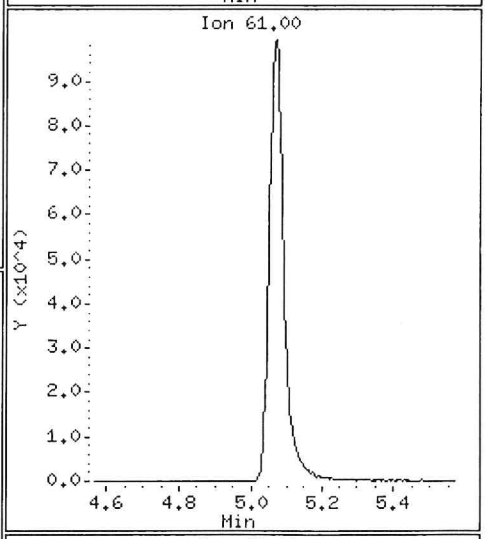
Concentration: 70.15 ug/l

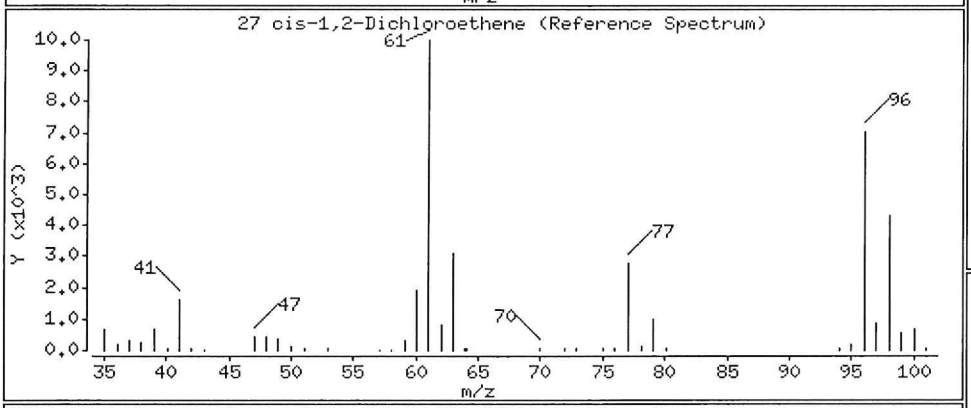
Review Code:

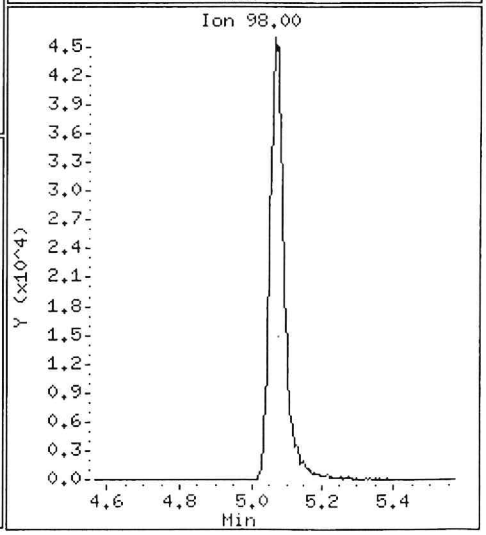


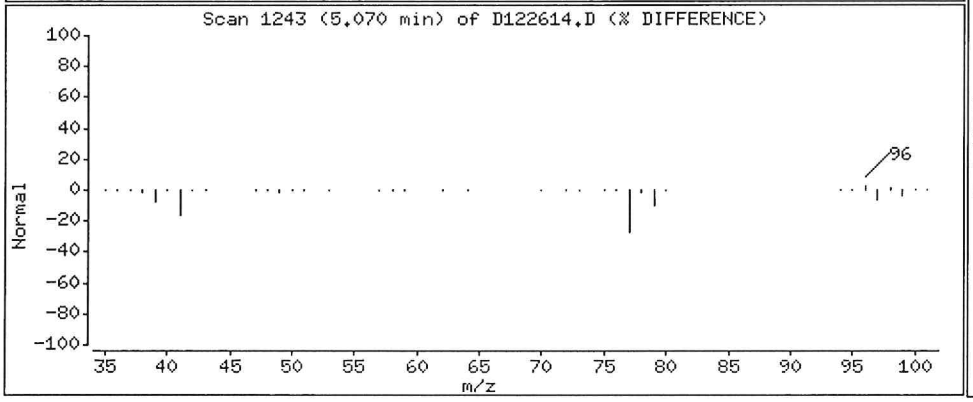












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122614.D

Date : 26-DEC-2017 15:34

Client ID: HS17120912-01

Instrument: VOA2.i

Sample Info: HS17120912-01;HS17120912-01;;;

Purge Volume: 5.0

Operator: AP

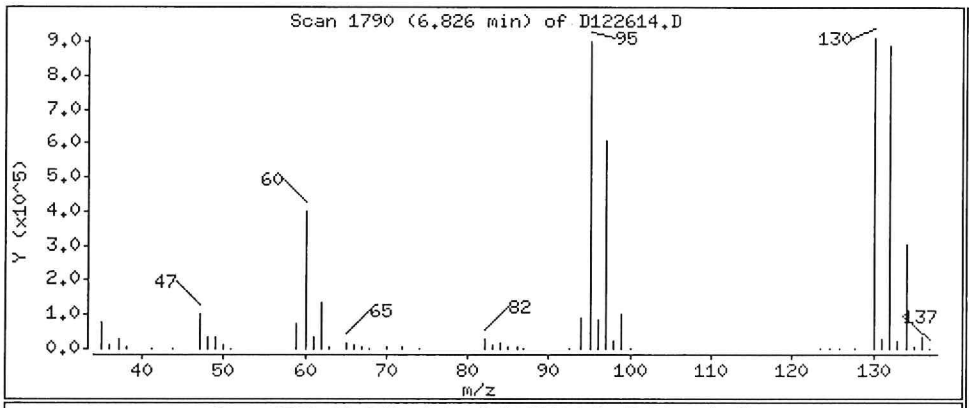
Column phase: DB624

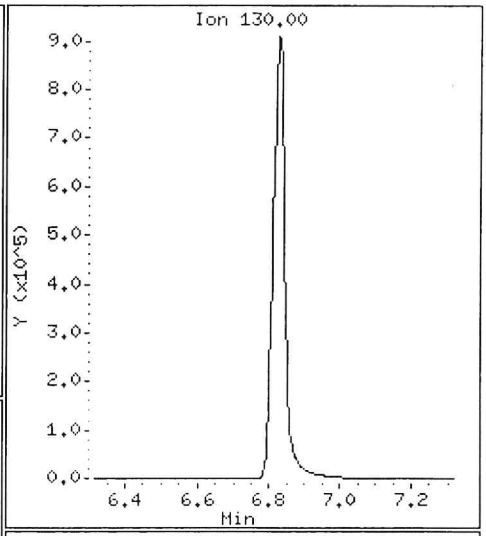
Column diameter: 0.18

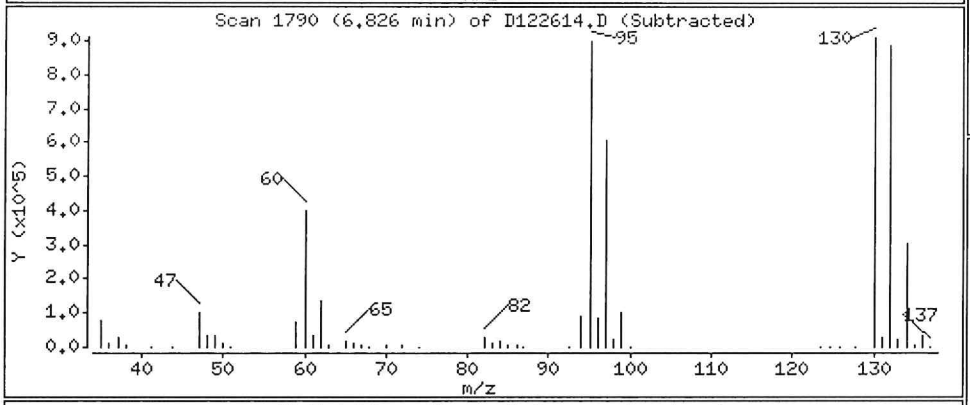
38 Trichloroethene

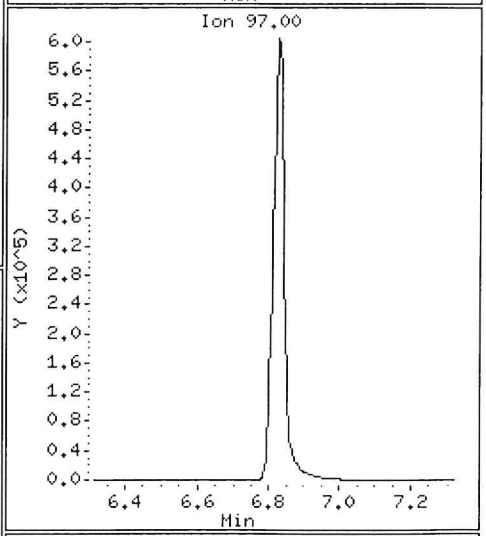
Concentration: 772.55 ug/l

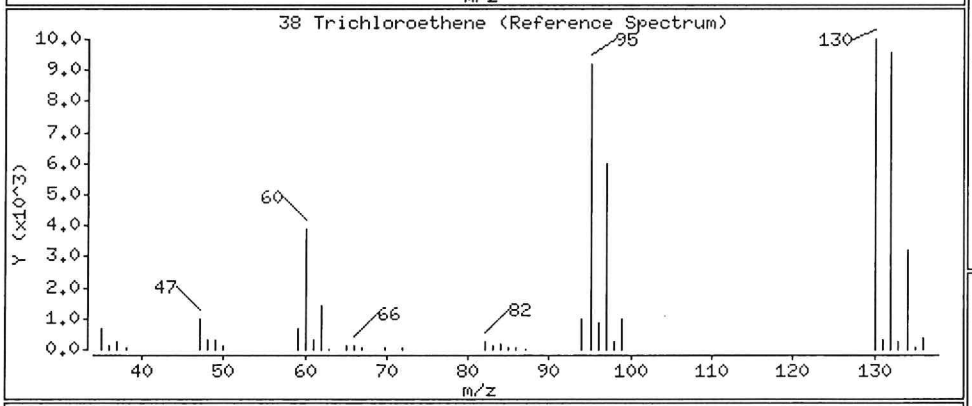
Review Code:

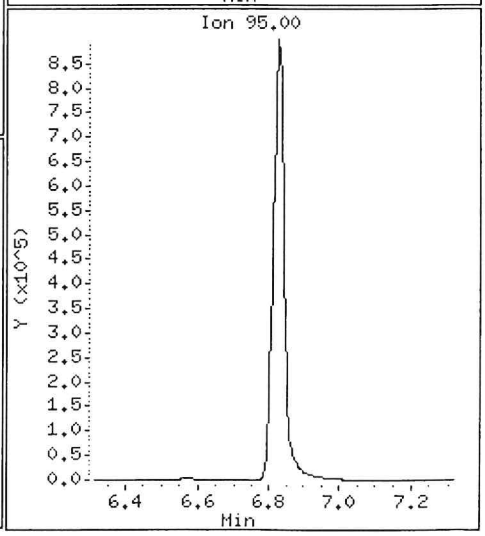


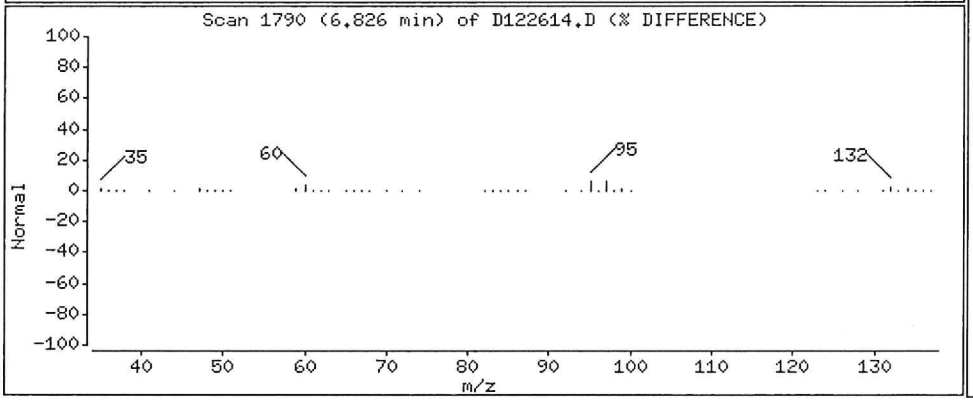












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122615.D
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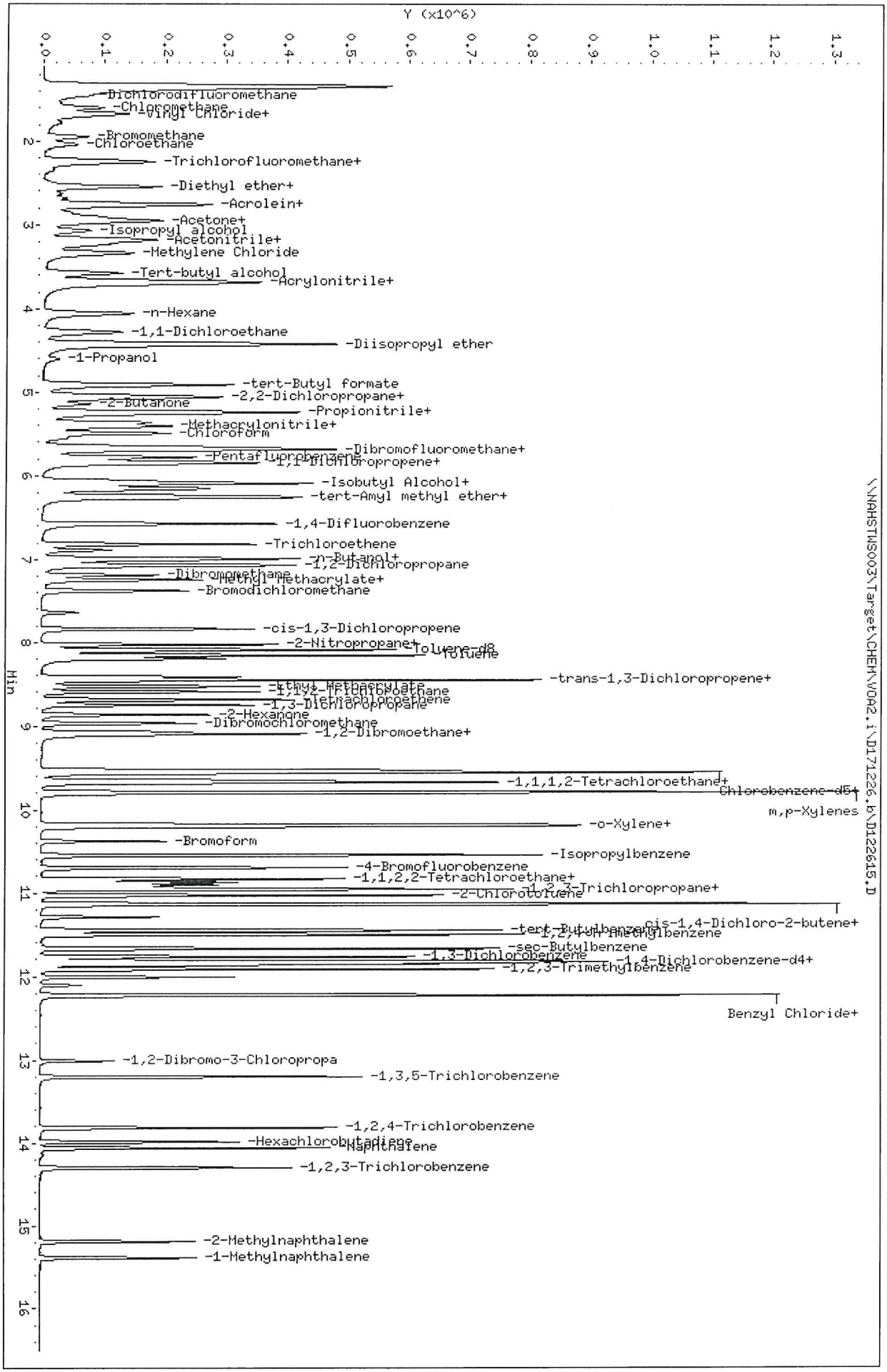
Inj Date : 26-DEC-2017 15:59
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120844-09MS;HS17120844-09MS;3;;MS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 15 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.654	(0.978)	180546	48.7203	48.72
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	239772	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	107007	49.5338	49.53
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	367534	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	129773	48.6391	48.63
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	338716	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	420022	47.0320	47.03
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	162229	49.7458	49.74
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	158433	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	147488	39.0238	39.02
	53 1,1,2-Trichloroethane	83	8.597	8.593	(0.902)	90331	43.5955	43.59
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	145866	50.9438	50.94
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	234369	46.8191	46.81
	11 1,1-Dichloroethene	96	2.750	2.753	(0.476)	100746	50.9093	50.90
	90 1,2,4-Trichlorobenzene	180	13.817	13.818	(1.168)	149291	47.8317	47.83
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	25307	38.9363	38.93
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	117475	45.2672	45.26
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	234220	41.1296	41.12
	33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	153338	47.2463	47.24
	42 1,2-Dichloropropane	63	7.063	7.069	(1.075)	133240	46.0267	46.02
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	244577	41.2701	41.27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.857	11.860	(1.002)	236244	41.6786	41.67
24	2-Butanone	43	5.144	5.144	(0.890)	115263	89.0877	89.08
52	2-Hexanone	43	8.866	8.866	(0.931)	171302	86.3155	86.31
45	4-Methyl-2-Pentanone	43	8.025	8.029	(0.842)	264426	86.0485	86.04
10	Acetone	43	2.856	2.866	(0.494)	71804	90.1163	90.11
37	Benzene	78	6.094	6.094	(0.927)	446400	46.1620	46.16
39	Bromodichloromethane	83	7.377	7.380	(1.123)	156742	45.7937	45.79
66	Bromoform	173	10.374	10.374	(1.089)	93894	46.7316	46.73
6	Bromomethane	94	1.941	1.941	(0.336)	82560	50.3035	50.30
19	Carbon Disulfide	76	2.952	2.955	(0.511)	444751	98.4122	98.41
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	145819	41.7691	41.76
59	Chlorobenzene	112	9.553	9.553	(1.003)	307602	44.0972	44.09
7	Chloroethane	64	2.038	2.041	(0.353)	79150	40.8011	40.80
28	Chloroform	83	5.490	5.497	(0.950)	198887	45.4972	45.49
3	Chloromethane	50	1.598	1.595	(0.277)	165575	41.1213	41.12
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	127357	46.6879	46.68
46	cis-1,3-Dichloropropene	75	7.836	7.839	(1.192)	195220	49.6650	49.66
55	Dibromochloromethane	129	8.969	8.972	(0.941)	131646	45.0166	45.01
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	49684	24.2391	24.23
61	Ethylbenzene	106	9.672	9.672	(1.015)	166348	44.5545	44.55
67	Isopropylbenzene	105	10.544	10.548	(1.107)	536190	46.4230	46.42
17	Methylene Chloride	84	3.334	3.337	(0.577)	116858	44.5270	44.52
56	Tetrachloroethene	164	8.686	8.690	(0.912)	104833	50.1945	50.19
50	Toluene	91	8.157	8.157	(0.856)	477695	44.5014	44.50
20	trans-1,2-Dichloroethene	96	3.664	3.668	(0.634)	109245	51.0363	51.03
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	164612	49.2153	49.21
38	Trichloroethene	130	6.816	6.816	(1.037)	134466	49.3955	49.39
8	Trichlorofluoromethane	101	2.253	2.253	(0.390)	150371	50.8633	50.86
5	Vinyl Chloride	62	1.678	1.685	(0.290)	134099	45.6300	45.62
62	m,p-Xylenes	106	9.790	9.790	(1.028)	406603	89.0515	89.05
63	o-Xylene	106	10.175	10.179	(1.068)	214182	44.8379	44.83
M 95	Xylenes (total)	106				620785	133.889	133.88
71	1,2,3-Trichloropropane	75	10.901	10.904	(0.921)	153509	40.6738	40.67
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	122791	45.6579	45.65
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	420840	39.8786	39.87
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	421175	40.9824	40.98
26	2,2-Dichloropropane	77	5.041	5.044	(0.872)	170300	48.7528	48.75
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	179367	42.9195	42.91
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	362125	40.2361	40.23
77	4-Chlorotoluene	91	11.138	11.141	(0.941)	395806	40.3903	40.39
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	417940	42.8562	42.85
29	Bromochloromethane	128	5.362	5.368	(0.928)	61479	47.3591	47.35
74	Bromobenzene	156	10.830	10.833	(0.915)	141941	40.3879	40.38
44	Dibromomethane	93	7.191	7.191	(1.094)	71180	47.4479	47.44
91	Hexachlorobutadiene	225	13.991	13.988	(1.182)	67273	46.2811	46.28
73	n-Propylbenzene	91	10.955	10.955	(0.926)	568178	42.4164	42.41
87	n-Butylbenzene	91	12.223	12.223	(1.033)	328923	45.3823	45.38
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	496688	43.6151	43.61
92	Naphthalene	128	14.061	14.061	(1.188)	357911	43.9707	43.97
78	tert-Butylbenzene	119	11.453	11.449	(0.968)	365811	42.4327	42.43
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	121937	45.1136	45.11
64	Styrene	104	10.198	10.198	(1.070)	346936	45.5379	45.53



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Sample Info: HS17120844-09MS;HS17120844-09MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122616.D
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Inj Date : 26-DEC-2017 16:23
Operator : AP Inst ID: VOA2.i
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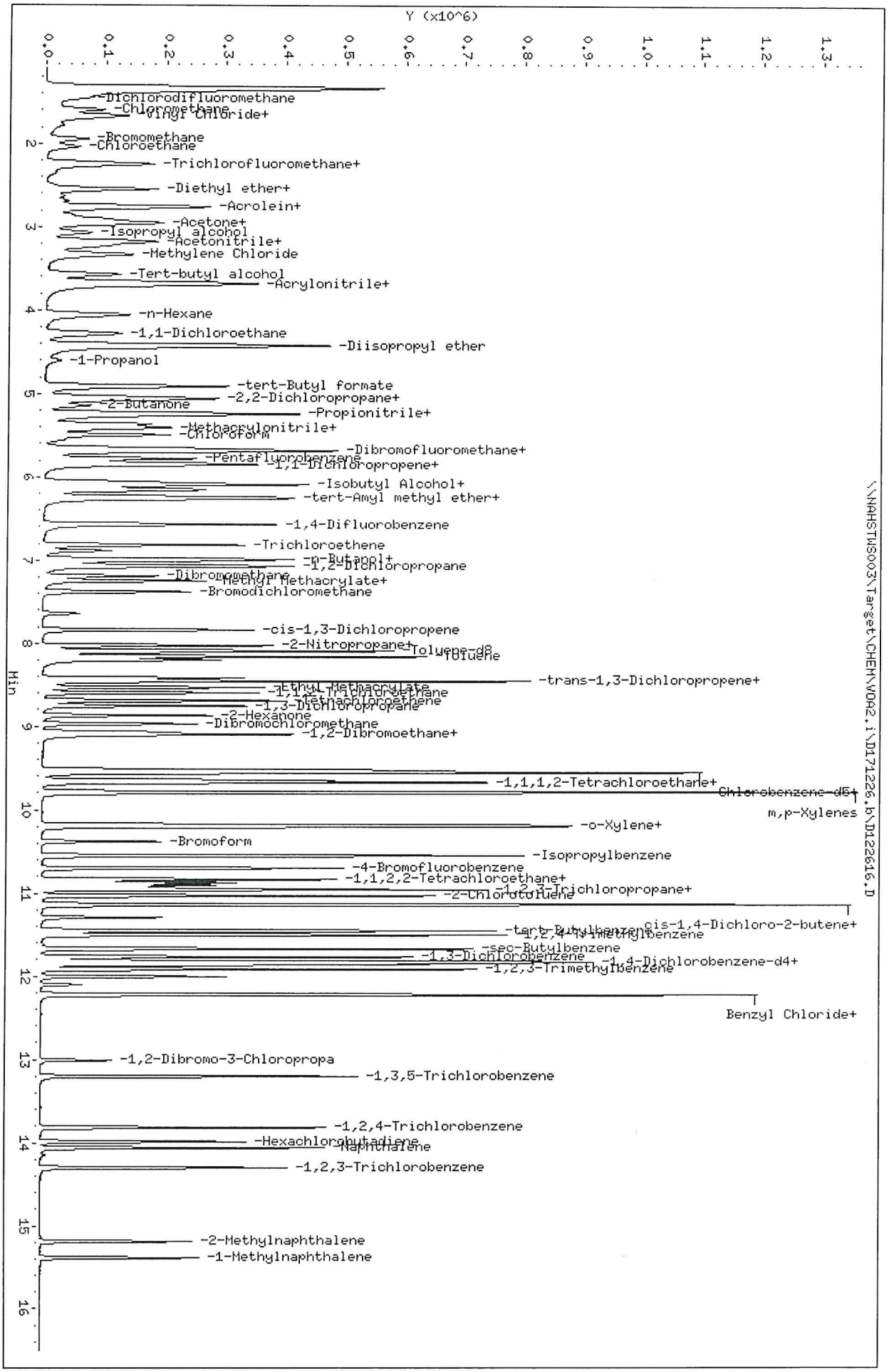
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 15 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.654	(0.978)	180110	47.2517	47.25
*	1 Pentafluorobenzene	168	5.776	5.782	(1.000)	246627	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.686	(0.984)	107916	48.5661	48.56
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	375858	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	132569	48.3060	48.30
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	338922	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	420325	47.0373	47.03
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	163608	50.1381	50.13
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	158180	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.918)	148427	39.3351	39.33
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	90872	43.8299	43.82
	32 1,1-Dichloropropene	75	5.850	5.853	(0.890)	144134	49.1926	49.19
	22 1,1-Dichloroethane	63	4.277	4.277	(0.741)	231895	45.0373	45.03
	11 1,1-Dichloroethene	96	2.753	2.753	(0.477)	101903	50.0626	50.06
	90 1,2,4-Trichlorobenzene	180	13.817	13.818	(1.167)	147959	47.4808	47.48
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	26133	40.2530	40.25
	57 1,2-Dibromoethane	107	9.068	9.065	(0.952)	117082	45.0883	45.08
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	232453	40.8846	40.88
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	154716	46.6138	46.61
	42 1,2-Dichloropropane	63	7.066	7.069	(1.075)	132138	44.6352	44.63
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	244886	41.3883	41.38

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	232263	41.0418	41.04
24	2-Butanone	43	5.144	5.144	(0.891)	113629	85.3836	85.38
52	2-Hexanone	43	8.866	8.866	(0.931)	172227	86.7288	86.72
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	263863	85.8131	85.81
10	Acetone	43	2.859	2.866	(0.495)	71814	87.5588	87.55
37	Benzene	78	6.090	6.094	(0.927)	448312	45.3330	45.33
39	Bromodichloromethane	83	7.377	7.380	(1.123)	156789	44.7930	44.79
66	Bromoform	173	10.374	10.374	(1.089)	92281	45.9009	45.90
6	Bromomethane	94	1.945	1.941	(0.337)	81161	47.9659	47.96
19	Carbon Disulfide	76	2.952	2.955	(0.511)	438020	94.2288	94.22
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	144495	40.4732	40.47
59	Chlorobenzene	112	9.553	9.553	(1.003)	305997	43.8405	43.84
7	Chloroethane	64	2.038	2.041	(0.353)	80000	40.0930	40.09
28	Chloroform	83	5.494	5.497	(0.951)	201088	44.7221	44.72
3	Chloromethane	50	1.595	1.595	(0.276)	166532	40.1882	40.18
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.878)	127418	45.4119	45.41
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	194225	48.3176	48.31
55	Dibromochloromethane	129	8.969	8.972	(0.941)	134421	45.9376	45.93
2	Dichlorodifluoromethane	85	1.454	1.450	(0.252)	47114	22.3464	22.34
61	Ethylbenzene	106	9.672	9.672	(1.015)	165170	44.2121	44.21
67	Isopropylbenzene	105	10.548	10.548	(1.107)	526067	45.5188	45.51
17	Methylene Chloride	84	3.334	3.337	(0.577)	114821	42.5348	42.53
56	Tetrachloroethene	164	8.690	8.690	(0.912)	104013	49.7572	49.75
50	Toluene	91	8.157	8.157	(0.856)	474024	44.1326	44.13
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.635)	109717	49.8321	49.83
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	163896	47.9160	47.91
38	Trichloroethene	130	6.816	6.816	(1.037)	131346	47.1808	47.18
8	Trichlorofluoromethane	101	2.256	2.253	(0.391)	146132	48.0555	48.05
5	Vinyl Chloride	62	1.678	1.685	(0.291)	130264	43.0930	43.09
62	m,p-Xylenes	106	9.790	9.790	(1.028)	400754	87.7171	87.71
63	o-Xylene	106	10.179	10.179	(1.068)	212631	44.4861	44.48
M 95	Xylenes (total)	106				613385	132.203	132.20
71	1,2,3-Trichloropropane	75	10.901	10.904	(0.921)	152316	40.4222	40.42
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	125392	46.6996	46.69
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	417841	39.6578	39.65
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.940)	419242	40.8596	40.85
26	2,2-Dichloropropane	77	5.044	5.044	(0.873)	167866	46.7203	46.72
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	178505	42.6873	42.68
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	360812	40.1543	40.15
77	4-Chlorotoluene	91	11.138	11.141	(0.941)	390853	39.9487	39.94
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	412785	42.3953	42.39
29	Bromochloromethane	128	5.368	5.368	(0.929)	61475	46.0398	46.03
74	Bromobenzene	156	10.830	10.833	(0.915)	143490	40.8940	40.89
44	Dibromomethane	93	7.188	7.191	(1.094)	70407	45.8932	45.89
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	68490	47.2024	47.20
73	n-Propylbenzene	91	10.955	10.955	(0.925)	556934	41.6435	41.64
87	n-Butylbenzene	91	12.223	12.223	(1.033)	326500	45.1200	45.12
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	489474	43.0504	43.05
92	Naphthalene	128	14.061	14.061	(1.188)	363148	44.6940	44.69
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	361981	42.0556	42.05
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	122348	45.2381	45.23
64	Styrene	104	10.198	10.198	(1.070)	341081	44.7422	44.74



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122616.D
Date : 26-DEC-2017 16:23
Client ID: HS17120844-09MSD
Sample Info: HS17120844-09MSD;HS17120844-09MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122618.D
Lab Smp Id: HS17120912-05 Client Smp ID: HS17120912-05
Inj Date : 26-DEC-2017 17:13
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-05;HS17120912-05;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

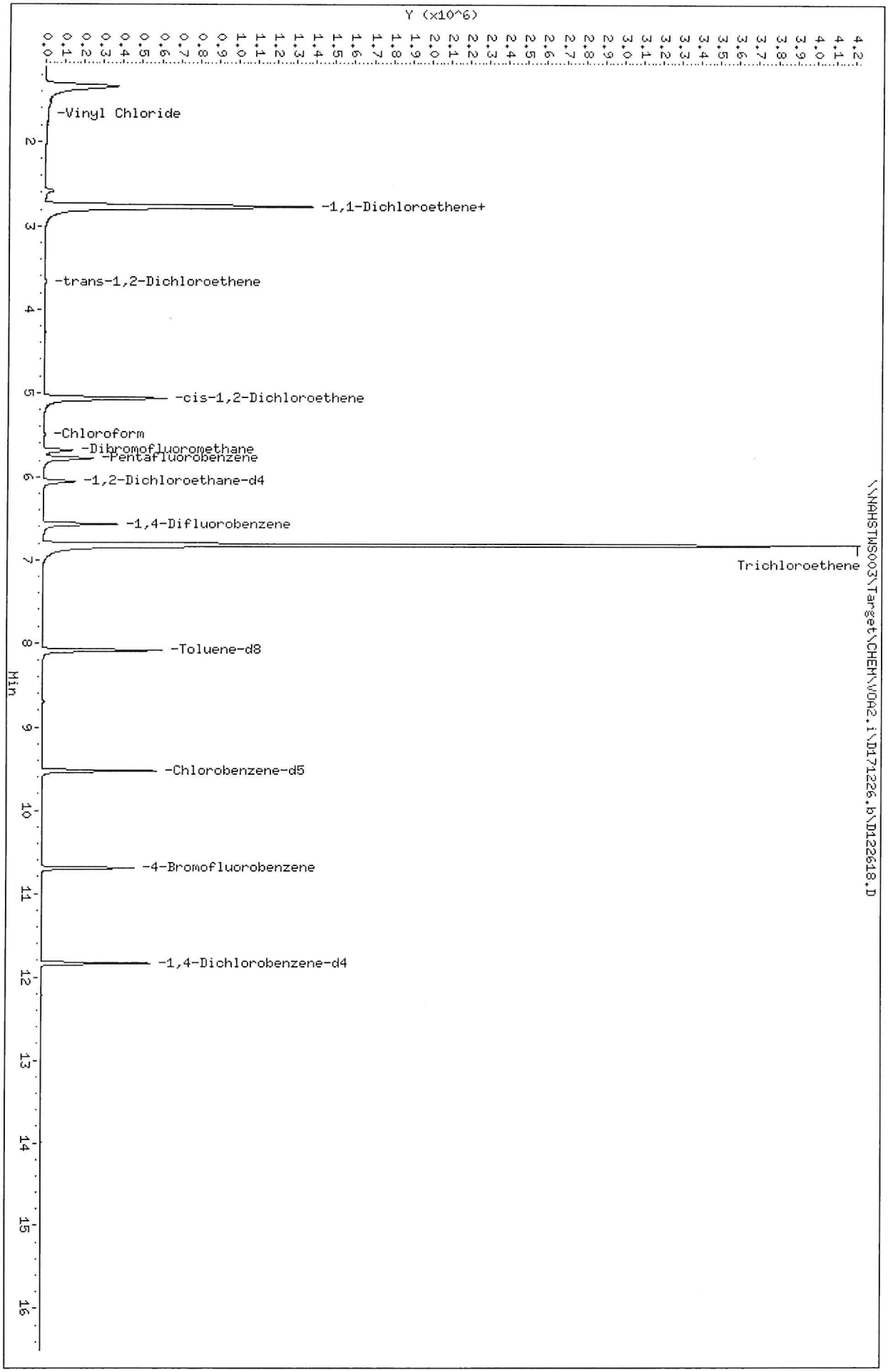
Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.783	5.782	(1.000)	248257	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.983)	112953	50.4992	50.49
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	369653	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.059	6.058	(1.048)	133876	48.4619	48.46
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	340136	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	425844	47.4849	47.48
$ 69 4-Bromofluorobenzene	95	10.699	10.695	(1.123)	158728	48.4690	48.46
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.838	(1.000)	149425	50.0000	
11 1,1-Dichloroethene	96	2.750	2.753	(0.476)	15056	7.34811	7.34
28 Chloroform	83	5.494	5.497	(0.950)	8135	1.79735	1.79(aM)
27 cis-1,2-Dichloroethene	96	5.067	5.070	(0.876)	411726	145.776	145.77
20 trans-1,2-Dichloroethene	96	3.681	3.668	(0.637)	4853	2.18970	2.18(a)
38 Trichloroethene	130	6.822	6.816	(1.038)	1754890	640.955	640.95(A)
5 Vinyl Chloride	62	1.672	1.685	(0.289)	3473	1.14137	1.14(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.

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122618.D
Date : 26-DEC-2017 17:13
Client ID: HS17120912-05
Sample Info: HS17120912-05;HS17120912-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

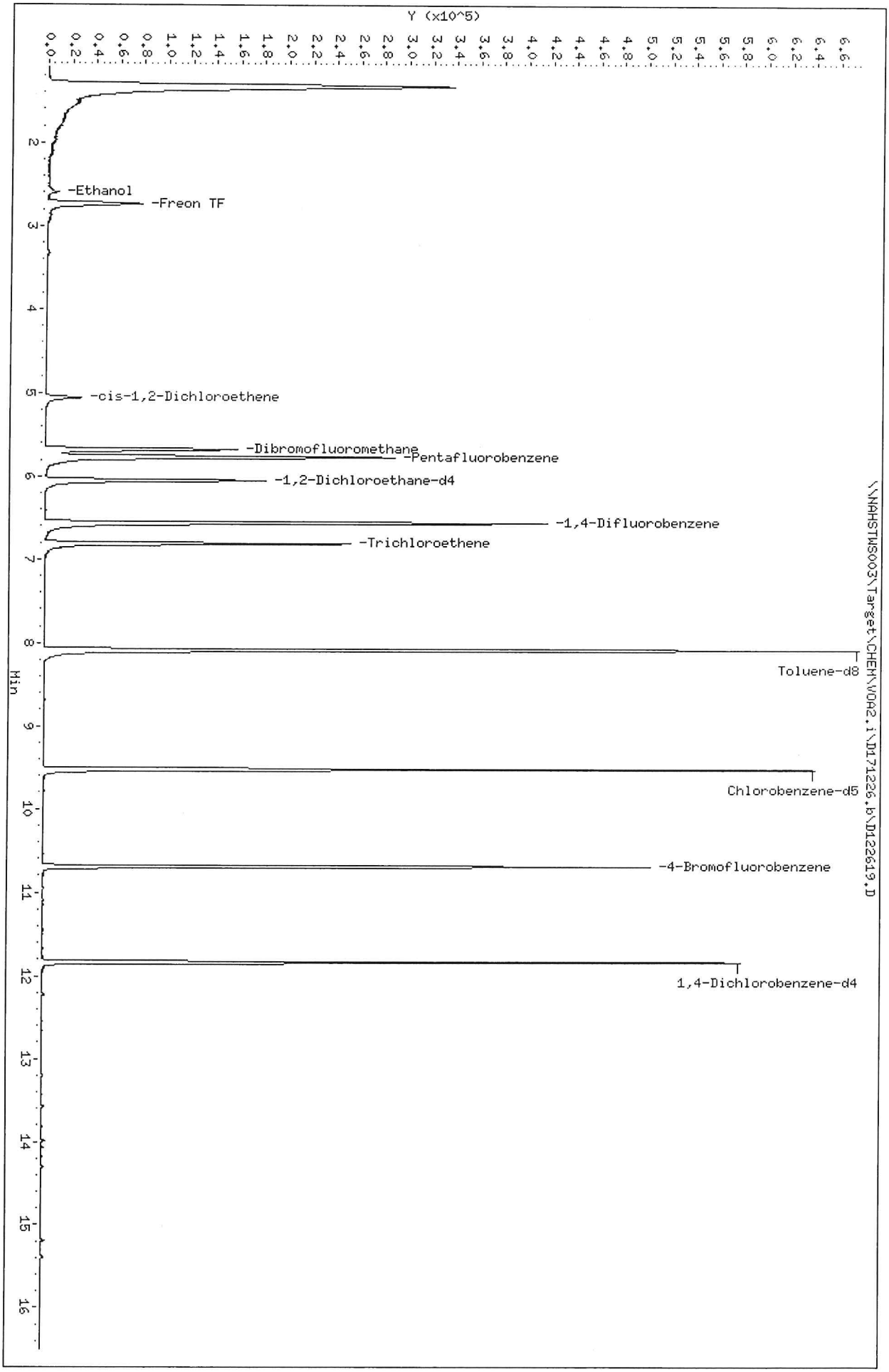
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122619.D
Lab Smp Id: HS17120912-05 Client Smp ID: HS17120912-05
Inj Date : 26-DEC-2017 17:40
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-05;HS17120912-05;;;
Misc Info : HS15080001;WATER;0;25;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 17
Dil Factor: 25.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	25.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.770	5.782	(1.000)	281913	50.0000	
$ 30 Dibromofluoromethane	113	5.680	5.686	(0.984)	122198	48.1102	48.11
* 36 1,4-Difluorobenzene	114	6.565	6.572	(1.000)	397097	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.049	6.058	(1.048)	145595	46.4120	46.41
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	367437	50.0000	
$ 48 Toluene-d8	98	8.086	8.093	(0.849)	466697	48.1736	48.17
$ 69 4-Bromofluorobenzene	95	10.692	10.695	(1.123)	166363	47.0259	47.02
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	151669	50.0000	
27 cis-1,2-Dichloroethene	96	5.064	5.070	(0.878)	17740	5.53119	138.27
38 Trichloroethene	130	6.813	6.816	(1.038)	100102	34.0344	850.86



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122619.D
Date : 26-DEC-2017 17:40
Client ID: HS17120912-05
Sample Info: HS17120912-05;HS17120912-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122619.D

Date : 26-DEC-2017 17:40

Client ID: HS17120912-05

Instrument: VOA2.i

Sample Info: HS17120912-05;HS17120912-05;;;

Purge Volume: 5.0

Operator: AP

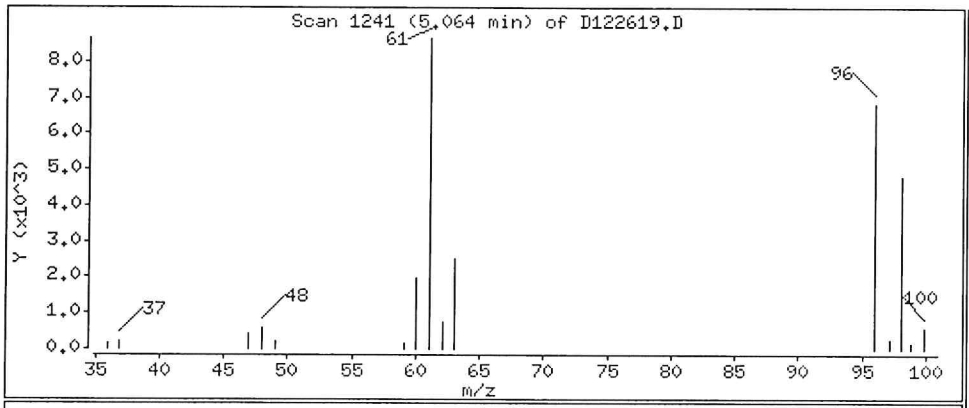
Column phase: DB624

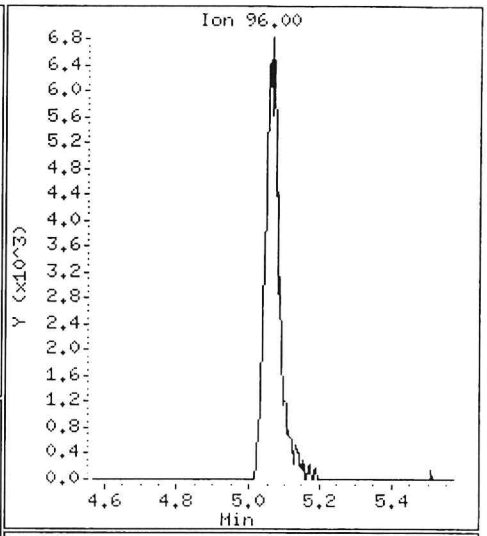
Column diameter: 0.18

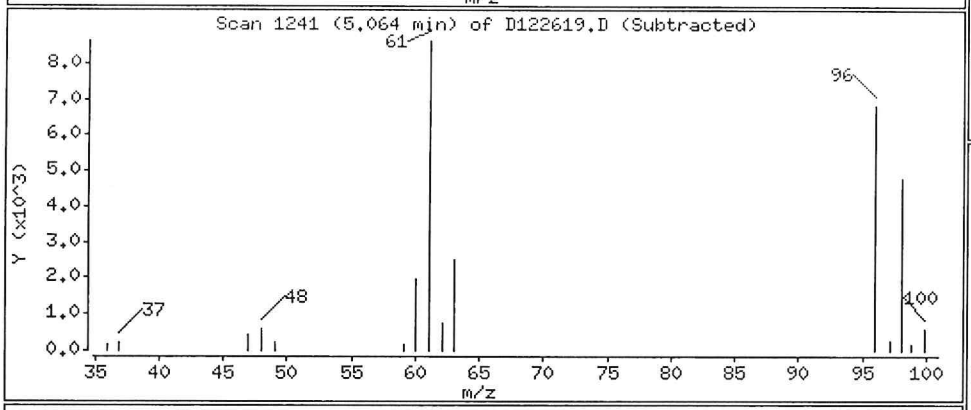
27 cis-1,2-Dichloroethene

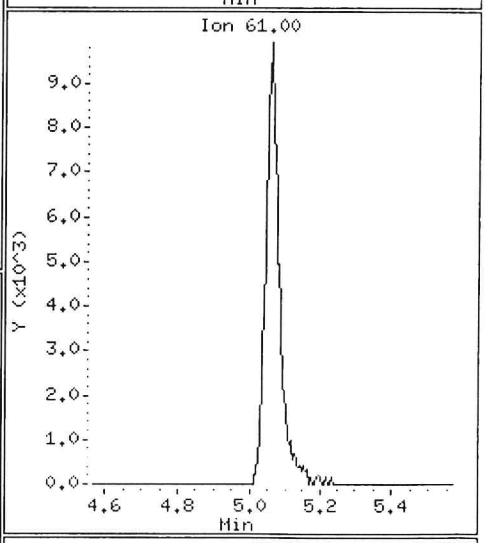
Concentration: 138.27 ug/l

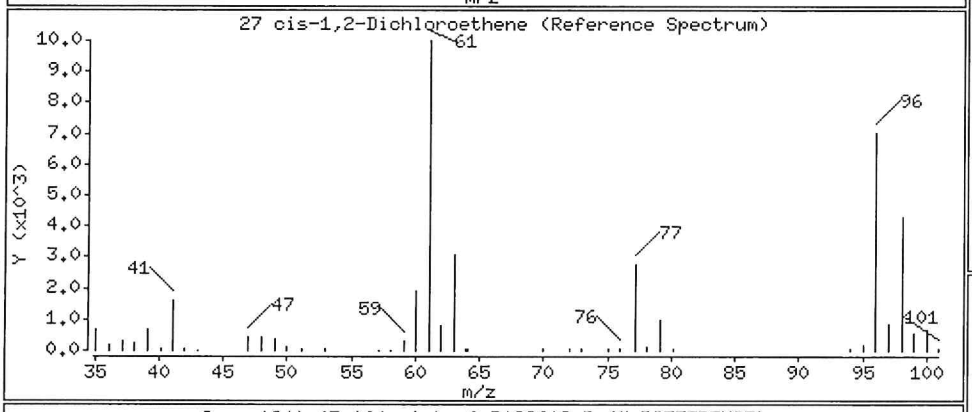
Review Code:

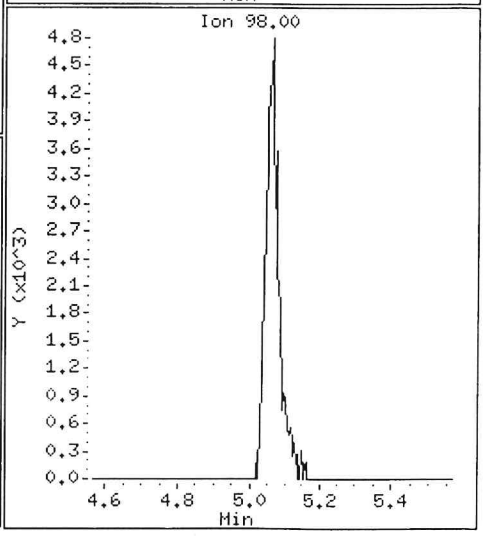


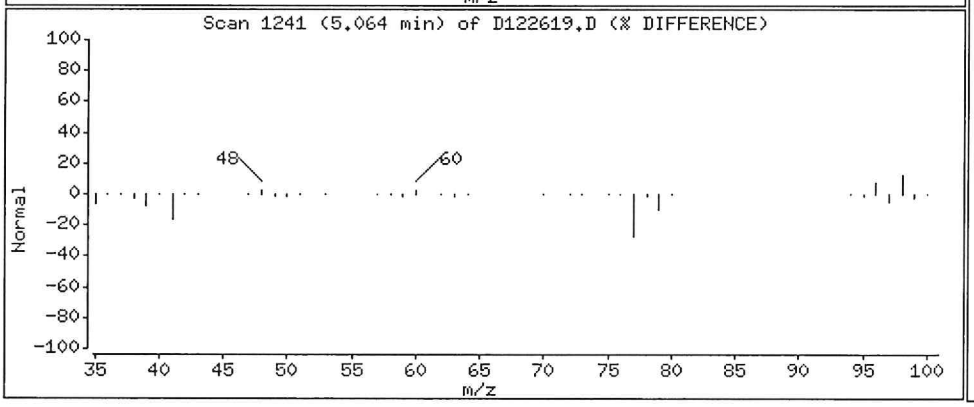












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122619.D

Date : 26-DEC-2017 17:40

Client ID: HS17120912-05

Instrument: VOA2.i

Sample Info: HS17120912-05;HS17120912-05;;;

Purge Volume: 5.0

Operator: AP

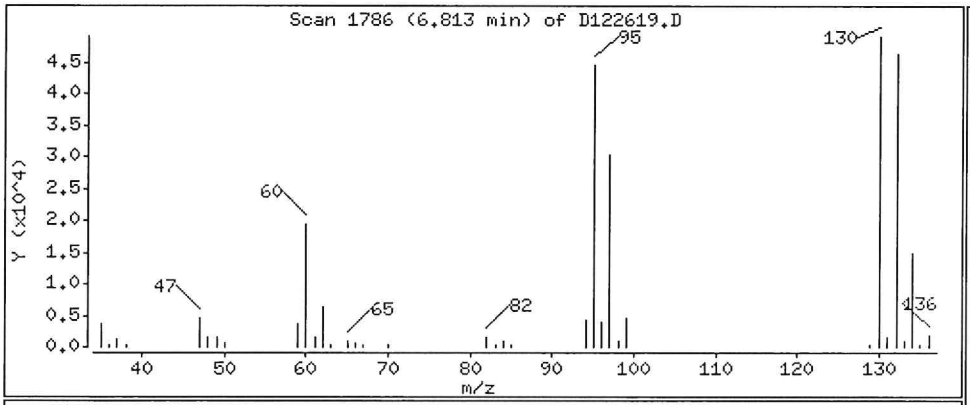
Column phase: DB624

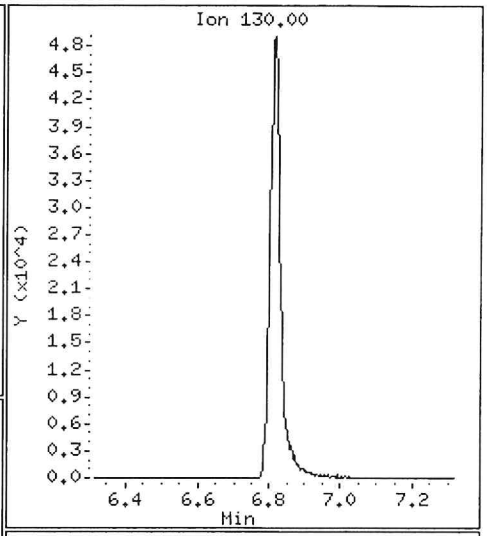
Column diameter: 0.18

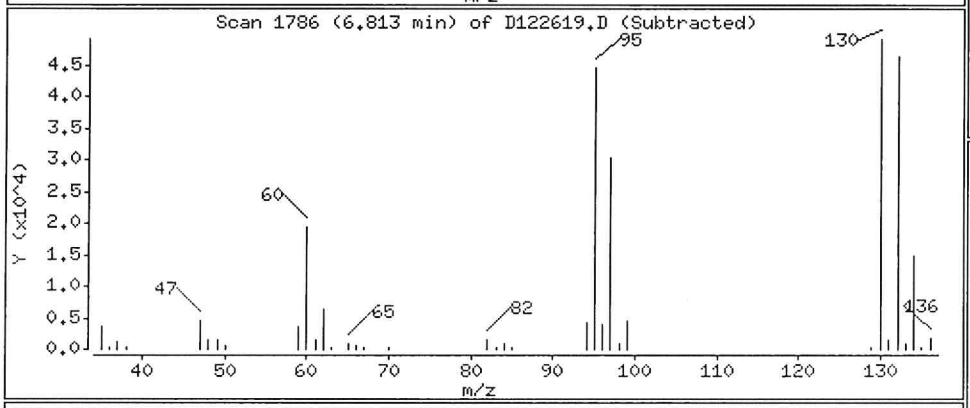
38 Trichloroethene

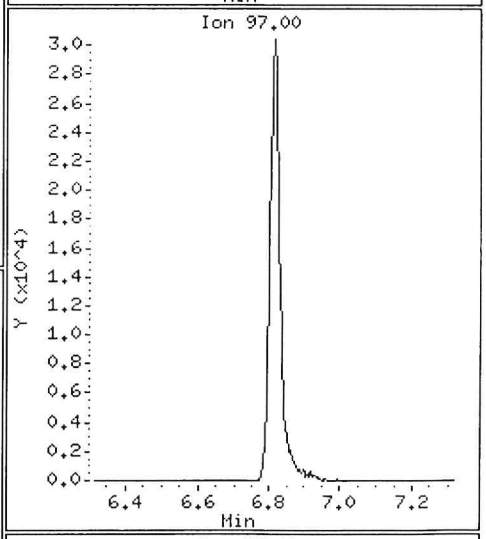
Concentration: 850.86 ug/l

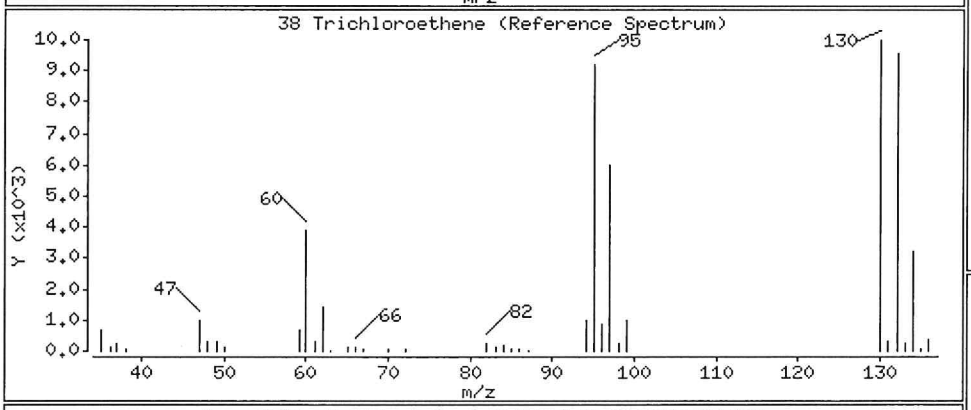
Review Code:

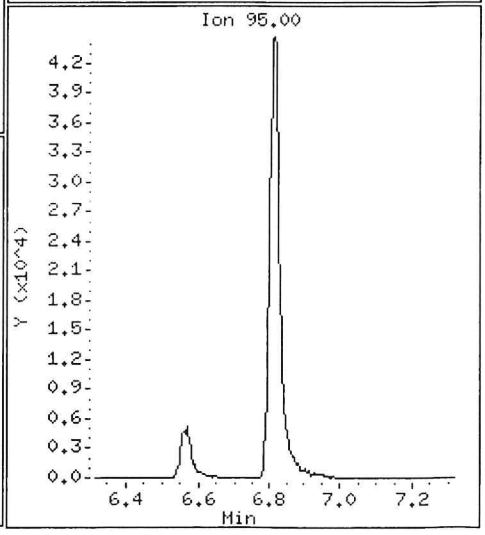


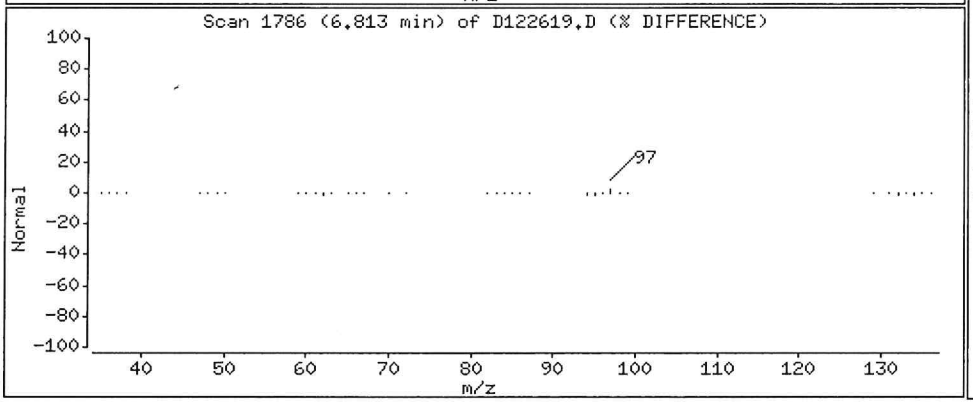












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122620.D
Lab Smp Id: HS17120912-09 Client Smp ID: HS17120912-09
Inj Date : 26-DEC-2017 18:07
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-09;HS17120912-09;;;
Misc Info : HS15080001;WATER;0;10;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 18
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

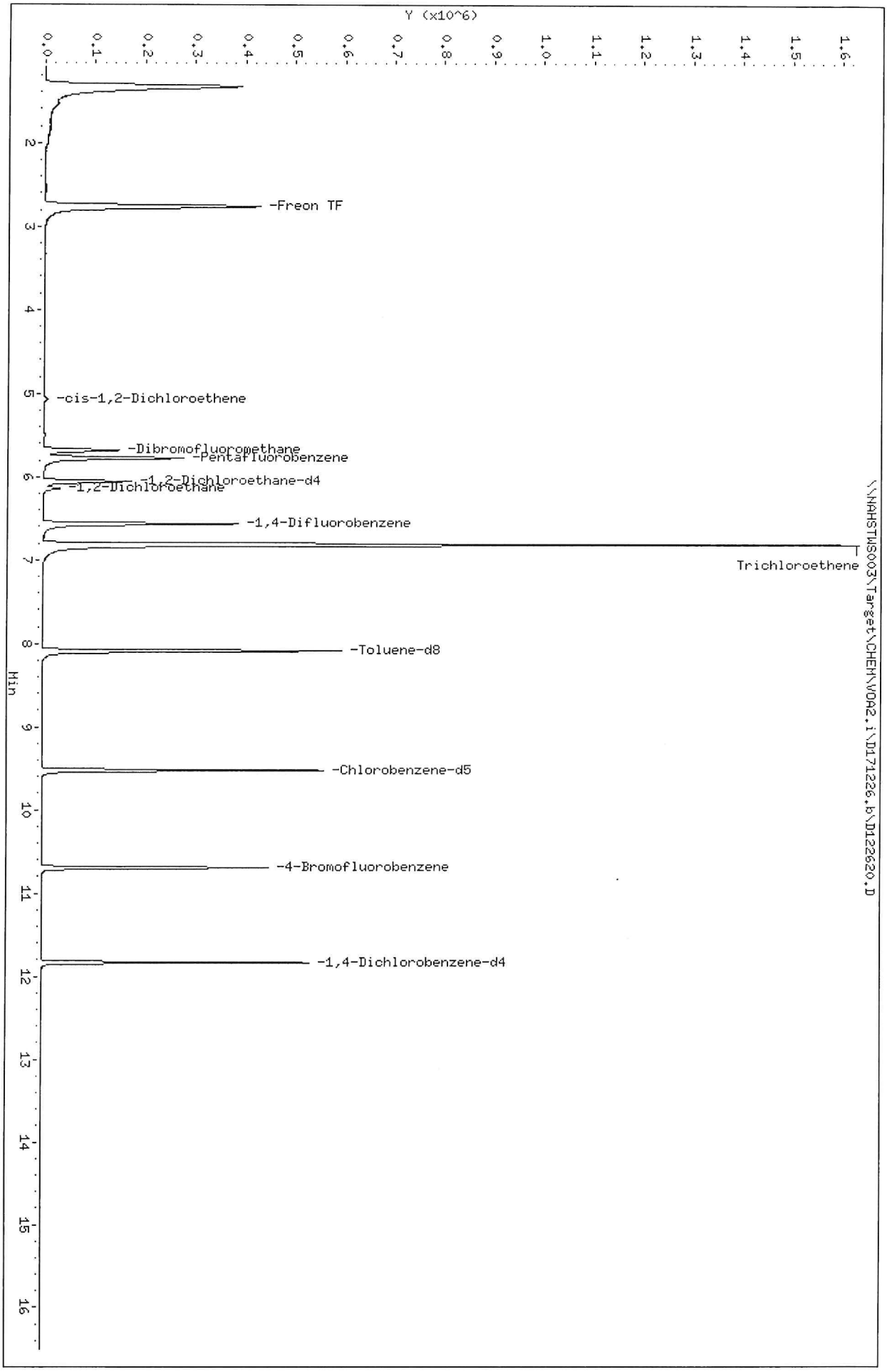
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.782	(1.000)	262803	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	117500	49.6245	49.62
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	369364	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	135857	46.4570	46.45
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	319482	50.0000	
$ 48 Toluene-d8	98	8.086	8.093	(0.849)	409371	48.5991	48.59
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	152676	49.6350	49.63
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	144299	50.0000	
33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	26236	7.96071	79.60(M)
27 cis-1,2-Dichloroethene	96	5.073	5.070	(0.878)	4838	1.61814	16.18(a)
38 Trichloroethene	130	6.819	6.816	(1.038)	669256	244.630	2446.30(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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122620.D
Date : 26-DEC-2017 18:07
Client ID: HS17120912-09
Sample Info: HS17120912-09;HS17120912-09;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122620.D

Date : 26-DEC-2017 18:07

Client ID: HS17120912-09

Instrument: VOA2.i

Sample Info: HS17120912-09;HS17120912-09;;;

Purge Volume: 5.0

Operator: AP

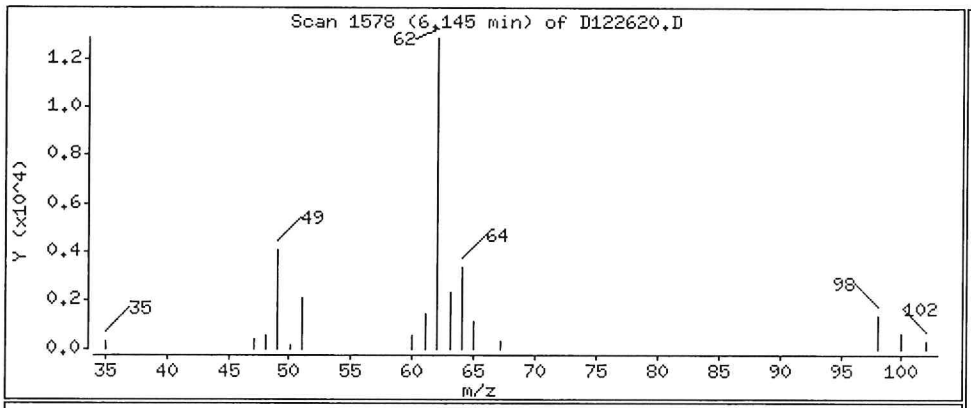
Column phase: DB624

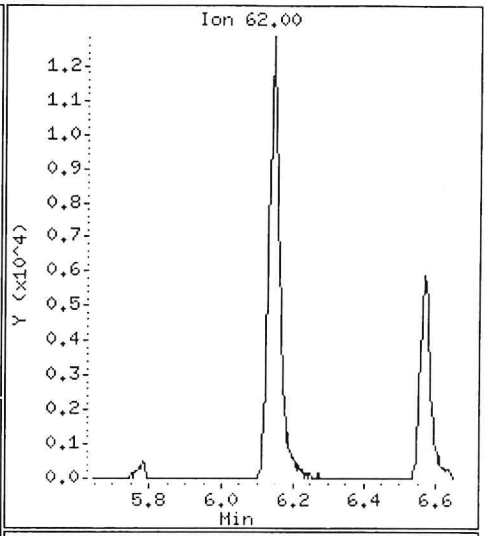
Column diameter: 0.18

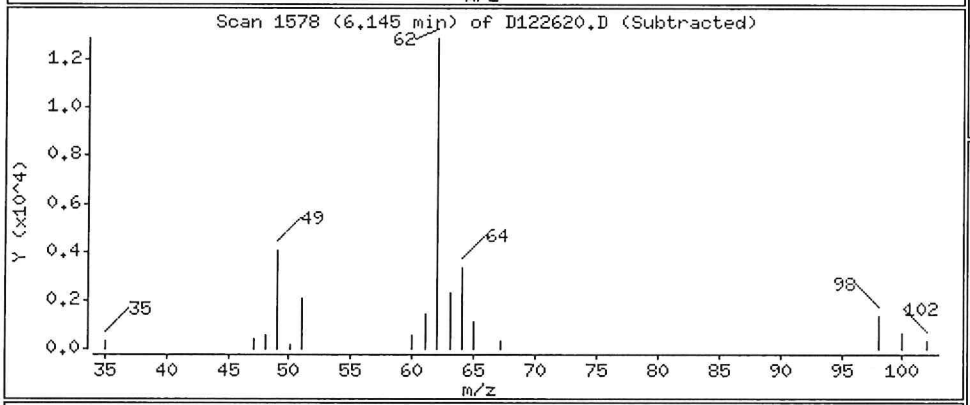
33 1,2-Dichloroethane

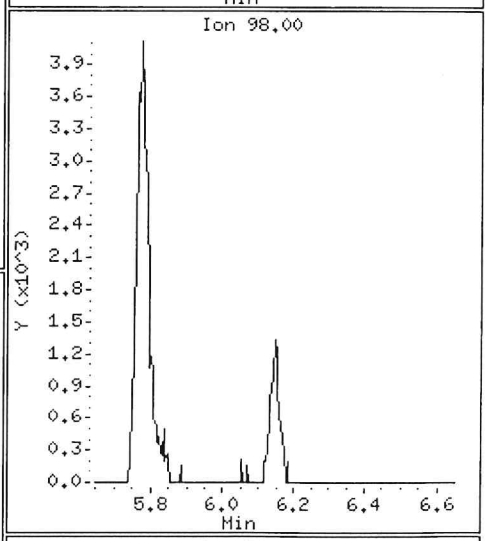
Concentration: 79.60 ug/l

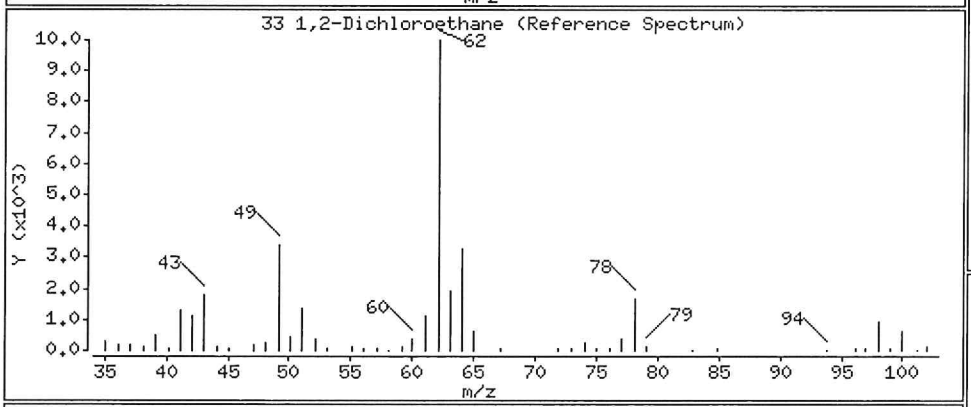
Review Code:

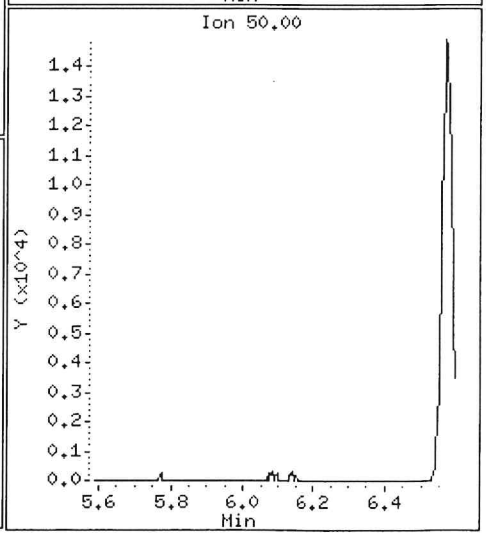


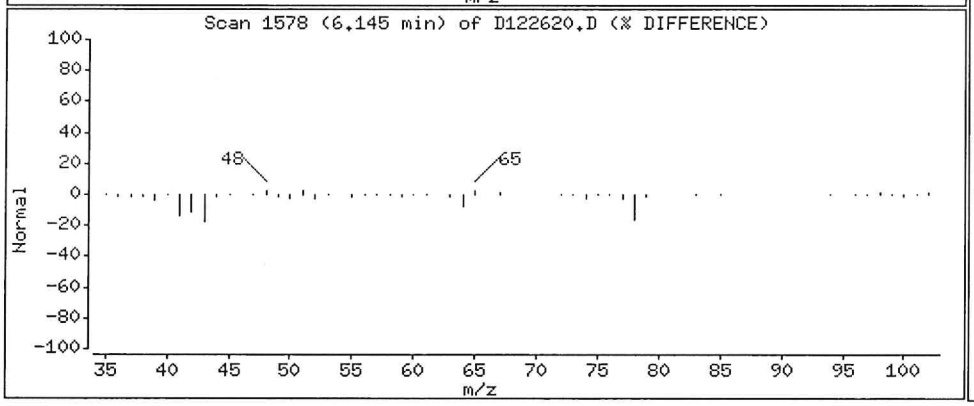












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122620.D

Date : 26-DEC-2017 18:07

Client ID: HS17120912-09

Instrument: VOA2.i

Sample Info: HS17120912-09;HS17120912-09;;;

Purge Volume: 5.0

Operator: AP

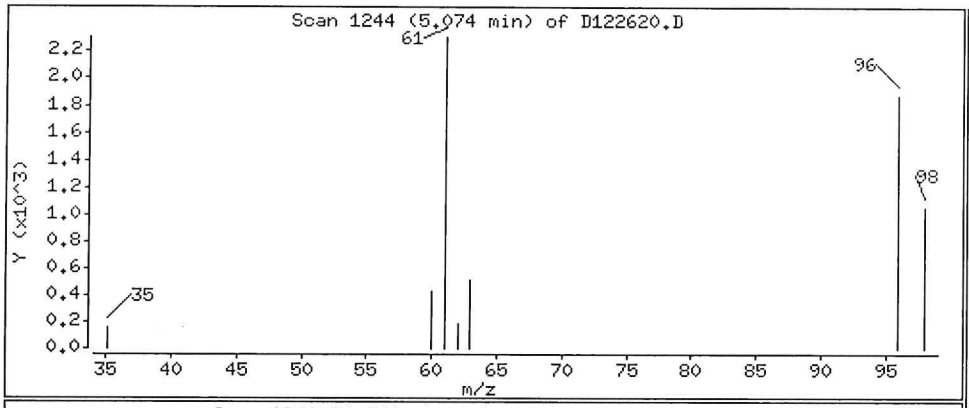
Column phase: DB624

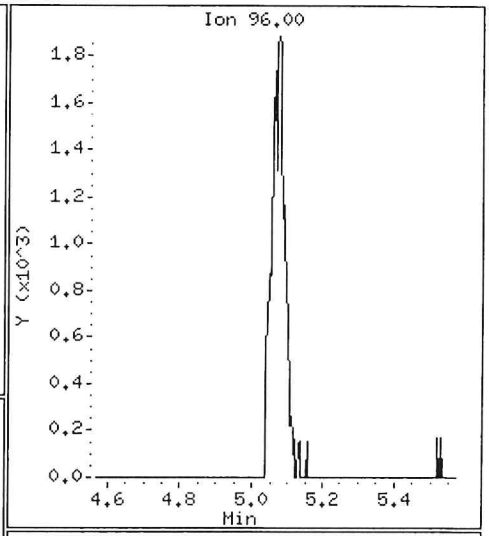
Column diameter: 0.18

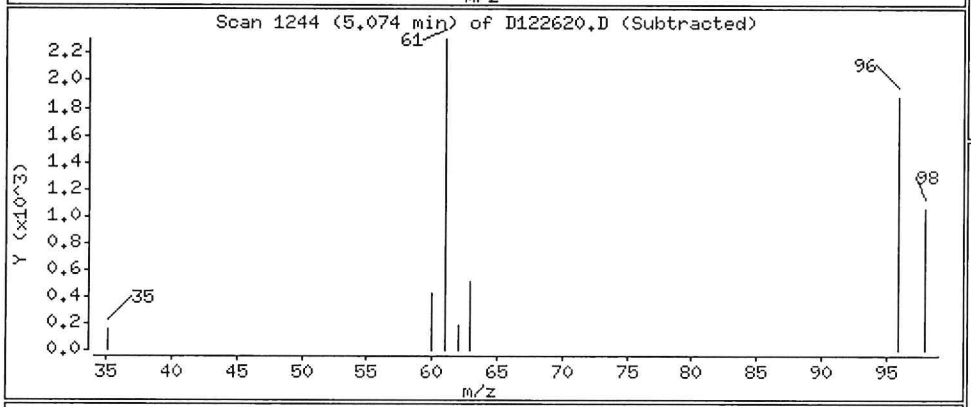
27 cis-1,2-Dichloroethene

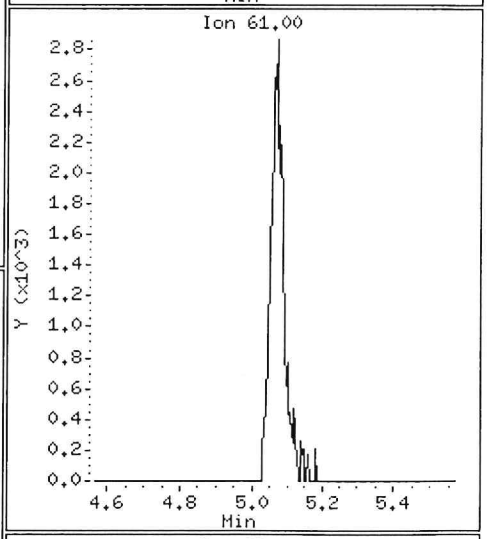
Concentration: 16.18 ug/l

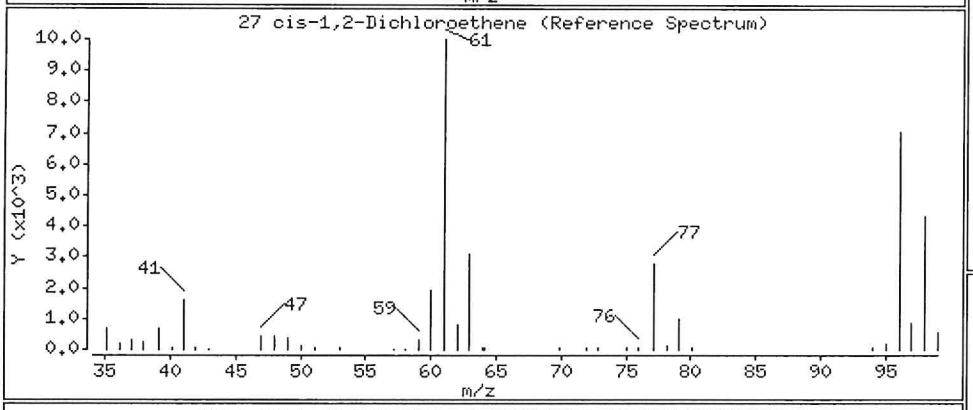
Review Code:

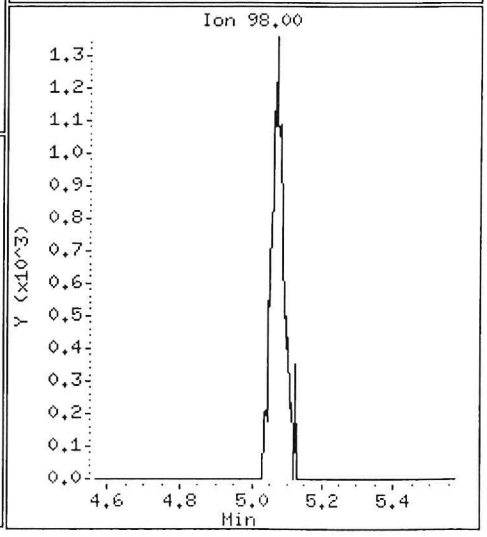


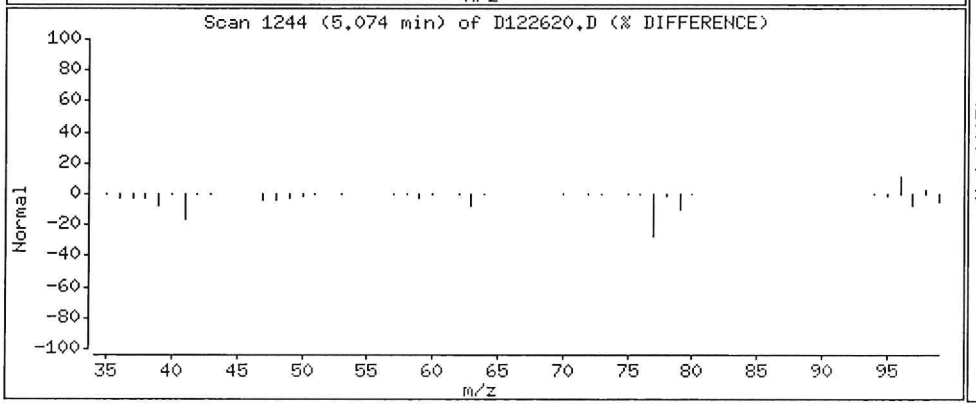












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122620.D

Date : 26-DEC-2017 18:07

Client ID: HS17120912-09

Instrument: VOA2.i

Sample Info: HS17120912-09;HS17120912-09;;;

Purge Volume: 5.0

Operator: AP

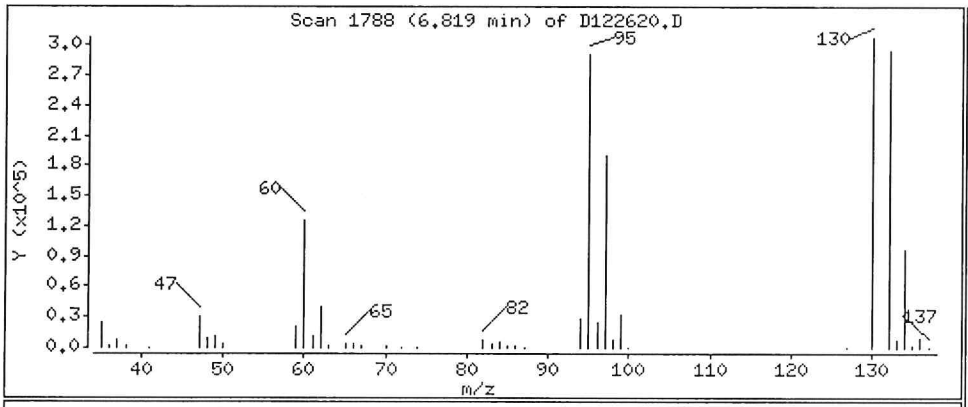
Column phase: DB624

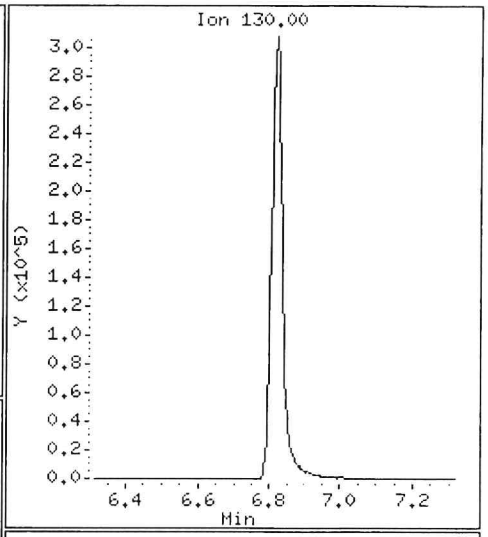
Column diameter: 0.18

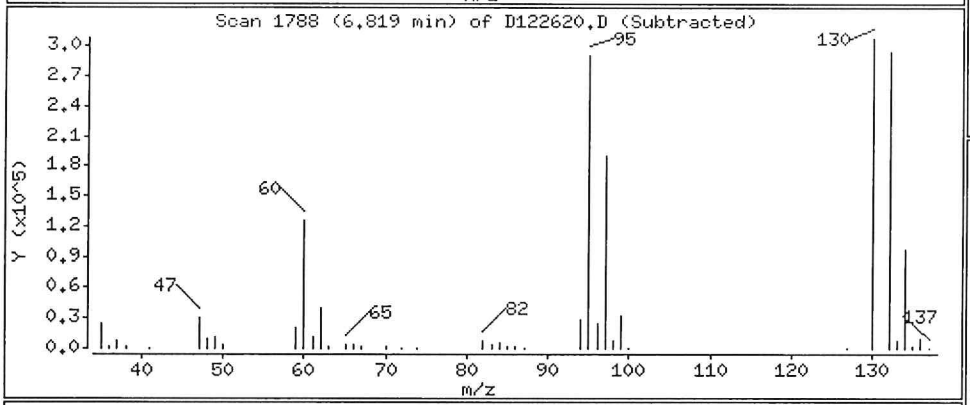
38 Trichloroethene

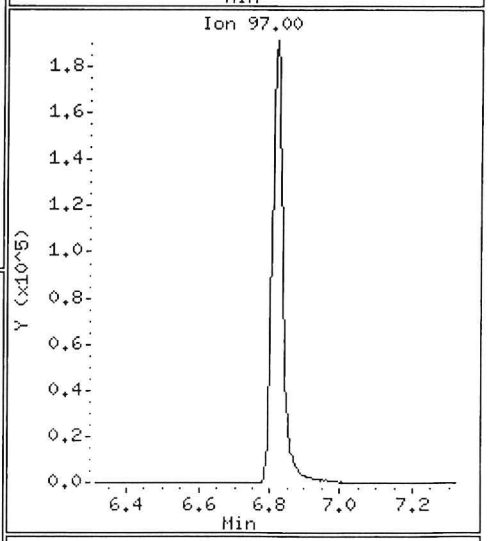
Concentration: 2446.30 ug/l

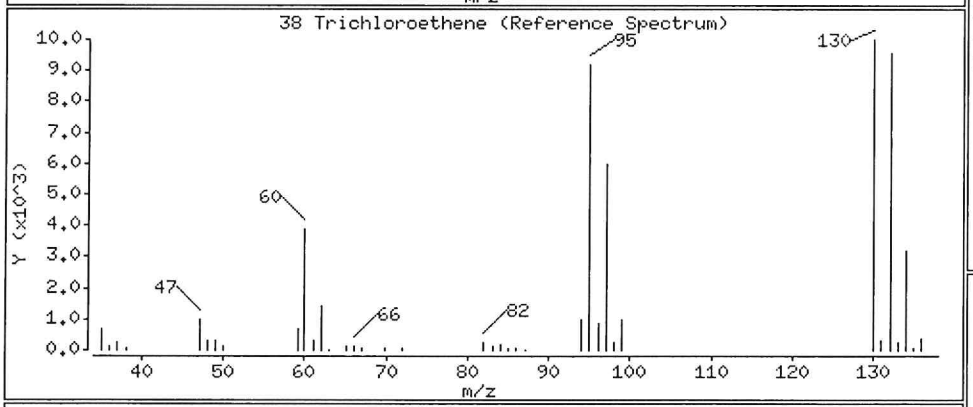
Review Code:

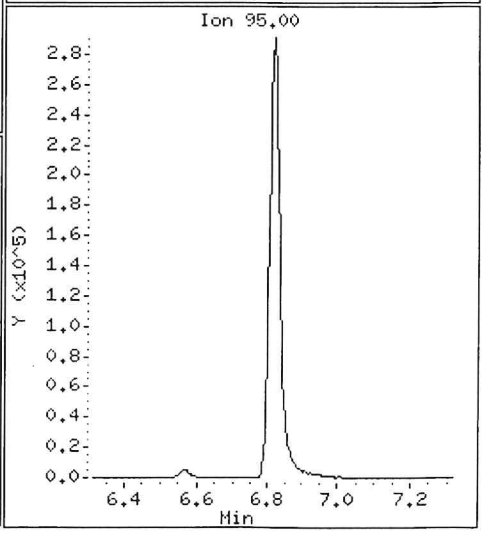


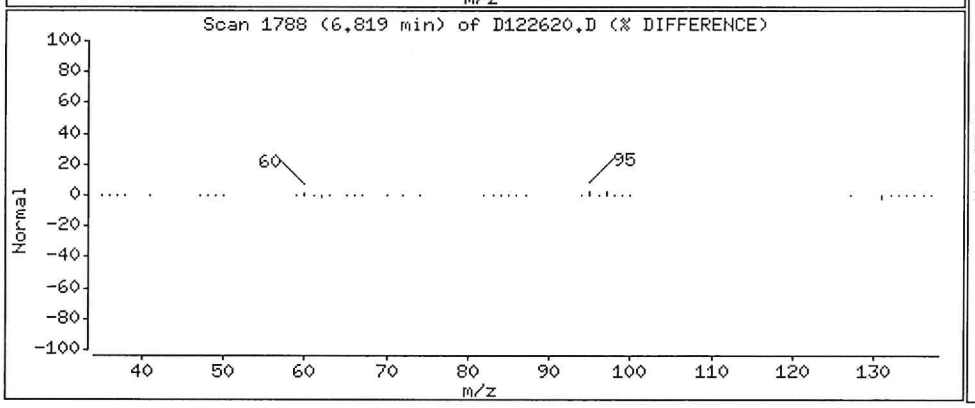












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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122621.D
Lab Smp Id: HS17120912-09 Client Smp ID: HS17120912-09
Inj Date : 26-DEC-2017 18:34
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-09;HS17120912-09;;;
Misc Info : HS15080001;WATER;0;100;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 18
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

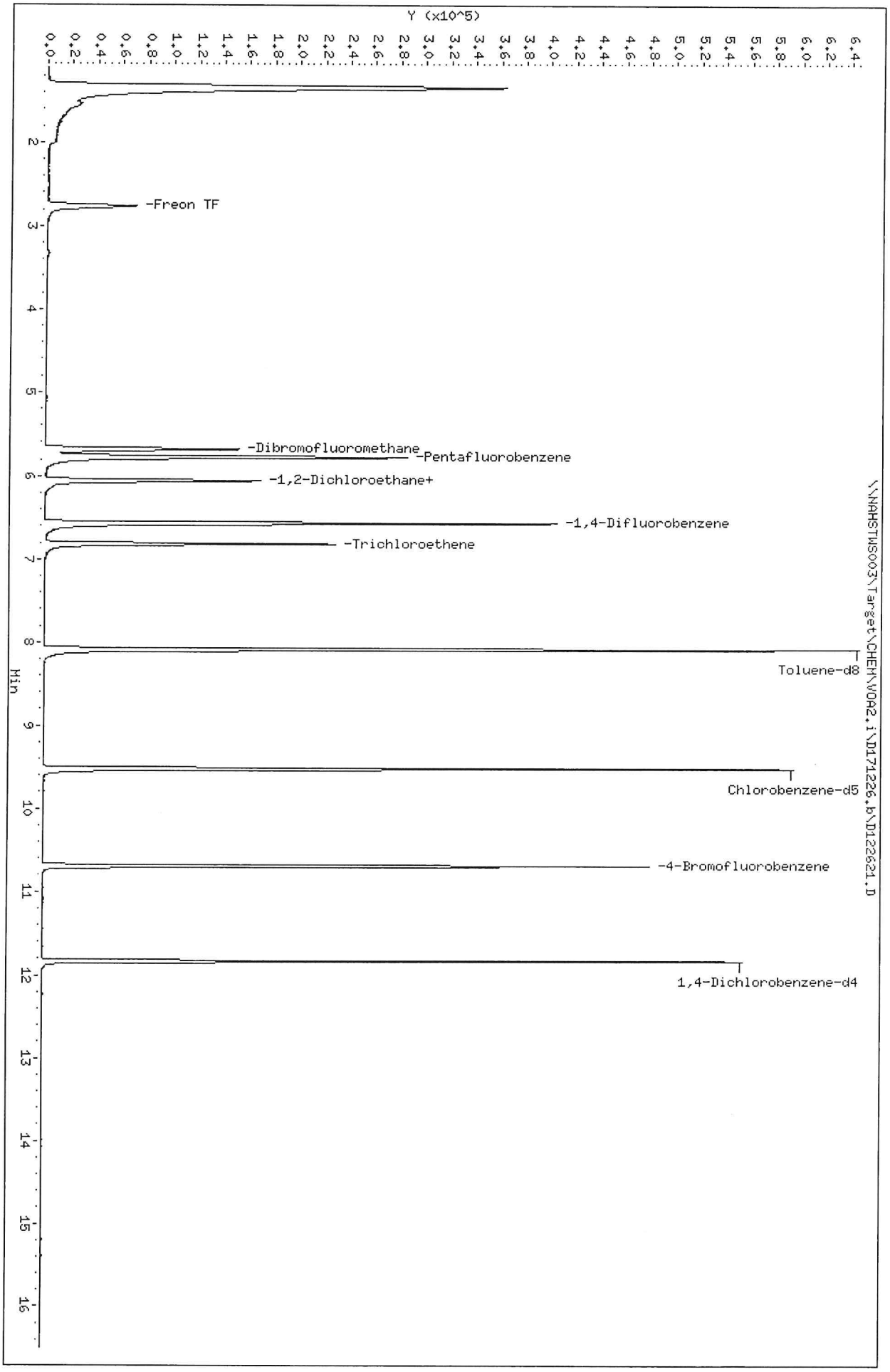
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	271934	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	118385	48.3194	48.31
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	387950	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	139024	45.9437	45.94
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	343849	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	442243	48.7810	48.78
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	157507	47.5768	47.57
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	150083	50.0000	
33 1,2-Dichloroethane	62	6.135	6.145	(0.934)	2860	0.73654	73.65(aM)
38 Trichloroethene	130	6.816	6.816	(1.038)	93601	32.5744	3257.44

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122621.D
Date : 26-DEC-2017 18:34
Client ID: HS17120912-09
Sample Info: HS17120912-09;HS17120912-09;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122621.D

Date : 26-DEC-2017 18:34

Client ID: HS17120912-09

Instrument: VOA2.i

Sample Info: HS17120912-09;HS17120912-09;;;

Purge Volume: 5.0

Operator: AP

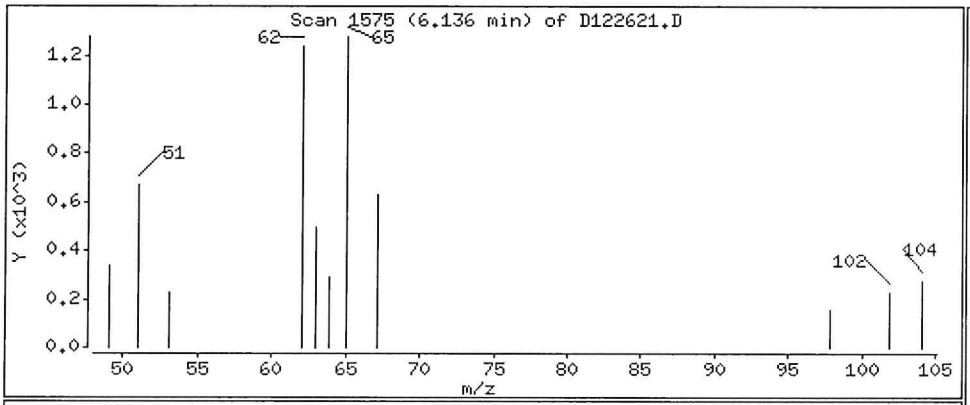
Column phase: DB624

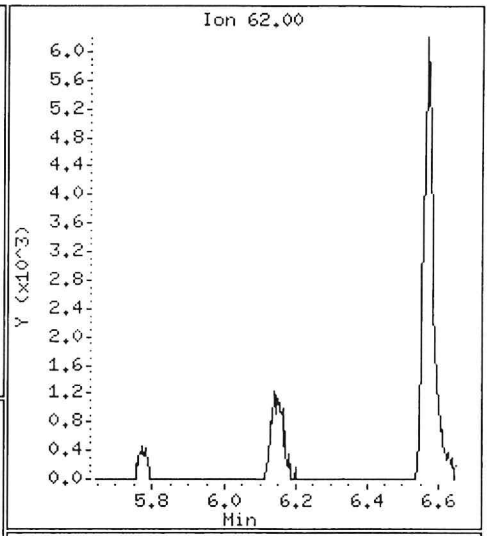
Column diameter: 0.18

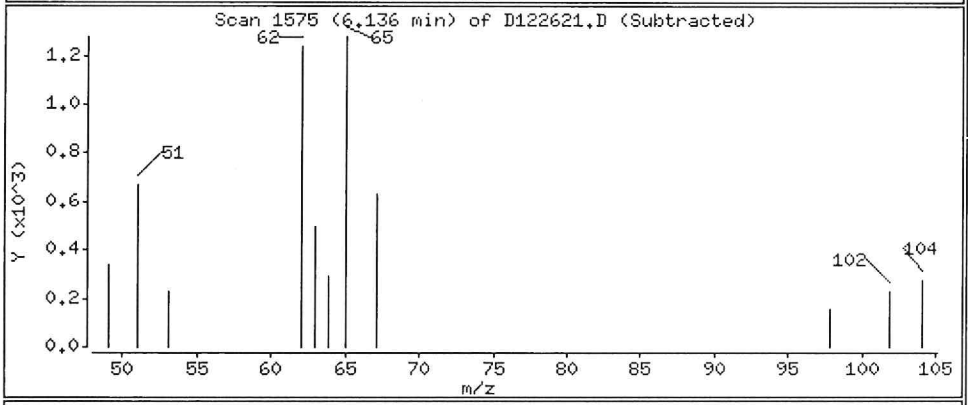
33 1,2-Dichloroethane

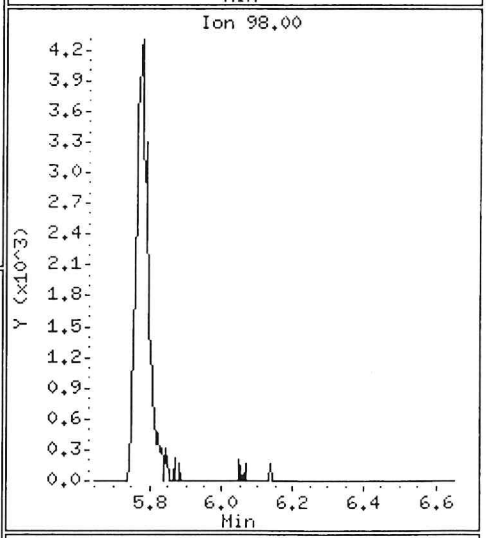
Concentration: 73.65 ug/l

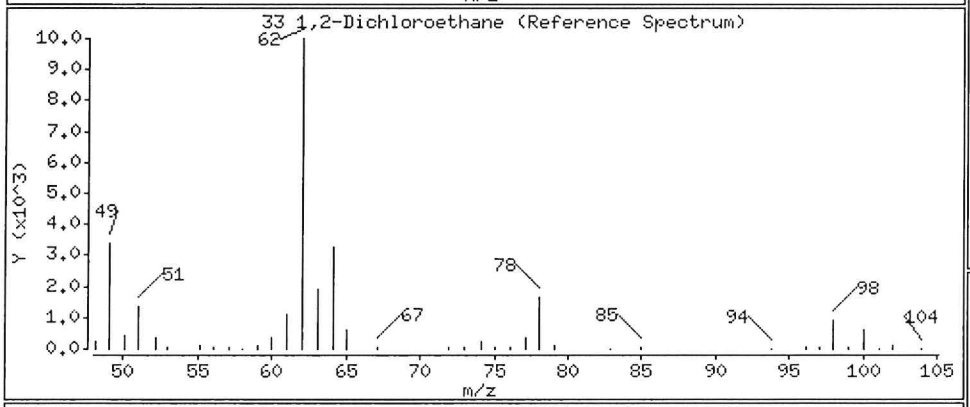
Review Code:

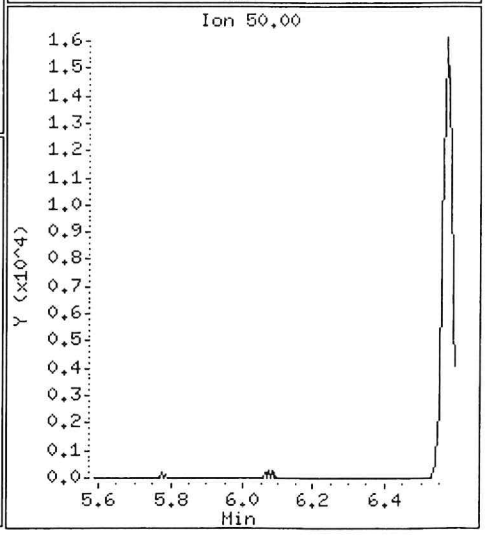


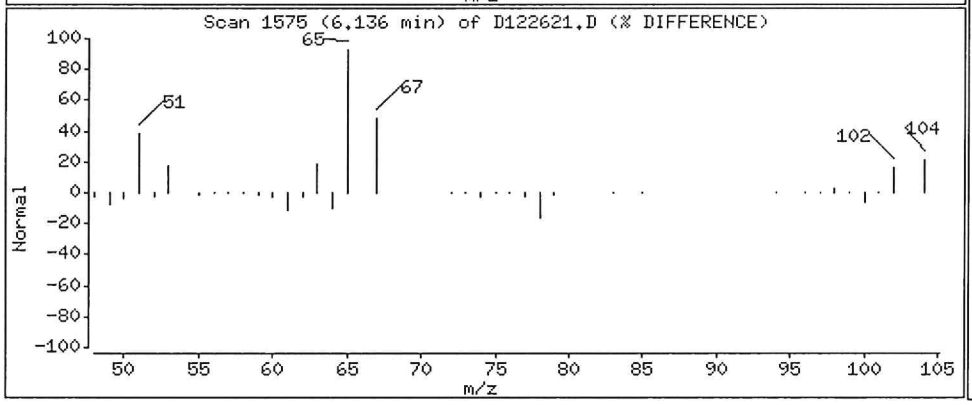












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122621.D

Date : 26-DEC-2017 18:34

Client ID: HS17120912-09

Instrument: VOA2.i

Sample Info: HS17120912-09;HS17120912-09;;;

Purge Volume: 5.0

Operator: AP

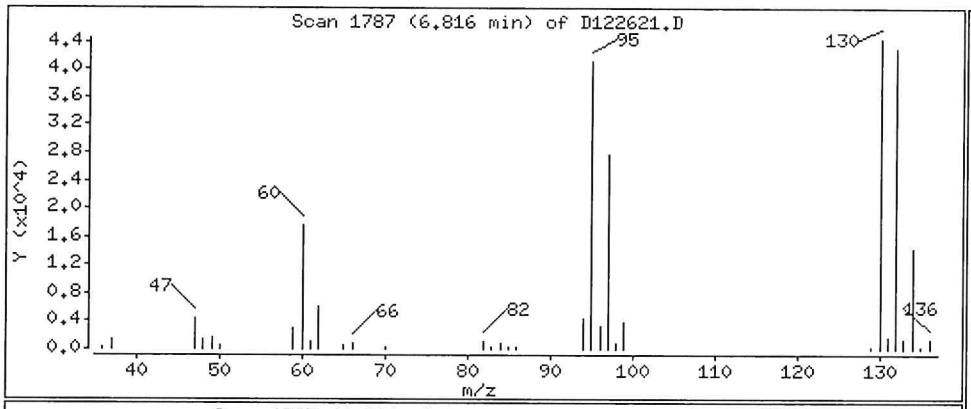
Column phase: DB624

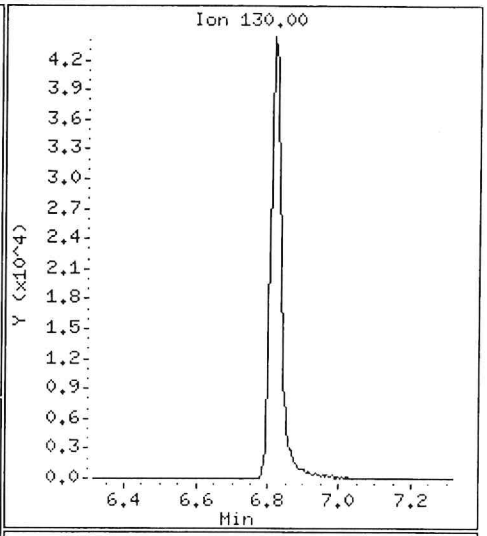
Column diameter: 0.18

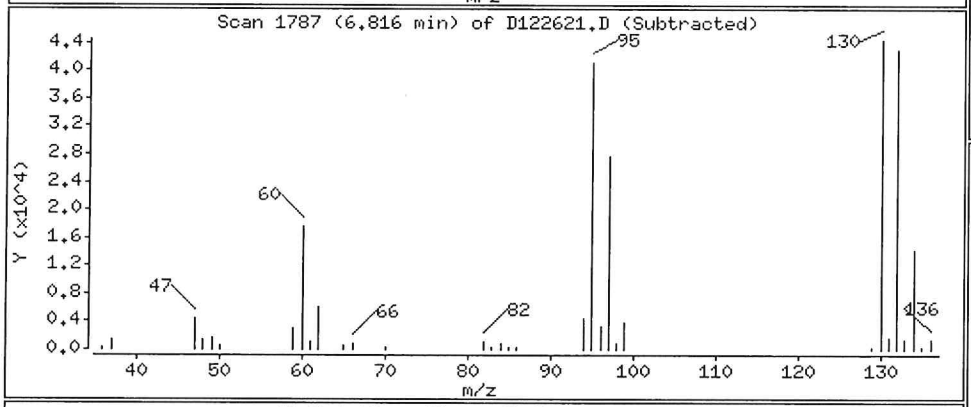
38 Trichloroethene

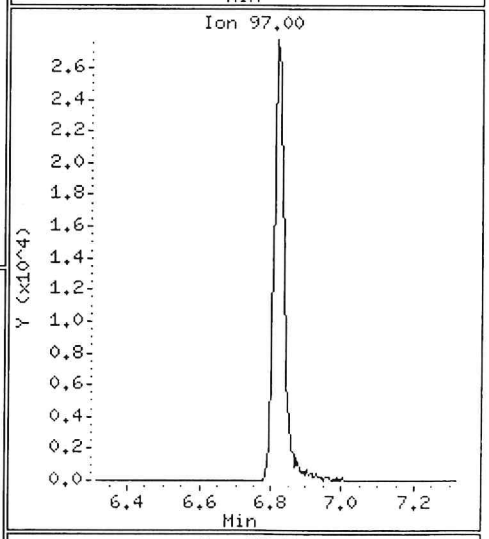
Concentration: 3257.44 ug/l

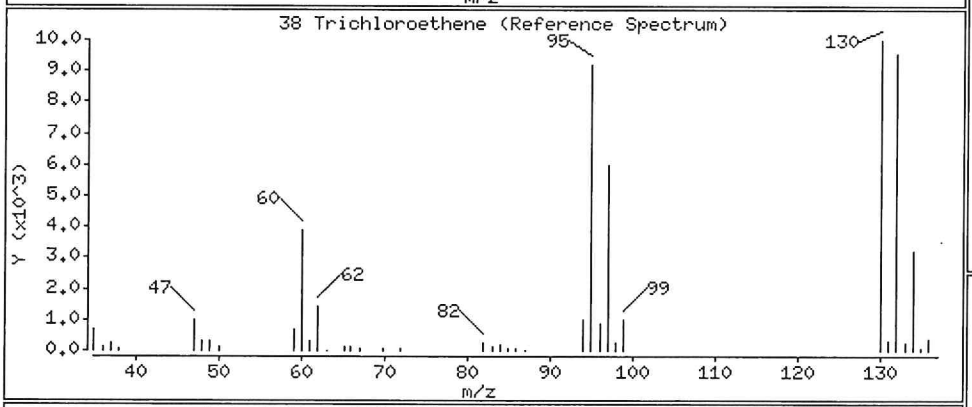
Review Code:

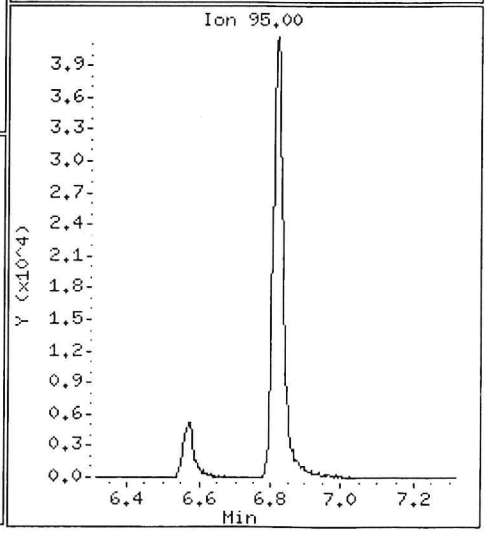


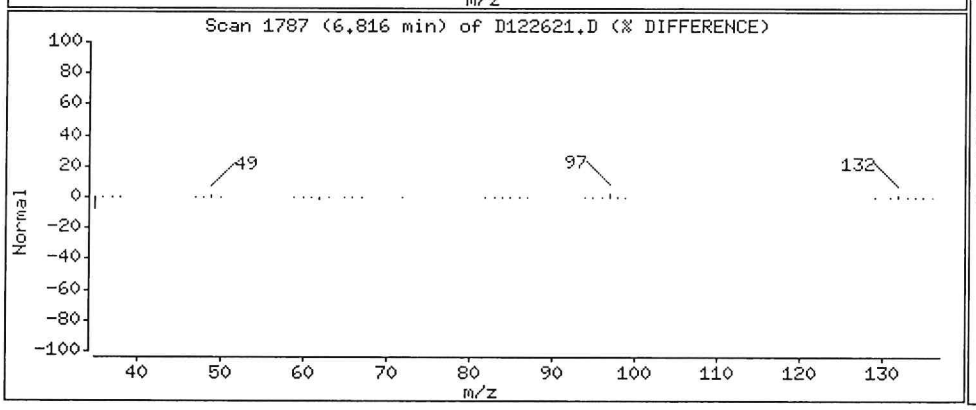












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122622.D
Lab Smp Id: HS17120912-10 Client Smp ID: HS17120912-10
Inj Date : 26-DEC-2017 19:01
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-10;HS17120912-10;;;
Misc Info : HS15080001;WATER;0;10;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 19
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

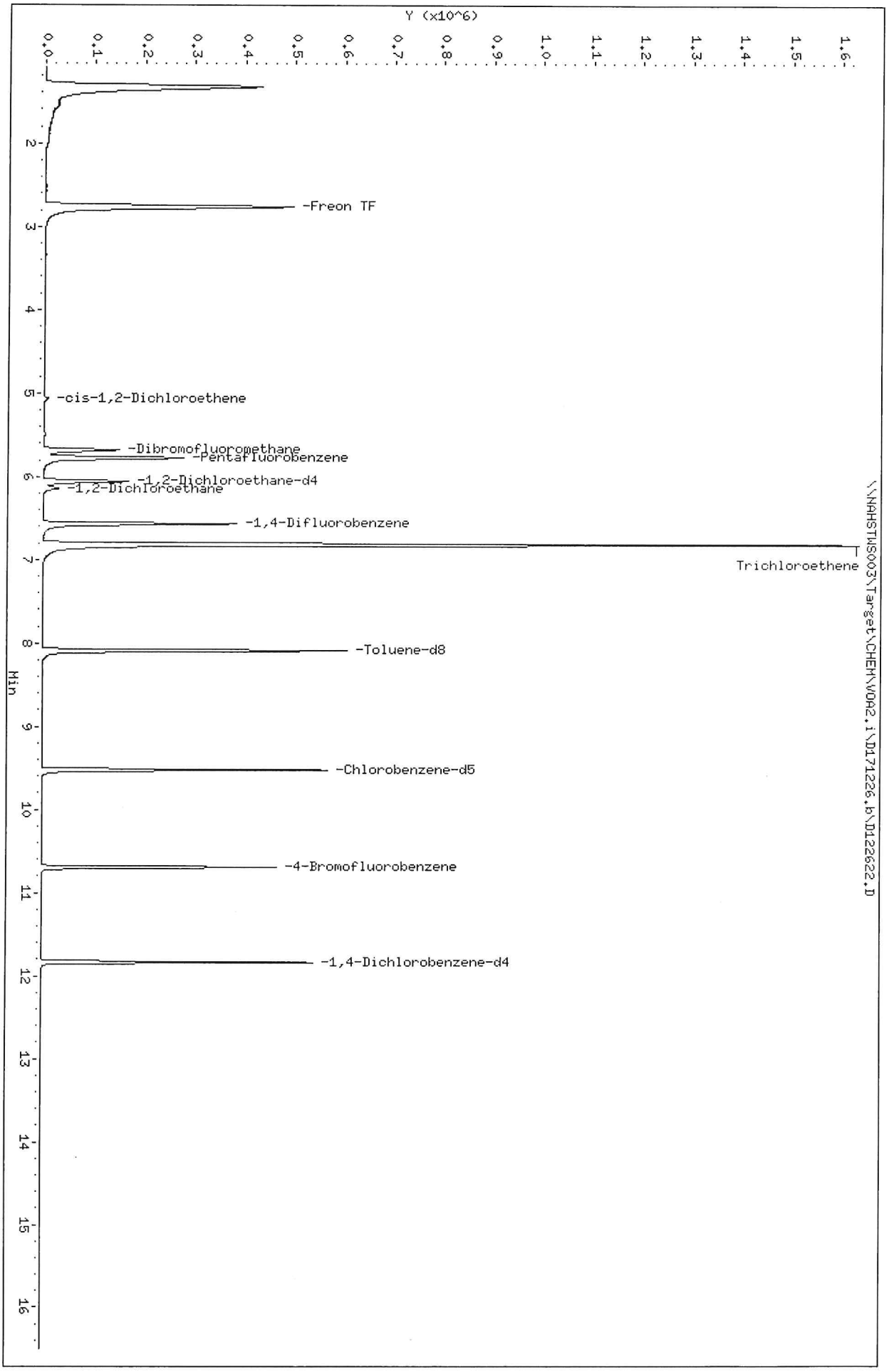
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.773	5.782	(1.000)	264515	50.0000	
$ 30 Dibromofluoromethane	113	5.680	5.686	(0.984)	117746	49.4065	49.40
* 36 1,4-Difluorobenzene	114	6.565	6.572	(1.000)	369831	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.049)	138677	47.1144	47.11
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	318743	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	414221	49.2889	49.28
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	149573	48.7389	48.73
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	145188	50.0000	
33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	26145	7.92261	79.22
27 cis-1,2-Dichloroethene	96	5.064	5.070	(0.877)	4617	1.53423	15.34(a)
38 Trichloroethene	130	6.816	6.816	(1.038)	656678	239.729	2397.29(A)

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122622.D
Date : 26-DEC-2017 19:01
Client ID: HS17120912-10
Sample Info: HS17120912-10;HS17120912-10;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122622.D

Date : 26-DEC-2017 19:01

Client ID: HS17120912-10

Instrument: VOA2.i

Sample Info: HS17120912-10;HS17120912-10;;;

Purge Volume: 5.0

Operator: AP

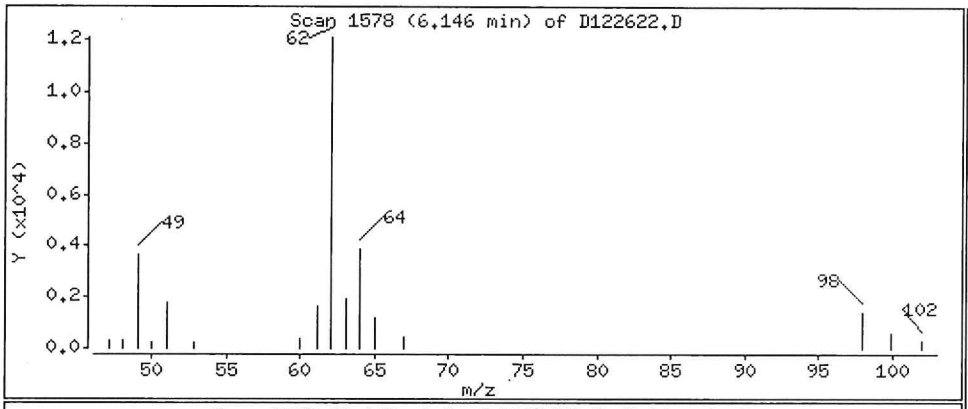
Column phase: DB624

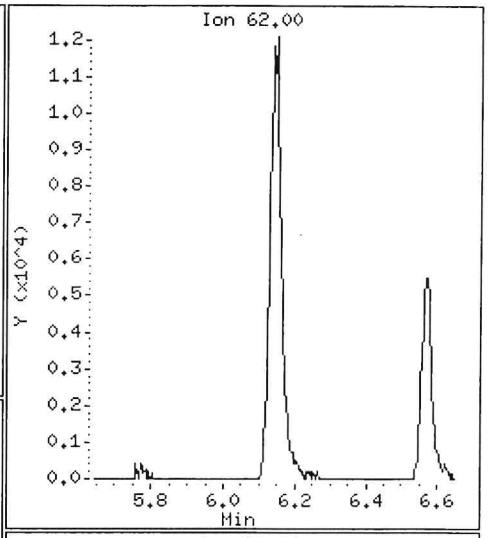
Column diameter: 0.18

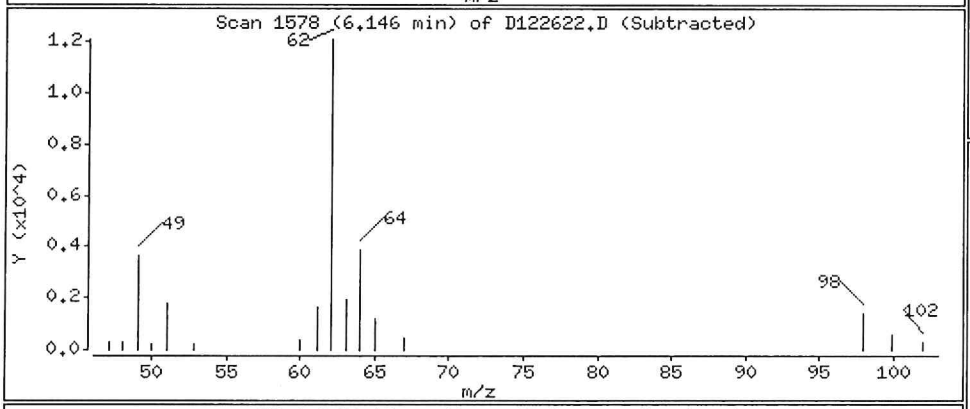
33 1,2-Dichloroethane

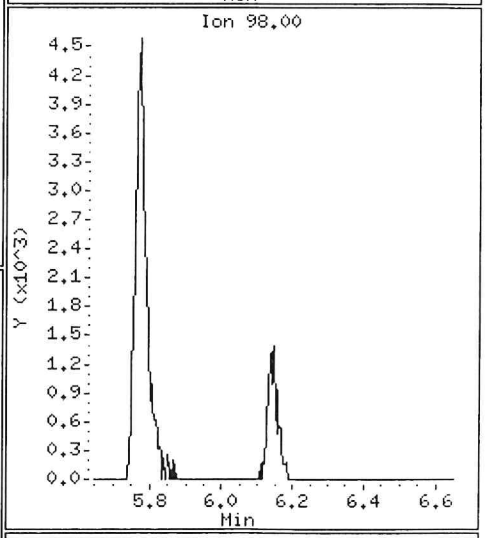
Concentration: 79.22 ug/l

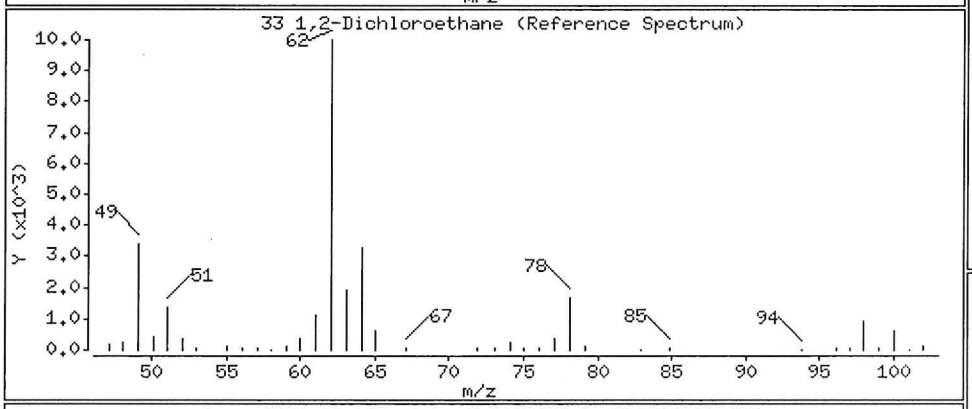
Review Code:

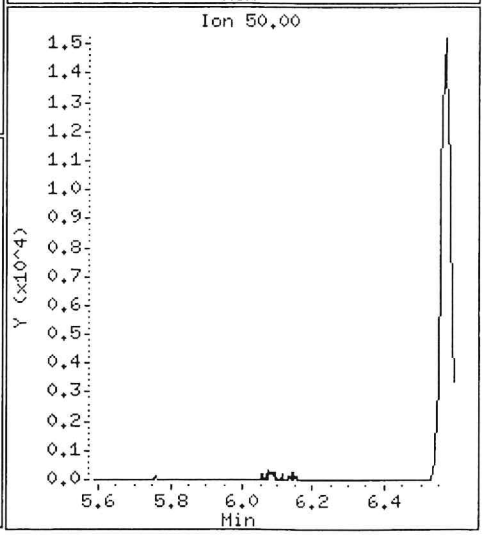


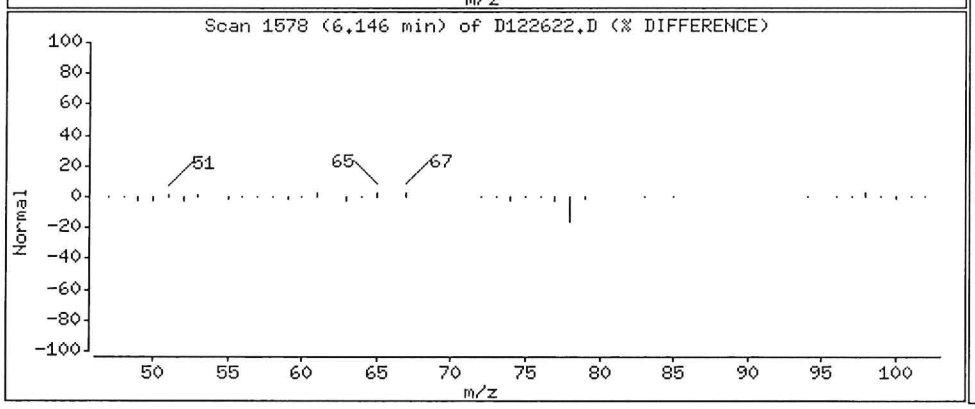












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122622.D

Date : 26-DEC-2017 19:01

Client ID: HS17120912-10

Instrument: VOA2.i

Sample Info: HS17120912-10;HS17120912-10;;;

Purge Volume: 5.0

Operator: AP

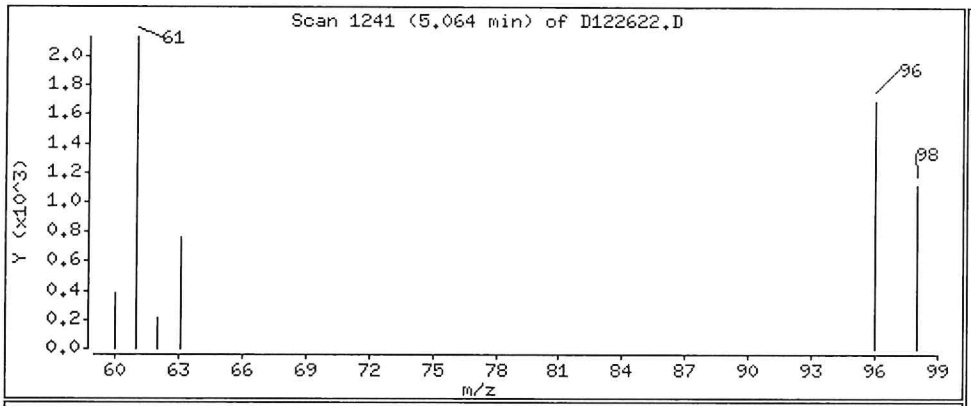
Column phase: DB624

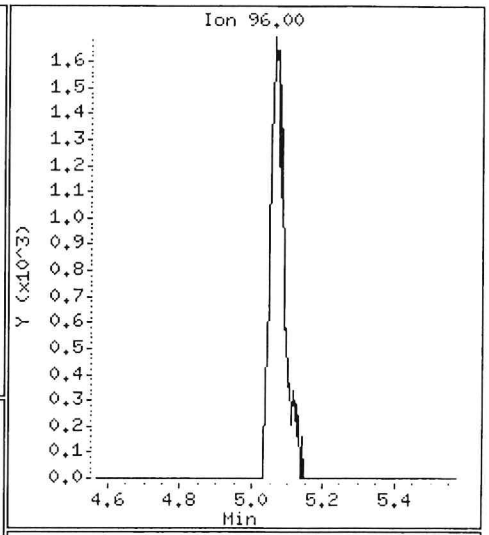
Column diameter: 0.18

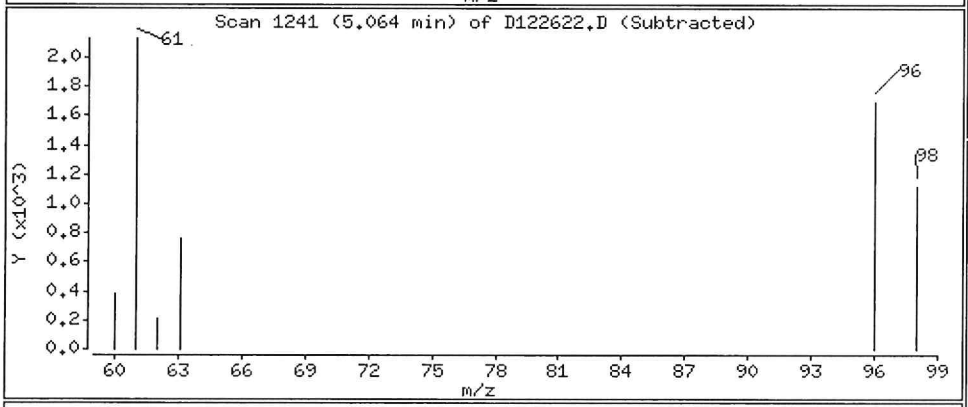
27 cis-1,2-Dichloroethene

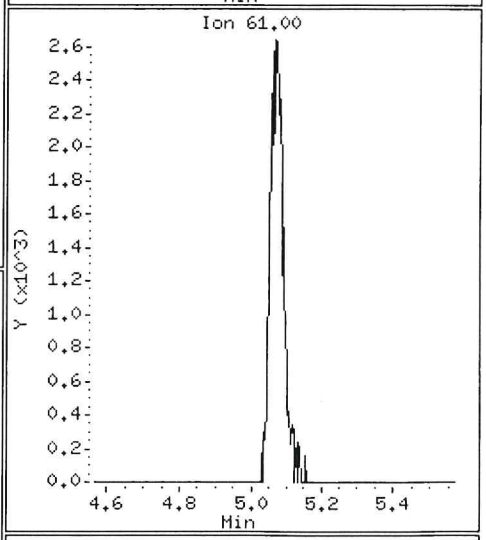
Concentration: 15.34 ug/l

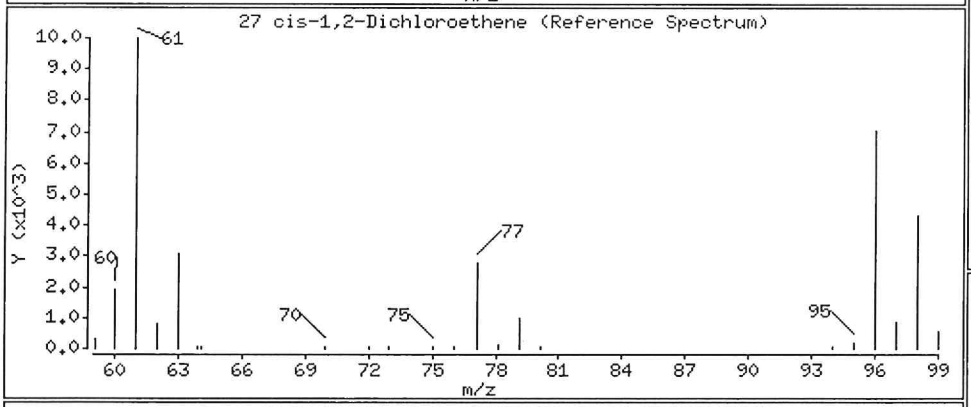
Review Code:

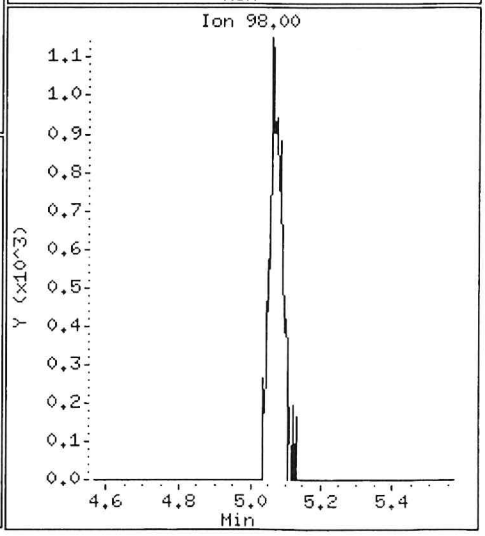


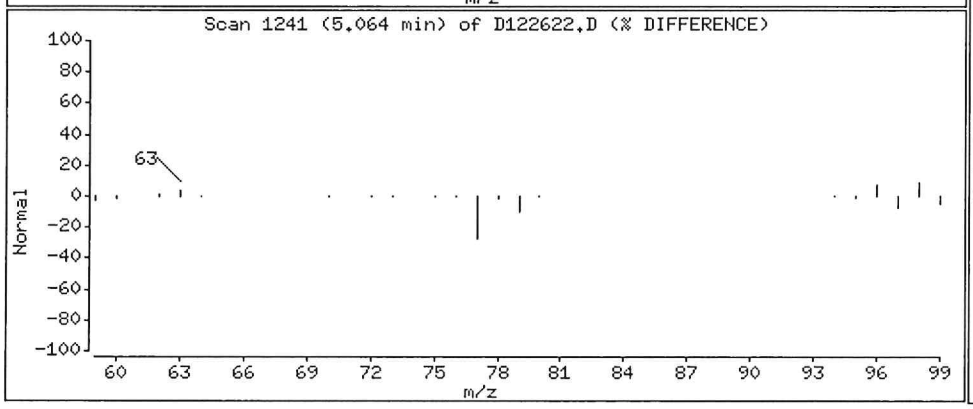












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122622.D

Date : 26-DEC-2017 19:01

Client ID: HS17120912-10

Instrument: VOA2.i

Sample Info: HS17120912-10;HS17120912-10;;;

Purge Volume: 5.0

Operator: AP

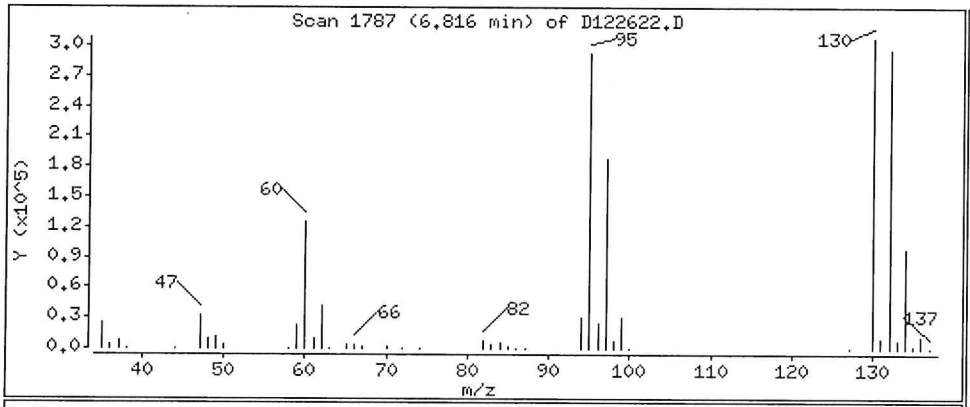
Column phase: DB624

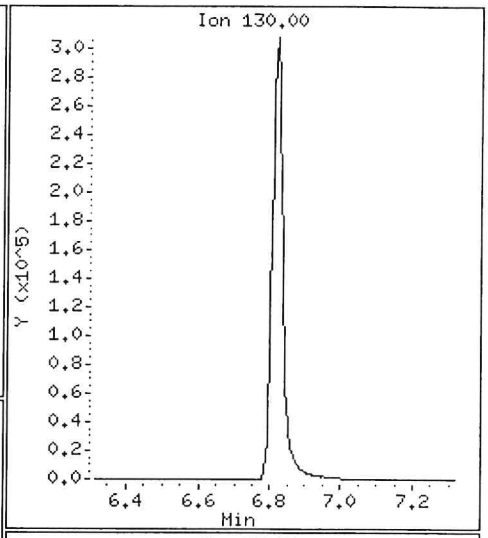
Column diameter: 0.18

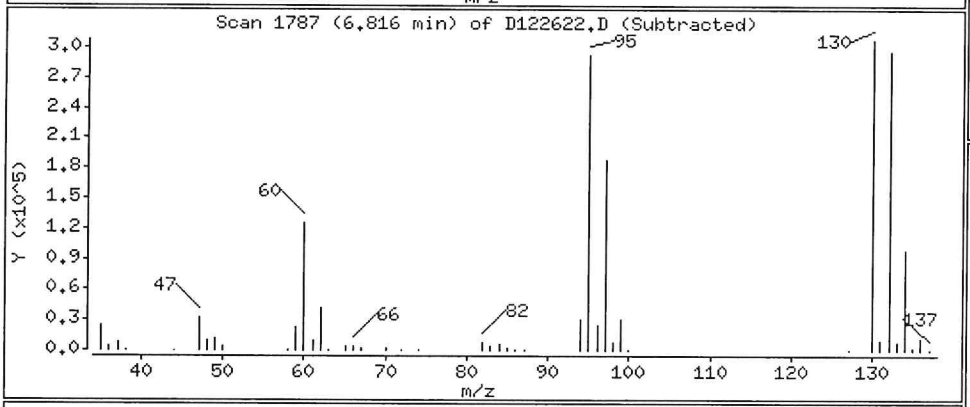
38 Trichloroethene

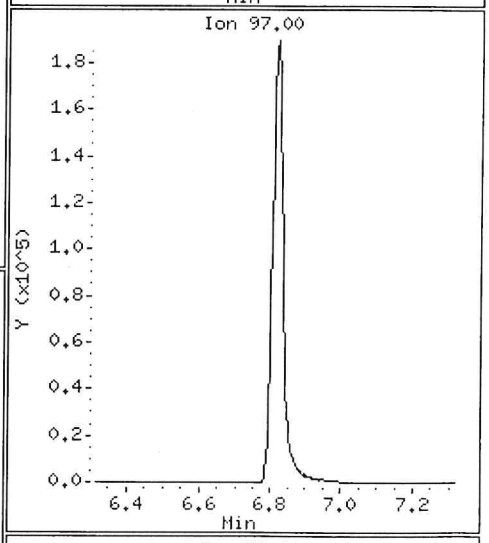
Concentration: 2397.29 ug/l

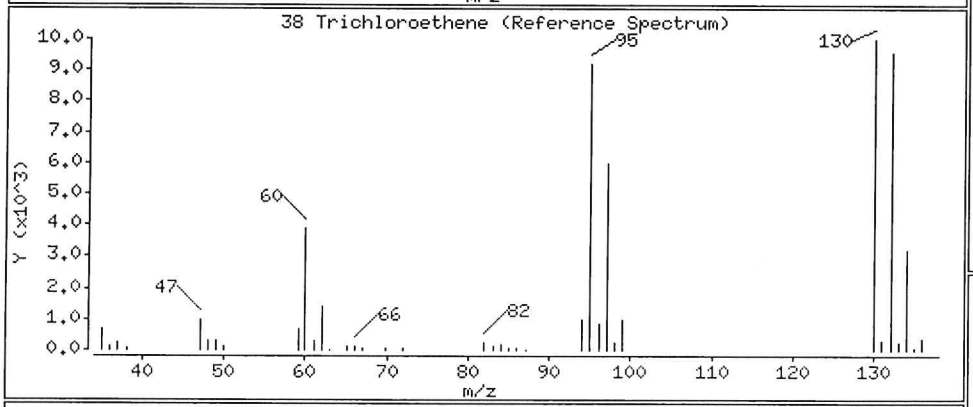
Review Code:

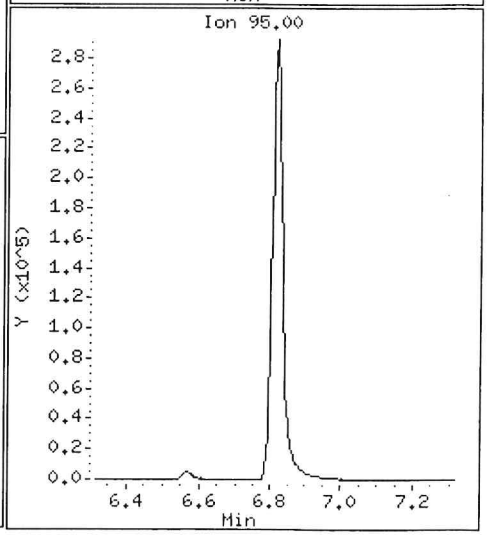


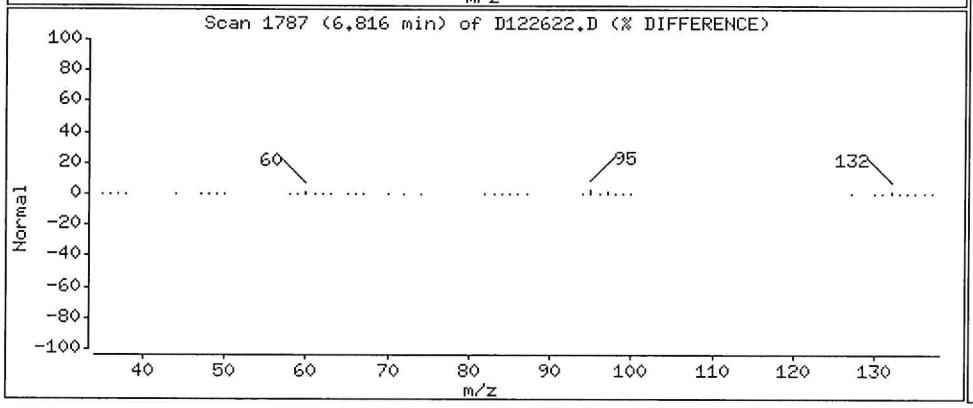












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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122623.D
Lab Smp Id: HS17120912-10 Client Smp ID: HS17120912-10
Inj Date : 26-DEC-2017 19:29
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-10;HS17120912-10;;;
Misc Info : HS15080001;WATER;0;100;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 19
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

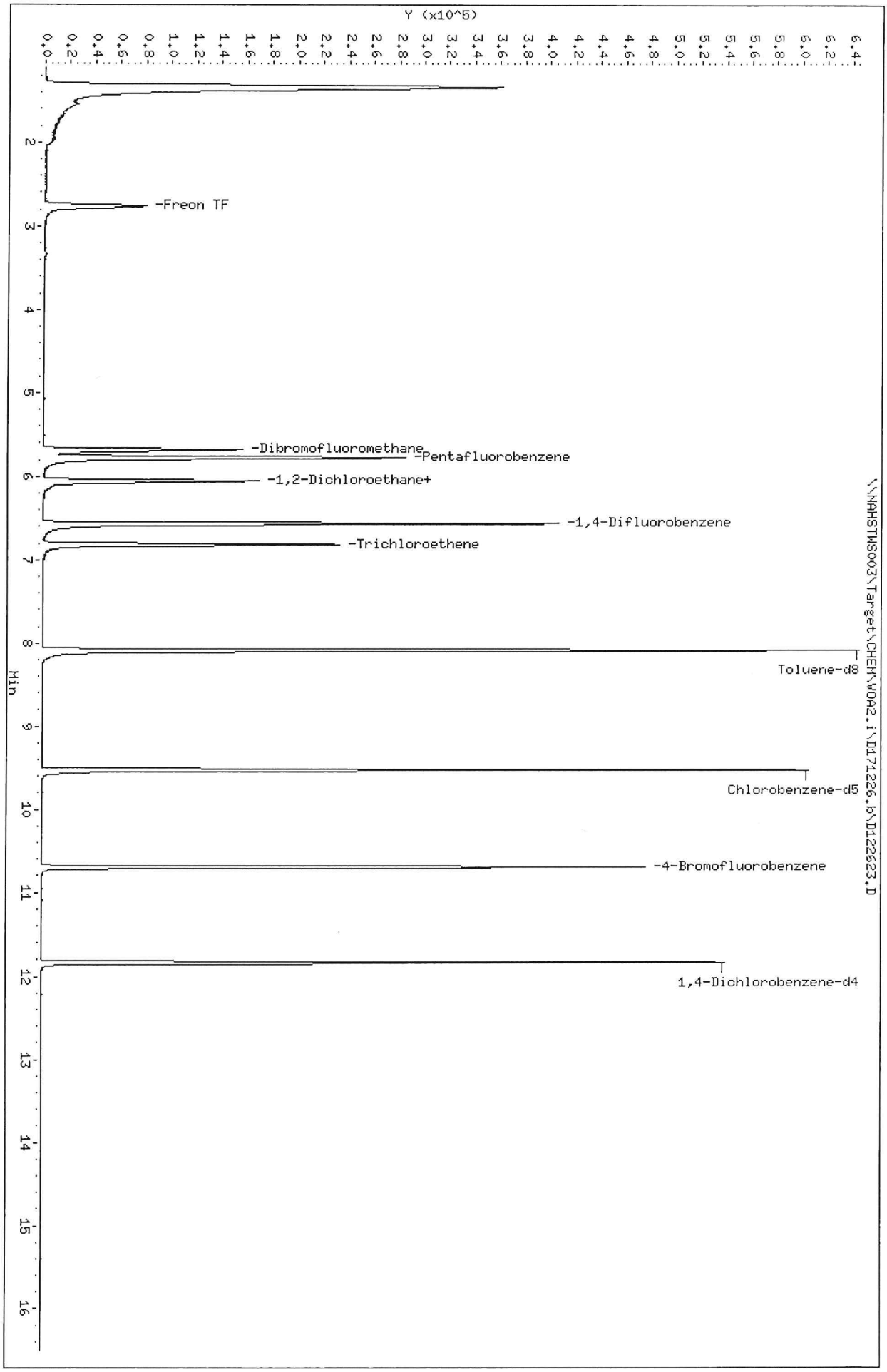
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.782	(1.000)	271375	50.0000	
$ 30 Dibromofluoromethane	113	5.680	5.686	(0.983)	121298	49.6103	49.61
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	386245	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.052	6.058	(1.048)	138766	45.9529	45.95
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	341464	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	446379	49.5811	49.58
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	156184	47.5067	47.50
* 70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	146637	50.0000	
33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	2521	0.64063	64.06(a)
38 Trichloroethene	130	6.816	6.816	(1.038)	92263	32.2505	3225.05

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122623.D
Date : 26-DEC-2017 19:29
Client ID: HS17120912-10
Sample Info: HS17120912-10;HS17120912-10;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122623.D

Date : 26-DEC-2017 19:29

Client ID: HS17120912-10

Instrument: VOA2.i

Sample Info: HS17120912-10;HS17120912-10;;;

Purge Volume: 5.0

Operator: AP

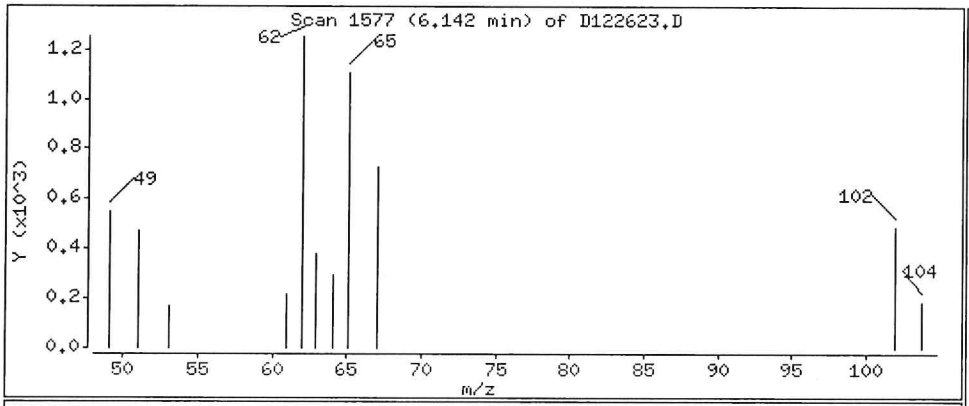
Column phase: DB624

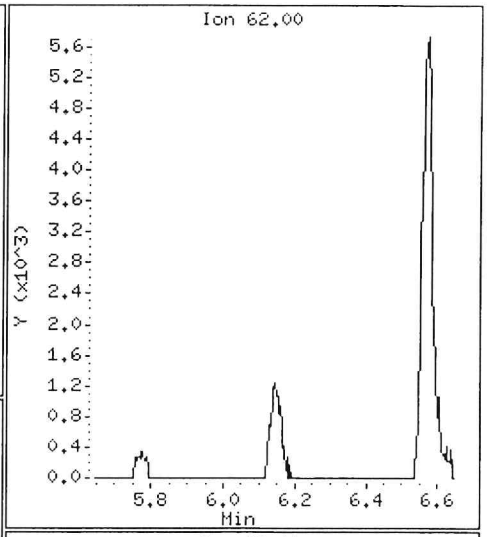
Column diameter: 0.18

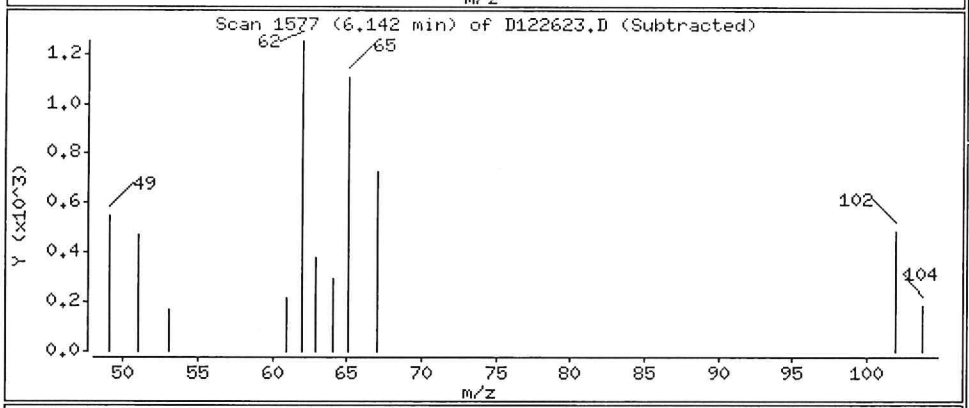
33 1,2-Dichloroethane

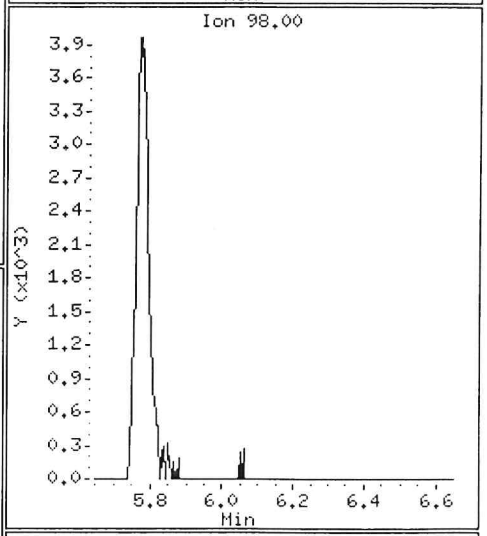
Concentration: 64.06 ug/l

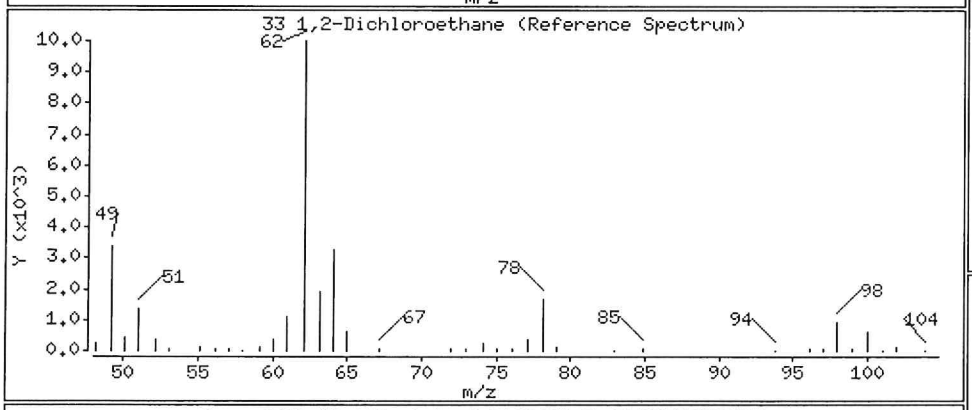
Review Code:

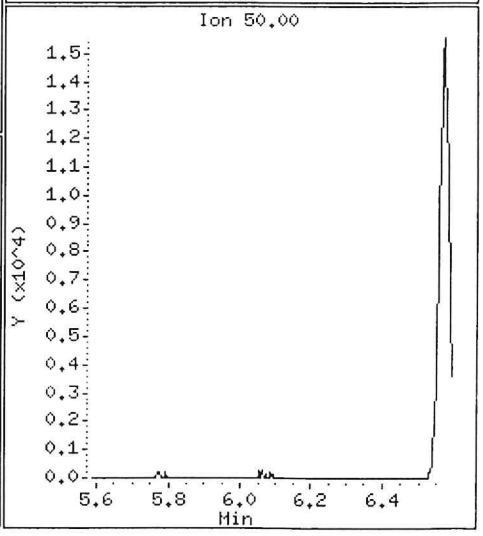


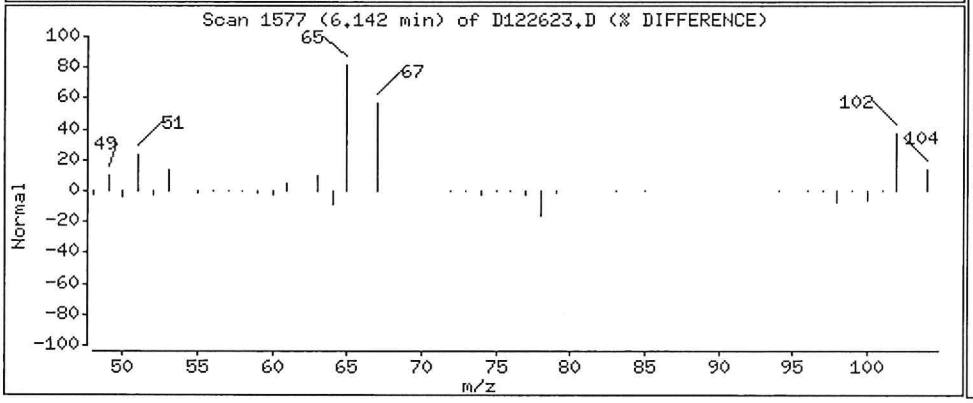












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122623.D

Date : 26-DEC-2017 19:29

Client ID: HS17120912-10

Instrument: VOA2.i

Sample Info: HS17120912-10;HS17120912-10;;;

Purge Volume: 5.0

Operator: AP

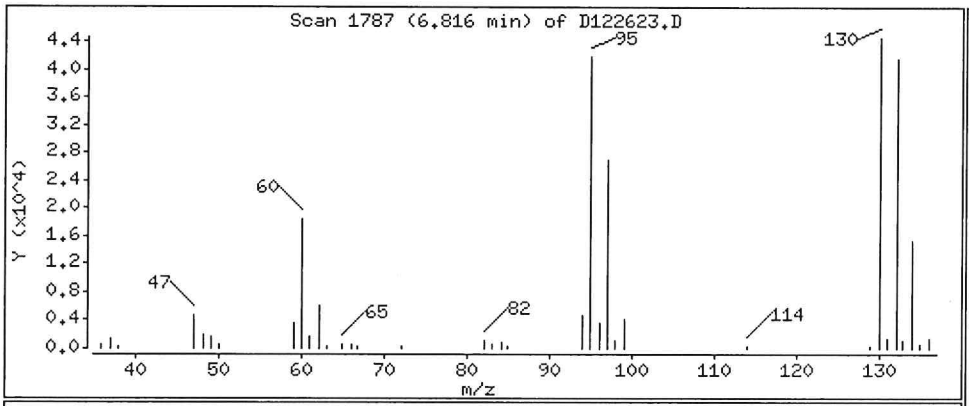
Column phase: DB624

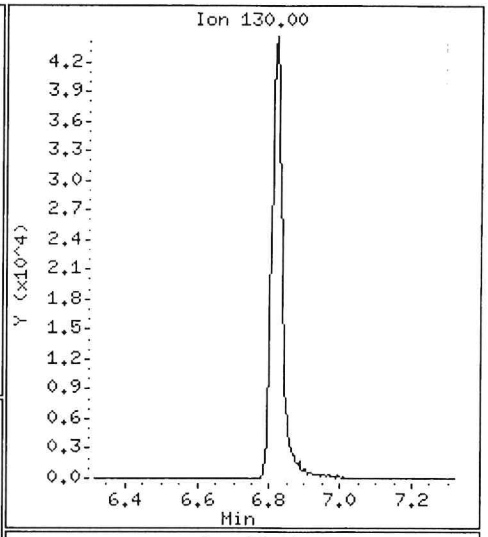
Column diameter: 0.18

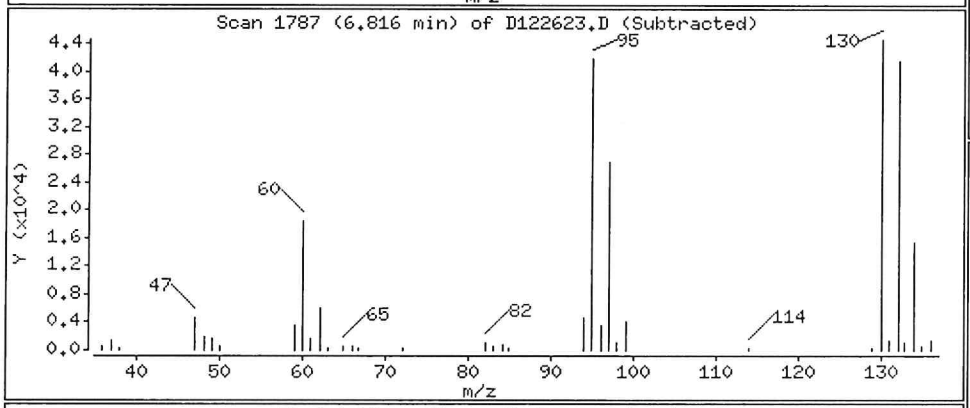
38 Trichloroethene

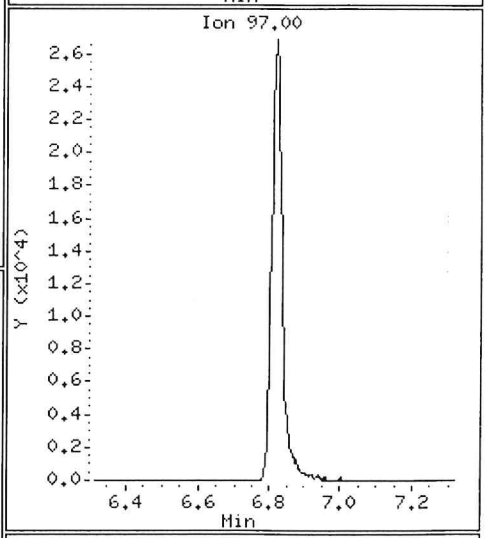
Concentration: 3225.05 ug/l

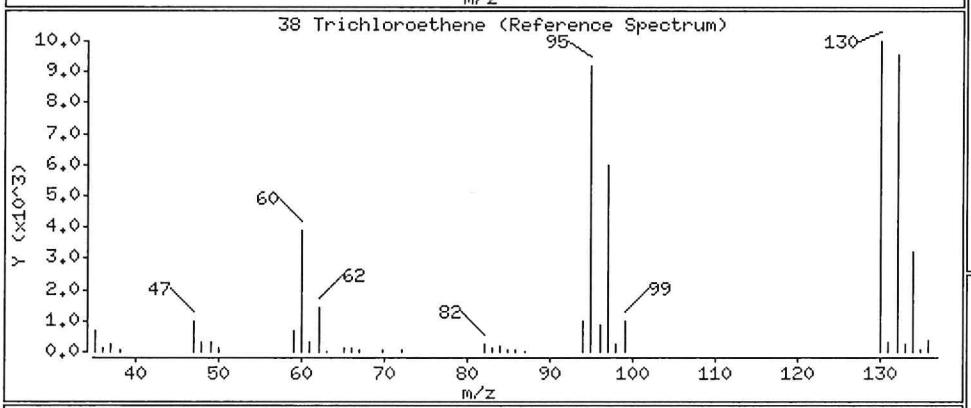
Review Code:

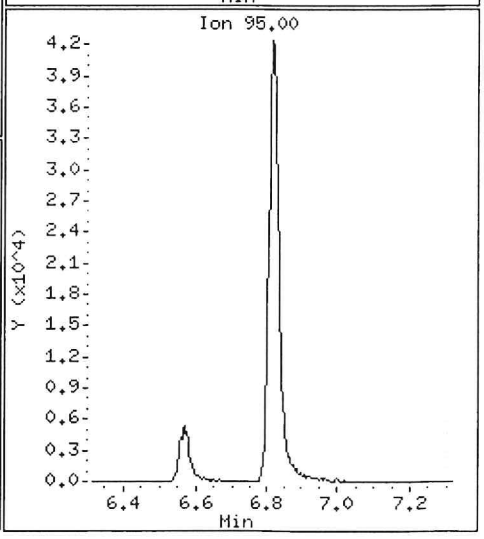


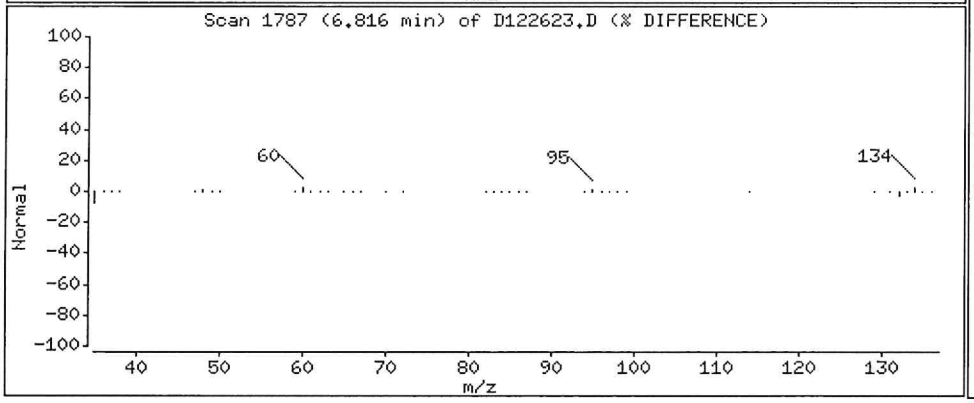












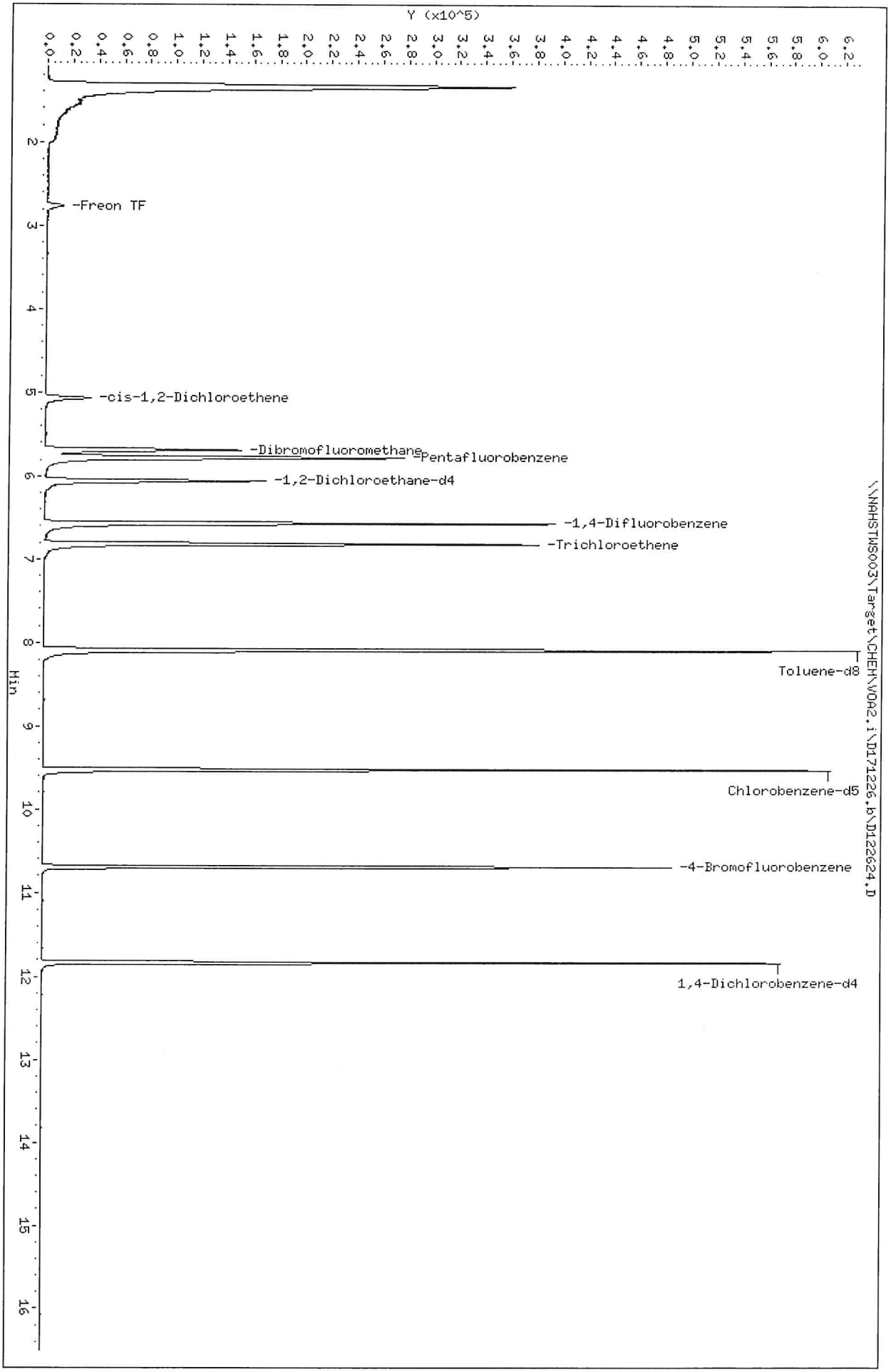
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122624.D
Lab Smp Id: HS17120912-03 Client Smp ID: HS17120912-03
Inj Date : 26-DEC-2017 19:53
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-03;HS17120912-03;;;
Misc Info : HS15080001;WATER;0;500;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 20
Dil Factor: 500.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	500.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	261134	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	117008	49.7325	49.73
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	374987	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	134868	46.4136	46.41
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	340087	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	431118	48.0799	48.07
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	162098	49.5052	49.50
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	152579	50.0000	
27 cis-1,2-Dichloroethene	96	5.064	5.070	(0.876)	22381	7.53348	3766.74
38 Trichloroethene	130	6.819	6.816	(1.038)	150349	54.1323	27066.14



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122624.D
Date : 26-DEC-2017 19:53
Client ID: HS17120912-03
Sample Info: HS17120912-03;HS17120912-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122624.D

Date : 26-DEC-2017 19:53

Client ID: HS17120912-03

Instrument: VOA2.i

Sample Info: HS17120912-03;HS17120912-03;;;

Purge Volume: 5.0

Operator: AP

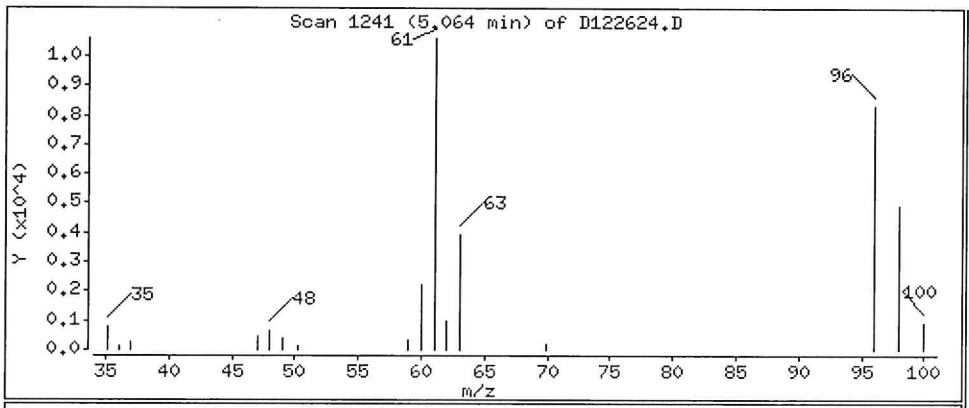
Column phase: DB624

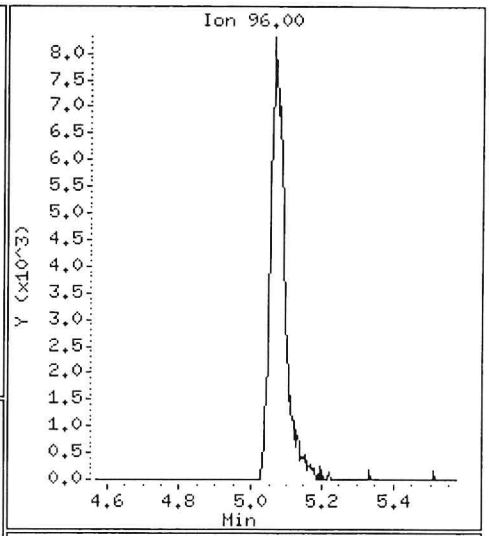
Column diameter: 0.18

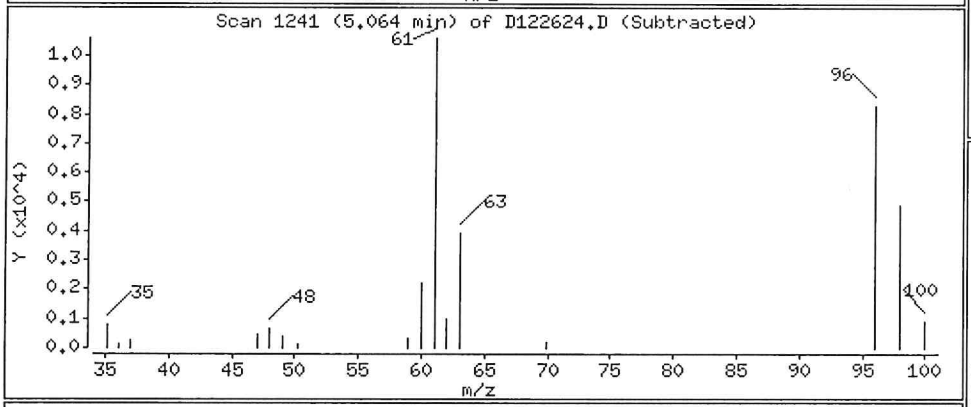
27 cis-1,2-Dichloroethene

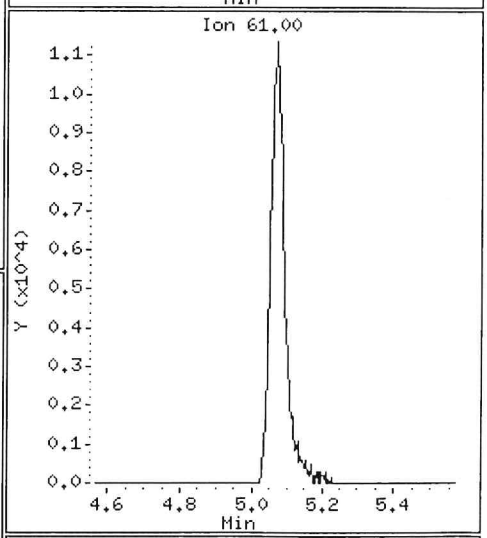
Concentration: 3766.74 ug/l

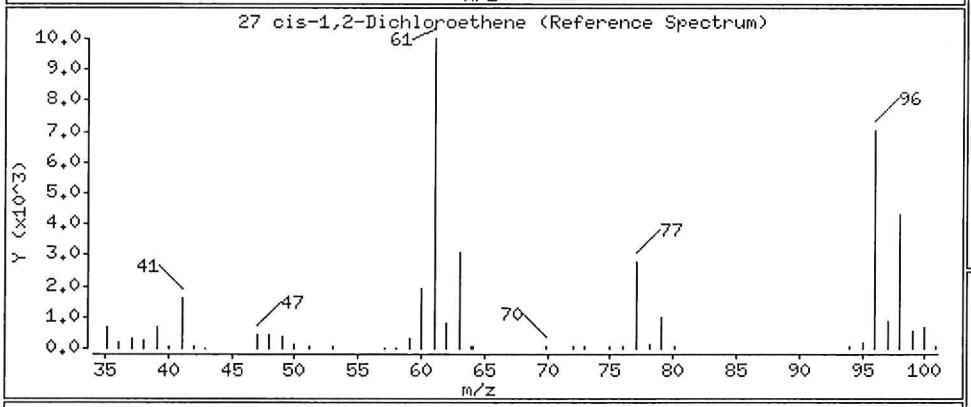
Review Code:

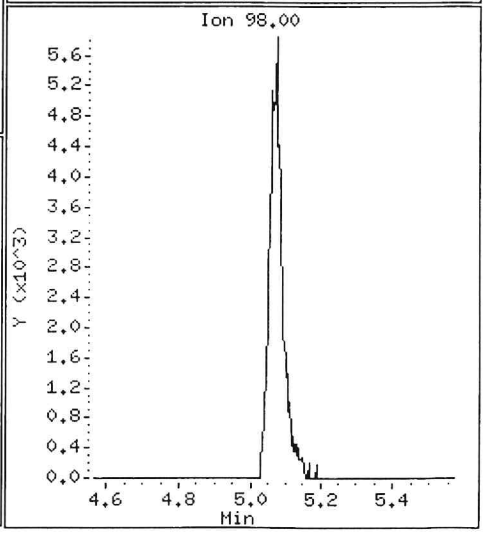


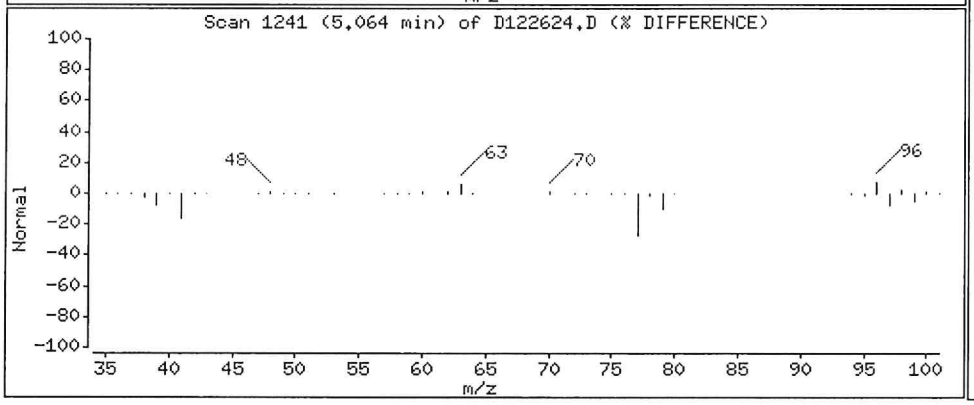












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122624.D

Date : 26-DEC-2017 19:53

Client ID: HS17120912-03

Instrument: VOA2.i

Sample Info: HS17120912-03;HS17120912-03;;;

Purge Volume: 5.0

Operator: AP

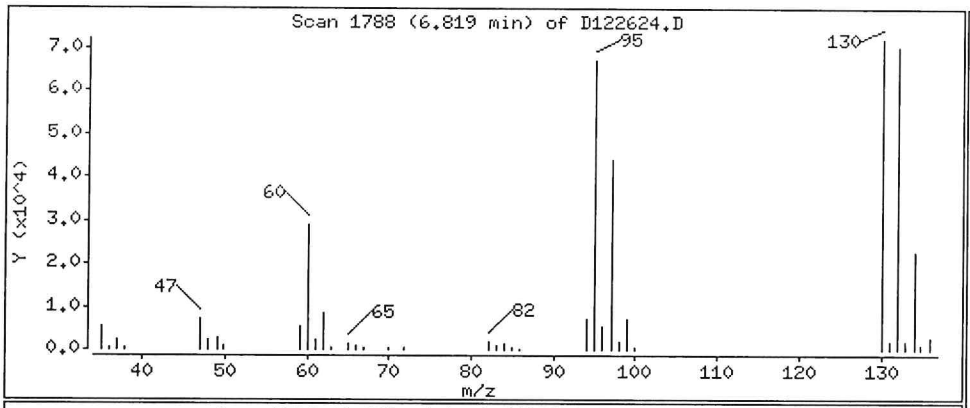
Column phase: DB624

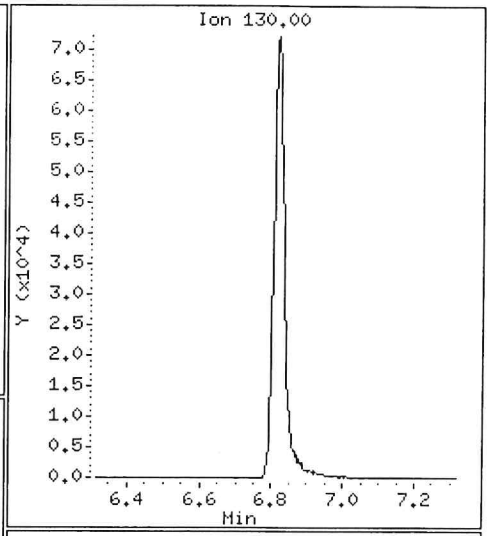
Column diameter: 0.18

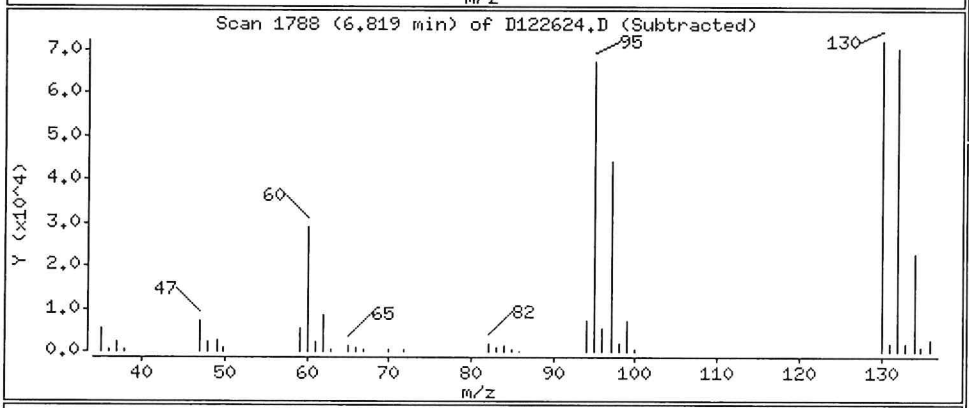
38 Trichloroethene

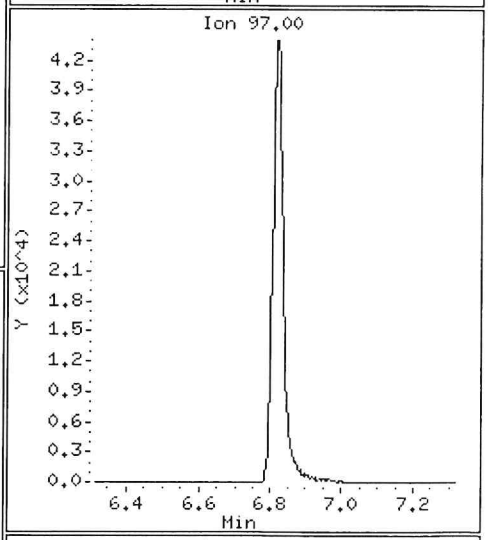
Concentration: 27066.14 ug/l

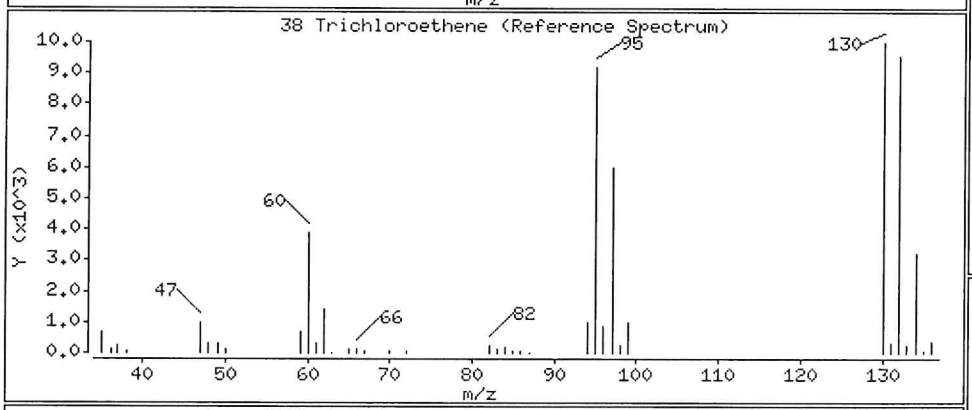
Review Code:

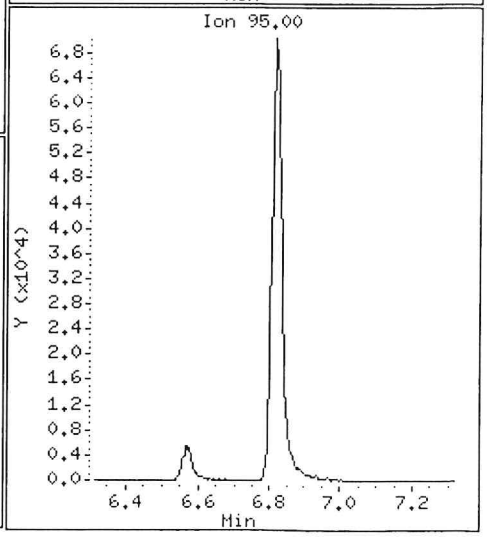


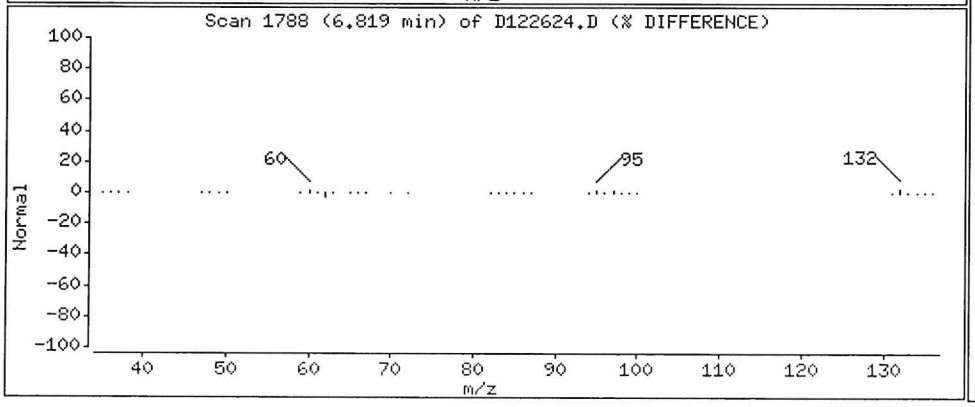












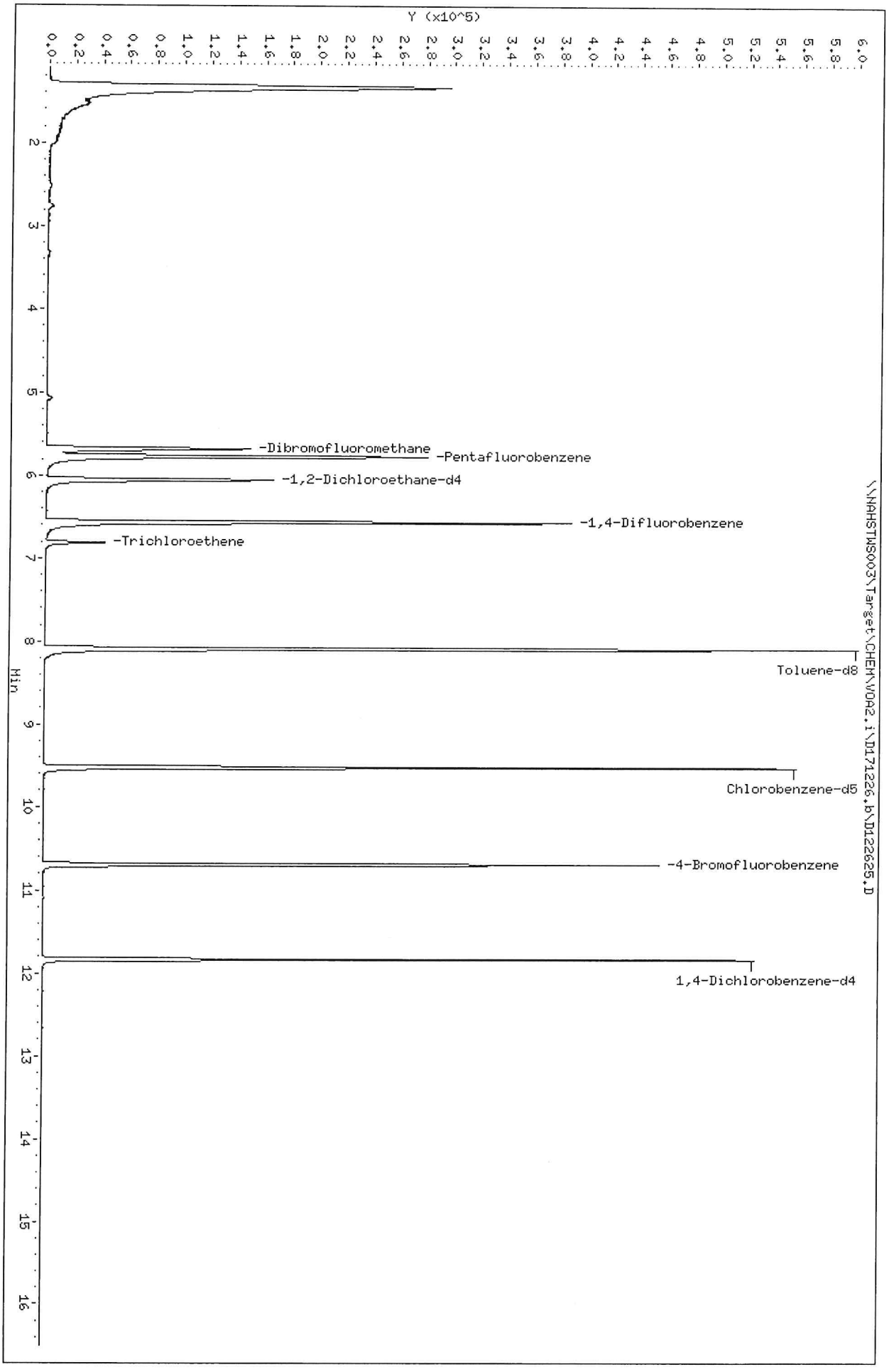
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122625.D
Lab Smp Id: HS17120912-03 Client Smp ID: HS17120912-03
Inj Date : 26-DEC-2017 20:20
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-03;HS17120912-03;;;
Misc Info : HS15080001;WATER;0;5000;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 20
Dil Factor: 5000.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	5000.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.773	5.782	(1.000)	263396	50.0000	
$	30 Dibromofluoromethane	113	5.680	5.686	(0.984)	116038	48.8967	48.89
*	36 1,4-Difluorobenzene	114	6.565	6.572	(1.000)	368859	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.049)	138294	47.1839	47.18
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	313917	50.0000	
$	48 Toluene-d8	98	8.086	8.093	(0.849)	410082	49.5465	49.54
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	149596	49.4958	49.49
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.838	(1.000)	139598	50.0000	
	38 Trichloroethene	130	6.816	6.816	(1.038)	16870	6.17486	30874.27



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122625.D
Date : 26-DEC-2017 20:20
Client ID: HS17120912-03
Sample Info: HS17120912-03;HS17120912-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122625.D

Date : 26-DEC-2017 20:20

Client ID: HS17120912-03

Instrument: VOA2.i

Sample Info: HS17120912-03;HS17120912-03;;;

Purge Volume: 5.0

Operator: AP

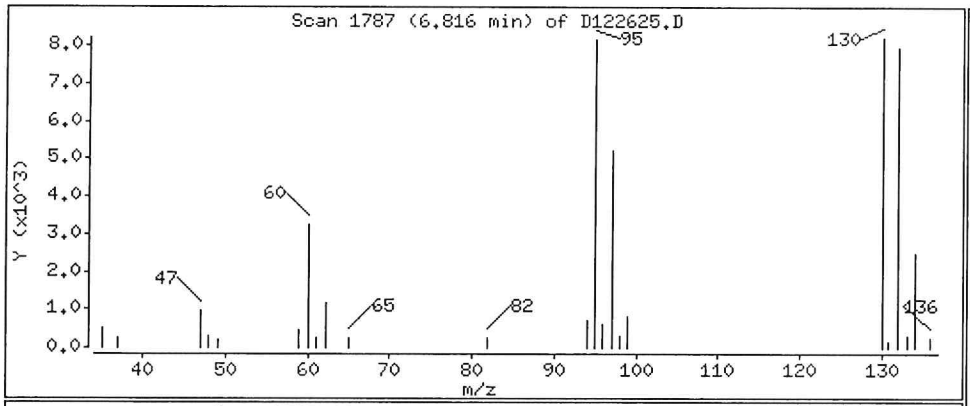
Column phase: DB624

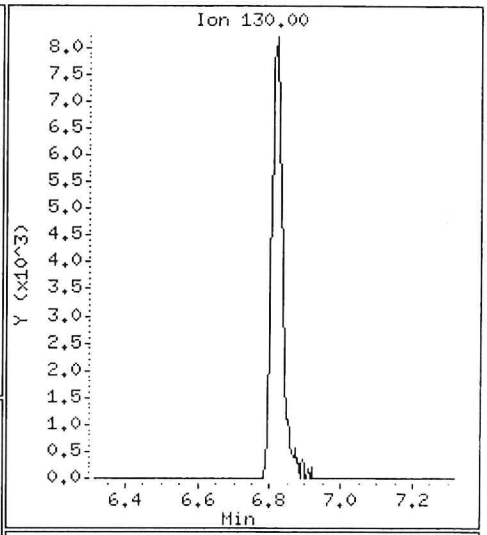
Column diameter: 0.18

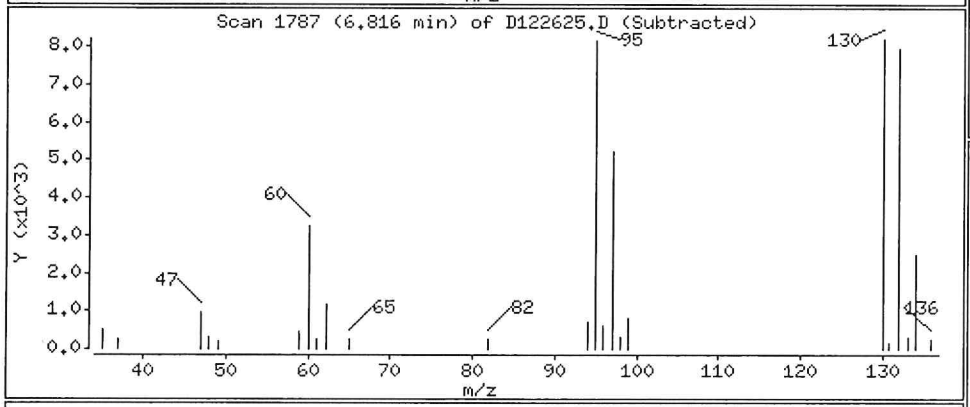
38 Trichloroethene

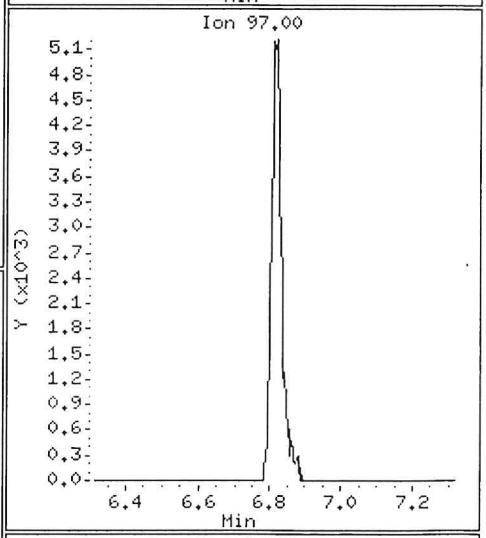
Concentration: 30874.27 ug/l

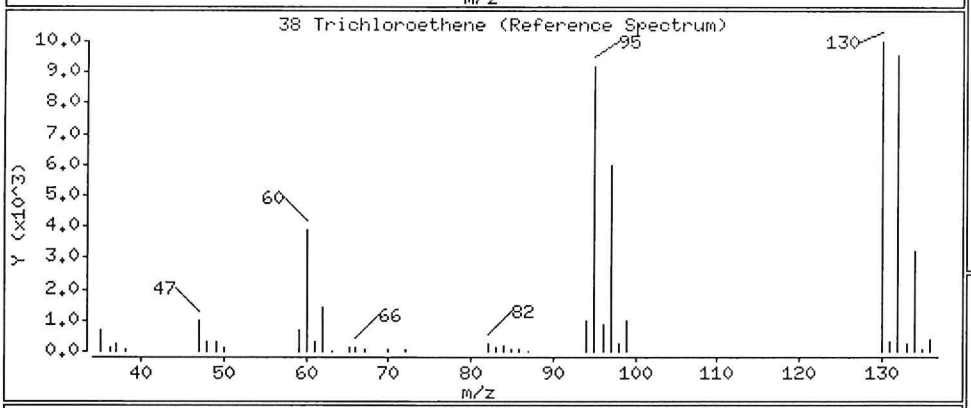
Review Code:

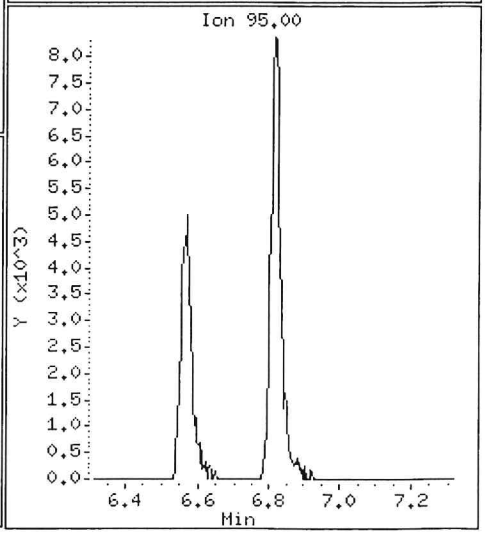


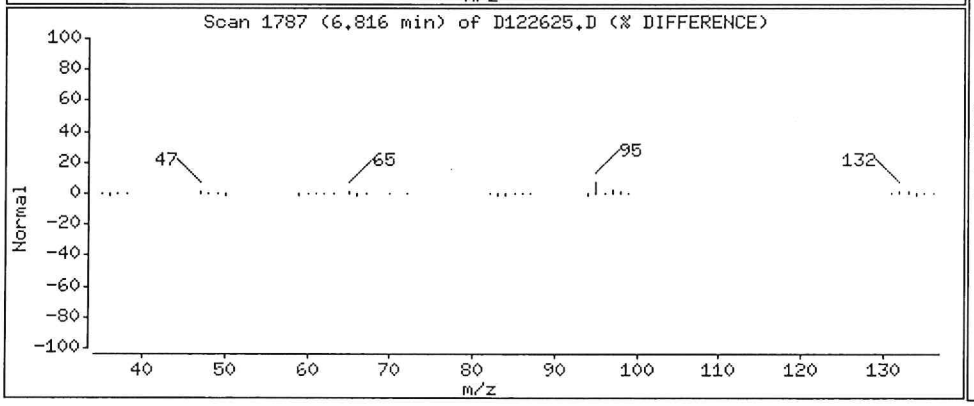












ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122629.D
Lab Smp Id: CCV_END Client Smp ID: CCV_END
Inj Date : 26-DEC-2017 22:01
Operator : AP Inst ID: VOA2.i
Smp Info : CCV_END;CCV_END;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171226.b\8260LL.m
Meth Date : 09-Feb-2018 19:18 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 23 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

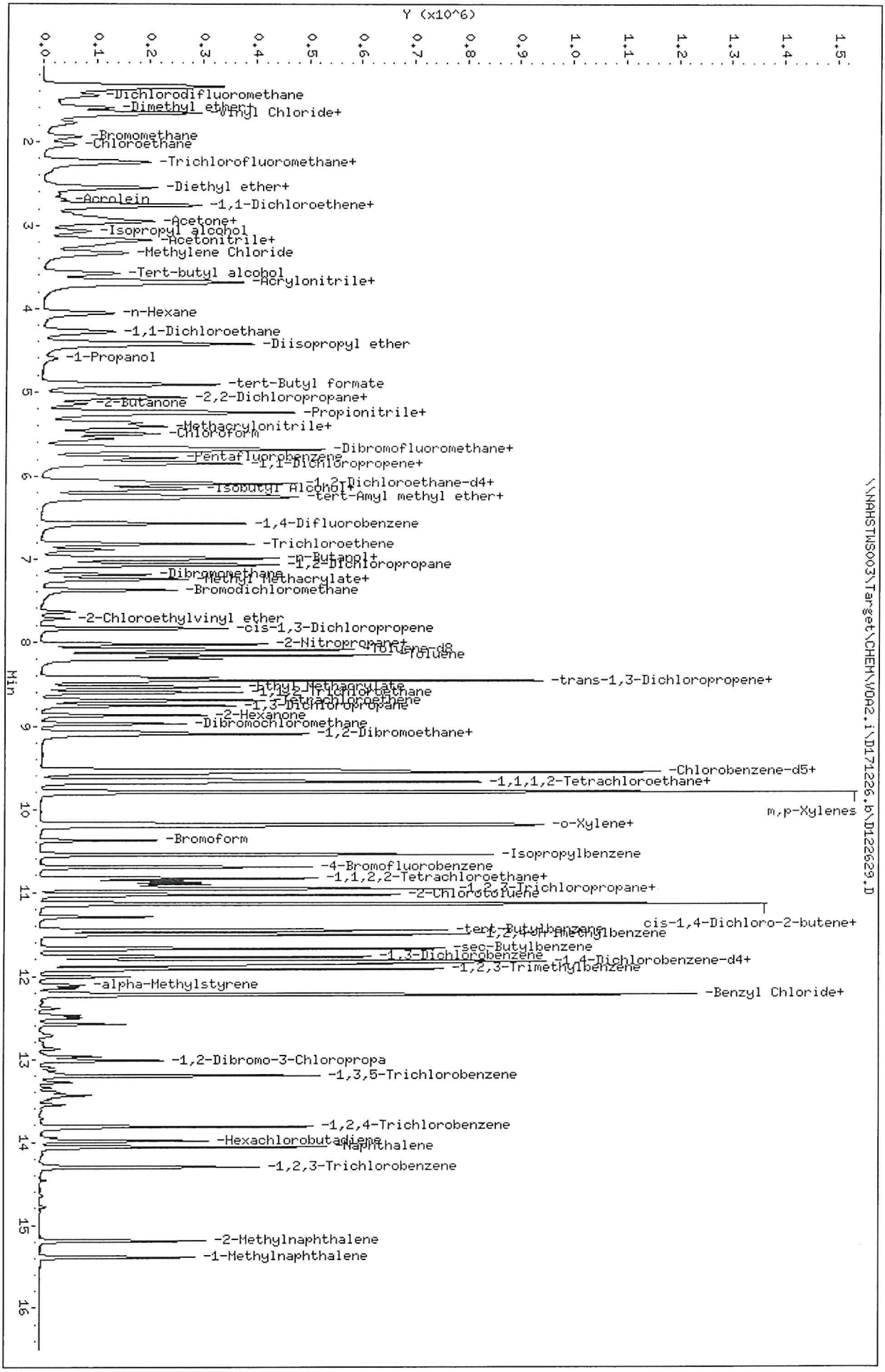
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	AMOUNTS ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.651	(0.978)	190559	50.0000	49.42
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	249471	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	106326	50.0000	47.30
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	368092	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	133180	50.0000	47.97
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	340838	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	422936	50.0000	47.06
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	163766	50.0000	49.90
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	158237	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	138026	50.0000	36.56
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	96932	50.0000	46.48
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	154198	50.0000	53.82
	22 1,1-Dichloroethane	63	4.274	4.274	(0.740)	250139	50.0000	48.02
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	110142	50.0000	53.49
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.168)	145595	50.0000	46.70
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	28894	50.0000	44.43
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	127830	50.0000	48.95
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	240613	50.0000	42.30
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	167543	50.0000	51.55
	42 1,2-Dichloropropane	63	7.063	7.063	(1.075)	137650	50.0000	47.47
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	253966	50.0000	42.90

	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	11.860	11.860	(1.002)	238896	50.0000	42.19	
24	2-Butanone	43	5.144	5.144	(0.890)	131618	100.000	97.77	
52	2-Hexanone	43	8.866	8.866	(0.931)	188964	100.000	94.62	
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	291153	100.000	94.15	
10	Acetone	43	2.859	2.859	(0.495)	87834	100.000	106.36	
37	Benzene	78	6.090	6.090	(0.927)	472866	50.0000	48.82	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	165823	50.0000	48.37	
66	Bromoform	173	10.374	10.374	(1.089)	99258	50.0000	49.09	
6	Bromomethane	94	1.935	1.935	(0.335)	83747	50.0000	48.98	
19	Carbon Disulfide	76	2.952	2.952	(0.511)	471872	100.000	100.35	
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	155757	50.0000	44.54	
59	Chlorobenzene	112	9.556	9.556	(1.003)	323696	50.0000	46.11	
7	Chloroethane	64	2.034	2.034	(0.352)	91857	50.0000	45.51	
28	Chloroform	83	5.494	5.494	(0.951)	210287	50.0000	46.23	
3	Chloromethane	50	1.592	1.592	(0.275)	238686	50.0000	57.34	
27	cis-1,2-Dichloroethene	96	5.064	5.064	(0.876)	134257	50.0000	47.30	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	191263	50.0000	48.58	
55	Dibromochloromethane	129	8.969	8.969	(0.941)	139204	50.0000	47.30	
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	117312	50.0000	55.00	
61	Ethylbenzene	106	9.675	9.675	(1.015)	181295	50.0000	48.25	
67	Isopropylbenzene	105	10.548	10.548	(1.107)	550766	50.0000	47.38	
17	Methylene Chloride	84	3.328	3.328	(0.576)	122195	50.0000	44.75	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	108487	50.0000	51.66	
50	Toluene	91	8.157	8.157	(0.856)	500724	50.0000	46.35	
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.635)	114772	50.0000	51.53	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	164693	50.0000	49.16	
38	Trichloroethene	130	6.819	6.819	(1.038)	154377	50.0000	56.62	
8	Trichlorofluoromethane	101	2.253	2.253	(0.390)	168424	50.0000	54.75	
5	Vinyl Chloride	62	1.678	1.678	(0.290)	159583	50.0000	52.19	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	461541	100.000	100.45	
63	o-Xylene	106	10.179	10.179	(1.068)	232988	50.0000	48.47	
M 95	Xylenes (total)	106				694529	150.000		(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	164207	50.0000	43.56	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	126569	50.0000	47.12	
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	435358	50.0000	41.30	
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	432067	50.0000	42.09	
26	2,2-Dichloropropane	77	5.038	5.038	(0.872)	118914	50.0000	32.71	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	192627	50.0000	45.80	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	373374	50.0000	41.53	
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	401696	50.0000	41.04	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	419545	50.0000	43.07	
29	Bromochloromethane	128	5.365	5.365	(0.928)	64868	50.0000	48.02	
74	Bromobenzene	156	10.833	10.833	(0.915)	150009	50.0000	42.73	
44	Dibromomethane	93	7.191	7.191	(1.094)	77258	50.0000	51.42	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	63316	50.0000	43.58	
73	n-Propylbenzene	91	10.955	10.955	(0.926)	577570	50.0000	43.17	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	332907	50.0000	45.98	
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	506607	50.0000	44.54	
92	Naphthalene	128	14.061	14.061	(1.188)	417224	50.0000	51.40	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	374590	50.0000	43.50	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	127808	50.0000	46.99	
64	Styrene	104	10.198	10.198	(1.070)	359632	50.0000	46.91	

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171226.b\D122629.D
Date : 26-DEC-2017 22:01
Client ID: CCV_END
Sample Info: CCV_END;CCV_END;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID: D122702 BFB Injection Date: 12/27/17

Instrument ID: VOA2 BFB Injection Time: 1059

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.6
75	30.0 - 60.0% of mass 95	45.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.9
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	86.6
175	5.0 - 9.0% of mass 174	6.8 (7.9)1
176	95.0 - 101.0% of mass 174	83.1 (95.9)1
177	5.0 - 9.0% of mass 176	6.8 (8.1)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	D122703	12/27/17	1123
02	VLCSW-171227	VLCSW-171227	D122704	12/27/17	1148
03	VBLKW-171227	VBLKW-171227	D122706	12/27/17	1237
04	HS17120912-0	HS17120912-03	D122709	12/27/17	1356
05	HS17120895-0	HS17120895-08M	D122710	12/27/17	1421
06	HS17120895-0	HS17120895-08M	D122711	12/27/17	1445
07	CCV_END	CCV_END	D122730	12/27/17	2235
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Instrument ID: VOA2 Calibration Date: 12/27/17 Time: 1123

Lab File ID: D122703 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7516599	0.7516599	0.1	-2.76	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3976252	0.3976252	0.1	-0.34	20.00	AVRG
tert-Butylbenzene	2.7210000	2.3349384	2.3349384	0.1	-14.19	20.00	AVRG
Naphthalene	49.942871	50.000000	2.5622553	0.2	-0.11	20.00	LINR
sec-Butylbenzene	3.5940000	3.1198387	3.1198387	0.1	-13.19	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	1.0309501	1.0309501	0.3	-13.58	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2929011	0.2929011	0.1	-4.28	20.00	AVRG
1,1-Dichloropropene	52.413699	50.000000	0.4081224	0.1	4.83	20.00	LINR
1,1-Dichloroethane	1.0440000	1.0296721	1.0296721	0.2	-1.37	20.00	AVRG
1,1-Dichloroethene	0.4120000	0.4338727	0.4338727	0.1	5.31	20.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0224600	1.0224600	0.2	3.80	20.00	AVRG
1,2-Dibromo-3-Chloropropane	45.415020	50.000000	0.1866843	0.05	-9.17	20.00	LINR
1,2-Dibromoethane	0.3830000	0.3841707	0.3841707	0.1	0.30	20.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5956878	1.5956878	0.4	-11.20	20.00	AVRG
1,2-Dichloroethane	54.285169	50.000000	0.4792333	0.1	8.57	20.00	LINR
1,2-Dichloropropane	0.3940000	0.3907547	0.3907547	0.1	-0.82	20.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6590736	1.6590736	0.6	-11.28	20.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.6007441	1.6007441	0.4	-10.52	20.00	AVRG
2-Butanone	0.2700000	0.2712227	0.2712227	0.1	0.45	20.00	AVRG
2-Hexanone	0.2930000	0.2795606	0.2795606	0.1	-4.59	20.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4321032	0.4321032	0.1	-4.82	20.00	AVRG
Acetone	96.978670	100.00000	0.1608467	0.1	-3.02	20.00	LINR
Benzene	1.3160000	1.3110136	1.3110136	0.5	-0.38	20.00	AVRG
Bromodichloromethane	0.4660000	0.4732298	0.4732298	0.2	1.55	20.00	AVRG
Bromoform	0.2970000	0.3052675	0.3052675	0.1	2.78	20.00	AVRG
Bromomethane	55.573657	50.000000	0.3786921	0.1	11.15	20.00	LINR
Carbon Disulfide	0.9420000	0.9707519	0.9707519	0.1	3.05	20.00	AVRG
Carbon Tetrachloride	0.4750000	0.4092300	0.4092300	0.1	-13.85	20.00	AVRG
Chlorobenzene	1.0300000	0.9696355	0.9696355	0.5	-5.86	20.00	AVRG
Chloroethane	0.4040000	0.3586422	0.3586422	0.1	-11.23	20.00	AVRG
Chloroform	0.9120000	0.8875254	0.8875254	0.2	-2.68	20.00	AVRG
Chloromethane	55.691894	50.000000	0.9296797	0.1	11.38	20.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5683504	0.5683504	0.1	-0.11	20.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5781966	0.5781966	0.2	8.07	20.00	AVRG
Dibromochloromethane	0.4320000	0.4371406	0.4371406	0.1	1.19	20.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4621274	0.4621274	0.1	8.23	20.00	AVRG
Ethylbenzene	0.5510000	0.5034677	0.5034677	0.1	-8.63	20.00	AVRG
Isopropylbenzene	1.7050000	1.5867899	1.5867899	0.1	-6.93	20.00	AVRG
Methylene Chloride	0.5470000	0.5231420	0.5231420	0.1	-4.36	20.00	AVRG
Tetrachloroethene	50.240382	50.000000	0.3097746	0.2	0.48	20.00	LINR
Toluene	1.5840000	1.4683591	1.4683591	0.4	-7.30	20.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4890027	0.4890027	0.1	9.64	20.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date: 12/27/17 Time: 1123

Lab File ID: D122703 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.5059527	0.5059527	0.1	11.20	20.00	AVRG
Trichloroethene	0.3700000	0.3683984	0.3683984	0.2	-0.43	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.6504906	0.6504906	0.1	5.60	20.00	AVRG
Vinyl Chloride	0.6130000	0.6490395	0.6490395	0.1	5.88	20.00	AVRG
m,p-Xylenes	0.6740000	0.6234531	0.6234531	0.1	-7.50	20.00	AVRG
o-Xylene	0.7050000	0.6625932	0.6625932	0.3	-6.02	20.00	AVRG
Xylenes (total)	0.6190000	0.5902833	0.5902833	0.1	-4.64	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0838258	1.0838258	0.1	-9.00	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8884494	0.8884494	0.1	4.65	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.7746183	2.7746183	0.1	-16.68	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.7401562	2.7401562	0.1	-15.50	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.7508163	0.7508163	0.1	3.13	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.5886286	0.5886286	0.1	-4.60	20.00	AVRG
2-Chlorotoluene	2.8400000	2.3858138	2.3858138	0.1	-15.99	20.00	AVRG
4-Chlorotoluene	3.0920000	2.6017019	2.6017019	0.1	-15.86	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.6664560	2.6664560	0.1	-13.37	20.00	AVRG
Bromochloromethane	0.2700000	0.2789655	0.2789655	0.1	3.32	20.00	AVRG
Bromobenzene	1.1090000	0.9674340	0.9674340	0.1	-12.76	20.00	AVRG
Dibromomethane	0.2040000	0.2141500	0.2141500	0.1	4.98	20.00	AVRG
Hexachlorobutadiene	47.050462	50.000000	0.4316069	0.1	-5.90	20.00	LINR
n-Propylbenzene	4.2270000	3.6103093	3.6103093	0.1	-14.59	20.00	AVRG
n-Butylbenzene	2.2870000	2.0891427	2.0891427	0.05	-8.65	20.00	AVRG
Styrene	1.1240000	1.0939806	1.0939806	0.3	-2.67	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5379654	0.5379654	0.1	-3.24	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4378043	0.4378043	0.1	-2.71	20.00	AVRG
Toluene-d8	1.3180000	1.2342206	1.2342206	0.1	-6.36	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4761667	0.4761667	0.1	-1.00	20.00	AVRG

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID (Standard): D122703 Date Analyzed: 12/27/17

Instrument ID: VOA2 Time Analyzed: 1123

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

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	237058	5.78	354798	6.57	329036	9.53
	UPPER LIMIT	474116	6.28	709596	7.07	658072	10.03
	LOWER LIMIT	118529	5.28	177399	6.07	164518	9.03
	CLIENT SAMPLE NO.						
01	VLCSW-171227	242293	5.78	369716	6.57	333797	9.53
02	VBLKW-171227	260268	5.78	369427	6.57	337960	9.52
03	HS17120912-03	268063	5.77	387134	6.57	348173	9.52
04	HS17120895-08	241651	5.78	355469	6.57	331200	9.53
05	HS17120895-08	245892	5.78	366897	6.57	335661	9.52
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Lab File ID (Standard): D122703 Date Analyzed: 12/27/17

Instrument ID: VOA2 Time Analyzed: 1123

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	153473	11.83				
	UPPER LIMIT	306946	12.33				
	LOWER LIMIT	76737	11.33				
	CLIENT SAMPLE NO.						
01	VLCSW-171227	157363	11.83				
02	VBLKW-171227	151260	11.83				
03	HS17120912-03	152389	11.83				
04	HS17120895-08	155178	11.84				
05	HS17120895-08	156346	11.84				
06							
07							
08							
09							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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

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

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

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17120912

Instrument ID: VOA2 Calibration Date: 12/27/17 Time: 2235

Lab File ID: D122730 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7546497	0.7546497	0.1	-2.37	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3624986	0.3624986	0.1	-9.15	50.00	AVRG
tert-Butylbenzene	2.7210000	2.3202358	2.3202358	0.1	-14.73	50.00	AVRG
Naphthalene	45.939768	50.000000	2.3590317	0.2	-8.12	50.00	LINR
sec-Butylbenzene	3.5940000	3.1278492	3.1278492	0.1	-12.97	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.9417835	0.9417835	0.3	-21.06	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2693237	0.2693237	0.1	-11.98	50.00	AVRG
1,1-Dichloropropene	51.646949	50.000000	0.4022565	0.1	3.29	50.00	LINR
1,1-Dichloroethane	1.0440000	0.9712005	0.9712005	0.2	-6.97	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.4259695	0.4259695	0.1	3.39	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	0.9421512	0.9421512	0.2	-4.35	50.00	AVRG
1,2-Dibromo-3-Chloropropane	42.083218	50.000000	0.1728241	0.05	-15.83	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3567834	0.3567834	0.1	-6.84	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.4750261	1.4750261	0.4	-17.92	50.00	AVRG
1,2-Dichloroethane	49.425705	50.000000	0.4364125	0.1	-1.15	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3495873	0.3495873	0.1	-11.27	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.5593646	1.5593646	0.6	-16.61	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.4637453	1.4637453	0.4	-18.18	50.00	AVRG
2-Butanone	0.2700000	0.2535491	0.2535491	0.1	-6.09	50.00	AVRG
2-Hexanone	0.2930000	0.2712721	0.2712721	0.1	-7.42	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4166652	0.4166652	0.1	-8.22	50.00	AVRG
Acetone	98.044624	100.00000	0.1625729	0.1	-1.96	50.00	LINR
Benzene	1.3160000	1.1982974	1.1982974	0.5	-8.94	50.00	AVRG
Bromodichloromethane	0.4660000	0.4189716	0.4189716	0.2	-10.09	50.00	AVRG
Bromoform	0.2970000	0.2828023	0.2828023	0.1	-4.78	50.00	AVRG
Bromomethane	52.591247	50.000000	0.3592447	0.1	5.18	50.00	LINR
Carbon Disulfide	0.9420000	0.9467205	0.9467205	0.1	0.50	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.4048486	0.4048486	0.1	-14.77	50.00	AVRG
Chlorobenzene	1.0300000	0.9072329	0.9072329	0.5	-11.92	50.00	AVRG
Chloroethane	0.4040000	0.3610648	0.3610648	0.1	-10.63	50.00	AVRG
Chloroform	0.9120000	0.8304833	0.8304833	0.2	-8.94	50.00	AVRG
Chloromethane	54.143261	50.000000	0.9042641	0.1	8.29	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5265519	0.5265519	0.1	-7.46	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5224901	0.5224901	0.2	-2.34	50.00	AVRG
Dibromochloromethane	0.4320000	0.3939265	0.3939265	0.1	-8.81	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4678693	0.4678693	0.1	9.57	50.00	AVRG
Ethylbenzene	0.5510000	0.4970215	0.4970215	0.1	-9.80	50.00	AVRG
Isopropylbenzene	1.7050000	1.5758056	1.5758056	0.1	-7.58	50.00	AVRG
Methylene Chloride	0.5470000	0.4874076	0.4874076	0.1	-10.89	50.00	AVRG
Tetrachloroethene	50.403997	50.000000	0.3107502	0.2	0.81	50.00	LINR
Toluene	1.5840000	1.4146216	1.4146216	0.4	-10.69	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4582483	0.4582483	0.1	2.75	50.00	AVRG

FORM VII VOA

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712091

Instrument ID: VOA2 Calibration Date: 12/27/17 Time: 2235

Lab File ID: D122730 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4408982	0.4408982	0.1	-3.10	50.00	AVRG
Trichloroethene	0.3700000	0.3529407	0.3529407	0.2	-4.61	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.6582746	0.6582746	0.1	6.86	50.00	AVRG
Vinyl Chloride	0.6130000	0.6452124	0.6452124	0.1	5.25	50.00	AVRG
m,p-Xylenes	0.6740000	0.5970717	0.5970717	0.1	-11.41	50.00	AVRG
o-Xylene	0.7050000	0.6372355	0.6372355	0.3	-9.61	50.00	AVRG
Xylenes (total)	0.6190000	0.5514100	0.5514100	0.1	-10.92	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0098747	1.0098747	0.1	-15.21	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8044401	0.8044401	0.1	-5.25	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.6566930	2.6566930	0.1	-20.22	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.6599373	2.6599373	0.1	-17.98	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.6968729	0.6968729	0.1	-4.28	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5419703	0.5419703	0.1	-12.16	50.00	AVRG
2-Chlorotoluene	2.8400000	2.2563692	2.2563692	0.1	-20.55	50.00	AVRG
4-Chlorotoluene	3.0920000	2.4718979	2.4718979	0.1	-20.06	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.6199223	2.6199223	0.1	-14.88	50.00	AVRG
Bromochloromethane	0.2700000	0.2603258	0.2603258	0.1	-3.58	50.00	AVRG
Bromobenzene	1.1090000	0.9048516	0.9048516	0.1	-18.41	50.00	AVRG
Dibromomethane	0.2040000	0.1944065	0.1944065	0.1	-4.70	50.00	AVRG
Hexachlorobutadiene	45.600487	50.000000	0.4184286	0.1	-8.80	50.00	LINR
n-Propylbenzene	4.2270000	3.5676784	3.5676784	0.1	-15.60	50.00	AVRG
n-Butylbenzene	2.2870000	2.0427497	2.0427497	0.05	-10.68	50.00	AVRG
Styrene	1.1240000	1.0269722	1.0269722	0.3	-8.63	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5518764	0.5518764	0.1	-0.74	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4369873	0.4369873	0.1	-2.89	50.00	AVRG
Toluene-d8	1.3180000	1.2415449	1.2415449	0.1	-5.80	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4812049	0.4812049	0.1	0.04	50.00	AVRG

MSVOA02 -Logbook

Batch: 30729
Date: 12-27-2017
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-27-2017 10:34 am	1.00	50 mL	50 mL	D122701.D	Liquid	Y	NA
	Not reported									
2	BFB	TUNE	12-27-2017 10:59 am	1.00	50 mL	50 mL	D122702.D	Liquid	Y	NA
	Auto find/purged									
3	CCV	CCV	12-27-2017 11:23 am	1.00	50 mL	50 mL	D122703.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
4	VLCSW-171227	LCS	12-27-2017 11:48 am	1.00	50 mL	50 mL	D122704.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
5	BLK	SAMP	12-27-2017 12:13 pm	1.00	50 mL	50 mL	D122705.D	Liquid	Y	NA
	Cleanup blk									
6	VBLKW-171227	MBLK	12-27-2017 12:37 pm	1.00	50 mL	50 mL	D122706.D	Liquid	Y	NA
7	HS17120724-02	SAMP	12-27-2017 01:04 pm	5.00	10 mL	50 mL	D122707.D	Liquid	Y	<2
8	HS17120895-08	SAMP	12-27-2017 01:29 pm	1.00	50 mL	50 mL	D122708.D	Liquid	Y	<2
9	HS17120912-03	SAMP	12-27-2017 01:56 pm	50.00	1 mL	50 mL	D122709.D	Liquid	Y	<2
10	HS17120895-08MS	MS	12-27-2017 02:21 pm	1.00	50 mL	50 mL	D122710.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
11	HS17120895-08MSD	MSD	12-27-2017 02:45 pm	1.00	50 mL	50 mL	D122711.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
12	BLK	SAMP	12-27-2017 03:10 pm	1.00	50 mL	50 mL	D122712.D	Liquid	Y	<2
	Cleanup blk									
13	HS17120895-22	SAMP	12-27-2017 03:34 pm	1.00	50 mL	50 mL	D122713.D	Liquid	Y	<2
14	HS17120895-09	SAMP	12-27-2017 03:59 pm	1.00	50 mL	50 mL	D122714.D	Liquid	Y	<2
15	HS17120895-10	SAMP	12-27-2017 04:24 pm	1.00	50 mL	50 mL	D122715.D	Liquid	Y	<2
16	HS17120895-11	SAMP	12-27-2017 04:48 pm	1.00	50 mL	50 mL	D122716.D	Liquid	Y	<2
17	HS17120895-14	SAMP	12-27-2017 05:13 pm	1.00	50 mL	50 mL	D122717.D	Liquid	Y	<2
18	HS17120618-29	SAMP	12-27-2017 05:37 pm	1.00	50 mL	50 mL	D122718.D	Liquid	Y	<2
19	HS17120618-30	SAMP	12-27-2017 06:02 pm	1.00	50 mL	50 mL	D122719.D	Liquid	Y	<2
20	HS17120931-01	SAMP	12-27-2017 06:26 pm	1.00	50 mL	50 mL	D122720.D	Liquid	Y	<2
21	HS17120931-02	SAMP	12-27-2017 06:51 pm	1.00	50 mL	50 mL	D122721.D	Liquid	Y	<2
22	HS17120931-03	SAMP	12-27-2017 07:15 pm	1.00	50 mL	50 mL	D122722.D	Liquid	Y	<2
23	HS17120665-01	SAMP	12-27-2017 07:40 pm	1.00	50 mL	50 mL	D122723.D	Liquid	Y	<2
24	HS17120665-02	SAMP	12-27-2017 08:05 pm	1.00	50 mL	50 mL	D122724.D	Liquid	Y	<2
25	HS17120665-03	SAMP	12-27-2017 08:29 pm	1.00	50 mL	50 mL	D122725.D	Liquid	Y	<2
26	HS17120909-01	SAMP	12-27-2017 08:54 pm	10.00	5 mL	50 mL	D122726.D	Liquid	Y	<2
27	HS17120830-08	SAMP	12-27-2017 09:18 pm	500.0(	100 µL	50 mL	D122727.D	Liquid	Y	<2
28	HS17120895-07	SAMP	12-27-2017 09:43 pm	1.00	50 mL	50 mL	D122728.D	Liquid	Y	<2
29	HS17120895-07	SAMP	12-27-2017 10:10 pm	25.00	2 mL	50 mL	D122729.D	Liquid	Y	<2
30	CCV_END	CCV_END	12-27-2017 10:35 pm	1.00	50 mL	50 mL	D122730.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
31	BFB	TUNE	12-27-2017 10:59 pm	1.00	50 mL	50 mL	E122701.D	Liquid	Y	NA
	Auto find/purged									
32	CCV	CCV	12-27-2017 11:24 pm	1.00	50 mL	50 mL	E122702.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
33	CCV	CCV	12-27-2017 11:49 pm	1.00	50 mL	50 mL	E122703.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									
34	VLCSW-171227	LCS	12-28-2017 12:13 am	1.00	50 mL	50 mL	E122704.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
35	BLK	SAMP	12-28-2017 12:38 am	1.00	50 mL	50 mL	E122705.D	Liquid	Y	NA
	Cleanup blk									
36	VBLKW-171227	MBLK	12-28-2017 01:03 am	1.00	50 mL	50 mL	E122706.D	Liquid	Y	NA
37	HS17120931-10	SAMP	12-28-2017 01:27 am	1.00	50 mL	50 mL	E122707.D	Liquid	Y	<2
38	HS17120931-04	SAMP	12-28-2017 01:52 am	1.00	50 mL	50 mL	E122708.D	Liquid	Y	<2
39	HS17120931-04MS	MS	12-28-2017 02:16 am	1.00	50 mL	50 mL	E122709.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
40	HS17120931-04MSD	MSD	12-28-2017 02:41 am	1.00	50 mL	50 mL	E122710.D	Liquid	Y	<2
	8 uL cal std/40 mL sample									
41	BLK	SAMP	12-28-2017 03:06 am	1.00	50 mL	50 mL	E122711.D	Liquid	Y	NA
	Cleanup blk									
42	HS17120895-16	SAMP	12-28-2017 03:30 am	1.00	50 mL	50 mL	E122712.D	Liquid	Y	<2
43	HS17120895-18	SAMP	12-28-2017 03:55 am	1.00	50 mL	50 mL	E122713.D	Liquid	Y	<2
44	HS17120895-19	SAMP	12-28-2017 04:19 am	1.00	50 mL	50 mL	E122714.D	Liquid	Y	<2
45	HS17120895-20	SAMP	12-28-2017 04:44 am	1.00	50 mL	50 mL	E122715.D	Liquid	Y	<2
46	HS17120895-21	SAMP	12-28-2017 05:09 am	1.00	50 mL	50 mL	E122716.D	Liquid	Y	<2
47	HS17120931-05	SAMP	12-28-2017 05:33 am	1.00	50 mL	50 mL	E122717.D	Liquid	Y	<2
48	HS17120931-06	SAMP	12-28-2017 05:58 am	1.00	50 mL	50 mL	E122718.D	Liquid	Y	<2
49	HS17120931-07	SAMP	12-28-2017 06:22 am	1.00	50 mL	50 mL	E122719.D	Liquid	Y	<2
50	HS17120931-08	SAMP	12-28-2017 06:47 am	1.00	50 mL	50 mL	E122720.D	Liquid	Y	<2
51	HS17120931-09	SAMP	12-28-2017 07:12 am	1.00	50 mL	50 mL	E122721.D	Liquid	Y	<2
52	HS17120895-12	SAMP	12-28-2017 07:36 am	1.00	50 mL	50 mL	E122722.D	Liquid	Y	<2
53	HS17120895-12	SAMP	12-28-2017 08:03 am	10.00	5 mL	50 mL	E122723.D	Liquid	Y	<2
54	HS17120895-13	SAMP	12-28-2017 08:28 am	1.00	50 mL	50 mL	E122724.D	Liquid	Y	<2
55	HS17120895-13	SAMP	12-28-2017 08:55 am	10.00	5 mL	50 mL	E122725.D	Liquid	Y	<2
56	HS17120895-17	SAMP	12-28-2017 09:20 am	1.00	50 mL	50 mL	E122726.D	Liquid	Y	<2
57	HS17120895-17	SAMP	12-28-2017 09:47 am	10.00	5 mL	50 mL	E122727.D	Liquid	Y	<2
58	HS17120895-15	SAMP	12-28-2017 10:14 am	10.00	5 mL	50 mL	E122728.D	Liquid	Y	<2
59	HS17120895-15	SAMP	12-28-2017 10:42 am	100.0(	500 µL	50 mL	E122729.D	Liquid	Y	<2

Chemical	Value
SURR ID	29814-95-03
IS ID	29814-95-04
LCS/MS ID	29814-98-01
CAL STD ID	29814-98-01
BFB ID	29814-95-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122702.D

Date : 27-DEC-2017 10:59

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

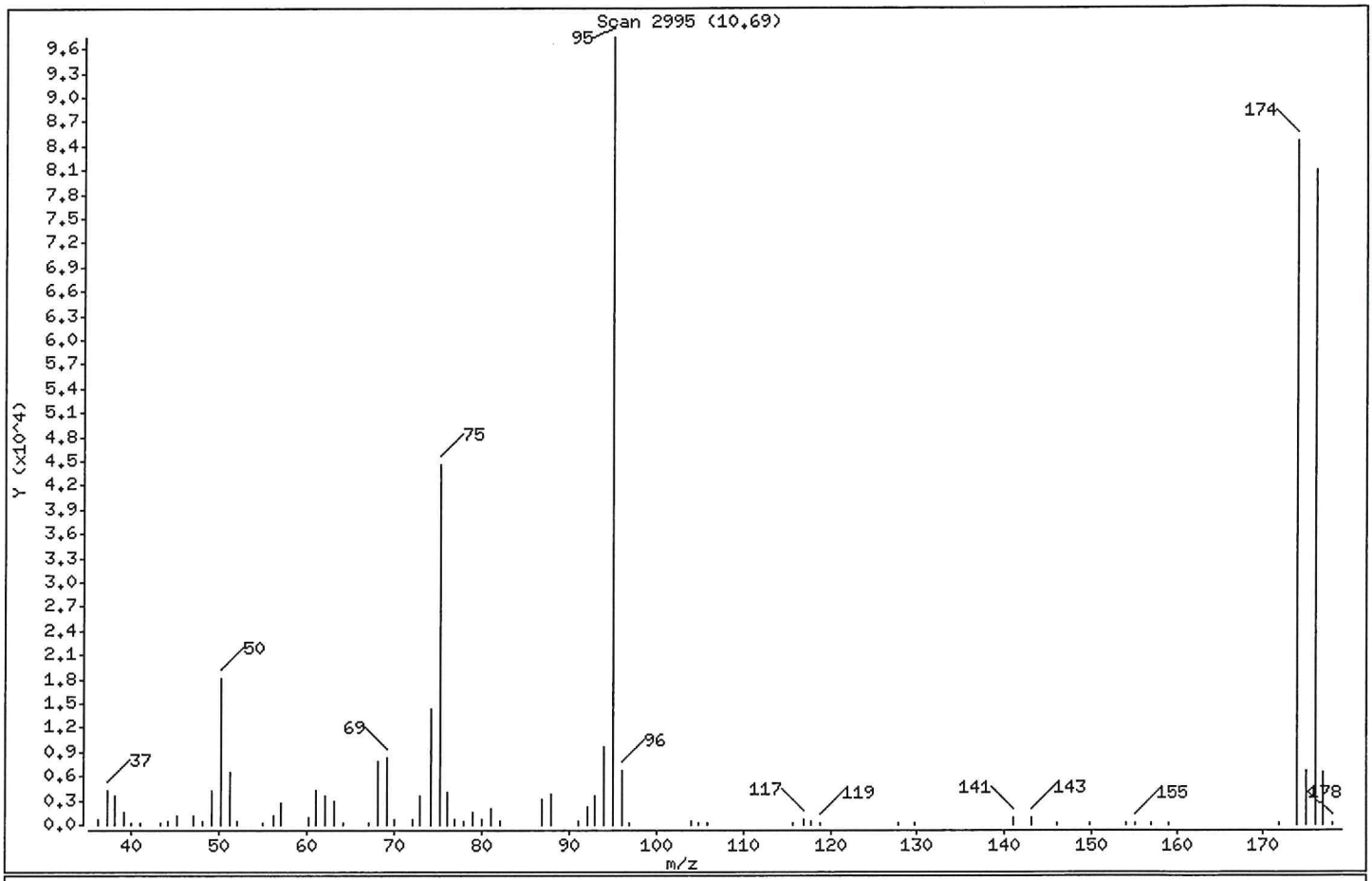
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.55
75	30.00 - 60.00% of mass 95	45.63
96	5.00 - 9.00% of mass 95	6.90
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	86.60
175	5.00 - 9.00% of mass 174	6.80 (7.86)
176	95.00 - 101.00% of mass 174	83.08 (95.94)
177	5.00 - 9.00% of mass 176	6.76 (8.14)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122702.D

Date : 27-DEC-2017 10:59

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: D122702.D
Spectrum: Scan 2995 (10.69)
Location of Maximum: 95.10
Number of points: 70

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	621	60.10	968	81.00	2094	127.90	254
37.10	4293	61.00	4219	82.00	394	129.80	307
38.10	3529	62.00	3616	87.00	3171	141.00	909
39.10	1608	63.10	2893	88.00	3915	143.00	874
40.00	240	64.10	154	91.10	356	145.90	169
41.00	177	67.00	216	92.10	2297	149.80	230
43.20	288	68.10	7904	93.00	3663	154.00	190
44.10	510	69.10	8224	94.10	9714	154.90	258
45.10	1056	70.00	610	95.10	97368	156.90	161
47.10	1146	72.10	646	96.10	6717	159.00	165
48.00	551	73.00	3596	97.00	251	172.00	150
49.10	4308	74.10	14431	104.00	369	174.00	84320
50.10	18064	75.10	44432	104.90	198	175.00	6624
51.10	6423	76.10	4095	105.90	266	176.00	80896
52.10	367	76.90	631	115.80	262	177.00	6581
55.00	180	78.00	382	116.90	686	178.00	165
56.10	1211	79.00	1497	117.90	399		
57.00	2649	80.00	586	118.90	330		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122702.D

Date : 27-DEC-2017 10:59

Client ID: BFB

Instrument: VOA2.i

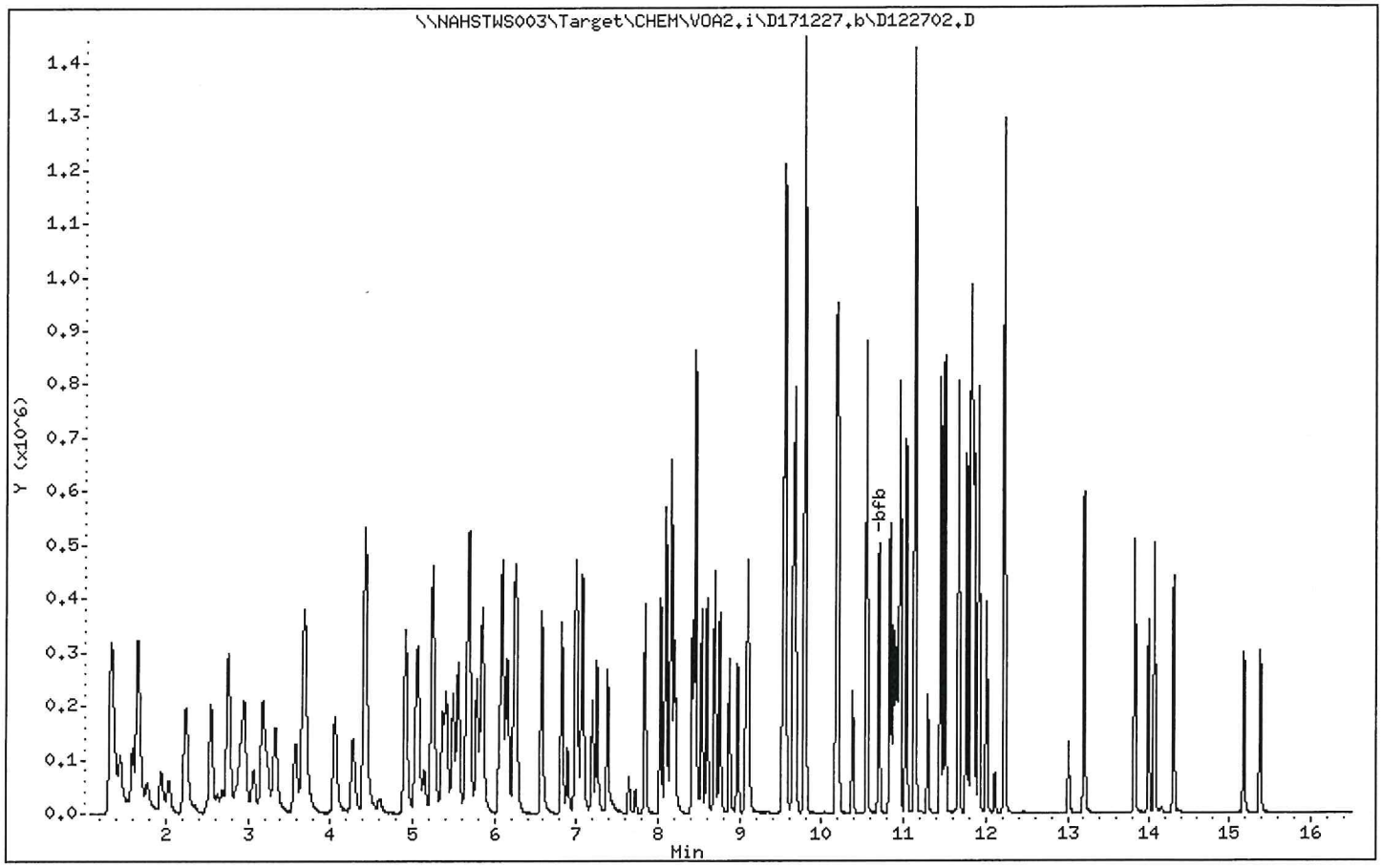
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122703.D
Report Date: 09-Feb-2018 19:25

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122703.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 27-DEC-2017 11:23
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171227.b\8260LL.m
Meth Date : 09-Feb-2018 19:25 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	178187	50.0000	48.63
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	237058	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	103785	50.0000	48.59
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	354798	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.048)	127529	50.0000	48.34
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	329036	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	406103	50.0000	46.81
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	156676	50.0000	49.45
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	153473	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	158223	50.0000	43.21
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	96375	50.0000	47.88
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	144801	50.0000	52.41
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	244092	50.0000	49.31
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	102853	50.0000	52.56
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	156920	50.0000	51.90
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	28651	50.0000	45.41
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	126406	50.0000	50.14
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	244895	50.0000	44.39
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	170031	50.0000	54.28
	42 1,2-Dichloropropane	63	7.063	7.063	(1.075)	138639	50.0000	49.61
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	254623	50.0000	44.35

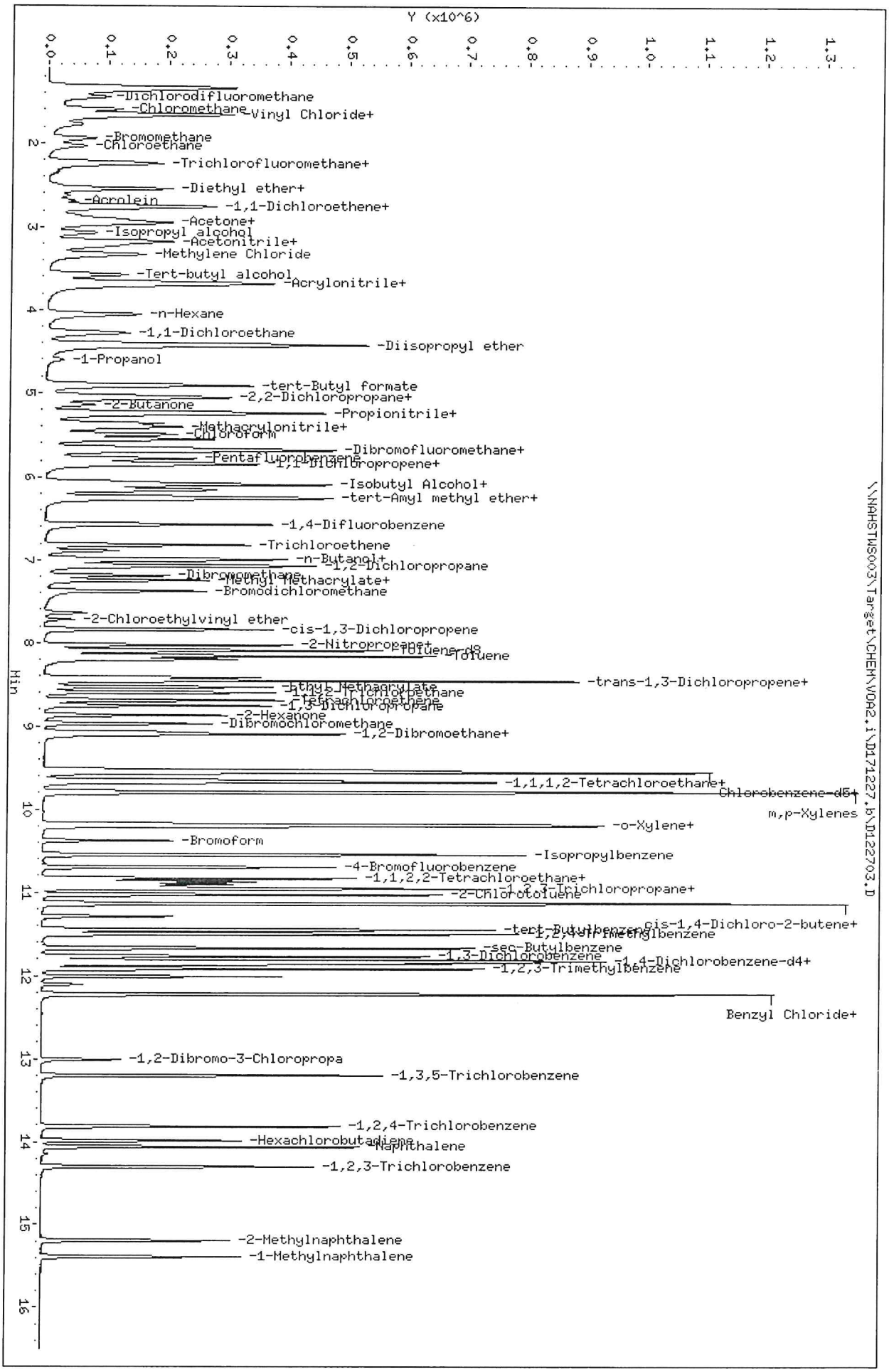
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122703.D
Report Date: 09-Feb-2018 19:25

	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	11.860	11.860	(1.002)	245671	50.0000	44.74	
24	2-Butanone	43	5.147	5.147	(0.891)	128591	100.000	100.52	
52	2-Hexanone	43	8.866	8.866	(0.931)	183971	100.000	95.42	
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	284355	100.000	95.25	
10	Acetone	43	2.856	2.856	(0.494)	76260	100.000	96.97	
37	Benzene	78	6.091	6.091	(0.927)	465145	50.0000	49.82	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	167901	50.0000	50.81	
66	Bromoform	173	10.374	10.374	(1.089)	100444	50.0000	51.46	
6	Bromomethane	94	1.938	1.938	(0.335)	89772	50.0000	55.57	
19	Carbon Disulfide	76	2.949	2.949	(0.510)	460249	100.000	103.00	
34	Carbon Tetrachloride	117	5.831	5.831	(0.887)	145194	50.0000	43.08	
59	Chlorobenzene	112	9.553	9.553	(1.003)	319045	50.0000	47.08	
7	Chloroethane	64	2.034	2.034	(0.352)	85019	50.0000	44.32	
28	Chloroform	83	5.490	5.490	(0.950)	210395	50.0000	48.68	
3	Chloromethane	50	1.592	1.592	(0.275)	220388	50.0000	55.69	
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	134732	50.0000	49.95	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	205143	50.0000	54.06	
55	Dibromochloromethane	129	8.969	8.969	(0.941)	143835	50.0000	50.63	
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	109551	50.0000	54.05	
61	Ethylbenzene	106	9.672	9.672	(1.015)	165659	50.0000	45.67	
67	Isopropylbenzene	105	10.544	10.544	(1.107)	522111	50.0000	46.53	
17	Methylene Chloride	84	3.328	3.328	(0.576)	124015	50.0000	47.79	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	101927	50.0000	50.24	
50	Toluene	91	8.157	8.157	(0.856)	483143	50.0000	46.33	
20	trans-1,2-Dichloroethene	96	3.665	3.665	(0.634)	115922	50.0000	54.77	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	179511	50.0000	55.59	
38	Trichloroethene	130	6.816	6.816	(1.037)	130707	50.0000	49.73	
8	Trichlorofluoromethane	101	2.249	2.249	(0.389)	154204	50.0000	52.75	
5	Vinyl Chloride	62	1.681	1.681	(0.291)	153860	50.0000	52.95	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	410277	100.000	92.49	
63	o-Xylene	106	10.175	10.175	(1.068)	218017	50.0000	46.98	
M 95	Xylenes (total)	106				628294	150.000		(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	166338	50.0000	45.49	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	136353	50.0000	52.33	
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	425829	50.0000	41.65	
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	420540	50.0000	42.24	
26	2,2-Dichloropropane	77	5.044	5.044	(0.873)	177987	50.0000	51.53	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	193680	50.0000	47.70	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	366158	50.0000	41.99	
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	399291	50.0000	42.06	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	409229	50.0000	43.31	
29	Bromochloromethane	128	5.365	5.365	(0.928)	66131	50.0000	51.52	
74	Bromobenzene	156	10.833	10.833	(0.915)	148475	50.0000	43.61	
44	Dibromomethane	93	7.188	7.188	(1.094)	75980	50.0000	52.46	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	66240	50.0000	47.05	
73	n-Propylbenzene	91	10.955	10.955	(0.926)	554085	50.0000	42.70	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	320627	50.0000	45.66	
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	478811	50.0000	43.40	
92	Naphthalene	128	14.061	14.061	(1.188)	393237	50.0000	49.94	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	358350	50.0000	42.91	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	130833	50.0000	49.82	
64	Styrene	104	10.198	10.198	(1.070)	359959	50.0000	48.63	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122703.D
Report Date: 09-Feb-2018 19:25

QC Flag Legend

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


Y (x10^6)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
Min
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Dichlorodifluoromethane
-Chloromethane
Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein
-1,1-Dichloroethene+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
Toluene-d8
Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122703.D
Date : 27-DEC-2017 11:23
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624
\\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122703.D
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122704.D
Report Date: 09-Feb-2018 19:25

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122704.D
Lab Smp Id: VLCSW-171227 Client Smp ID: VLCSW-171227
Inj Date : 27-DEC-2017 11:48
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171227;VLCSW-171227;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171227.b\8260LL.m
Meth Date : 09-Feb-2018 19:25 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 4 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

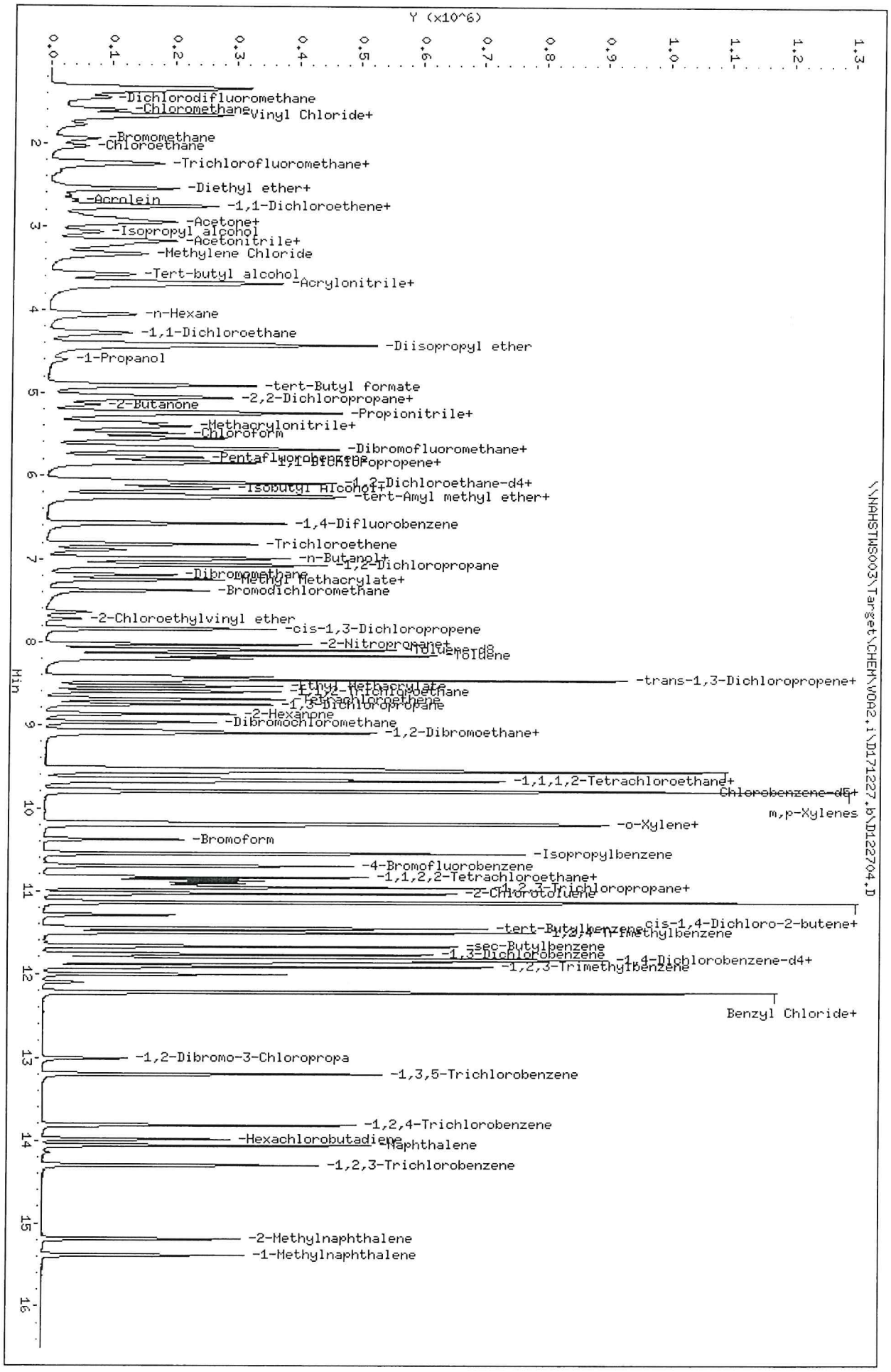
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	172809	46.1472	46.14
*	1 Pentafluorobenzene	168	5.782	5.779	(1.000)	242293	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	104572	47.9030	47.90
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	369716	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	128681	47.7280	47.72
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	333797	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	411124	46.7141	46.71
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	162091	50.4359	50.43
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	157363	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	161686	43.0714	43.07
	53 1,1,2-Trichloroethane	83	8.597	8.593	(0.902)	96787	47.3996	47.39
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	141542	49.1089	49.10
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	239298	47.3064	47.30
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	98446	49.2294	49.22
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	156855	50.5969	50.59
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.009	(1.100)	29942	46.2778	46.27
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	126040	49.2833	49.28
	88 1,2-Dichlorobenzene	146	12.226	12.223	(1.033)	245275	43.3637	43.36
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	162954	49.9185	49.91
	42 1,2-Dichloropropane	63	7.066	7.063	(1.075)	138060	47.4103	47.41
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	252075	42.8245	42.82

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122704.D
Report Date: 09-Feb-2018 19:25

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	243208	43.1990	43.19
24	2-Butanone	43	5.141	5.147	(0.889)	127983	97.8898	97.88
52	2-Hexanone	43	8.866	8.866	(0.931)	188807	96.5379	96.53
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	290026	95.7700	95.76
10	Acetone	43	2.853	2.856	(0.493)	83004	103.427	103.42
37	Benzene	78	6.090	6.091	(0.927)	458753	47.1595	47.15
39	Bromodichloromethane	83	7.377	7.377	(1.123)	166831	48.4537	48.45
66	Bromoform	173	10.374	10.374	(1.089)	103072	52.0555	52.05
6	Bromomethane	94	1.941	1.938	(0.336)	84205	50.7953	50.79
19	Carbon Disulfide	76	2.952	2.949	(0.511)	443989	97.2213	97.22
34	Carbon Tetrachloride	117	5.834	5.831	(0.888)	140695	40.0635	40.06
59	Chlorobenzene	112	9.553	9.553	(1.003)	313209	45.5627	45.56
7	Chloroethane	64	2.034	2.034	(0.352)	85415	43.5725	43.57
28	Chloroform	83	5.494	5.490	(0.950)	204946	46.3955	46.39
3	Chloromethane	50	1.595	1.592	(0.276)	213973	52.8547	52.85
27	cis-1,2-Dichloroethene	96	5.067	5.070	(0.876)	131231	47.6075	47.60
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	206195	52.1476	52.14
55	Dibromochloromethane	129	8.969	8.969	(0.941)	142438	49.4247	49.42
2	Dichlorodifluoromethane	85	1.454	1.450	(0.251)	106473	51.4040	51.40
61	Ethylbenzene	106	9.672	9.672	(1.015)	163188	44.3523	44.35
67	Isopropylbenzene	105	10.548	10.544	(1.107)	503681	44.2510	44.25
17	Methylene Chloride	84	3.331	3.328	(0.576)	119746	45.1527	45.15
56	Tetrachloroethene	164	8.690	8.690	(0.912)	97669	47.3601	47.36
50	Toluene	91	8.157	8.157	(0.856)	472212	44.6389	44.63
20	trans-1,2-Dichloroethene	96	3.668	3.665	(0.634)	108780	50.2903	50.29
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	180756	53.7230	53.72
38	Trichloroethene	130	6.819	6.816	(1.038)	129392	47.2510	47.25
8	Trichlorofluoromethane	101	2.256	2.249	(0.390)	149249	49.9585	49.95
5	Vinyl Chloride	62	1.681	1.681	(0.291)	146667	49.3872	49.38
62	m,p-Xylenes	106	9.790	9.790	(1.028)	400533	89.0148	89.01
63	o-Xylene	106	10.179	10.175	(1.068)	215050	45.6830	45.68
M 95	Xylenes (total)	106				615583	134.698	134.69
71	1,2,3-Trichloropropane	75	10.904	10.901	(0.921)	170252	45.4167	45.41
93	1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	134707	50.4293	50.42
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	416222	39.7092	39.70
75	1,3,5-Trimethylbenzene	105	11.132	11.135	(0.941)	407069	39.8792	39.87
26	2,2-Dichloropropane	77	5.044	5.044	(0.872)	171591	48.6113	48.61
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	192230	46.6753	46.67
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	360277	40.3030	40.30
77	4-Chlorotoluene	91	11.138	11.141	(0.941)	399433	41.0376	41.03
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	388550	40.1134	40.11
29	Bromochloromethane	128	5.362	5.365	(0.927)	66034	50.3387	50.33
74	Bromobenzene	156	10.833	10.833	(0.915)	149132	42.7226	42.72
44	Dibromomethane	93	7.191	7.188	(1.094)	77258	51.1955	51.19
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	61433	42.5155	42.51
73	n-Propylbenzene	91	10.955	10.955	(0.926)	534278	40.1568	40.15
87	n-Butylbenzene	91	12.223	12.223	(1.033)	301671	41.9053	41.90
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	451612	39.9265	39.92
92	Naphthalene	128	14.061	14.061	(1.188)	401484	49.7275	49.72
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	339409	39.6378	39.63
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	127461	47.8523	47.85
64	Styrene	104	10.198	10.198	(1.070)	354926	47.2732	47.27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1.2
1.3
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11
12
13
14
15
16
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein
-1,1-Dichloroethene+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
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Data File: \\NAHSTWS003\Target\CHEM\VOA2,i\D171227,b\D122704,D
Date : 27-DEC-2017 11:48
Client ID: VLCSW-171227
Sample Info: VLCSW-171227;VLCSW-171227;3;;LCS
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2,i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122706.D
Report Date: 09-Feb-2018 19:25

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122706.D
Lab Smp Id: VBLKW-171227 Client Smp ID: VBLKW-171227
Inj Date : 27-DEC-2017 12:37
Operator : AP Inst ID: VOA2.i
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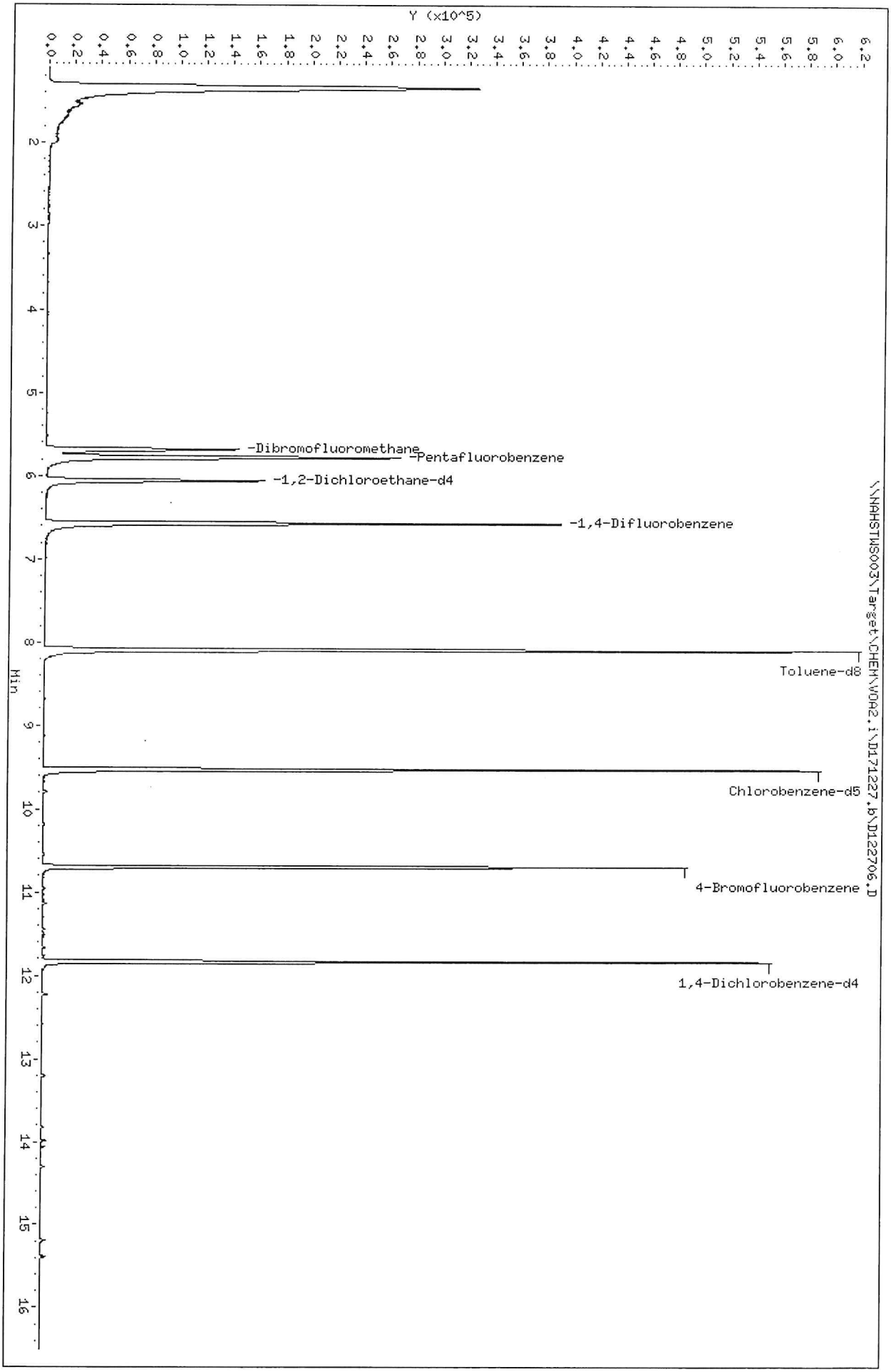
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171227.b\8260LL.m
Meth Date : 09-Feb-2018 19:25 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 6 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.779	(1.000)	260268	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.984)	114855	48.9799	48.97
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	369427	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.048)	132991	45.9199	45.91
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	337960	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	429636	48.2162	48.21
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	160734	49.3976	49.39
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	151260	50.0000	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Date : 27-DEC-2017 12:37
Client ID: VBLKW-171227
Sample Info: VBLKW-171227;VBLKW-171227;3;;BLANK
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
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Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122709.D
Report Date: 09-Feb-2018 19:25

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122709.D
Lab Smp Id: HS17120912-03 Client Smp ID: HS17120912-03
Inj Date : 27-DEC-2017 13:56
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120912-03;HS17120912-03;;;
Misc Info : HS15080001;WATER;0;50;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171227.b\8260LL.m
Meth Date : 09-Feb-2018 19:25 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 9
Dil Factor: 50.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	50.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.773	5.779	(1.000)	268063	50.0000	
$	30 Dibromofluoromethane	113	5.680	5.686	(0.984)	118031	48.8706	48.87
*	36 1,4-Difluorobenzene	114	6.568	6.572	(1.000)	387134	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.052	6.055	(1.048)	141254	47.3547	47.35
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	348173	50.0000	
$	48 Toluene-d8	98	8.086	8.093	(0.849)	442309	48.1823	48.18
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	160302	47.8198	47.81
*	70 1,4-Dichlorobenzene-d4	152	11.831	11.834	(1.000)	152389	50.0000	
	11 1,1-Dichloroethene	96	2.737	2.753	(0.474)	11052	4.99541	249.77(a)
	33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	8096	2.27318	113.65(aM)
	28 Chloroform	83	5.487	5.490	(0.951)	7503	1.53524	76.76(aM)
	27 cis-1,2-Dichloroethene	96	5.064	5.070	(0.877)	235555	77.2388	3861.93
	38 Trichloroethene	130	6.819	6.816	(1.038)	1459919	509.143	25457.13(A)
	5 Vinyl Chloride	62	1.672	1.681	(0.290)	17257	5.25233	262.61(M)

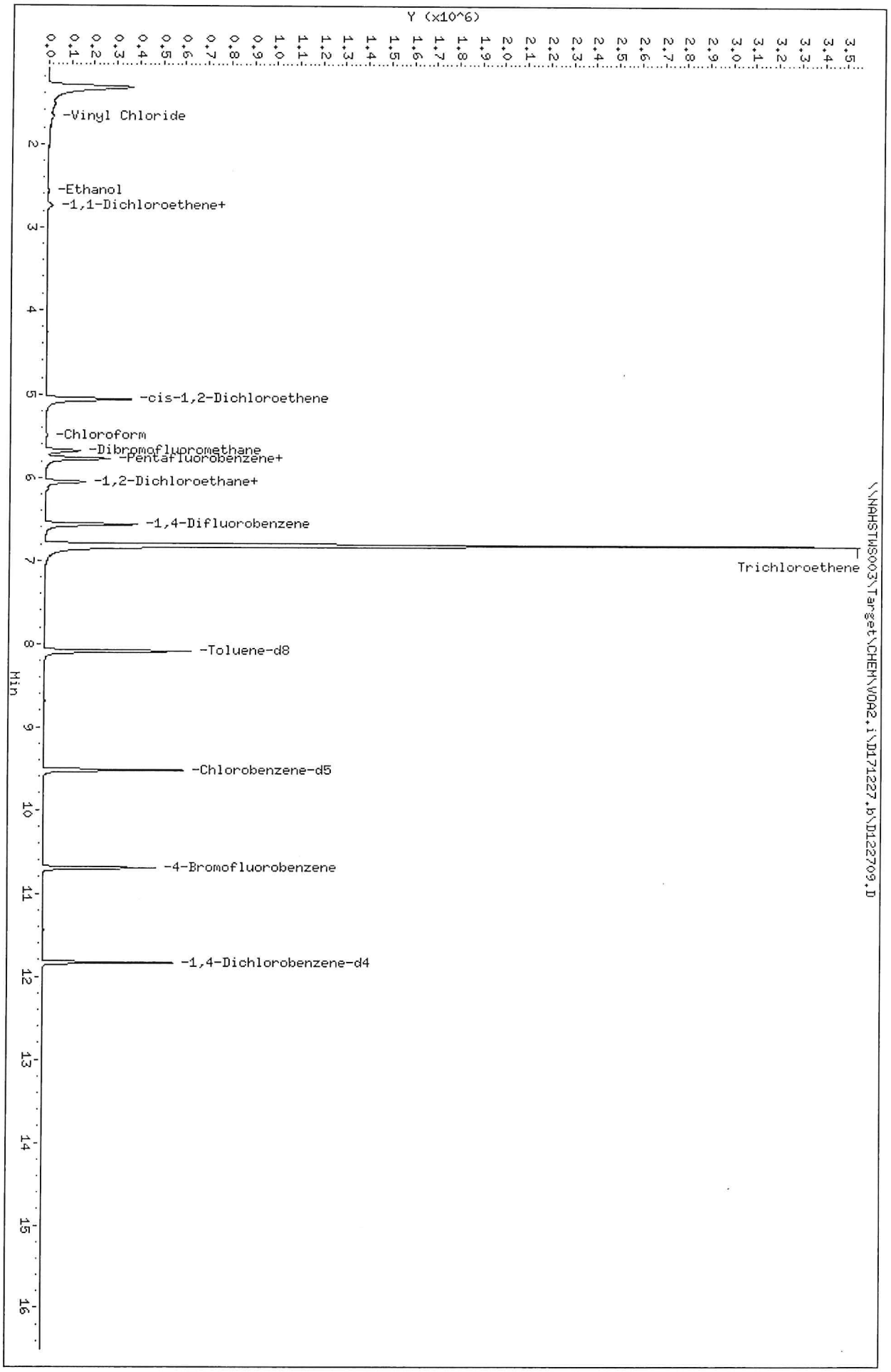
QC Flag Legend

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122709.D
Report Date: 09-Feb-2018 19:25

QC Flag Legend

M - Compound response manually integrated.



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Date : 27-DEC-2017 13:56
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Sample Info: HS17120912-03;HS17120912-03;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122709.D

Date : 27-DEC-2017 13:56

Client ID: HS17120912-03

Instrument: VOA2.i

Sample Info: HS17120912-03;HS17120912-03;;;

Purge Volume: 5.0

Operator: AP

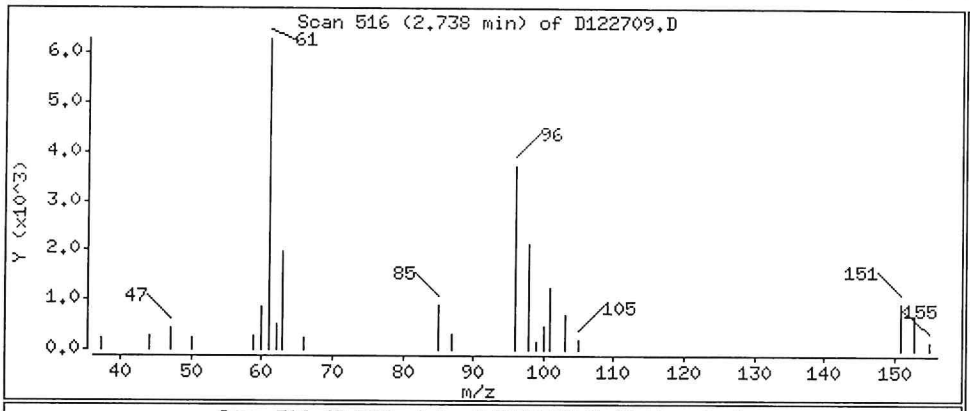
Column phase: DB624

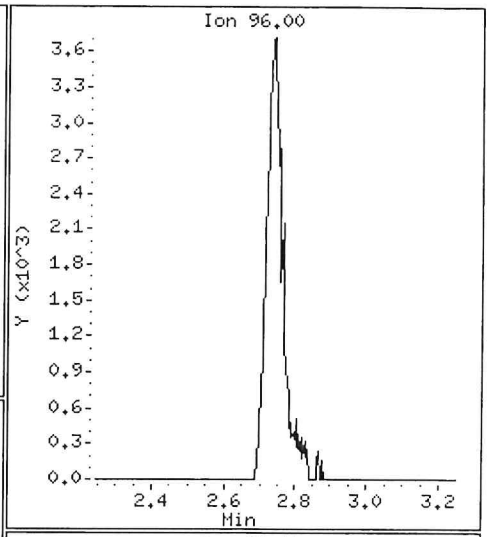
Column diameter: 0.18

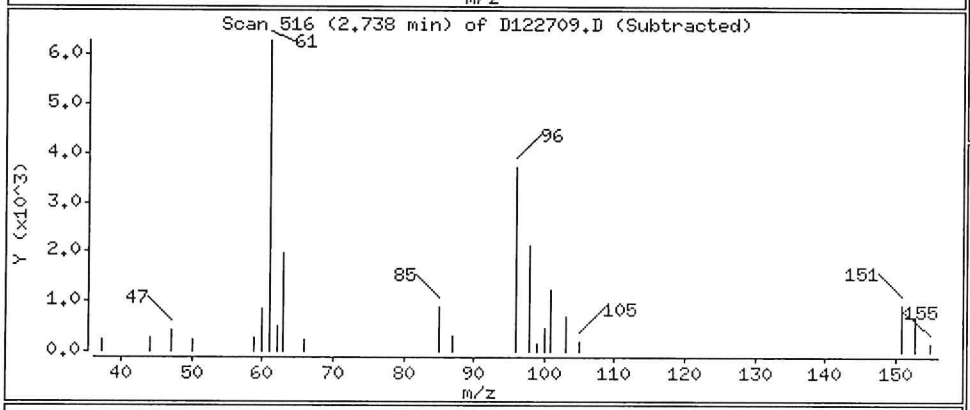
11 1,1-Dichloroethene

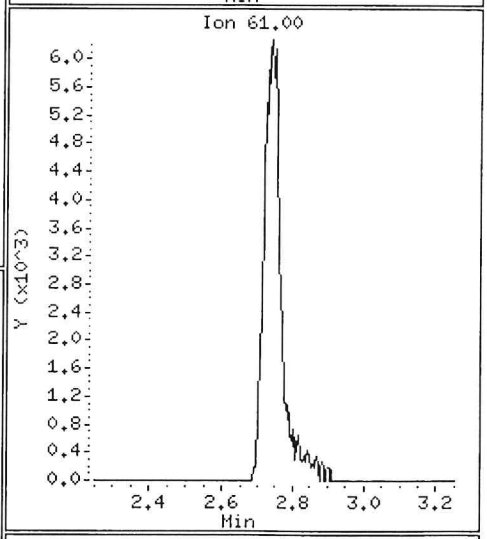
Concentration: 249.77 ug/l

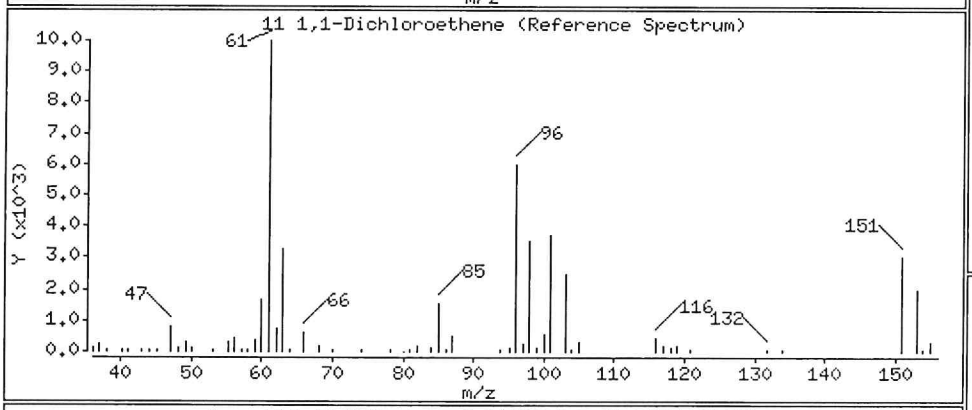
Review Code:

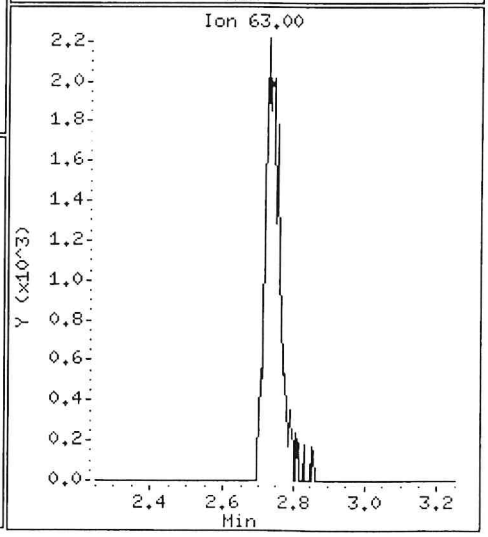


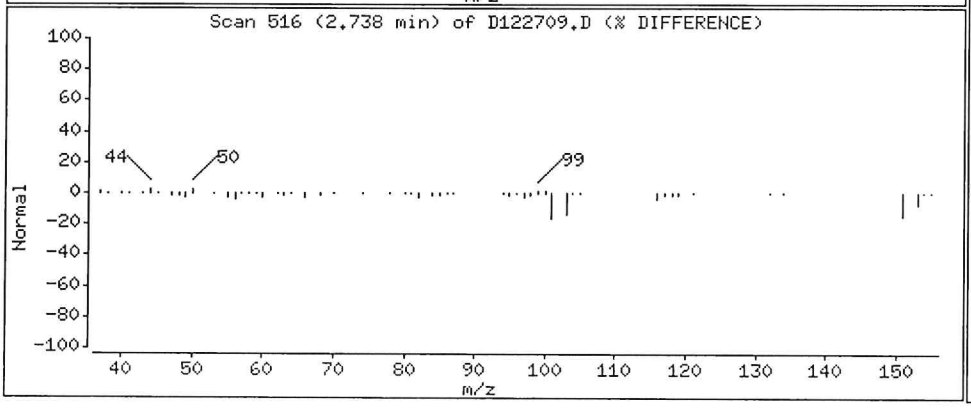












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122709.D

Date : 27-DEC-2017 13:56

Client ID: HS17120912-03

Instrument: VOA2.i

Sample Info: HS17120912-03;HS17120912-03;;;

Purge Volume: 5.0

Operator: AP

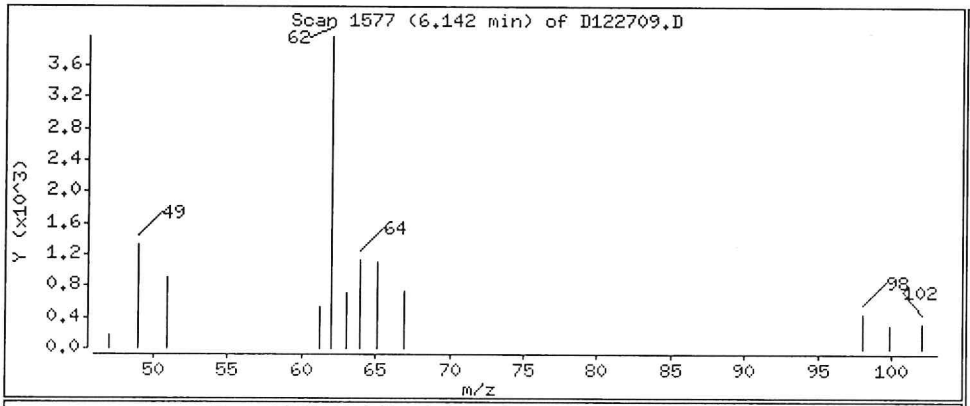
Column phase: DB624

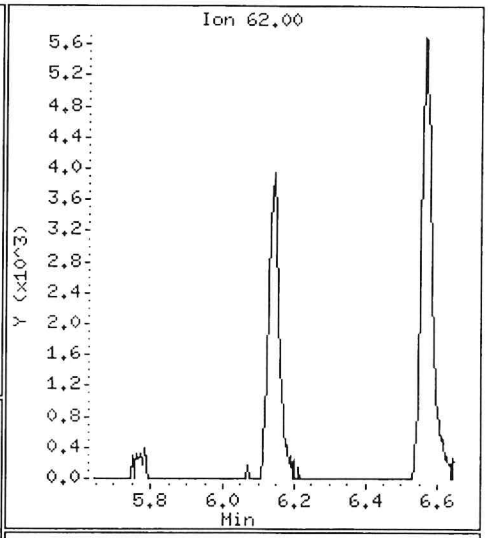
Column diameter: 0.18

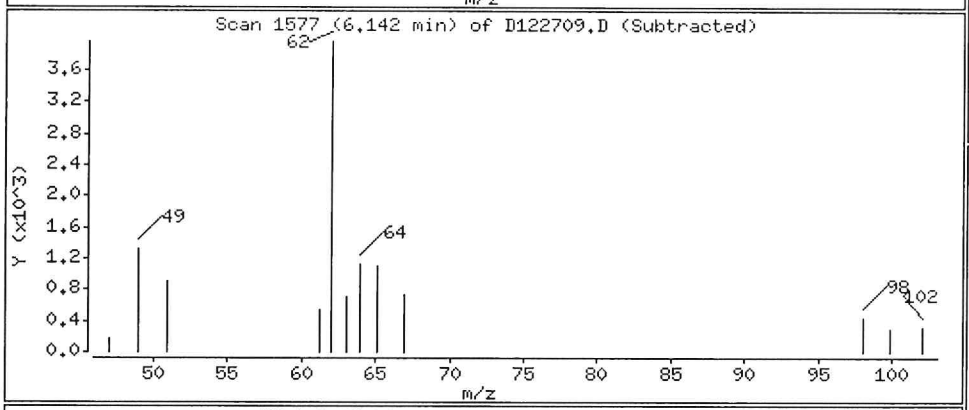
33 1,2-Dichloroethane

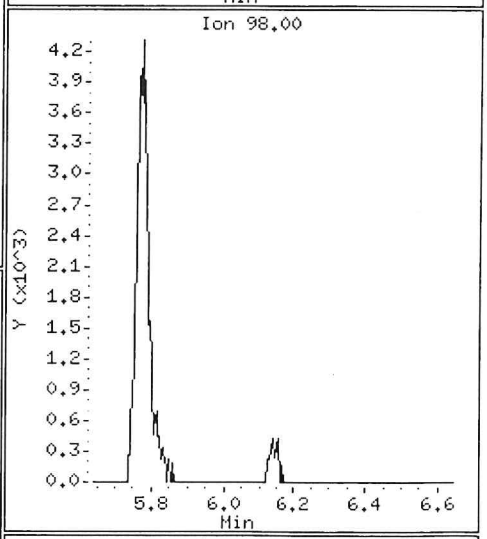
Concentration: 113.65 ug/l

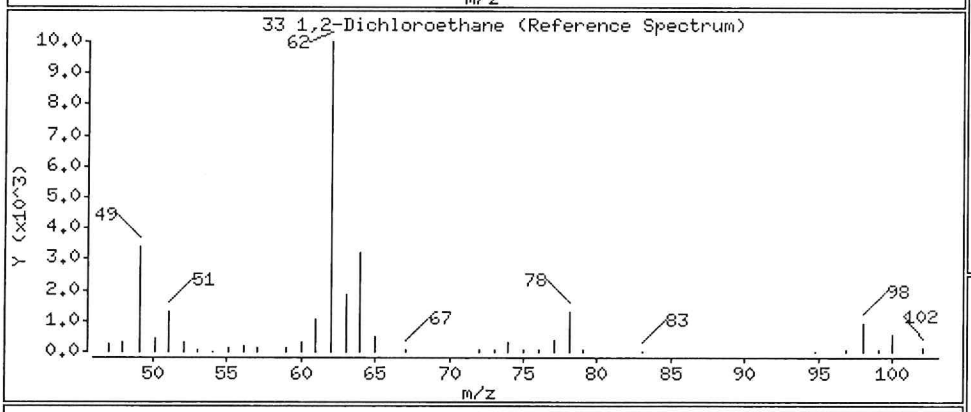
Review Code:

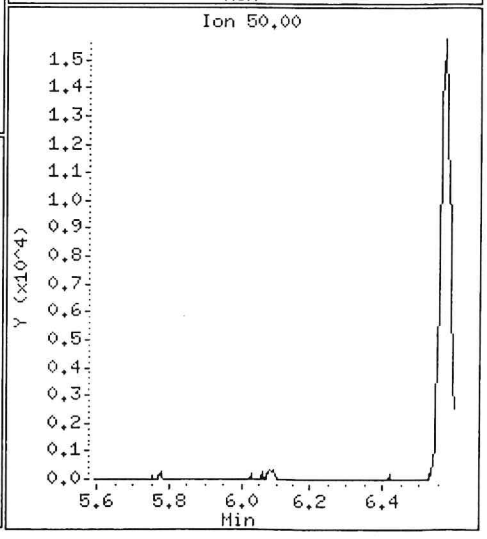


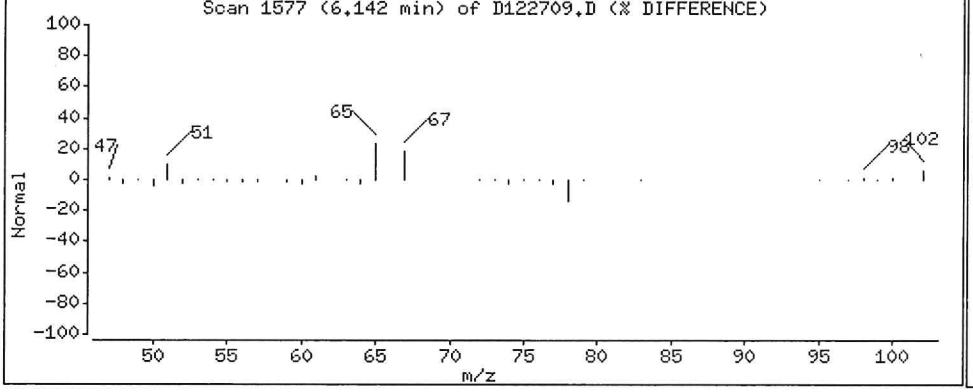












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122709.D

Date : 27-DEC-2017 13:56

Client ID: HS17120912-03

Instrument: VOA2.i

Sample Info: HS17120912-03;HS17120912-03;;;

Purge Volume: 5.0

Operator: AP

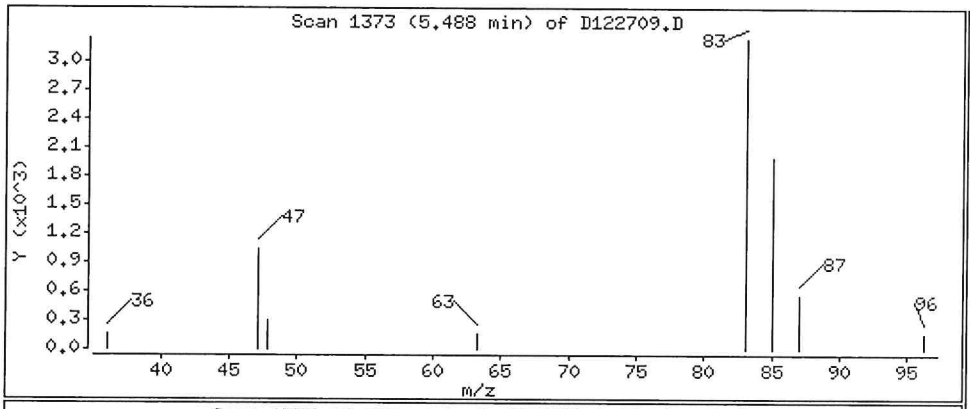
Column phase: DB624

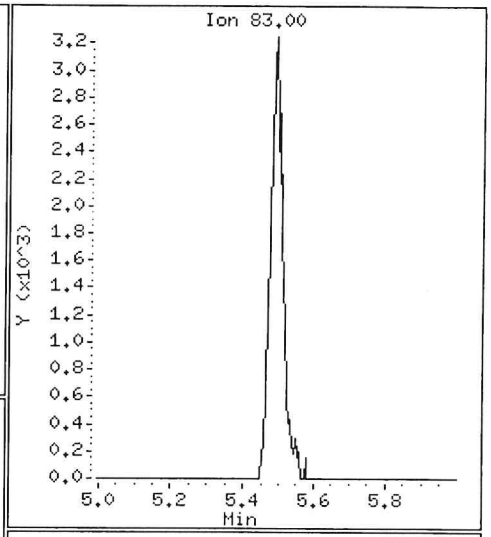
Column diameter: 0.18

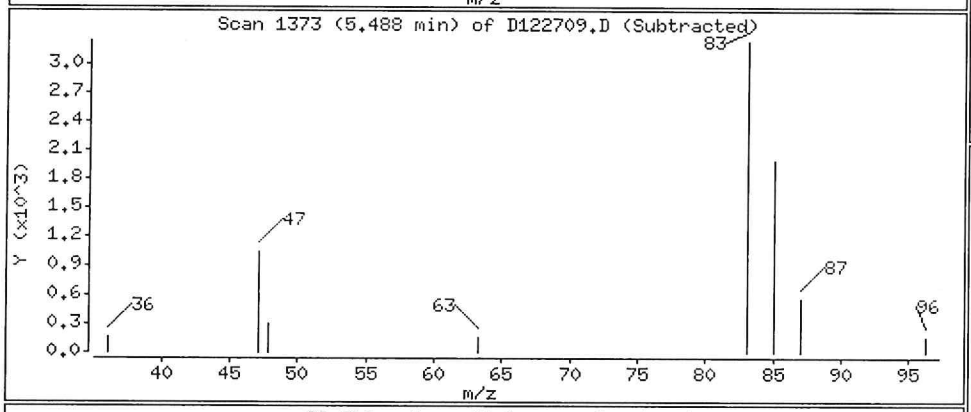
28 Chloroform

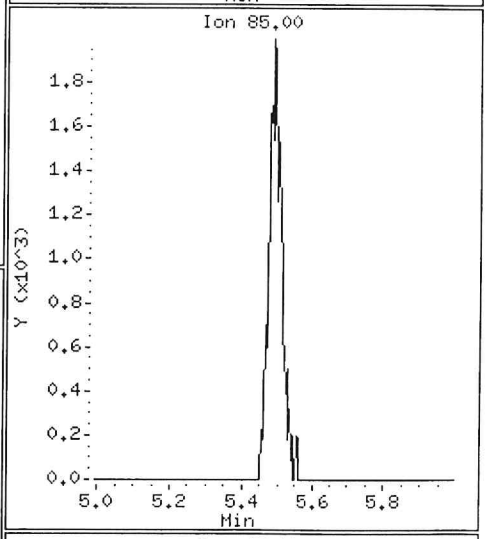
Concentration: 76.76 ug/l

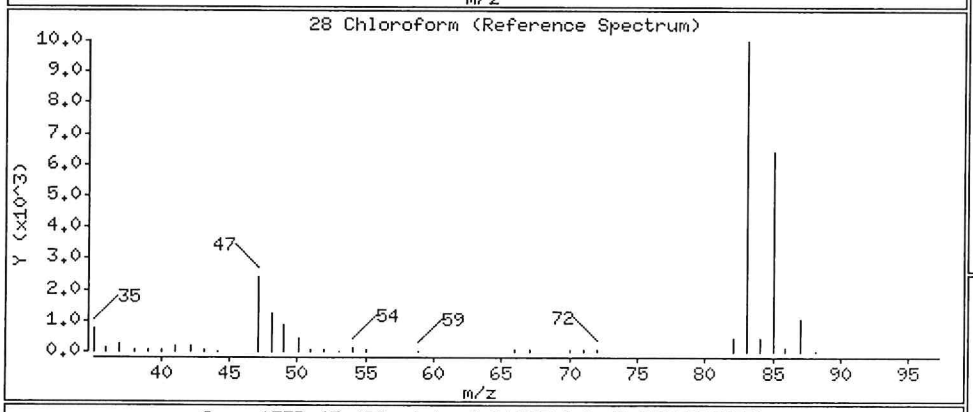
Review Code:

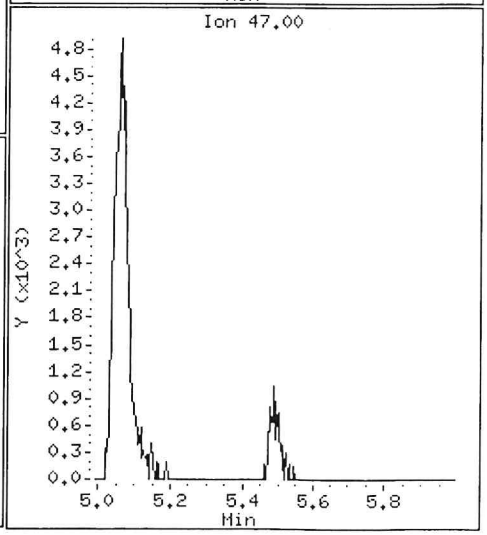


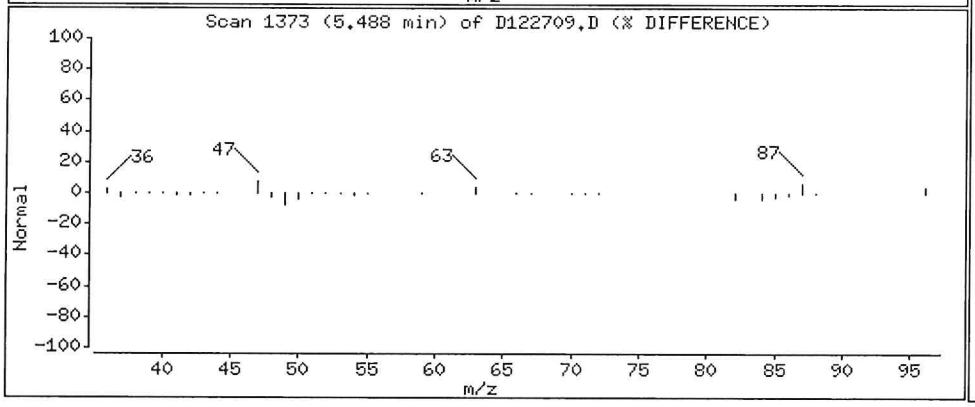












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122709.D

Date : 27-DEC-2017 13:56

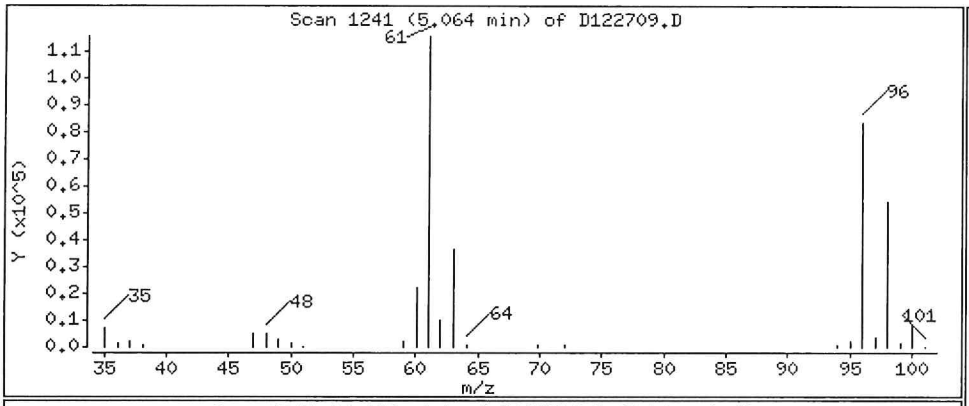
Client ID: HS17120912-03 Instrument: VOA2.i

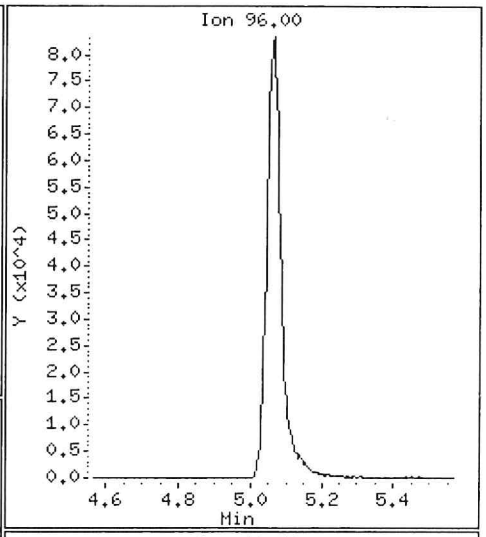
Sample Info: HS17120912-03;HS17120912-03;;;

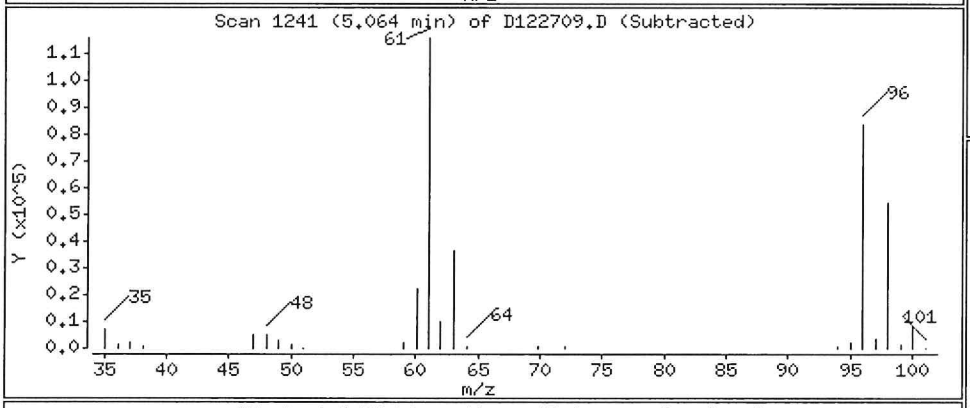
Purge Volume: 5.0 Operator: AP

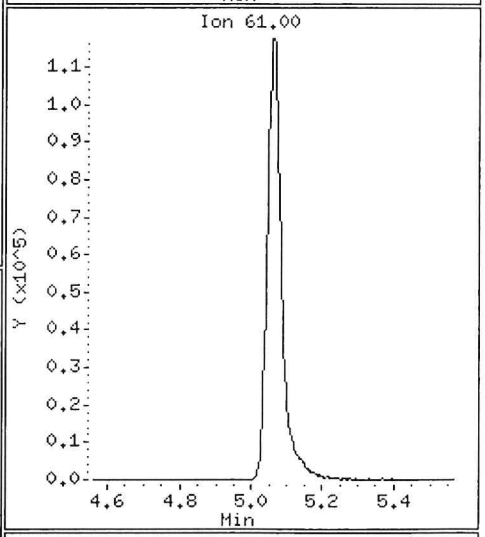
Column phase: DB624 Column diameter: 0.18

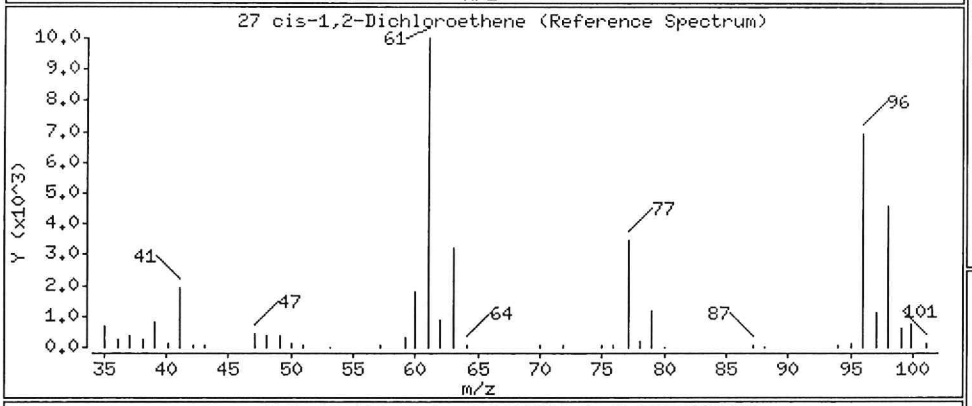
27 cis-1,2-Dichloroethene Concentration: 3861.93 ug/l Review Code:

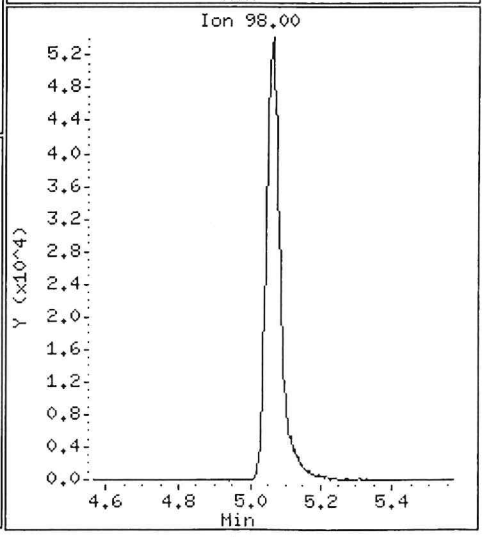


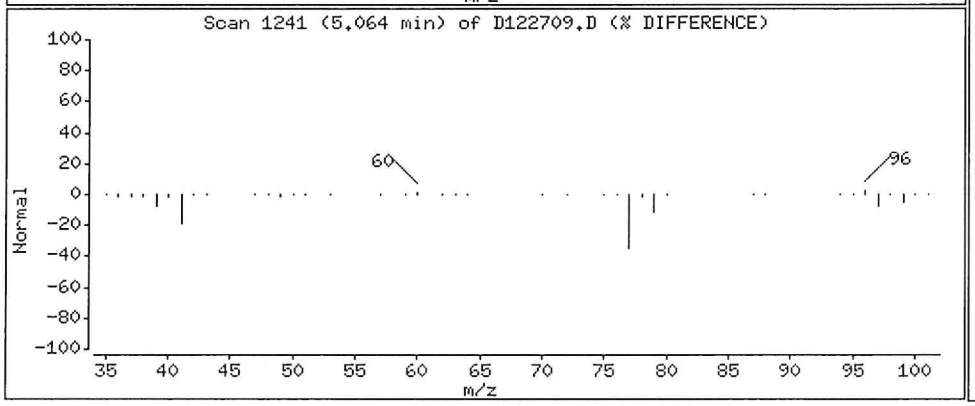












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Date : 27-DEC-2017 13:56

Client ID: HS17120912-03

Instrument: VOA2.i

Sample Info: HS17120912-03;HS17120912-03;;;

Purge Volume: 5.0

Operator: AP

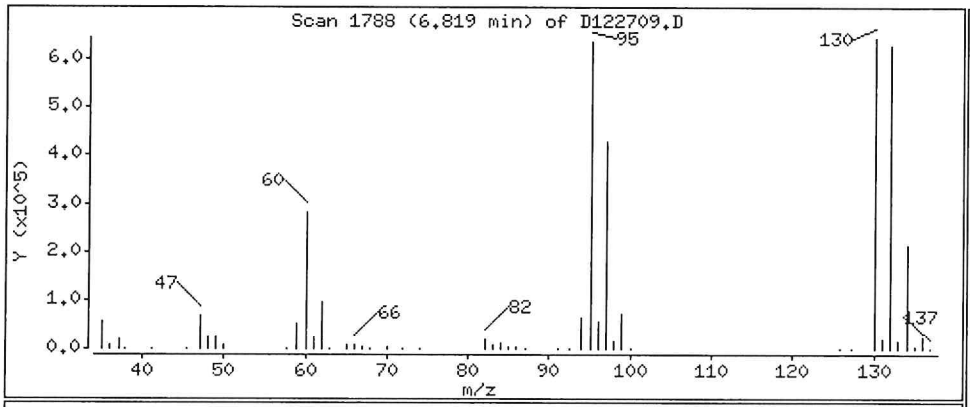
Column phase: DB624

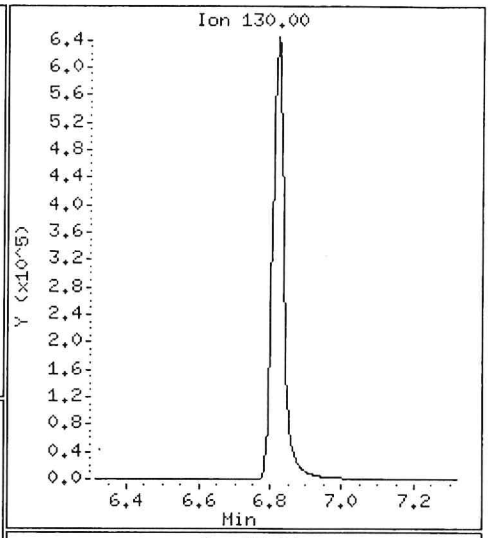
Column diameter: 0.18

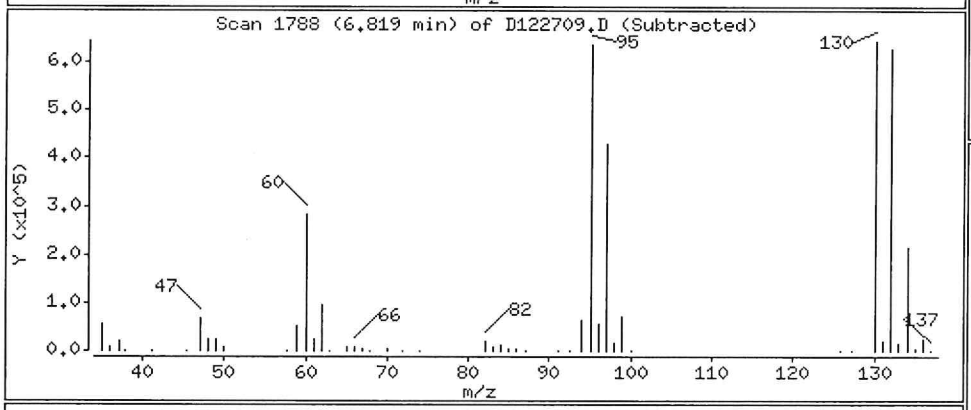
38 Trichloroethene

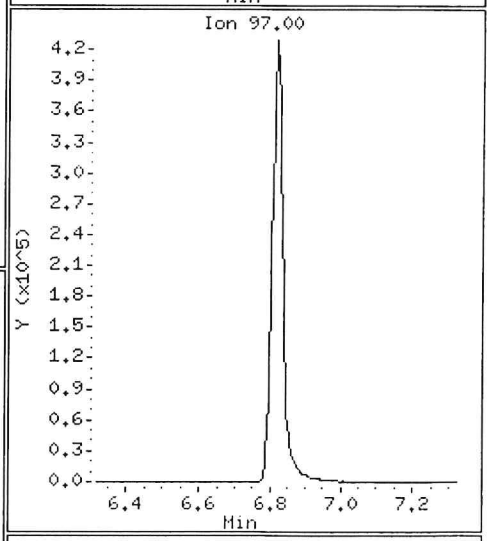
Concentration: 25457.13 ug/l

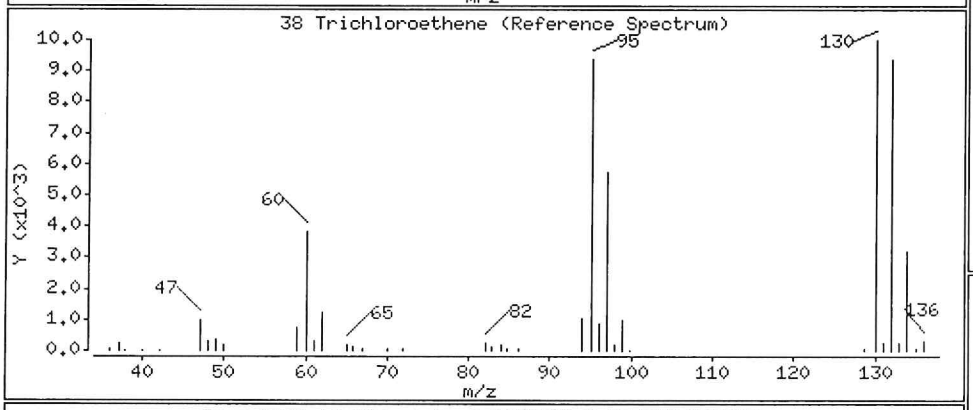
Review Code:

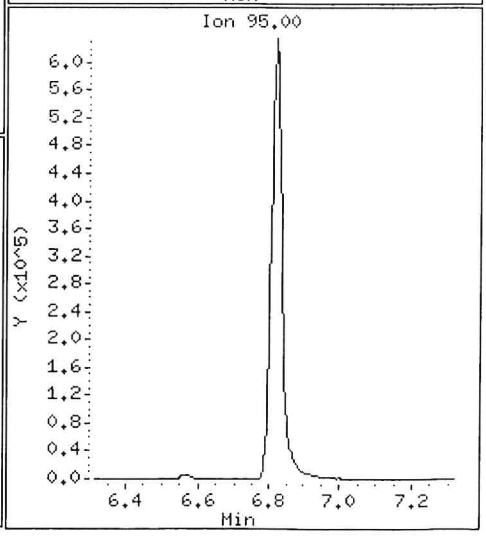


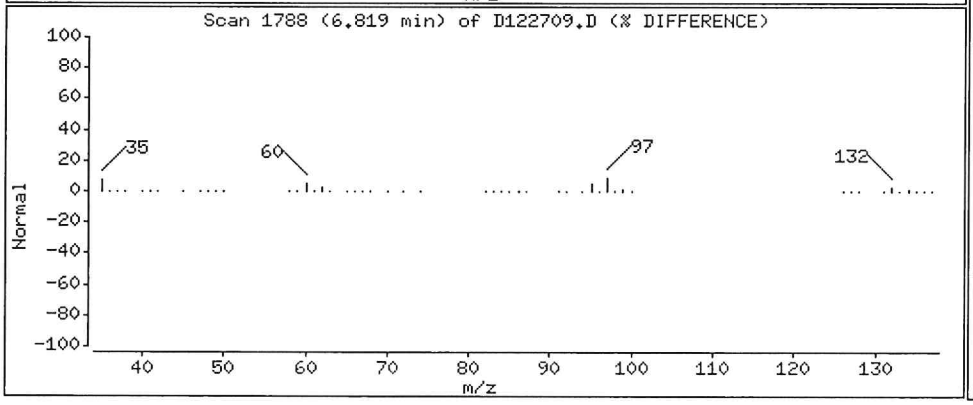












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Date : 27-DEC-2017 13:56

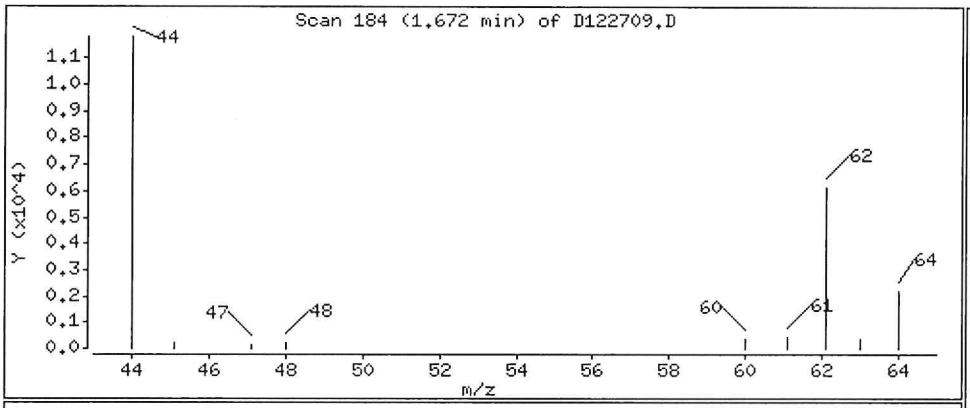
Client ID: HS17120912-03 Instrument: VOA2.i

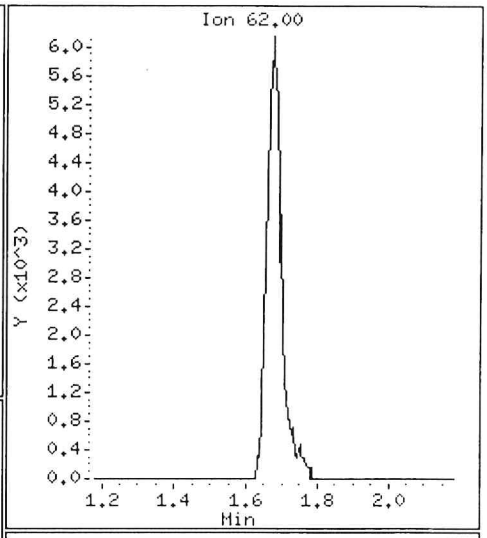
Sample Info: HS17120912-03;HS17120912-03;;;

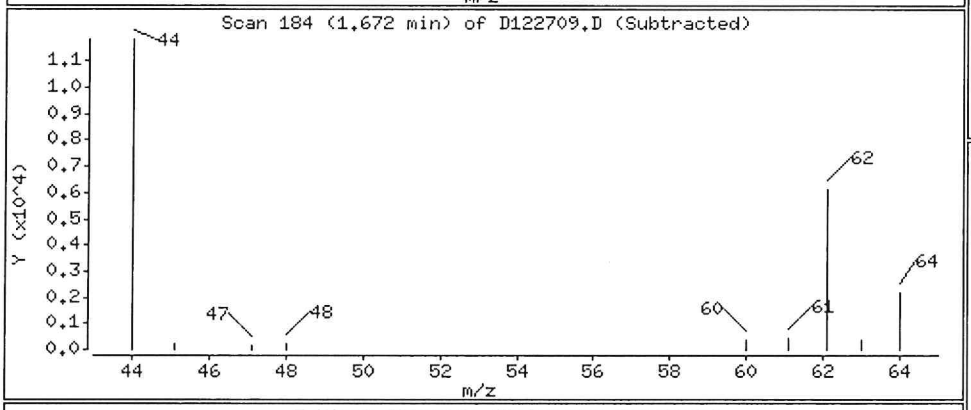
Purge Volume: 5.0 Operator: AP

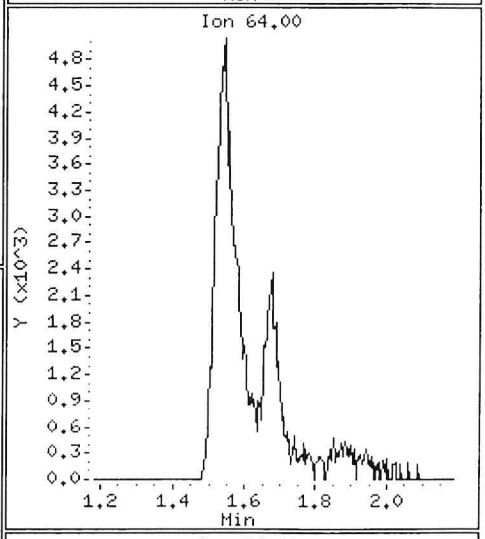
Column phase: DB624 Column diameter: 0.18

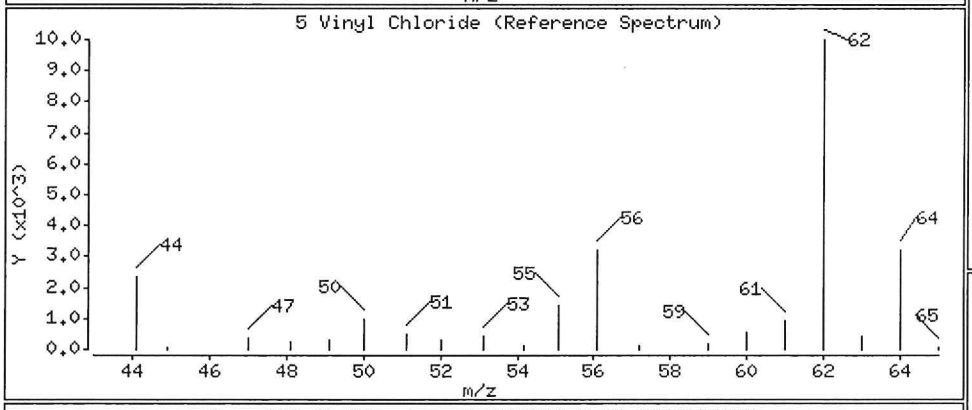
5 Vinyl Chloride Concentration: 262.61 ug/l Review Code:

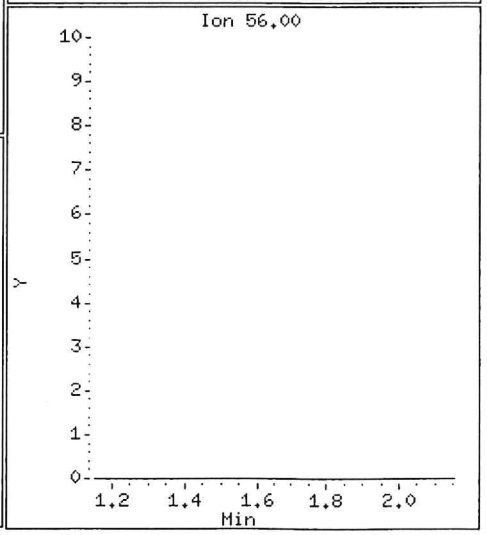


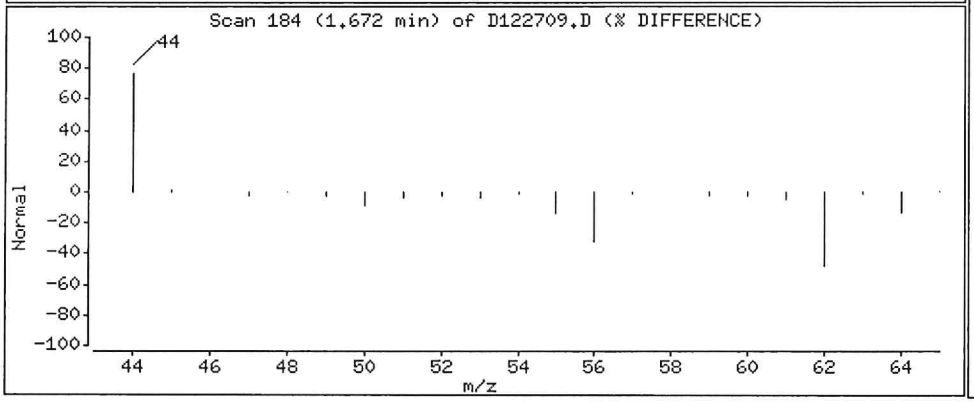












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122710.D
Report Date: 09-Feb-2018 19:25

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122710.D
Lab Smp Id: HS17120895-08MS Client Smp ID: HS17120895-08MS
Inj Date : 27-DEC-2017 14:21
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120895-08MS;HS17120895-08MS;3;;MS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171227.b\8260LL.m
Meth Date : 09-Feb-2018 19:25 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 10 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

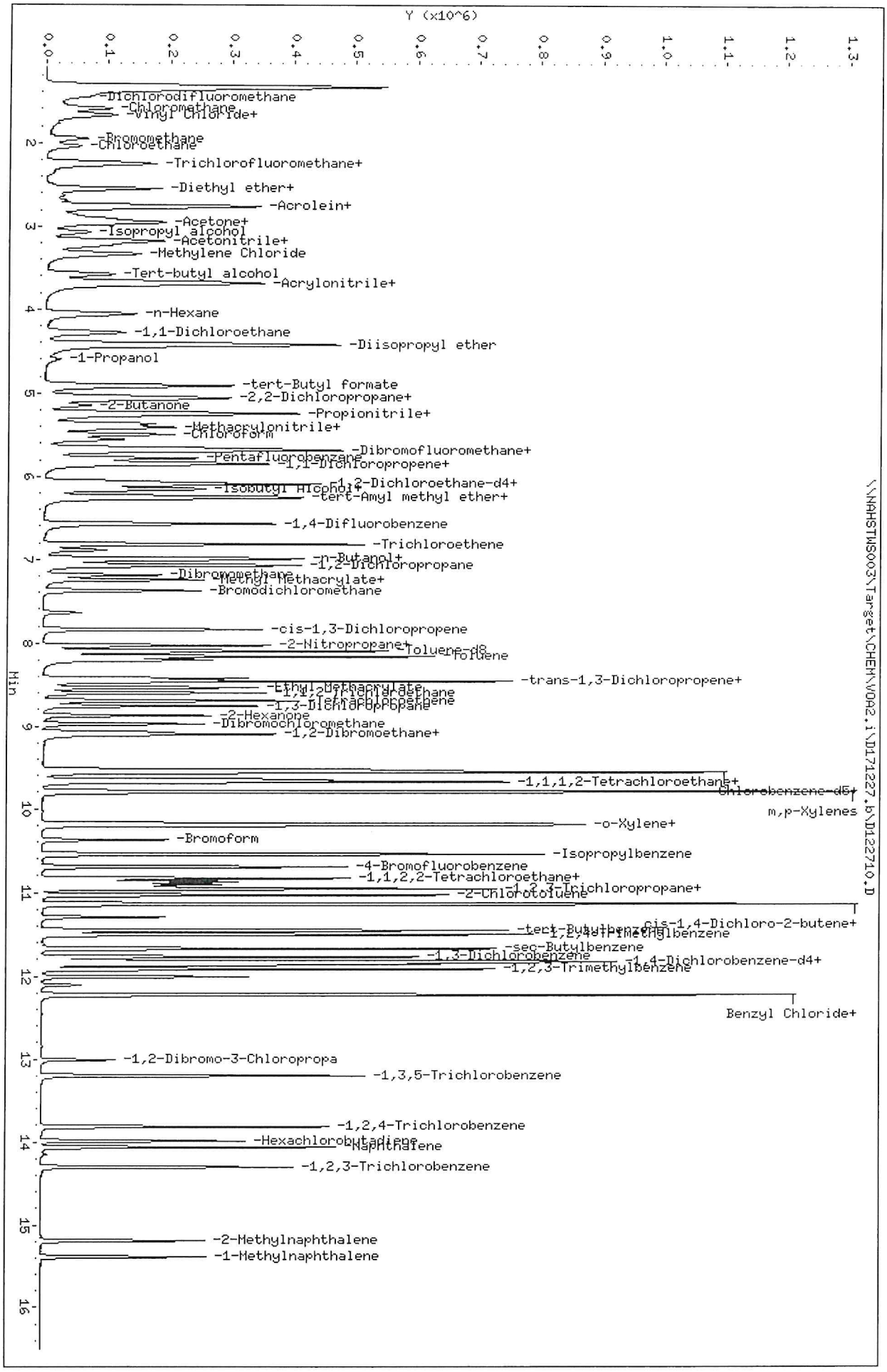
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	182091	48.7551	48.75
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	241651	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	104023	47.7781	47.77
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	355469	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.055	(1.048)	128444	47.7666	47.76
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	331200	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	406904	46.5971	46.59
$	69 4-Bromofluorobenzene	95	10.698	10.695	(1.123)	159182	49.9191	49.91
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.834	(1.000)	155178	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.868	10.872	(0.918)	145297	39.2505	39.25
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	89612	44.2299	44.22
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	146561	52.9602	52.96
	22 1,1-Dichloroethane	63	4.284	4.277	(0.741)	232436	46.0719	46.07
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	101368	50.8253	50.82
	90 1,2,4-Trichlorobenzene	180	13.817	13.818	(1.167)	149474	48.8949	48.89
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	25526	40.0810	40.08
	57 1,2-Dibromoethane	107	9.065	9.068	(0.952)	117583	46.3370	46.33
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	231289	41.4668	41.46
	33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	153329	48.8504	48.85
	42 1,2-Dichloropropane	63	7.066	7.063	(1.075)	130233	46.5149	46.51
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	247335	42.6109	42.61

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122710.D
Report Date: 09-Feb-2018 19:25

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	84 1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	234688	42.2726	42.27
	24 2-Butanone	43	5.144	5.147	(0.890)	111725	85.6817	85.68
	52 2-Hexanone	43	8.866	8.866	(0.931)	166457	85.7776	85.77
	45 4-Methyl-2-Pentanone	43	8.025	8.029	(0.842)	254548	84.7138	84.71
	10 Acetone	43	2.856	2.856	(0.494)	69454	86.3948	86.39
	37 Benzene	78	6.090	6.091	(0.927)	446533	47.7430	47.74
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	158281	47.8129	47.81
	66 Bromoform	173	10.374	10.374	(1.089)	92729	47.1991	47.19
	6 Bromomethane	94	1.944	1.938	(0.337)	77989	46.9921	46.99
	19 Carbon Disulfide	76	2.952	2.949	(0.511)	437041	95.9542	95.95
	34 Carbon Tetrachloride	117	5.834	5.831	(0.888)	150736	44.6430	44.64
	59 Chlorobenzene	112	9.553	9.553	(1.003)	306750	44.9730	44.97
	7 Chloroethane	64	2.034	2.034	(0.352)	80070	40.9544	40.95
	28 Chloroform	83	5.494	5.490	(0.951)	201083	45.6419	45.64
	3 Chloromethane	50	1.598	1.592	(0.277)	178174	43.9709	43.97
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	130640	47.5190	47.51
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	191790	50.4485	50.44
	55 Dibromochloromethane	129	8.969	8.969	(0.941)	133358	46.6369	46.63
	2 Dichlorodifluoromethane	85	1.453	1.450	(0.252)	45124	21.8433	21.84
	61 Ethylbenzene	106	9.672	9.672	(1.015)	165348	45.2917	45.29
	67 Isopropylbenzene	105	10.548	10.544	(1.107)	529404	46.8756	46.87
	17 Methylene Chloride	84	3.331	3.328	(0.576)	115177	43.5453	43.54
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	105909	51.9172	51.91
	50 Toluene	91	8.160	8.157	(0.857)	476789	45.4250	45.42
	20 trans-1,2-Dichloroethene	96	3.664	3.665	(0.634)	109550	50.7808	50.78
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	163505	50.5435	50.54
	38 Trichloroethene	130	6.819	6.816	(1.038)	198412	75.3596	75.35
	8 Trichlorofluoromethane	101	2.249	2.249	(0.389)	148574	49.8647	49.86
	5 Vinyl Chloride	62	1.681	1.681	(0.291)	132223	44.6418	44.64
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	405654	90.8598	90.85
	63 o-Xylene	106	10.179	10.175	(1.068)	212167	45.4240	45.42
M	95 Xylenes (total)	106				617821	136.284	136.28
	71 1,2,3-Trichloropropane	75	10.904	10.901	(0.921)	151721	41.0432	41.04
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	124768	47.3662	47.36
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	419266	40.5628	40.56
	75 1,3,5-Trimethylbenzene	105	11.132	11.135	(0.940)	420975	41.8222	41.82
	26 2,2-Dichloropropane	77	5.041	5.044	(0.872)	177014	50.2808	50.28
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	179078	43.8228	43.82
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	359547	40.7876	40.78
	77 4-Chlorotoluene	91	11.138	11.141	(0.941)	396588	41.3190	41.31
	82 p-Isopropyltoluene	119	11.818	11.818	(0.998)	413346	43.2742	43.27
	29 Bromochloromethane	128	5.365	5.365	(0.928)	60809	46.4787	46.47
	74 Bromobenzene	156	10.833	10.833	(0.915)	141350	41.0634	41.06
	44 Dibromomethane	93	7.188	7.188	(1.094)	70401	48.5214	48.52
	91 Hexachlorobutadiene	225	13.988	13.988	(1.182)	67512	47.4306	47.43
	73 n-Propylbenzene	91	10.955	10.955	(0.925)	563096	42.9187	42.91
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	328178	46.2293	46.22
	81 sec-Butylbenzene	105	11.667	11.668	(0.986)	492811	44.1824	44.18
	92 Naphthalene	128	14.061	14.061	(1.188)	359797	45.1435	45.14
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	364962	43.2222	43.22
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	123133	46.5899	46.58
	64 Styrene	104	10.198	10.198	(1.070)	319622	42.9048	42.90



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122710.D
Date : 27-DEC-2017 14:21
Client ID: HS17120895-08MS
Sample Info: HS17120895-08MS;HS17120895-08MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122711.D
Report Date: 09-Feb-2018 19:25

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122711.D
Lab Smp Id: HS17120895-08MSD Client Smp ID: HS17120895-08MSD
Inj Date : 27-DEC-2017 14:45
Operator : AP Inst ID: VOA2.i
Smp Info : HS17120895-08MSD;HS17120895-08MSD;3;;MSD
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171227.b\8260LL.m
Meth Date : 09-Feb-2018 19:25 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 10 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

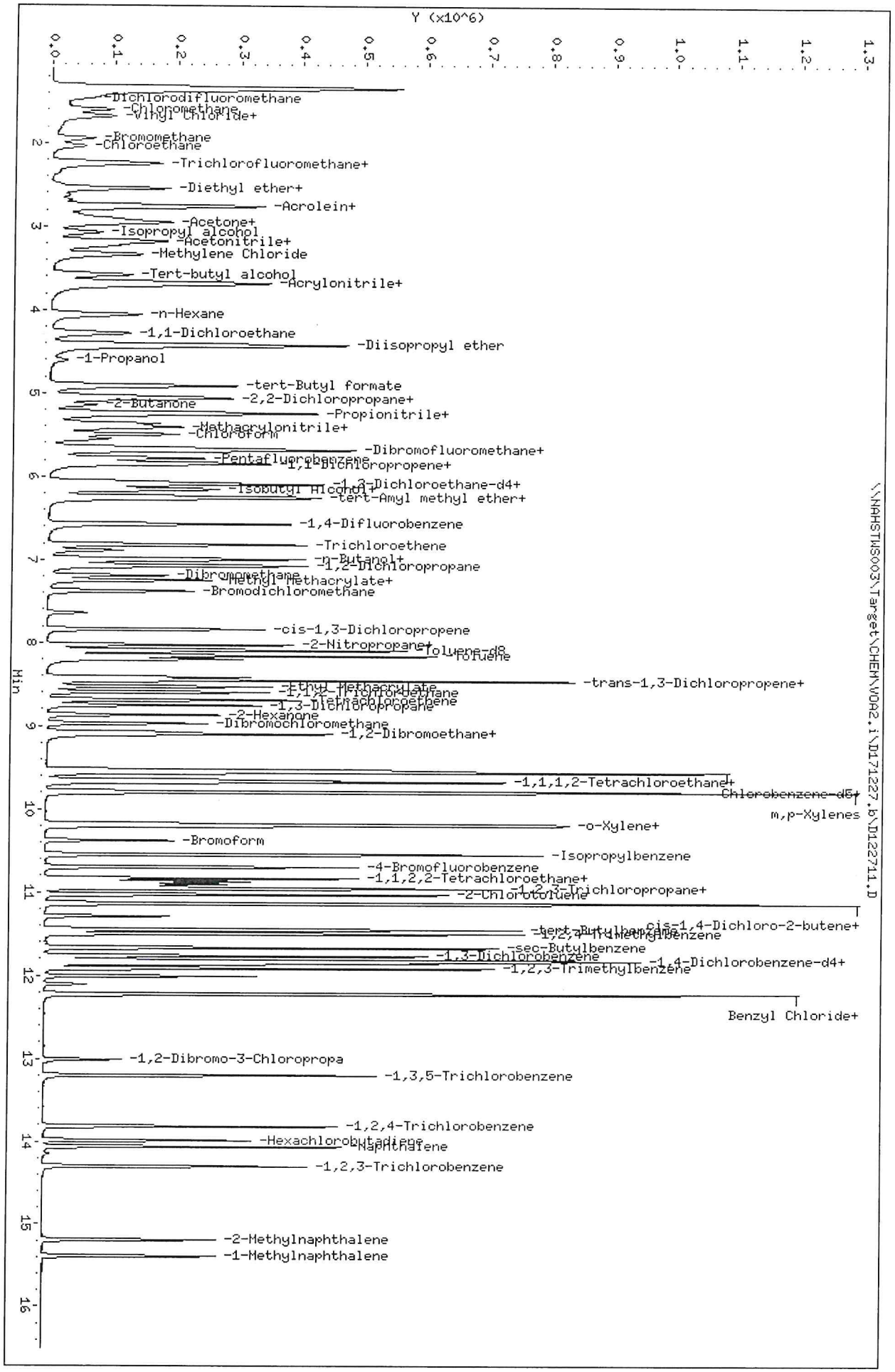
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	177571	46.7248	46.72
*	1 Pentafluorobenzene	168	5.782	5.779	(1.000)	245892	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.686	(0.983)	106241	47.9552	47.95
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	366897	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	131705	48.1346	48.13
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	335661	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	417576	47.1837	47.18
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	162389	50.2480	50.24
*	70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	156346	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	145860	39.1082	39.10
	53 1,1,2-Trichloroethane	83	8.594	8.593	(0.902)	89620	43.6460	43.64
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	145847	51.0271	51.02
	22 1,1-Dichloroethane	63	4.278	4.277	(0.740)	229702	44.7447	44.74
	11 1,1-Dichloroethene	96	2.750	2.753	(0.476)	100902	49.7191	49.71
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	150125	48.7410	48.74
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	26106	40.6774	40.67
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	115976	45.0963	45.09
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	232257	41.3293	41.32
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	156898	48.4296	48.42
	42 1,2-Dichloropropane	63	7.063	7.063	(1.075)	129408	44.7806	44.78
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	242418	41.4518	41.45

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122711.D
Report Date: 09-Feb-2018 19:25

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	==========	====	====	========	========	========	=======	=======
84	1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	230300	41.1723	41.17
24	2-Butanone	43	5.138	5.147	(0.888)	115785	87.2638	87.26
52	2-Hexanone	43	8.866	8.866	(0.931)	170302	86.5926	86.59
45	4-Methyl-2-Pentanone	43	8.026	8.029	(0.843)	266109	87.3843	87.38
10	Acetone	43	2.856	2.856	(0.494)	72673	88.9062	88.90
37	Benzene	78	6.091	6.091	(0.927)	439071	45.4830	45.48
39	Bromodichloromethane	83	7.377	7.377	(1.123)	156628	45.8399	45.83
66	Bromoform	173	10.374	10.374	(1.089)	92817	46.6160	46.61
6	Bromomethane	94	1.938	1.938	(0.335)	77178	45.6326	45.63
19	Carbon Disulfide	76	2.955	2.949	(0.511)	427403	92.2196	92.21
34	Carbon Tetrachloride	117	5.831	5.831	(0.887)	144640	41.5033	41.50
59	Chlorobenzene	112	9.553	9.553	(1.003)	302022	43.6914	43.69
7	Chloroethane	64	2.031	2.034	(0.351)	77514	38.9632	38.96
28	Chloroform	83	5.494	5.490	(0.950)	195533	43.6167	43.61
3	Chloromethane	50	1.598	1.592	(0.276)	160650	38.8536	38.85
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	127435	45.5537	45.55
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	194415	49.5461	49.54
55	Dibromochloromethane	129	8.969	8.969	(0.942)	131766	45.4677	45.46
2	Dichlorodifluoromethane	85	1.457	1.450	(0.252)	42825	20.3728	20.37
61	Ethylbenzene	106	9.672	9.672	(1.015)	162856	44.0162	44.01
67	Isopropylbenzene	105	10.548	10.544	(1.107)	520357	45.4622	45.46
17	Methylene Chloride	84	3.334	3.328	(0.577)	112937	41.9619	41.96
56	Tetrachloroethene	164	8.687	8.690	(0.912)	104584	50.5425	50.54
50	Toluene	91	8.157	8.157	(0.856)	468461	44.0384	44.03
20	trans-1,2-Dichloroethene	96	3.668	3.665	(0.634)	107858	49.1342	49.13
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	165010	49.4199	49.41
38	Trichloroethene	130	6.819	6.816	(1.038)	160053	58.8968	58.89
8	Trichlorofluoromethane	101	2.253	2.249	(0.390)	140875	46.4652	46.46
5	Vinyl Chloride	62	1.675	1.681	(0.290)	126564	41.9942	41.99
62	m,p-Xylenes	106	9.790	9.790	(1.028)	397640	87.8811	87.88
63	o-Xylene	106	10.175	10.175	(1.068)	207859	43.9103	43.91
M 95	Xylenes (total)	106				605499	131.791	131.79
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	154004	41.3496	41.34
93	1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	126008	47.4795	47.47
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	411381	39.5026	39.50
75	1,3,5-Trimethylbenzene	105	11.132	11.135	(0.941)	414002	40.8222	40.82
26	2,2-Dichloropropane	77	5.044	5.044	(0.872)	171752	47.9447	47.94
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	177839	42.9412	42.94
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	355548	40.0327	40.03
77	4-Chlorotoluene	91	11.138	11.141	(0.941)	388703	40.1950	40.19
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	409314	42.5319	42.53
29	Bromochloromethane	128	5.365	5.365	(0.928)	60962	45.7920	45.79
74	Bromobenzene	156	10.833	10.833	(0.915)	140323	40.4605	40.46
44	Dibromomethane	93	7.191	7.188	(1.094)	70002	46.7437	46.74
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	67122	46.7985	46.79
73	n-Propylbenzene	91	10.955	10.955	(0.926)	550461	41.6423	41.64
87	n-Butylbenzene	91	12.223	12.223	(1.033)	323431	45.2202	45.22
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	483955	43.0643	43.06
92	Naphthalene	128	14.061	14.061	(1.188)	362033	45.0840	45.08
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	357120	41.9775	41.97
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	123240	46.0107	46.01
64	Styrene	104	10.198	10.198	(1.071)	315486	41.7868	41.78



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122711.D
Date : 27-DEC-2017 14:45
Client ID: HS17120895-08MSD
Sample Info: HS17120895-08MSD;HS17120895-08MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122730.D
Report Date: 09-Feb-2018 19:25

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122730.D
Lab Smp Id: CCV_END Client Smp ID: CCV_END
Inj Date : 27-DEC-2017 22:35
Operator : AP Inst ID: VOA2.i
Smp Info : CCV_END;CCV_END;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171227.b\8260LL.m
Meth Date : 09-Feb-2018 19:25 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 28 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	178289	50.0000	48.82
* 1 Pentafluorobenzene	168	5.779	5.779	(1.000)	236254	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	103240	50.0000	48.50
* 36 1,4-Difluorobenzene	114	6.569	6.569	(1.000)	366495	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.048)	130383	50.0000	49.59
* 47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	331044	50.0000	
$ 48 Toluene-d8	98	8.090	8.090	(0.849)	411006	50.0000	47.08
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	159300	50.0000	49.97
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	155042	50.0000	
68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	146016	50.0000	39.47
53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	89158	50.0000	44.02
32 1,1-Dichloropropene	75	5.850	5.850	(0.891)	147425	50.0000	51.64
22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	229450	50.0000	46.51
11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	100637	50.0000	51.61
90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.168)	146073	50.0000	47.82
89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	26795	50.0000	42.08
57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	118111	50.0000	46.56
88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	228691	50.0000	41.03
33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	159943	50.0000	49.42
42 1,2-Dichloropropane	63	7.066	7.066	(1.076)	128122	50.0000	44.38
83 1,3-Dichlorobenzene	146	11.764	11.764	(0.994)	241767	50.0000	41.68

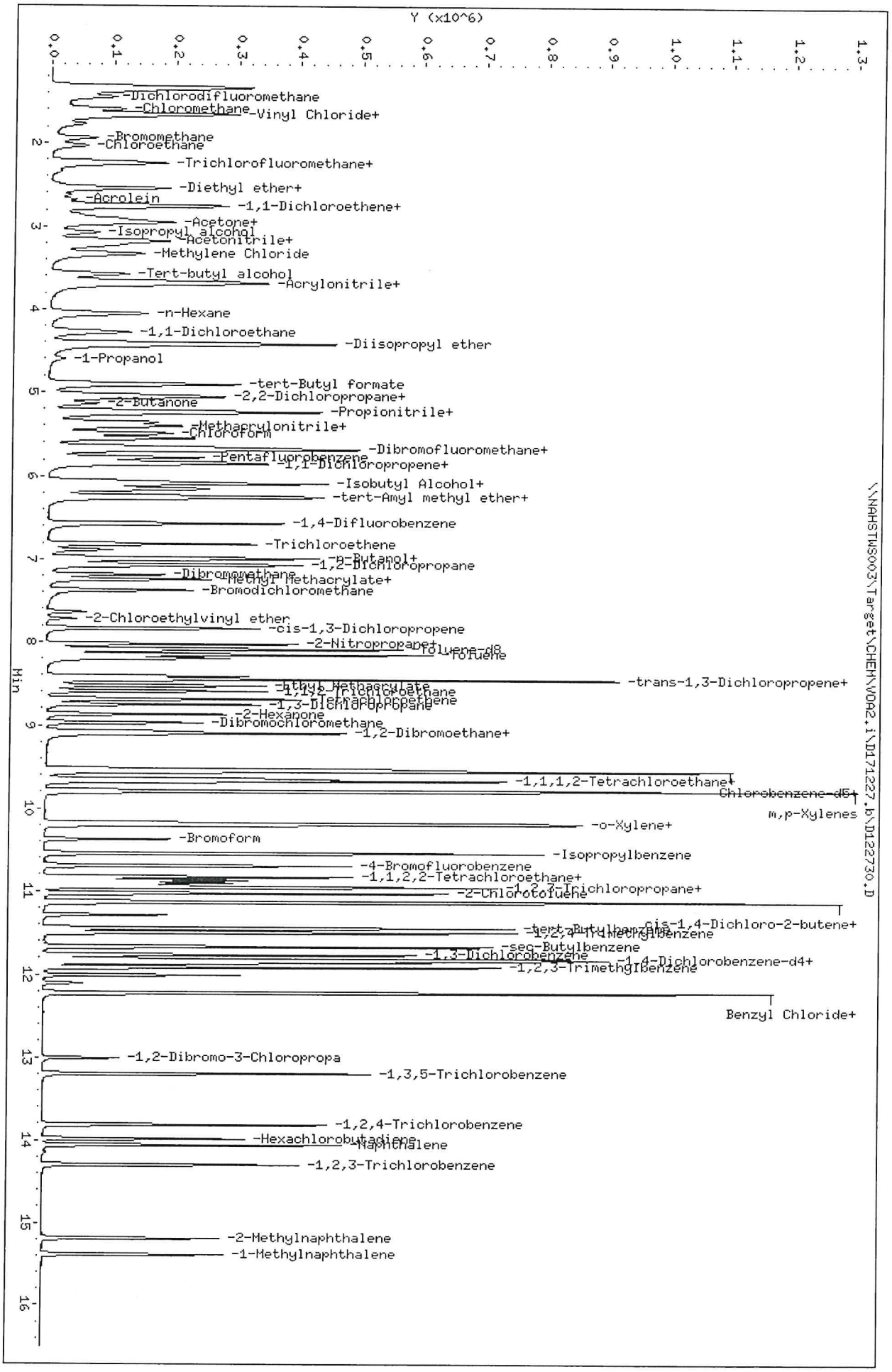
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122730.D
Report Date: 09-Feb-2018 19:25

	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	11.860	11.860	(1.002)	226942	50.0000	40.91	
24	2-Butanone	43	5.141	5.141	(0.890)	119804	100.000	93.97	
52	2-Hexanone	43	8.866	8.866	(0.931)	179606	100.000	92.59	
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	275869	100.000	91.85	
10	Acetone	43	2.859	2.859	(0.495)	76817	100.000	98.04	
37	Benzene	78	6.090	6.090	(0.927)	439170	50.0000	45.54	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	153551	50.0000	44.98	
66	Bromoform	173	10.374	10.374	(1.089)	93620	50.0000	47.67	
6	Bromomethane	94	1.935	1.935	(0.335)	84873	50.0000	52.59	
19	Carbon Disulfide	76	2.952	2.952	(0.511)	447333	100.000	100.45	
34	Carbon Tetrachloride	117	5.831	5.831	(0.888)	148375	50.0000	42.62	
59	Chlorobenzene	112	9.553	9.553	(1.003)	300334	50.0000	44.05	
7	Chloroethane	64	2.034	2.034	(0.352)	85303	50.0000	44.62	
28	Chloroform	83	5.494	5.494	(0.951)	196205	50.0000	45.55	
3	Chloromethane	50	1.592	1.592	(0.275)	213636	50.0000	54.14	
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	124400	50.0000	46.28	
46	cis-1,3-Dichloropropene	75	7.836	7.836	(1.193)	191490	50.0000	48.85	
55	Dibromochloromethane	129	8.969	8.969	(0.941)	130407	50.0000	45.62	
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	110536	50.0000	54.72	
61	Ethylbenzene	106	9.672	9.672	(1.015)	164536	50.0000	45.09	
67	Isopropylbenzene	105	10.548	10.548	(1.107)	521661	50.0000	46.21	
17	Methylene Chloride	84	3.331	3.331	(0.576)	115152	50.0000	44.53	
56	Tetrachloroethene	164	8.686	8.686	(0.912)	102872	50.0000	50.40	
50	Toluene	91	8.157	8.157	(0.856)	468302	50.0000	44.63	
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.635)	108263	50.0000	51.33	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	161587	50.0000	48.44	
38	Trichloroethene	130	6.816	6.816	(1.038)	129351	50.0000	47.65	
8	Trichlorofluoromethane	101	2.249	2.249	(0.389)	155520	50.0000	53.38	
5	Vinyl Chloride	62	1.681	1.681	(0.291)	152434	50.0000	52.64	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	395314	100.000	88.58	
63	o-Xylene	106	10.179	10.179	(1.068)	210953	50.0000	45.18	
M 95	Xylenes (total)	106				606267	150.000		(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	156573	50.0000	42.39	
93	1,2,3-Trichlorobenzene	182	14.299	14.299	(1.208)	124722	50.0000	47.39	
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	411899	50.0000	39.88	
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	412402	50.0000	41.00	
26	2,2-Dichloropropane	77	5.044	5.044	(0.873)	164639	50.0000	47.83	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	179416	50.0000	43.92	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	349832	50.0000	39.72	
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	383248	50.0000	39.96	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	406198	50.0000	42.56	
29	Bromochloromethane	128	5.362	5.362	(0.928)	61503	50.0000	48.08	
74	Bromobenzene	156	10.833	10.833	(0.915)	140290	50.0000	40.79	
44	Dibromomethane	93	7.191	7.191	(1.095)	71249	50.0000	47.62	
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	64874	50.0000	45.60	
73	n-Propylbenzene	91	10.955	10.955	(0.926)	553140	50.0000	42.19	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	316712	50.0000	44.65	
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	484948	50.0000	43.51	
92	Naphthalene	128	14.061	14.061	(1.188)	365749	50.0000	45.93	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	359734	50.0000	42.64	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	120003	50.0000	45.42	
64	Styrene	104	10.198	10.198	(1.070)	339973	50.0000	45.65	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122730.D
Report Date: 09-Feb-2018 19:25

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122730.D
Date : 27-DEC-2017 22:35
Client ID: CCV_END
Sample Info: CCV_END;CCV_END;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

\\NAHSTWS003\Target\CHEM\VOA2.i\D171227.b\D122730.D

Mercury Raw Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17120912

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: HG03_307667
Instrument: HG03
Method: SW7470

ICCV1	Date: 20-Dec-2017 13:21		Seq: 4361572	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.02	100	90-110	

ICV	Date: 20-Dec-2017 13:32		Seq: 4361573	ICV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.77	95	90-110	

CCV2	Date: 20-Dec-2017 14:02		Seq: 4361586	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.87	97	90-110	

CCV3	Date: 20-Dec-2017 14:25		Seq: 4361598	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.16	103	90-110	

CCV4	Date: 20-Dec-2017 14:54		Seq: 4361610	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.07	101	90-110	

CCV5	Date: 20-Dec-2017 15:14		Seq: 4361622	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.06	101	90-110	

CCV6	Date: 20-Dec-2017 15:42		Seq: 4361632	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.11	102	90-110	

CCV7	Date: 20-Dec-2017 16:06		Seq: 4361644	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.07	101	90-110	

CCV8	Date: 20-Dec-2017 16:27		Seq: 4361656	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.09	102	90-110	

CCV9	Date: 20-Dec-2017 17:12		Seq: 4361678	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.23	105	90-110	

CCV10	Date: 20-Dec-2017 17:32		Seq: 4361690	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.16	103	90-110	

CCV11	Date: 20-Dec-2017 17:54		Seq: 4361701	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.09	102	90-110	

CCV12	Date: 20-Dec-2017 18:26		Seq: 4361713	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.12	102	90-110	

CCV13	Date: 20-Dec-2017 18:48		Seq: 4361724	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	5.11	102	90-110	

CCV14	Date: 20-Dec-2017 19:08		Seq: 4361736	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Mercury	5	4.86	97	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: HG03_307667
Instrument: HG03
Method: SW7470

CCV15 Date: 20-Dec-2017 19:31 Seq: 4361747 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.89	98	90-110	

CCV16 Date: 20-Dec-2017 19:52 Seq: 4361870 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.79	96	90-110	

CCV17 Date: 20-Dec-2017 19:58 Seq: 4361873 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.03	101	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: HG03_307667
Instrument: HG03
Method: SW7470

ICB	Date: 20-Dec-2017 13:34	Seq: 4361574	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB1	Date: 20-Dec-2017 14:04	Seq: 4361587	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB2	Date: 20-Dec-2017 14:26	Seq: 4361599	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB3	Date: 20-Dec-2017 14:56	Seq: 4361611	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB4	Date: 20-Dec-2017 15:16	Seq: 4361623	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB5	Date: 20-Dec-2017 15:44	Seq: 4361633	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

GBLKF1-123609	Date: 20-Dec-2017 15:46	Seq: 4361634	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

MBLK-123609	Date: 20-Dec-2017 15:47	Seq: 4361635	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB6	Date: 20-Dec-2017 16:08	Seq: 4361645	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB7	Date: 20-Dec-2017 16:29	Seq: 4361657	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB8	Date: 20-Dec-2017 17:13	Seq: 4361679	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB9	Date: 20-Dec-2017 17:34	Seq: 4361691	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB10	Date: 20-Dec-2017 17:56	Seq: 4361702	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB11	Date: 20-Dec-2017 18:27	Seq: 4361714	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

CCB12	Date: 20-Dec-2017 18:49	Seq: 4361725	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Mercury	0.2	0.03	0.2	U

ALS Group USA, Corp Date: 12-Jan-18

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: HG03_307667
Instrument: HG03
Method: SW7470

CCB13	Date: 20-Dec-2017 19:10		Seq: 4361737	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB14	Date: 20-Dec-2017 19:33		Seq: 4361748	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB15	Date: 20-Dec-2017 19:54		Seq: 4361871	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB16	Date: 20-Dec-2017 20:00		Seq: 4361874	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

ALS Group USA, Corp Date: 12-Jan-18

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Date Analyzed: 20-Dec-2017 16:20
Date Extracted: 20-Dec-2017 09:19
Units: ug/L

Matrix Spike: HS17120912-01MS
Client Sample ID: MW9_121317

Analysis Method: SW7470

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Mercury	0.2000	5.100	5.000	102	5.060	5.000	101	75-125	0.787	20

ALS Group USA, Corp Date: 12-Jan-18

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Date Analyzed: 20-Dec-2017 15:49
Date Extracted: 20-Dec-2017 09:19
Units: ug/L

Lab Sample ID: LCS-123609 Analysis Method: SW7470

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Mercury	5	5.16	103	80-120

ALS Group USA, Corp Date: 12-Jan-18

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS05
Project: LHAAP 18/24
WorkOrder: HS17120912

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
114	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Group USA, Corp Date: 12-Jan-18

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912
Start Date: 20-Dec-2017 09:19 End Date: 20-Dec-2017 12:00

Batch ID: 123609
Prep Code: Hg_WPr
Method: SW7470
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
GBLKF1-123609				10	10	1
HS17120912-01	MW9_121317	Groundwater		10	10	1
HS17120912-01MS				10	10	1
HS17120912-01MSD				10	10	1
HS17120912-06	18CPTMW22R_121417	Groundwater		10	10	1
HS17120912-07	18CPTMW22SW_121417	Groundwater		10	10	1
HS17120912-11	18CPTMW03SW_121517	Groundwater		10	10	1
LCS-123609				10	10	1
MBLK-123609				10	10	1

ALS Group USA, Corp Date: 12-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912
Start Date: 20-Dec-2017 End Date: 20-Dec-2017

Run ID:HG03_307667
Instrument:HG03
Method:SW7470

Sample No.	D/F	Time	FileID	Analytes
ICCV 1	1	20-Dec-2017 13:21	HG03_307667 Raw Data_4361572	HG
ICV	1	20-Dec-2017 13:32		HG
ICB	1	20-Dec-2017 13:34		HG
CRA	1	20-Dec-2017 13:36		HG
CCV 2	1	20-Dec-2017 14:02		HG
CCB 1	1	20-Dec-2017 14:04		HG
CCV 3	1	20-Dec-2017 14:25		HG
CCB 2	1	20-Dec-2017 14:26		HG
CCV 4	1	20-Dec-2017 14:54		HG
CCB 3	1	20-Dec-2017 14:56		HG
CCV 5	1	20-Dec-2017 15:14		HG
CCB 4	1	20-Dec-2017 15:16		HG
CCV 6	1	20-Dec-2017 15:42		HG
CCB 5	1	20-Dec-2017 15:44		HG
GBLKF1-123609	1	20-Dec-2017 15:46		HG
MBLK-123609	1	20-Dec-2017 15:47		HG
LCS-123609	1	20-Dec-2017 15:49		HG
CCV 7	1	20-Dec-2017 16:06		HG
CCB 6	1	20-Dec-2017 16:08		HG
MW9_121317	1	20-Dec-2017 16:17		HG
MW9_121317MS	1	20-Dec-2017 16:18		HG
MW9_121317MSD	1	20-Dec-2017 16:20		HG
18CPTMW22R_121417	1	20-Dec-2017 16:22		HG
18CPTMW22SW_121417	1	20-Dec-2017 16:23		HG
18CPTMW03SW_121517	1	20-Dec-2017 16:25		HG
CCV 8	1	20-Dec-2017 16:27		HG
CCB 7	1	20-Dec-2017 16:29		HG
CCV 9	1	20-Dec-2017 17:12		HG
CCB 8	1	20-Dec-2017 17:13		HG
CCV 10	1	20-Dec-2017 17:32		HG
CCB 9	1	20-Dec-2017 17:34		HG
CCV 11	1	20-Dec-2017 17:54		HG
CCB 10	1	20-Dec-2017 17:56		HG
CCV 12	1	20-Dec-2017 18:26		HG
CCB 11	1	20-Dec-2017 18:27		HG
CCV 13	1	20-Dec-2017 18:48		HG
CCB 12	1	20-Dec-2017 18:49		HG
CCV 14	1	20-Dec-2017 19:08		HG
CCB 13	1	20-Dec-2017 19:10		HG
CCV 15	1	20-Dec-2017 19:31		HG
CCB 14	1	20-Dec-2017 19:33		HG
CCV 16	1	20-Dec-2017 19:52		HG
CCB 15	1	20-Dec-2017 19:54		HG
CCV 17	1	20-Dec-2017 19:58		HG
CCB 16	1	20-Dec-2017 20:00		HG

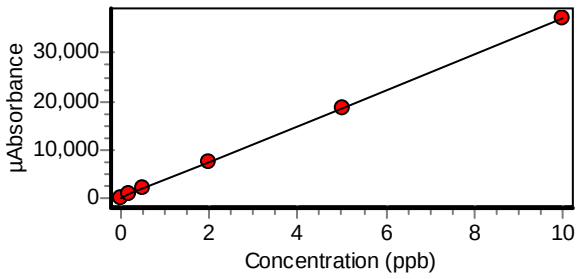
Report Generated By CETAC QuickTrace
Analyst: ALSHS.NoUser
Worksheet file: C:\Program Files (x86)\QuickTrace\Worksheets\122017AW.wsz
Date Started: 12/20/2017 11:00:13 AM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
Calibration Blank					STD	12/20/17 12:55:46 pm	0.000	49	17.27	
Replicates	52.3	57.6	47.1	37.9						
Standard #1 (0.2 ppb)					STD	12/20/17 12:57:27 pm	0.200	820	1.79	
Replicates	825.9	832.5	798.8	821.8						
Standard #2 (0.5 ppb)					STD	12/20/17 12:59:09 pm	0.500	2021	0.80	
Replicates	2007.5	2015.1	2044.3	2017.3						
Standard #3 (2.0 ppb)					STD	12/20/17 01:00:52 pm	2.000	7459	1.68	
Replicates	7297.9	7424.3	7539.5	7574.8						
Standard #4 (5.0 ppb)					STD	12/20/17 01:02:35 pm	5.000	18506	0.53	
Replicates	18364.3	18518.9	18552.6	18589.4						
Standard #5 (10.0 ppb)					STD	12/20/17 01:18:51 pm	10.000	37146	2.76	
Replicates	35698.9	37148.9	37793.4	37940.7						

Calibration

Equation: A = 85.434 + 3696.882C
R2: 0.99998
SEE: 73.7206
Flags:



ICCV					UNK	12/20/17 01:21:03 pm	5.020	18634	2.14	
Replicates	18078.5	18627.3	18837.6	18993.3						
ICV					UNK	12/20/17 01:32:44 pm	4.770	17727	4.61	
Replicates	16813.6	17357.9	18042.6	18694.9						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
ICB					UNK	12/20/17 01:34:26 pm	0.001	88	13.78	s
Replicates	103.1	78.5	77.5	91.3						
CRA					UNK	12/20/17 01:36:07 pm	0.180	751	2.94	
Replicates	721.1	756.9	750.9	774.1						
MBLK-123589					UNK	12/20/17 01:39:27 pm	-0.017	22	64.51	
Replicates	30.2	14.0	7.0	38.5						
LCS-123589					UNK	12/20/17 01:45:03 pm	4.780	17774	2.15	
Replicates	17320.0	17618.7	17969.2	18188.4						
HS17120660-02					UNK	12/20/17 01:47:49 pm	0.188	782	2.72	
Replicates	762.0	794.3	765.6	805.1						
HS17120789-01					UNK	12/20/17 01:49:32 pm	-0.008	55	41.35	s
Replicates	64.8	20.8	66.5	66.3						
HS17120789-02					UNK	12/20/17 01:51:15 pm	-0.015	31	62.65	
Replicates	24.1	57.1	30.6	11.3						
HS17120789-03					UNK	12/20/17 01:52:59 pm	-0.020	11	406.90	
Replicates	-10.0	-40.4	51.4	41.6						
HS17120789-05					UNK	12/20/17 01:54:43 pm	-0.017	24	100.05	
Replicates	15.8	58.0	4.0	16.8						
HS17120789-06					UNK	12/20/17 01:56:27 pm	-0.012	42	8.61	
Replicates	38.0	41.0	44.5	46.3						
HS17120789-07					UNK	12/20/17 01:58:07 pm	-0.018	19	92.54	
Replicates	22.9	41.2	13.9	-1.3						
HS17120851-02					UNK	12/20/17 01:59:48 pm	-0.017	23	91.55	
Replicates	48.9	20.6	-2.4	24.6						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	12/20/17 02:02:26 pm	4.870	18083	1.16	
	Replicates	17784.7	18106.3	18171.8	18270.8					
CCB					UNK	12/20/17 02:04:11 pm	-0.028	-18	117.29	
	Replicates	-12.3	6.2	-43.8	-20.8					
HS17120851-03					UNK	12/20/17 02:08:02 pm	-0.022	5	226.53	
	Replicates	18.0	11.7	-6.8	-2.3					
HS17120851-04					UNK	12/20/17 02:09:44 pm	-0.014	35	40.42	
	Replicates	39.6	52.6	22.3	24.8					
HS17120851-04MS					UNK	12/20/17 02:11:25 pm	4.540	16882	3.15	
	Replicates	16217.6	16725.9	17140.9	17441.7					
HS17120851-04MSD					UNK	12/20/17 02:13:07 pm	4.770	17704	1.53	
	Replicates	17332.9	17675.1	17871.6	17937.4					
HS17120868-07					UNK	12/20/17 02:14:50 pm	-0.019	15	131.43	
	Replicates	14.7	6.2	-3.3	42.4					
HS17120868-08					UNK	12/20/17 02:16:32 pm	-0.023	1	846.57	
	Replicates	-11.9	12.8	3.0	1.0					
HS17120868-09					UNK	12/20/17 02:18:15 pm	-0.014	33	42.97	
	Replicates	14.0	45.3	30.1	41.6					
HS17120916-01					UNK	12/20/17 02:19:59 pm	-0.019	16	119.78	
	Replicates	32.0	-11.7	23.1	20.3					
HS17120916-02					UNK	12/20/17 02:21:42 pm	-0.016	27	37.34	
	Replicates	18.3	31.0	18.5	38.5					
HS17120916-03					UNK	12/20/17 02:23:26 pm	-0.017	24	61.93	
	Replicates	29.5	32.3	31.3	1.8					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	12/20/17 02:25:10 pm	5.160	19145	0.36	
Replicates	19042.6	19163.5	19185.8	19188.3						
CCB					UNK	12/20/17 02:26:55 pm	-0.013	36	37.87	
Replicates	50.6	32.3	19.1	43.6						
HS17120944-01					UNK	12/20/17 02:28:36 pm	-0.015	31	83.12	
Replicates	11.3	9.6	39.1	63.6						
HS17120944-02					UNK	12/20/17 02:30:17 pm	-0.014	34	86.14	
Replicates	9.3	71.8	12.6	42.1						
GBLKT1-123612					UNK	12/20/17 02:40:47 pm	-0.013	39	63.32	
Replicates	21.3	71.4	18.2	45.7						
MBLK-123612					UNK	12/20/17 02:42:28 pm	-0.019	15	139.60	
Replicates	28.0	8.1	33.3	-11.2						
LCS-123612					UNK	12/20/17 02:44:10 pm	5.000	18560	0.96	
Replicates	18302.3	18586.9	18640.2	18709.2						
HS17120691-01					UNK	12/20/17 02:45:52 pm	-0.015	28	76.73	
Replicates	56.9	33.1	10.1	12.9						
HS17120691-01MS					UNK	12/20/17 02:47:34 pm	5.130	19051	0.75	
Replicates	18851.0	19054.9	19119.4	19179.9						
HS17120691-01MSD					UNK	12/20/17 02:49:17 pm	6.050	22441	0.32	
Replicates	22354.0	22520.5	22472.0	22417.5						
HS17120691-02					UNK	12/20/17 02:51:00 pm	-0.013	38	8.27	
Replicates	40.1	37.9	39.4	33.2						
HS17120691-03					UNK	12/20/17 02:52:43 pm	-0.014	33	82.39	
Replicates	38.4	67.9	14.6	9.1						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	12/20/17 02:54:27 pm	5.070	18822	1.98	
	Replicates	18296.8	18817.8	19049.8	19123.1					
CCB					UNK	12/20/17 02:56:12 pm	-0.024	-3	684.99	
	Replicates	-26.1	-5.6	9.1	12.4					
HS17120691-04					UNK	12/20/17 02:57:56 pm	-0.012	40	41.64	
	Replicates	28.5	23.5	57.5	51.5					
HS17120691-05					UNK	12/20/17 02:59:39 pm	-0.013	36	55.97	
	Replicates	42.8	30.3	11.8	59.8					
HS17120691-06					UNK	12/20/17 03:01:21 pm	-0.015	30	28.82	
	Replicates	21.7	23.9	36.7	38.9					
HS17120691-07					UNK	12/20/17 03:03:02 pm	-0.004	70	26.33	s
	Replicates	94.7	50.8	70.1	63.8					
HS17120691-08					UNK	12/20/17 03:04:43 pm	-0.005	67	35.16	s
	Replicates	39.5	79.8	57.3	92.8					
HS17120691-09					UNK	12/20/17 03:06:24 pm	-0.015	30	69.52	
	Replicates	7.5	43.1	18.1	52.9					
HS17120767-20					UNK	12/20/17 03:08:06 pm	-0.003	73	32.76	s
	Replicates	41.2	69.0	89.5	93.8					
HS17120767-21					UNK	12/20/17 03:09:48 pm	-0.010	49	54.34	
	Replicates	40.4	36.7	29.4	87.4					
HS17120767-22					UNK	12/20/17 03:11:31 pm	-0.016	26	38.32	
	Replicates	31.0	11.4	33.1	27.4					
HS17120767-23					UNK	12/20/17 03:13:13 pm	-0.013	38	33.54	
	Replicates	49.9	48.0	23.3	32.0					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCV					UNK	12/20/17 03:14:58 pm	5.060	18776	2.31	
	Replicates	18189.3	18721.1	19019.9	19175.6					
CCB					UNK	12/20/17 03:16:43 pm	-0.013	38	57.64	
	Replicates	53.7	22.6	16.1	59.8					
HS17120767-24					UNK	12/20/17 03:18:25 pm	-0.010	49	33.57	
	Replicates	58.5	25.9	48.9	62.6					
HS17120872-01					UNK	12/20/17 03:20:09 pm	-0.017	21	86.33	
	Replicates	19.5	8.8	9.3	48.3					
HS17120878-01					UNK	12/20/17 03:21:52 pm	-0.006	62	40.01	s
	Replicates	61.9	96.7	40.7	48.4					
HS17120910-01					UNK	12/20/17 03:23:36 pm	-0.007	58	39.02	s
	Replicates	46.9	52.8	91.8	41.8					
HS17120920-01					UNK	12/20/17 03:25:17 pm	-0.021	8	245.27	
	Replicates	9.1	33.1	-8.7	-3.2					
HS17120934-01					UNK	12/20/17 03:26:59 pm	3.230	12009	0.45	
	Replicates	11933.5	12012.4	12031.9	12059.9					
HS17120936-01					UNK	12/20/17 03:28:40 pm	0.010	123	23.18	s
	Replicates	114.8	101.3	110.3	164.5					
HS17120691-01MSD					UNK	12/20/17 03:41:07 pm	5.100	18938	0.89	
	Replicates	18720.9	18909.3	18999.1	19122.6					
CCV					UNK	12/20/17 03:42:51 pm	5.110	18970	0.52	
	Replicates	18834.6	18963.7	19029.4	19053.4					
CCB					UNK	12/20/17 03:44:36 pm	-0.021	9	173.62	
	Replicates	23.2	-0.3	-8.5	22.8					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
GBLKF1-123609				UNK	12/20/17 03:46:18 pm	-0.012	42	46.13	
Replicates	19.5	50.7	34.7	64.7					
MBLK-123609				UNK	12/20/17 03:47:59 pm	-0.013	36	50.27	
Replicates	32.2	54.6	45.1	12.6					
LCS-123609				UNK	12/20/17 03:49:41 pm	5.160	19178	0.61	
Replicates	19040.6	19136.1	19225.6	19310.6					
HS17120778-02				UNK	12/20/17 03:51:24 pm	-0.021	10	233.38	
Replicates	27.2	31.2	-11.3	-8.3					
HS17120799-01				UNK	12/20/17 03:53:06 pm	0.000	87	32.40	s
Replicates	55.0	85.4	123.4	82.9					
HS17120799-02				UNK	12/20/17 03:54:49 pm	-0.004	70	38.17	s
Replicates	104.7	43.4	74.9	56.1					
HS17120799-03				UNK	12/20/17 03:56:32 pm	-0.006	63	47.76	s
Replicates	74.4	79.0	80.3	18.0					
HS17120799-04				UNK	12/20/17 03:58:16 pm	-0.013	37	65.03	
Replicates	47.7	63.6	10.1	24.8					
HS17120799-05				UNK	12/20/17 04:00:00 pm	-0.008	54	25.38	s
Replicates	60.7	56.4	65.7	34.4					
HS17120799-06				UNK	12/20/17 04:05:05 pm	0.024	174	8.64	s
Replicates	176.9	155.2	172.2	191.7					
CCV				UNK	12/20/17 04:06:50 pm	5.070	18838	0.27	
Replicates	18777.1	18839.0	18833.5	18902.0					
CCB				UNK	12/20/17 04:08:35 pm	-0.015	32	82.86	
Replicates	45.3	61.8	4.1	16.3					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120799-07				UNK	12/20/17 04:10:16 pm	-0.008	57	40.64	s
Replicates	66.0	44.9	32.4	84.9					
HS17120799-08				UNK	12/20/17 04:11:58 pm	-0.007	60	25.19	s
Replicates	71.4	72.8	52.8	41.8					
HS17120799-09				UNK	12/20/17 04:13:41 pm	-0.008	57	25.37	s
Replicates	62.5	48.6	74.1	41.9					
HS17120799-10				UNK	12/20/17 04:15:23 pm	-0.003	76	25.54	s
Replicates	52.1	90.9	68.7	92.9					
HS17120912-01				UNK	12/20/17 04:17:05 pm	-0.001	83	16.75	s
Replicates	82.9	77.6	69.4	102.1					
HS17120912-01MS				UNK	12/20/17 04:18:47 pm	5.100	18924	0.69	
Replicates	18753.5	18897.3	18994.1	19053.1					
HS17120912-01MSD				UNK	12/20/17 04:20:30 pm	5.060	18777	0.62	
Replicates	18615.3	18775.2	18835.7	18881.7					
HS17120912-06				UNK	12/20/17 04:22:13 pm	-0.001	82	17.10	s
Replicates	63.2	96.4	86.6	80.4					
HS17120912-07				UNK	12/20/17 04:23:56 pm	-0.008	57	25.67	s
Replicates	48.1	60.9	43.4	76.2					
HS17120912-11				UNK	12/20/17 04:25:39 pm	-0.003	73	18.74	s
Replicates	67.6	64.9	65.4	93.1					
CCV				UNK	12/20/17 04:27:24 pm	5.090	18904	0.43	
Replicates	18790.4	18922.8	18918.0	18983.5					
CCB				UNK	12/20/17 04:29:09 pm	-0.019	14	177.04	
Replicates	23.1	-14.8	44.0	4.5					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120932-19				UNK	12/20/17 04:30:52 pm	0.496	1921	1.39	
Replicates	1892.7	1956.8	1916.3	1916.6					
HS17121027-04				UNK	12/20/17 04:32:34 pm	0.017	148	23.56	s
Replicates	115.2	171.1	183.6	120.6					
HS17121027-05				UNK	12/20/17 04:52:35 pm	-0.021	9	112.45	
Replicates	24.3	3.6	3.9	4.4					
HS17121027-06				UNK	12/20/17 04:54:17 pm	-0.013	38	17.28	
Replicates	46.7	31.4	34.9	37.9					
GBLKP1-123613				UNK	12/20/17 05:01:48 pm	-0.010	47	31.73	
Replicates	28.5	64.6	51.1	44.9					
MBLK-123613				UNK	12/20/17 05:03:30 pm	-0.016	26	89.88	
Replicates	7.4	5.7	38.2	53.4					
LCS-123613				UNK	12/20/17 05:05:12 pm	5.020	18657	0.69	
Replicates	18481.0	18664.7	18693.2	18789.9					
HS17120767-01				UNK	12/20/17 05:06:54 pm	-0.011	47	63.96	
Replicates	61.1	70.3	3.3	52.1					
HS17120767-02				UNK	12/20/17 05:08:37 pm	-0.009	54	30.15	s
Replicates	68.3	60.2	56.7	30.7					
HS17120767-03				UNK	12/20/17 05:10:20 pm	-0.009	51	31.69	s
Replicates	73.6	40.2	52.4	38.4					
CCV				UNK	12/20/17 05:12:04 pm	5.230	19405	0.99	
Replicates	19168.3	19359.9	19466.6	19624.6					
CCB				UNK	12/20/17 05:13:49 pm	-0.020	12	173.59	
Replicates	6.2	5.6	40.8	-5.9					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120767-04				UNK	12/20/17 05:15:32 pm	-0.012	42	52.53	
Replicates	46.9	23.6	25.6	70.4					
HS17120767-05				UNK	12/20/17 05:17:16 pm	-0.014	35	20.99	
Replicates	31.4	25.9	42.2	38.4					
HS17120767-06				UNK	12/20/17 05:18:59 pm	-0.010	50	60.84	
Replicates	48.5	40.4	18.7	90.7					
HS17120767-07				UNK	12/20/17 05:20:42 pm	-0.014	35	81.66	
Replicates	43.1	68.7	27.2	0.7					
HS17120767-08				UNK	12/20/17 05:22:24 pm	-0.014	33	14.48	
Replicates	27.5	31.3	38.3	35.8					
HS17120767-08MS				UNK	12/20/17 05:24:07 pm	4.940	18354	0.81	
Replicates	18174.9	18294.1	18432.6	18512.8					
HS17120767-08MSD				UNK	12/20/17 05:25:49 pm	4.980	18484	0.78	
Replicates	18313.7	18444.3	18520.1	18656.8					
HS17120767-09				UNK	12/20/17 05:27:32 pm	-0.013	37	44.18	
Replicates	56.5	30.6	18.4	44.4					
HS17120767-10				UNK	12/20/17 05:29:14 pm	-0.007	59	19.06	s
Replicates	49.5	74.9	53.6	56.9					
HS17120767-11				UNK	12/20/17 05:30:56 pm	-0.012	39	39.74	
Replicates	23.0	47.9	56.9	29.9					
CCV				UNK	12/20/17 05:32:41 pm	5.160	19166	0.78	
Replicates	18959.3	19170.4	19227.4	19307.6					
CCB				UNK	12/20/17 05:34:26 pm	-0.018	21	56.88	
Replicates	7.1	34.6	16.4	24.1					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120767-12				UNK	12/20/17 05:36:08 pm	-0.012	41	70.87	
Replicates	-1.1	58.5	61.3	44.5					
HS17120767-13				UNK	12/20/17 05:37:51 pm	-0.013	36	22.75	
Replicates	30.2	27.8	44.8	40.6					
HS17120767-14				UNK	12/20/17 05:39:34 pm	-0.009	51	30.77	s
Replicates	73.3	46.8	37.5	45.3					
HS17120767-15				UNK	12/20/17 05:41:18 pm	-0.006	63	43.52	s
Replicates	61.6	38.1	50.9	101.6					
HS17120767-16				UNK	12/20/17 05:43:01 pm	-0.013	36	44.81	
Replicates	16.1	33.4	55.1	39.6					
HS17120767-17				UNK	12/20/17 05:44:44 pm	-0.005	66	13.38	s
Replicates	55.8	65.3	64.1	77.1					
HS17120767-18				UNK	12/20/17 05:46:27 pm	-0.011	44	12.70	
Replicates	42.1	41.4	52.9	41.4					
HS17120767-19				UNK	12/20/17 05:48:09 pm	-0.006	64	35.16	s
Replicates	46.2	71.9	45.9	92.6					
HS17120767-20				UNK	12/20/17 05:49:52 pm	-0.010	50	32.36	
Replicates	27.2	51.1	65.1	55.3					
CCV				UNK	12/20/17 05:54:56 pm	5.090	18896	0.52	
Replicates	18780.6	18855.8	18943.5	19002.3					
CCB				UNK	12/20/17 05:56:41 pm	-0.012	42	19.11	
Replicates	45.3	30.6	49.1	44.6					
GBLKP1-123614				UNK	12/20/17 05:58:23 pm	-0.016	28	66.04	
Replicates	31.1	44.8	33.5	1.8					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
MBLK-123614				UNK	12/20/17 06:00:06 pm	-0.015	31	25.02	
Replicates	25.4	41.9	30.4	25.6					
LCS-123614				UNK	12/20/17 06:01:49 pm	5.110	18968	0.51	
Replicates	18834.9	18960.6	19030.1	19045.1					
HS17120616-01				UNK	12/20/17 06:03:31 pm	-0.013	36	51.67	
Replicates	28.1	53.1	49.6	13.6					
HS17120616-01MS				UNK	12/20/17 06:12:07 pm	0.177	738	2.25	
Replicates	716.2	744.5	735.8	755.5					
HS17120616-01MS				UNK	12/20/17 06:15:51 pm	5.000	18568	0.55	
Replicates	18434.5	18554.5	18605.8	18677.3					
HS17120616-01MSD				UNK	12/20/17 06:17:34 pm	5.060	18774	0.93	
Replicates	18537.0	18755.3	18877.1	18926.8					
HS17120616-02				UNK	12/20/17 06:19:17 pm	0.131	571	5.02	s
Replicates	539.4	605.1	557.8	582.6					
HS17120693-01				UNK	12/20/17 06:21:01 pm	0.036	217	4.30	
Replicates	213.0	211.6	212.1	230.8					
HS17120693-02				UNK	12/20/17 06:22:44 pm	0.080	379	5.12	s
Replicates	356.0	379.1	403.6	378.9					
HS17120767-21				UNK	12/20/17 06:24:27 pm	-0.015	31	20.46	
Replicates	26.9	35.5	37.5	24.5					
CCV				UNK	12/20/17 06:26:11 pm	5.120	19014	1.01	
Replicates	18755.6	19025.3	19055.0	19218.3					
CCB				UNK	12/20/17 06:27:56 pm	-0.013	36	58.17	
Replicates	62.8	41.3	21.8	17.3					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120767-22				UNK	12/20/17 06:29:39 pm	-0.011	45	53.98	
Replicates	26.2	24.5	54.8	75.3					
HS17120767-23				UNK	12/20/17 06:31:22 pm	-0.015	30	39.17	
Replicates	41.6	13.6	32.9	31.9					
HS17120767-24				UNK	12/20/17 06:33:05 pm	-0.018	19	102.21	
Replicates	31.0	-6.5	14.5	35.8					
MBLK123615				UNK	12/20/17 06:37:54 pm	-0.011	44	75.32	
Replicates	45.0	-2.7	72.8	61.1					
LCS-123615				UNK	12/20/17 06:39:37 pm	4.950	18403	0.55	
Replicates	18276.6	18385.5	18429.0	18522.3					
HS17120644-01				UNK	12/20/17 06:41:20 pm	-0.022	4	294.76	
Replicates	0.9	-10.1	6.9	18.2					
HS17120644-02				UNK	12/20/17 06:43:03 pm	-0.013	37	36.34	
Replicates	38.6	27.3	26.6	55.3					
HS17120644-03				UNK	12/20/17 06:44:46 pm	-0.003	76	14.91	s
Replicates	87.5	75.9	60.4	78.9					
HS17120644-04				UNK	12/20/17 06:46:29 pm	-0.016	27	74.32	
Replicates	9.1	55.5	28.0	16.8					
CCV				UNK	12/20/17 06:48:14 pm	5.110	18975	0.43	
Replicates	18882.9	18933.4	19018.2	19064.4					
CCB				UNK	12/20/17 06:49:58 pm	-0.012	40	54.89	
Replicates	9.1	48.8	61.0	42.8					
HS17120644-09				UNK	12/20/17 06:51:42 pm	-0.004	69	29.90	s
Replicates	48.9	98.2	67.2	63.2					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120644-09MS				UNK	12/20/17 06:53:23 pm	4.680	17402	3.43	
Replicates	16613.2	17291.3	17732.1	17970.8					
HS17120644-09MSD				UNK	12/20/17 06:55:04 pm	4.760	17667	4.13	
Replicates	16750.5	17446.2	18054.7	18416.4					
HS17120644-10				UNK	12/20/17 06:56:46 pm	-0.018	19	76.99	
Replicates	37.5	13.3	2.6	24.6					
HS17120644-11				UNK	12/20/17 06:58:28 pm	-0.015	32	45.20	
Replicates	33.2	16.0	27.5	50.5					
HS17120644-12				UNK	12/20/17 07:00:10 pm	-0.006	63	25.22	s
Replicates	78.7	51.4	74.7	47.4					
HS17120921-01				UNK	12/20/17 07:01:52 pm	-0.017	24	69.02	
Replicates	8.4	30.3	43.8	12.5					
HS17120921-02				UNK	12/20/17 07:03:35 pm	-0.007	61	4.68	
Replicates	59.4	57.4	61.9	63.9					
HS17120921-03				UNK	12/20/17 07:05:18 pm	-0.012	39	46.36	
Replicates	44.4	23.1	27.1	63.1					
HS17120921-04				UNK	12/20/17 07:07:01 pm	-0.015	31	24.46	
Replicates	40.0	21.8	29.6	34.1					
CCV				UNK	12/20/17 07:08:45 pm	4.860	18070	1.60	
Replicates	17695.8	17997.4	18239.4	18348.2					
CCB				UNK	12/20/17 07:10:30 pm	-0.013	36	33.50	
Replicates	37.9	22.1	33.8	51.6					
HS17120921-05				UNK	12/20/17 07:12:14 pm	-0.001	83	15.92	s
Replicates	82.7	94.1	64.4	90.1					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120921-06				UNK	12/20/17 07:13:58 pm	-0.012	43	67.71	
Replicates	35.0	45.3	79.8	10.3					
HS17120921-07				UNK	12/20/17 07:15:42 pm	-0.011	44	24.59	
Replicates	35.5	47.8	56.8	34.3					
MBLK-123653				UNK	12/20/17 07:18:37 pm	-0.011	47	8.69	
Replicates	52.2	44.9	42.7	46.9					
LCS-123653				UNK	12/20/17 07:20:17 pm	5.200	19319	0.61	
Replicates	19187.1	19262.0	19380.0	19448.5					
HS17121017-01				UNK	12/20/17 07:21:59 pm	-0.017	23	112.98	
Replicates	2.1	13.9	15.4	61.9					
HS17121017-01MS				UNK	12/20/17 07:23:40 pm	5.030	18688	0.80	
Replicates	18478.4	18690.9	18755.6	18826.6					
HS17121017-01MSD				UNK	12/20/17 07:25:22 pm	5.000	18570	0.52	
Replicates	18448.1	18539.0	18623.8	18668.8					
HS17121017-02				UNK	12/20/17 07:27:04 pm	-0.022	5	403.84	
Replicates	-1.5	-19.1	14.6	25.1					
CCV				UNK	12/20/17 07:31:23 pm	4.890	18157	1.02	
Replicates	17927.2	18100.6	18244.6	18356.8					
CCB				UNK	12/20/17 07:33:08 pm	-0.017	23	69.75	
Replicates	13.7	15.6	14.8	46.1					
GBLKT1-123654				UNK	12/20/17 07:34:50 pm	-0.016	26	54.32	
Replicates	22.8	29.1	9.1	43.1					
MBLK-123654				UNK	12/20/17 07:36:33 pm	-0.012	42	40.54	
Replicates	54.0	41.9	17.6	52.6					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
LCS-123654				UNK	12/20/17 07:38:16 pm	5.120	19029	0.96	
Replicates	18804.4	18967.0	19125.0	19217.8					
HS17120846-01				UNK	12/20/17 07:39:59 pm	0.044	248	7.34	s
Replicates	256.9	223.2	248.2	265.4					
HS17120902-01				UNK	12/20/17 07:41:43 pm	-0.021	9	424.94	
Replicates	20.6	-42.8	8.3	50.5					
HS17120923-01				UNK	12/20/17 07:43:26 pm	-0.009	52	24.24	s
Replicates	33.7	62.4	56.6	55.6					
HS17120923-02				UNK	12/20/17 07:45:07 pm	-0.011	44	67.55	
Replicates	55.0	0.1	65.6	54.1					
HS17120923-02MS				UNK	12/20/17 07:46:48 pm	5.110	18964	1.11	
Replicates	18681.8	18929.1	19091.1	19154.1					
HS17120923-02MSD				UNK	12/20/17 07:48:29 pm	5.060	18782	1.02	
Replicates	18540.4	18733.9	18865.2	18989.9					
HS17120923-03				UNK	12/20/17 07:50:10 pm	-0.013	39	24.47	
Replicates	27.5	39.1	50.6	37.3					
CCV				UNK	12/20/17 07:52:25 pm	4.790	17803	1.09	
Replicates	17556.4	17750.4	17899.4	18004.4					
CCB				UNK	12/20/17 07:54:10 pm	-0.014	33	34.91	
Replicates	32.7	23.3	48.5	25.8					
HS17120575-01				UNK	12/20/17 07:55:52 pm	0.412	1610	3.75	
Replicates	1575.3	1545.9	1641.7	1677.9					
CCV				UNK	12/20/17 07:58:16 pm	5.030	18686	0.63	
Replicates	18524.1	18677.3	18757.0	18785.0					

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
CCB					UNK	12/20/17 08:00:01 pm	-0.010	50	63.20	s
	Replicates	62.6	53.4	5.4	79.1					

Metals Raw Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17120912

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

ICV Date: 21-Dec-2017 11:32 Seq: 4363274 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.275	100	90-110	
Antimony	100	100.572	101	90-110	
Arsenic	100	94.244	94	90-110	
Barium	100	90.443	90	90-110	
Beryllium	100	100.82	101	90-110	
Cadmium	100	93.186	93	90-110	
Calcium	10000	9211.184	92	90-110	
Chromium	100	93.548	94	90-110	
Cobalt	100	95.023	95	90-110	
Copper	100	96.435	96	90-110	
Iron	10000	9592.754	96	90-110	
Lead	100	104.84	105	90-110	
Magnesium	10000	9433.854	94	90-110	
Manganese	100	95.137	95	90-110	
Nickel	100	96.329	96	90-110	
Potassium	10000	9463.917	95	90-110	
Selenium	100	93.575	94	90-110	
Silver	100	94.614	95	90-110	
Sodium	10000	9504.642	95	90-110	
Thallium	100	97.225	97	90-110	
Vanadium	100	95.317	95	90-110	
Zinc	100	103.483	103	90-110	

CCV1 Date: 21-Dec-2017 12:07 Seq: 4363525 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	94.002	94	90-110	
Antimony	100	105.046	105	90-110	
Arsenic	100	97.497	98	90-110	
Barium	100	96.399	96	90-110	
Beryllium	100	100.223	100	90-110	
Cadmium	100	96.192	96	90-110	
Calcium	10000	9307.655	93	90-110	
Chromium	100	94.335	94	90-110	
Cobalt	100	95.877	96	90-110	
Copper	100	94.609	95	90-110	
Iron	10000	9581.54	96	90-110	
Lead	100	98.809	99	90-110	
Magnesium	10000	9310.473	93	90-110	
Manganese	100	97.921	98	90-110	
Nickel	100	95.014	95	90-110	
Potassium	10000	9384.652	94	90-110	
Selenium	100	92.085	92	90-110	
Silver	100	92.911	93	90-110	
Sodium	10000	9435.705	94	90-110	
Thallium	100	97.708	98	90-110	
Vanadium	100	94.764	95	90-110	
Zinc	100	101.885	102	90-110	

CCV2 Date: 21-Dec-2017 12:31 Seq: 4363458 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	97.294	97	90-110	
Antimony	100	105.366	105	90-110	
Arsenic	100	94.779	95	90-110	
Barium	100	96.965	97	90-110	
Beryllium	100	98.72	99	90-110	
Cadmium	100	96.255	96	90-110	
Calcium	10000	9350.684	94	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV2 Date: 21-Dec-2017 12:31 Seq: 4363458 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Chromium	100	93.369	93	90-110	
Cobalt	100	94.872	95	90-110	
Copper	100	95.073	95	90-110	
Iron	10000	9559.284	96	90-110	
Lead	100	94.345	94	90-110	
Magnesium	10000	9414.782	94	90-110	
Manganese	100	95.606	96	90-110	
Nickel	100	96.362	96	90-110	
Potassium	10000	9464.174	95	90-110	
Selenium	100	98.036	98	90-110	
Silver	100	92.713	93	90-110	
Sodium	10000	9400.32	94	90-110	
Thallium	100	99.041	99	90-110	
Vanadium	100	94.148	94	90-110	
Zinc	100	106.339	106	90-110	

CCV3 Date: 21-Dec-2017 12:55 Seq: 4363500 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	96.05	96	90-110	
Antimony	100	103.515	104	90-110	
Arsenic	100	95.927	96	90-110	
Barium	100	96.109	96	90-110	
Beryllium	100	103.457	103	90-110	
Cadmium	100	94.533	95	90-110	
Calcium	10000	9420.336	94	90-110	
Chromium	100	93.205	93	90-110	
Cobalt	100	94.952	95	90-110	
Copper	100	95.646	96	90-110	
Iron	10000	9573.615	96	90-110	
Lead	100	94.088	94	90-110	
Magnesium	10000	9541.52	95	90-110	
Manganese	100	94.793	95	90-110	
Nickel	100	95.953	96	90-110	
Potassium	10000	9796.191	98	90-110	
Selenium	100	98.54	99	90-110	
Silver	100	93.489	94	90-110	
Sodium	10000	9523.253	95	90-110	
Thallium	100	95.582	96	90-110	
Vanadium	100	92.419	92	90-110	
Zinc	100	102.741	103	90-110	

CCV4 Date: 21-Dec-2017 13:19 Seq: 4363512 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	98.116	98	90-110	
Antimony	100	105.552	106	90-110	
Arsenic	100	97.049	97	90-110	
Barium	100	97.645	98	90-110	
Beryllium	100	97.654	98	90-110	
Cadmium	100	97.402	97	90-110	
Calcium	10000	9622.001	96	90-110	
Chromium	100	94.838	95	90-110	
Cobalt	100	95.75	96	90-110	
Copper	100	95.644	96	90-110	
Iron	10000	9672.432	97	90-110	
Lead	100	97.41	97	90-110	
Magnesium	10000	9373.028	94	90-110	
Manganese	100	9613.684	96	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV4 Date: 21-Dec-2017 13:19 Seq: 4363512 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Nickel	100	95.301	95	90-110	
Potassium	10000	9434.639	94	90-110	
Selenium	100	92.909	93	90-110	
Silver	100	94.7	95	90-110	
Sodium	10000	9677.776	97	90-110	
Thallium	100	96.612	97	90-110	
Vanadium	100	94.646	95	90-110	
Zinc	100	104.494	104	90-110	

CCV5 Date: 21-Dec-2017 13:43 Seq: 4363674 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.248	100	90-110	
Antimony	100	101.608	102	90-110	
Arsenic	100	97.362	97	90-110	
Barium	100	95.405	95	90-110	
Beryllium	100	98.772	99	90-110	
Cadmium	100	96.096	96	90-110	
Calcium	10000	9506.739	95	90-110	
Chromium	100	92.435	92	90-110	
Cobalt	100	94.281	94	90-110	
Copper	100	95.802	96	90-110	
Iron	10000	9406.688	94	90-110	
Lead	100	94.907	95	90-110	
Magnesium	10000	9342.176	93	90-110	
Manganese	100	92.091	92	90-110	
Nickel	100	95.218	95	90-110	
Potassium	10000	9687.709	97	90-110	
Selenium	100	98.237	98	90-110	
Silver	100	94.875	95	90-110	
Sodium	10000	9316.381	93	90-110	
Thallium	100	95.272	95	90-110	
Vanadium	100	93.358	93	90-110	
Zinc	100	103.482	103	90-110	

CCV6 Date: 21-Dec-2017 14:07 Seq: 4363686 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	97.597	98	90-110	
Antimony	100	103.369	103	90-110	
Arsenic	100	94.793	95	90-110	
Barium	100	95.516	96	90-110	
Beryllium	100	95.476	96	90-110	
Cadmium	100	95.732	96	90-110	
Calcium	10000	9270.646	93	90-110	
Chromium	100	94.031	94	90-110	
Cobalt	100	93.713	94	90-110	
Copper	100	96.125	96	90-110	
Iron	10000	9413.225	94	90-110	
Lead	100	96.418	96	90-110	
Magnesium	10000	9221.895	92	90-110	
Manganese	100	95.694	96	90-110	
Nickel	100	95.621	96	90-110	
Potassium	10000	9541.533	95	90-110	
Selenium	100	95.75	96	90-110	
Silver	100	95.853	96	90-110	
Sodium	10000	9291.881	93	90-110	
Thallium	100	92.782	93	90-110	
Vanadium	100	92.685	93	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV6 Date: 21-Dec-2017 14:07 Seq: 4363686 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Zinc	100	103.568	104	90-110	

CCV7 Date: 21-Dec-2017 14:31 Seq: 4363698 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	97.615	98	90-110	
Antimony	100	104.072	104	90-110	
Arsenic	100	95.002	95	90-110	
Barium	100	95.87	96	90-110	
Beryllium	100	97.857	98	90-110	
Cadmium	100	95.27	95	90-110	
Calcium	10000	9426.856	94	90-110	
Chromium	100	94.899	95	90-110	
Cobalt	100	93.392	93	90-110	
Copper	100	94.022	94	90-110	
Iron	10000	9499.354	95	90-110	
Lead	100	99.401	99	90-110	
Magnesium	10000	9328.722	93	90-110	
Manganese	100	98.03	98	90-110	
Nickel	100	92.719	93	90-110	
Potassium	10000	9261.123	93	90-110	
Selenium	100	94.514	95	90-110	
Silver	100	92.903	93	90-110	
Sodium	10000	9411.172	94	90-110	
Thallium	100	94.487	95	90-110	
Vanadium	100	93.012	93	90-110	
Zinc	100	103.932	104	90-110	

CCV8 Date: 21-Dec-2017 14:55 Seq: 4363710 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.336	100	90-110	
Antimony	100	105.59	106	90-110	
Arsenic	100	97.488	98	90-110	
Barium	100	99.825	100	90-110	
Beryllium	100	95.879	96	90-110	
Cadmium	100	98.478	99	90-110	
Calcium	10000	9485.144	95	90-110	
Chromium	100	95.354	95	90-110	
Cobalt	100	95.639	96	90-110	
Copper	100	96.179	96	90-110	
Iron	10000	9711.117	97	90-110	
Lead	100	99.743	100	90-110	
Magnesium	10000	9657.392	97	90-110	
Manganese	100	95.776	96	90-110	
Nickel	100	96.351	96	90-110	
Potassium	10000	9634.824	96	90-110	
Selenium	100	95.801	96	90-110	
Silver	100	94.846	95	90-110	
Sodium	10000	9672.711	97	90-110	
Thallium	100	97.286	97	90-110	
Vanadium	100	94.483	95	90-110	
Zinc	100	102.582	103	90-110	

CCV9 Date: 21-Dec-2017 15:20 Seq: 4363724 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	103.813	104	90-110	
Antimony	100	101.848	102	90-110	
Arsenic	100	96.684	96	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV9 Date: 21-Dec-2017 15:20 Seq: 4363724 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	95.365	95	90-110	
Beryllium	100	97.418	97	90-110	
Cadmium	100	94.807	95	90-110	
Calcium	10000	9678.984	97	90-110	
Chromium	100	94.911	95	90-110	
Cobalt	100	95.596	96	90-110	
Copper	100	93.13	93	90-110	
Iron	10000	9618.614	96	90-110	
Lead	100	96.956	97	90-110	
Magnesium	10000	9423.185	94	90-110	
Manganese	100	96.264	96	90-110	
Nickel	100	94.494	95	90-110	
Potassium	10000	9666.316	97	90-110	
Selenium	100	96.632	97	90-110	
Silver	100	94.307	94	90-110	
Sodium	10000	9788.898	98	90-110	
Thallium	100	97.967	98	90-110	
Vanadium	100	93.462	94	90-110	
Zinc	100	103.077	103	90-110	

CCV10 Date: 21-Dec-2017 15:44 Seq: 4364527 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.938	101	90-110	
Antimony	100	102.027	102	90-110	
Arsenic	100	92.253	92	90-110	
Barium	100	96.717	97	90-110	
Beryllium	100	94.481	95	90-110	
Cadmium	100	95.761	96	90-110	
Calcium	10000	9194.553	92	90-110	
Chromium	100	93.079	93	90-110	
Cobalt	100	92.679	93	90-110	
Copper	100	94.473	95	90-110	
Iron	10000	9286.622	93	90-110	
Lead	100	97.64	98	90-110	
Magnesium	10000	9310.084	93	90-110	
Manganese	100	93.359	93	90-110	
Nickel	100	91.775	92	90-110	
Potassium	10000	9476.64	95	90-110	
Selenium	100	91.951	92	90-110	
Silver	100	92.769	93	90-110	
Sodium	10000	9441.419	94	90-110	
Thallium	100	95.265	95	90-110	
Vanadium	100	93.113	93	90-110	
Zinc	100	102.354	102	90-110	

CCV11 Date: 21-Dec-2017 16:08 Seq: 4364539 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.592	102	90-110	
Antimony	100	103.729	104	90-110	
Arsenic	100	95.964	96	90-110	
Barium	100	96.475	97	90-110	
Beryllium	100	93.075	93	90-110	
Cadmium	100	96.38	96	90-110	
Calcium	10000	9354.586	94	90-110	
Chromium	100	94.185	94	90-110	
Cobalt	100	95.595	96	90-110	
Copper	100	96.274	96	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV11 Date: 21-Dec-2017 16:08 Seq: 4364539 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	9504.277	95	90-110	
Lead	100	98.015	98	90-110	
Magnesium	10000	9658.41	97	90-110	
Manganese	100	96.069	96	90-110	
Nickel	100	94.357	94	90-110	
Potassium	10000	9515.667	95	90-110	
Selenium	100	91.956	92	90-110	
Silver	100	93.149	93	90-110	
Sodium	10000	9874.714	99	90-110	
Thallium	100	96.413	96	90-110	
Vanadium	100	93.732	94	90-110	
Zinc	100	104.725	105	90-110	

CCV12 Date: 21-Dec-2017 16:32 Seq: 4364581 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	93.81	94	90-110	
Antimony	100	97.262	97	90-110	
Arsenic	100	95.555	96	90-110	
Barium	100	90.876	91	90-110	
Beryllium	100	104.704	105	90-110	
Cadmium	100	94.873	95	90-110	
Calcium	10000	9379.327	94	90-110	
Chromium	100	92.871	93	90-110	
Cobalt	100	92.635	93	90-110	
Copper	100	92.759	93	90-110	
Iron	10000	9315.424	93	90-110	
Lead	100	106.977	107	90-110	
Magnesium	10000	8951.74	90	90-110	S
Manganese	100	93.341	93	90-110	
Nickel	100	92.816	93	90-110	
Potassium	10000	9646.887	97	90-110	
Selenium	100	99.981	100	90-110	
Silver	100	90.984	91	90-110	
Sodium	10000	11073.107	111	90-110	S
Thallium	100	96.028	96	90-110	
Vanadium	100	93.575	94	90-110	
Zinc	100	100.424	100	90-110	

CCV13 Date: 21-Dec-2017 16:57 Seq: 4364593 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	92.678	93	90-110	
Antimony	100	100.493	100	90-110	
Arsenic	100	99.349	99	90-110	
Barium	100	97.366	97	90-110	
Beryllium	100	102.478	102	90-110	
Cadmium	100	98.446	98	90-110	
Calcium	10000	9405.245	94	90-110	
Chromium	100	93.873	94	90-110	
Cobalt	100	94.386	94	90-110	
Copper	100	94.432	94	90-110	
Iron	10000	9601.22	96	90-110	
Lead	100	104.107	104	90-110	
Magnesium	10000	9241.801	92	90-110	
Manganese	100	95.786	96	90-110	
Nickel	100	94.883	95	90-110	
Potassium	10000	9413.167	94	90-110	
Selenium	100	96.056	96	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV13	Date: 21-Dec-2017 16:57		Seq: 4364593	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	90.881	91	90-110	
Sodium	10000	10733.349	107	90-110	
Thallium	100	97.229	97	90-110	
Vanadium	100	95.554	96	90-110	
Zinc	100	104.19	104	90-110	

CCV14	Date: 21-Dec-2017 17:39		Seq: 4364642	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	98.069	98	90-110	
Antimony	100	98.47	99	90-110	
Arsenic	100	95.969	96	90-110	
Barium	100	95.613	96	90-110	
Beryllium	100	96.088	96	90-110	
Cadmium	100	96.505	97	90-110	
Calcium	10000	9559.453	96	90-110	
Chromium	100	92.646	93	90-110	
Cobalt	100	93.072	93	90-110	
Copper	100	94.107	94	90-110	
Iron	10000	9046.156	91	90-110	
Lead	100	101.342	101	90-110	
Magnesium	10000	9218.809	92	90-110	
Manganese	100	89.539	90	90-110	S
Nickel	100	93.171	93	90-110	
Potassium	10000	9396.858	94	90-110	
Selenium	100	96.273	96	90-110	
Silver	100	93.718	94	90-110	
Sodium	10000	9741.95	97	90-110	
Thallium	100	92.885	93	90-110	
Vanadium	100	92.687	93	90-110	
Zinc	100	100.549	101	90-110	

CCV15	Date: 21-Dec-2017 18:00		Seq: 4364652	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	99.111	99	90-110	
Antimony	100	100.098	100	90-110	
Arsenic	100	97.121	97	90-110	
Barium	100	94.687	95	90-110	
Beryllium	100	99.171	99	90-110	
Cadmium	100	96.041	96	90-110	
Calcium	10000	9484.381	95	90-110	
Chromium	100	94.828	95	90-110	
Cobalt	100	94.164	94	90-110	
Copper	100	95.113	95	90-110	
Iron	10000	9450.759	95	90-110	
Lead	100	100.27	100	90-110	
Magnesium	10000	9302.645	93	90-110	
Manganese	100	91.692	92	90-110	
Nickel	100	93.728	94	90-110	
Potassium	10000	9457.656	95	90-110	
Selenium	100	96.607	97	90-110	
Silver	100	93.984	94	90-110	
Sodium	10000	9956.6	100	90-110	
Thallium	100	91.72	92	90-110	
Vanadium	100	93.408	93	90-110	
Zinc	100	103.175	103	90-110	

ALS Group USA, Corp

Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCV16 | Date: 21-Dec-2017 18:08 | Seq: 4364656 | CCV | Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	96.584	97	90-110	
Antimony	100	98.533	99	90-110	
Arsenic	100	95.578	96	90-110	
Barium	100	91.404	91	90-110	
Beryllium	100	92.833	93	90-110	
Cadmium	100	95.289	95	90-110	
Calcium	10000	9058.664	91	90-110	
Chromium	100	92.907	93	90-110	
Cobalt	100	93.908	94	90-110	
Copper	100	94.442	94	90-110	
Iron	10000	9245.734	93	90-110	
Lead	100	101.158	101	90-110	
Magnesium	10000	9219.564	92	90-110	
Manganese	100	90.513	91	90-110	
Nickel	100	93.627	94	90-110	
Potassium	10000	9085.024	91	90-110	
Selenium	100	95.809	96	90-110	
Silver	100	92.293	92	90-110	
Sodium	10000	9591.49	96	90-110	
Thallium	100	95.797	96	90-110	
Vanadium	100	92.816	93	90-110	
Zinc	100	100.315	100	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

ICB Date: 21-Dec-2017 11:38 Seq: 4363277 ICB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	200	14	200	U
Thallium	2	0.2	2	U
Vanadium	0.798	0.6	5	J
Zinc	4	2	4	U

CCB1 Date: 21-Dec-2017 12:09 Seq: 4363526 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	0.838	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	0.627	0.6	2	J
Potassium	26.41	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	77.55	14	200	J
Thallium	0.212	0.2	2	J
Vanadium	0.837	0.6	5	J
Zinc	4	2	4	U

CCB2 Date: 21-Dec-2017 12:33 Seq: 4363459 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	1.236	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U

ALS Group USA, Corp Date: 12-Jan-18

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB2	Date: 21-Dec-2017 12:33		Seq: 4363459	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.683	0.6	2	J	
Potassium	33.17	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	63.66	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	0.775	0.6	5	J	
Zinc	4	2	4	U	

MBLK-123627	Date: 21-Dec-2017 12:35		Seq: 4363490	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	2.791	1.8	10	J	
Antimony	0.429	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	36.01	34	500	J	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	13.93	10	200	J	
Manganese	5	0.7	5	U	
Nickel	0.729	0.6	2	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	59.17	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	0.721	0.6	5	J	
Zinc	4	2	4	U	

CCB3	Date: 21-Dec-2017 12:57		Seq: 4363501	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	1.052	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB3	Date: 21-Dec-2017 12:57		Seq: 4363501	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Manganese	5	0.7	5	U	
Nickel	0.646	0.6	2	J	
Potassium	56.91	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	128.8	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	0.813	0.6	5	J	
Zinc	4	2	4	U	

CCB4	Date: 21-Dec-2017 13:21		Seq: 4363513	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.818	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.65	0.6	2	J	
Potassium	66.64	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	80.94	14	200	J	
Thallium	0.221	0.2	2	J	
Vanadium	0.83	0.6	5	J	
Zinc	4	2	4	U	

CCB5	Date: 21-Dec-2017 13:45		Seq: 4363675	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.747	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.698	0.6	2	J	
Potassium	53.34	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	53.13	14	200	J	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB5	Date: 21-Dec-2017 13:45		Seq: 4363675	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Thallium	0.23	0.2	2	J	
Vanadium	0.828	0.6	5	J	
Zinc	4	2	4	U	

CCB6	Date: 21-Dec-2017 14:09		Seq: 4363687	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.782	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.63	0.6	2	J	
Potassium	47.75	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	43.94	14	200	J	
Thallium	0.203	0.2	2	J	
Vanadium	0.876	0.6	5	J	
Zinc	4	2	4	U	

CCB7	Date: 21-Dec-2017 14:33		Seq: 4363699	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.799	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	0.994	0.7	5	J	
Nickel	0.649	0.6	2	J	
Potassium	31.83	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	35.23	14	200	J	
Thallium	0.231	0.2	2	J	
Vanadium	0.932	0.6	5	J	
Zinc	4	2	4	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB8	Date: 21-Dec-2017 14:57		Seq: 4363711	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.667	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.687	0.6	2	J	
Potassium	26.56	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	63.99	14	200	J	
Thallium	0.243	0.2	2	J	
Vanadium	0.865	0.6	5	J	
Zinc	4	2	4	U	

CCB9	Date: 21-Dec-2017 15:22		Seq: 4363725	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.59	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.694	0.6	2	J	
Potassium	59.74	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	286.4	14	200		
Thallium	0.224	0.2	2	J	
Vanadium	0.876	0.6	5	J	
Zinc	4	2	4	U	

MBLK-123627	Date: 21-Dec-2017 15:28		Seq: 4363790	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Potassium	49.49	18	200	J	

CCB10	Date: 21-Dec-2017 15:46		Seq: 4364528	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.565	0.4	2	J	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB10	Date: 21-Dec-2017 15:46		Seq: 4364528	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.743	0.6	2	J	
Potassium	42.24	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	101	14	200	J	
Thallium	0.262	0.2	2	J	
Vanadium	0.886	0.6	5	J	
Zinc	4	2	4	U	

CCB11	Date: 21-Dec-2017 16:10		Seq: 4364540	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.503	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.688	0.6	2	J	
Potassium	64.21	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	230.5	14	200		
Thallium	0.278	0.2	2	J	
Vanadium	0.895	0.6	5	J	
Zinc	4	2	4	U	

CCB12	Date: 21-Dec-2017 16:34		Seq: 4364582	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB12	Date: 21-Dec-2017 16:34		Seq: 4364582	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	24.69	10	200	J	
Manganese	5	0.7	5	U	
Nickel	0.659	0.6	2	J	
Potassium	74.57	18	200	J	
Selenium	1.341	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	1616	14	200		
Thallium	0.234	0.2	2	J	
Vanadium	1.144	0.6	5	J	
Zinc	4	2	4	U	

CCB13	Date: 21-Dec-2017 16:59		Seq: 4364594	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.467	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	22.7	10	200	J	
Manganese	5	0.7	5	U	
Nickel	0.713	0.6	2	J	
Potassium	36.18	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	1309	14	200		
Thallium	0.258	0.2	2	J	
Vanadium	1.191	0.6	5	J	
Zinc	4	2	4	U	

CCB14	Date: 21-Dec-2017 17:35		Seq: 4364640	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB14	Date: 21-Dec-2017 17:35		Seq: 4364640	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Nickel	0.678	0.6	2	J	
Potassium	26.37	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	409.3	14	200		
Thallium	0.253	0.2	2	J	
Vanadium	1.227	0.6	5	J	
Zinc	4	2	4	U	

CCB15	Date: 21-Dec-2017 18:02		Seq: 4364653	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.429	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.768	0.6	2	J	
Potassium	46.13	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	399.1	14	200		
Thallium	0.272	0.2	2	J	
Vanadium	1.095	0.6	5	J	
Zinc	4	2	4	U	

CCB16	Date: 21-Dec-2017 18:10		Seq: 4364657	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.41	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	0.757	0.6	2	J	
Potassium	35.14	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	359.4	14	200		
Thallium	0.275	0.2	2	J	

ALS Group USA, Corp Date: 12-Jan-18

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID: ICPMS05_307676
Instrument: ICPMS05
Method: SW6020

CCB16 | Date: 21-Dec-2017 18:10 | Seq: 4364657 | CCB | Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Vanadium	1.043	0.6	5	J
Zinc	4	2	4	U

ALS Group USA, Corp Date: 12-Jan-18

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS05_307676
Project: LHAAP 18/24 Instrument:ICPMS05
WorkOrder: HS17120912 Method:SW6020

ICSA	Date: 21-Dec-2017 11:40	Seq: 4363278	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	83500	83.5	
Antimony		0.069	0	
Arsenic		0.137	0	
Barium		0.155	0	
Beryllium		-0.006	0	
Cadmium		1.35	0	
Calcium	100000	98660	98.7	
Chromium		0.262	0	
Cobalt		0.008	0	
Copper		1.174	0	
Iron	100000	95150	95.2	
Lead		0.141	0	
Magnesium	100000	95180	95.2	
Manganese		0.373	0	
Nickel		0.787	0	
Potassium	100000	96690	96.7	
Selenium		0.509	0	
Silver		0.05	0	
Sodium	100000	96110	96.1	
Thallium		0.012	0	
Vanadium		0.819	0	
Zinc		-0.045	0	

ICSAB	Date: 21-Dec-2017 11:42	Seq: 4363279	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	83470	83.1	
Antimony	100	94.77	94.8	
Arsenic	100	85.1	85.1	
Barium	100	86.99	87.0	
Beryllium	100	86.78	86.8	
Cadmium	100	85	85.0	
Calcium	110000	100000	91.0	
Chromium	100	82.47	82.5	
Cobalt	100	84.53	84.5	
Copper	100	82.46	82.5	
Iron	110000	105800	96.2	
Lead	100	84.3	84.3	
Magnesium	110000	105600	96.0	
Manganese	100	83.34	83.3	
Nickel	100	81.94	81.9	
Potassium	110000	104900	95.4	
Selenium	100	83.72	83.7	
Silver	100	78.75	78.7	
Sodium	110000	104900	95.3	
Thallium	100	83.2	83.2	
Vanadium	100	84.46	84.5	
Zinc	100	89.81	89.8	

ICSA	Date: 21-Dec-2017 18:16	Seq: 4364660	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	84700	84.7	
Antimony		-0.019	0	
Arsenic		0.052	0	
Barium		0.203	0	
Beryllium		-0.01	0	
Cadmium		1.303	0	
cium	100000	98870	98.9	

ALS Group USA, Corp Date: 12-Jan-18

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Run ID:ICPMS05_307676
Instrument:ICPMS05
Method:SW6020

ICSA	Date: 21-Dec-2017 18:16	Seq: 4364660	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Chromium		0.322	0	
Cobalt		-0.005	0	
Copper		0.974	0	
Iron	100000	94110	94.1	
Lead		0.053	0	
Magnesium	100000	94050	94.0	
Manganese		0.334	0	
Nickel		0.747	0	
Potassium	100000	97280	97.3	
Selenium		-0.105	0	
Silver		0.022	0	
Sodium	100000	97260	97.3	
Thallium		0.042	0	
Vanadium		0.938	0	
Zinc		0.09	0	

ICSAB	Date: 21-Dec-2017 18:18	Seq: 4364661	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	83870	83.5	
Antimony	100	92.67	92.7	
Arsenic	100	89.13	89.1	
Barium	100	86.23	86.2	
Beryllium	100	85.95	85.9	
Cadmium	100	88.77	88.8	
Calcium	110000	106500	96.8	
Chromium	100	85.28	85.3	
Cobalt	100	84.31	84.3	
Copper	100	84.49	84.5	
Iron	110000	105100	95.6	
Lead	100	84.77	84.8	
Magnesium	110000	102400	93.1	
Manganese	100	82.34	82.3	
Nickel	100	83.46	83.5	
Potassium	110000	107100	97.4	
Selenium	100	85.95	86.0	
Silver	100	81.39	81.4	
Sodium	110000	105900	96.3	
Thallium	100	88.97	89.0	
Vanadium	100	86.91	86.9	
Zinc	100	93.15	93.1	

ALS Group USA, Corp Date: 12-Jan-18

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Date Analyzed: 21-Dec-2017 12:47
Date Extracted: 20-Dec-2017 12:57
Units: ug/L

Matrix Spike: HS17120868-07MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Aluminum	11.06	85.63	100.0	74.6	85.67	100.0	74.6	80-120	0.0432	20
Antimony	0.5010	52.72	50.00	104	51.79	50.00	103	80-120	1.78	20
Arsenic	1.390	47.62	50.00	92.5	47.48	50.00	92.2	80-120	0.280	20
Barium	74.34	119.5	50.00	90.4	114.8	50.00	80.8	80-120	4.06	20
Beryllium	2.000	59.72	50.00	119	58.82	50.00	118	80-120	1.52	20
Cadmium	2.000	45.60	50.00	91.2	44.46	50.00	88.9	80-120	2.53	20
Calcium	3698	7910	5000	84.3	7663	5000	79.3	80-120	3.17	20
Chromium	4.000	44.37	50.00	88.6	43.27	50.00	86.4	80-120	2.50	20
Cobalt	5.000	44.96	50.00	89.9	43.91	50.00	87.8	80-120	2.36	20
Copper	1.000	46.24	50.00	90.5	44.38	50.00	86.8	80-120	4.10	20
Iron	211.1	4561	5000	87.0	4560	5000	87.0	80-120	0.0164	20
Lead	2.000	44.76	50.00	89.5	43.50	50.00	86.9	80-120	2.87	20
Magnesium	3373	7761	5000	87.8	7403	5000	80.6	80-120	4.72	20
Manganese	5.167	48.20	50.00	86.1	47.70	50.00	85.1	80-120	1.02	20
Nickel	1.236	45.54	50.00	88.6	44.62	50.00	86.8	80-120	2.05	20
Potassium	76240	81210	5000	99.5	76970	5000	14.6	80-120	5.37	20
Selenium	2.000	46.96	50.00	92.1	45.57	50.00	89.4	80-120	3.00	20
Silver	2.000	42.77	50.00	85.5	42.07	50.00	84.1	80-120	1.66	20
Sodium	154600	166800	5000	243	153600	5000	-20.2	80-120	8.21	20
Thallium	2.000	43.43	50.00	86.8	41.80	50.00	83.6	80-120	3.84	20
Vanadium	0.7340	45.09	50.00	88.7	44.28	50.00	87.1	80-120	1.80	20
Zinc	3.049	51.57	50.00	97.0	49.94	50.00	93.8	80-120	3.23	20

ALS Group USA, Corp Date: 12-Jan-18

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Date Analyzed: 21-Dec-2017 12:49
Date Extracted: 20-Dec-2017 12:57
Units: ug/L

Lab Sample ID: HS17120868-07PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Aluminum	11.06	76.61	100	66	75-125
Antimony	0.501	83.85	100	83	75-125
Arsenic	1.39	84.22	100	83	75-125
Barium	74.34	153.7	100	79	75-125
Beryllium	0	101.4	100	101	75-125
Cadmium	0	79.04	100	79	75-125
Calcium	3698	11040	10000	73	75-125
Chromium	0	78.31	100	78	75-125
Cobalt	0	78.9	100	79	75-125
Copper	1	78.34	100	77	75-125
Iron	211.1	7899	10000	77	75-125
Lead	0	76.25	100	76	75-125
Magnesium	3373	10990	10000	76	75-125
Manganese	5.167	82.03	100	77	75-125
Nickel	1.236	78.57	100	77	75-125
Potassium	76240	82090	10000	59	75-125
Selenium	0	78.49	100	78	75-125
Sodium	154600	163200	10000	85	75-125
Thallium	0	76.39	100	76	75-125
Vanadium	0.734	79.56	100	79	75-125
Zinc	3.049	86.14	100	83	75-125

ALS Group USA, Corp Date: 12-Jan-18

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Date Analyzed: 21-Dec-2017 12:37
Date Extracted: 20-Dec-2017 12:57
Units: ug/L

Lab Sample ID: LCS-123627 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Aluminum	100	83.41	83	80-120
Antimony	50	52.44	105	80-120
Arsenic	50	46.08	92	80-120
Barium	50	46.49	93	80-120
Beryllium	50	46.01	92	80-120
Cadmium	50	46.92	94	80-120
Calcium	5000	4341	87	80-120
Chromium	50	45.83	92	80-120
Cobalt	50	44.81	90	80-120
Copper	50	46.97	94	80-120
Iron	5000	4400	88	80-120
Lead	50	52.48	105	80-120
Magnesium	5000	4480	90	80-120
Manganese	50	45.71	91	80-120
Nickel	50	46.03	92	80-120
Potassium	5000	4425	89	80-120
Selenium	50	45.68	91	80-120
Silver	50	45.6	91	80-120
Sodium	5000	4589	92	80-120
Thallium	50	45.8	92	80-120
Vanadium	50	45.61	91	80-120
Zinc	50	51.52	103	80-120

ALS Group USA, Corp

Date: 12-Jan-18

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912

Date Analyzed: 21-Dec-2017 12:43
Date Extracted: 20-Dec-2017 12:57
Units: ug/L

Lab Sample ID: HS17120868-07SD
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Aluminum	11.06		18.14	J	64	
Antimony	0.501	J	0	U	0	
Arsenic	1.39	J	0	U	0	
Barium	74.34		73.6		1	
Beryllium	0	U	0	U	0	
Cadmium	0	U	0	U	0	
Calcium	3698		3568		3	
Chromium	0	U	0	U	0	
Cobalt	0	U	0	U	0	
Copper	1	J	0	U	0	
Iron	211.1		217	J	3	
Lead	0	U	0	U	0	
Magnesium	3373		3494		4	
Manganese	5.167		5.238	J	1	
Nickel	1.236	J	3.927	J	218	
Potassium	76240		78310		3	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	
Sodium	154600		162900		5	
Thallium	0	U	0	U	0	
Vanadium	0.734	J	3.562	J	385	
Zinc	3.049	J	0	U	0	

ALS Group USA, Corp Date: 12-Jan-18

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS05
Project: LHAAP 18/24
WorkOrder: HS17120912

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
114	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Group USA, Corp Date: 12-Jan-18

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912
Start Date: 20-Dec-2017 12:00 End Date: 20-Dec-2017 16:00

Batch ID: 123627
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17120868-07MS				10	10	1
HS17120868-07MSD				10	10	1
HS17120868-07PDS				10	10	1
HS17120868-07SD				10	10	1
HS17120912-01	MW9_121317	Groundwater		10	10	1
HS17120912-06	18CPTMW22R_121417	Groundwater		10	10	1
HS17120912-07	18CPTMW22SW_121417	Groundwater		10	10	1
HS17120912-11	18CPTMW03SW_121517	Groundwater		10	10	1
LCS-123627				10	10	1
MBLK-123627				10	10	1

ALS Group USA, Corp Date: 12-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912
Start Date: 21-Dec-2017 End Date: 21-Dec-2017

Run ID:ICPMS05_307676
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_307676_Tune	1	21-Dec-2017 00:00	ICPMS05_307676_Tune_1	
CAL BLK	1	21-Dec-2017 11:18	020CALB.d_4363267	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	21-Dec-2017 11:20	021CALS.d_4363268	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	21-Dec-2017 11:22	022CALS.d_4363269	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	21-Dec-2017 11:24	023CALS.d_4363270	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	21-Dec-2017 11:25	024CALS.d_4363271	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	21-Dec-2017 11:27	025CALS.d_4363272	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	21-Dec-2017 11:32	027_ICV.d_4363274	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	21-Dec-2017 11:34	028LICV.d_4363275	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	21-Dec-2017 11:36	029LICV.d_4363276	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICB	1	21-Dec-2017 11:38	030_ICB.d_4363277	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	21-Dec-2017 11:40	031ICSA.d_4363278	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	21-Dec-2017 11:42	032ICSB.d_4363279	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 1	1	21-Dec-2017 12:07	044_CCV.d_4363525	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 1	1	21-Dec-2017 12:09	045_CCB.d_4363526	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 2	1	21-Dec-2017 12:31	056_CCV.d_4363458	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 2	1	21-Dec-2017 12:33	057_CCB.d_4363459	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MBLK-123627	1	21-Dec-2017 12:35	058SMPL.d_4363490	AG AL AS BA BE CA CD CO CR CU FE MG MN NA NI PB SB SE TL V ZN
LCS-123627	1	21-Dec-2017 12:37	059SMPL.d_4363491	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZSD	5	21-Dec-2017 12:43	062SMPL.d_4363494	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZMS	1	21-Dec-2017 12:45	063SMPL.d_4363495	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZMSD	1	21-Dec-2017 12:47	064SMPL.d_4363496	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZPDS	1	21-Dec-2017 12:49	065SMPL.d_4363497	AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 3	1	21-Dec-2017 12:55	068_CCV.d_4363500	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 3	1	21-Dec-2017 12:57	069_CCB.d_4363501	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MW9_121317	1	21-Dec-2017 13:01	071SMPL.d_4363503	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
18CPTMW22R_121417	1	21-Dec-2017 13:03	072SMPL.d_4363504	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
18CPTMW22SW_121417	1	21-Dec-2017 13:05	073SMPL.d_4363505	AG AL AS BA BE CA CD CO CR CU FE K MG MN NI PB SB SE TL V ZN
18CPTMW03SW_121517	1	21-Dec-2017 13:07	074SMPL.d_4363506	AG AL AS BA BE CA CD CO CR CU FE MG MN NI PB SB SE TL V ZN
CCV 4	1	21-Dec-2017 13:19	080_CCV.d_4363512	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 4	1	21-Dec-2017 13:21	081_CCB.d_4363513	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 5	1	21-Dec-2017 13:43	092_CCV.d_4363674	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 5	1	21-Dec-2017 13:45	093_CCB.d_4363675	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 6	1	21-Dec-2017 14:07	104_CCV.d_4363686	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN

ALS Group USA, Corp Date: 12-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17120912
Start Date: 21-Dec-2017 End Date: 21-Dec-2017

Run ID:ICPMS05_307676
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
CCB 6	1	21-Dec-2017 14:09	105_CCB.d_4363687	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 7	1	21-Dec-2017 14:31	116_CCV.d_4363698	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 7	1	21-Dec-2017 14:33	117_CCB.d_4363699	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 8	1	21-Dec-2017 14:55	128_CCV.d_4363710	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 8	1	21-Dec-2017 14:57	129_CCB.d_4363711	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 9	1	21-Dec-2017 15:20	140_CCV.d_4363724	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 9	1	21-Dec-2017 15:22	141_CCB.d_4363725	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MBLK-123627	1	21-Dec-2017 15:28	144SMPL.d_4363790	K
18CPTMW22SW_121417	10	21-Dec-2017 15:34	147SMPL.d_4363793	NA
18CPTMW03SW_121517	10	21-Dec-2017 15:36	148SMPL.d_4363794	K NA
CCV 10	1	21-Dec-2017 15:44	152_CCV.d_4364527	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 10	1	21-Dec-2017 15:46	153_CCB.d_4364528	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 11	1	21-Dec-2017 16:08	164_CCV.d_4364539	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 11	1	21-Dec-2017 16:10	165_CCB.d_4364540	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 12	1	21-Dec-2017 16:32	176_CCV.d_4364581	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 12	1	21-Dec-2017 16:34	177_CCB.d_4364582	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 13	1	21-Dec-2017 16:57	188_CCV.d_4364593	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 13	1	21-Dec-2017 16:59	189_CCB.d_4364594	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 14	1	21-Dec-2017 17:35	201_CCB.d_4364640	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 14	1	21-Dec-2017 17:39	203_CCV.d_4364642	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 15	1	21-Dec-2017 18:00	213_CCV.d_4364652	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 15	1	21-Dec-2017 18:02	214_CCB.d_4364653	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 16	1	21-Dec-2017 18:08	217_CCV.d_4364656	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 16	1	21-Dec-2017 18:10	218_CCB.d_4364657	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	21-Dec-2017 18:12	219LICV.d_4364658	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	21-Dec-2017 18:14	220SMPL.d_4364659	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	21-Dec-2017 18:16	221ICSA.d_4364660	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	21-Dec-2017 18:18	222ICSB.d_4364661	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\122117A.b
Report Comment
Instrument Name G3281A JP11080910

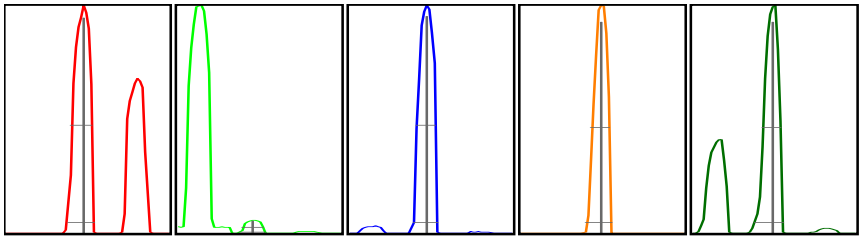
[nogas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		9727				NaN	-	
24		30265				NaN	-	
59		43590				NaN	-	
115		52484				NaN	-	
208		34150				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	1.57	5.00				
24	1.09	5.00				
59	0.91	5.00				
115	1.66	5.00				
208	0.68	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	9518	9843	9899	9646	9727
24	30360	30724	29834	30097	30312
59	44010	43294	43130	43546	43970
115	53207	53052	51650	51427	53086
208	34364	34111	33828	34064	34382

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	2577.10	8.95	8.9 - 9.1		0.39	0.490	0.750	
24	8119.94	23.90	23.9 - 24.1		0.38	0.484	0.750	
59	12387.32	58.95	58.9 - 59.1		0.36	0.447	0.750	
115	15691.79	115.00	114.9 - 115.1		0.33	0.467	0.750	
208	9792.66	208.00	207.9 - 208.1		0.34	0.527	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 168.5 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	15.6 V
Extract 2	-200.0 V	Cell Entrance	-38 V	Plate Bias	-50 V
Omega Bias	-100 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		93				NaN	-	
24		610				NaN	-	
59		11060				NaN	-	

Tune Report

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	6.68	5.00	[F]			
24	4.44	5.00				
59	2.07	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	94	93	95	83	100
24	575	635	596	640	607
59	10771	10856	11201	11246	11229

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	23.28	8.95	8.9 - 9.1		0.40	0.491	0.750	
24	167.05	23.90	23.9 - 24.1		0.38	0.476	0.750	
59	3257.65	58.95	58.9 - 59.1		0.34	0.443	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 100.6 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	2.0 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-100 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	5.5 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	020CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:18:01-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	117	44.29
Na	23	1	nogas	1498728	0.00
Mg	24	1	nogas	8904	0.07
Al	27	1	nogas	31220	0.02
K	39	1	nogas	5379792	0.00
Ti	47	1	nogas	207	10.56
V	51	1	nogas	1231066	0.00
Cr	52	1	nogas	34973	0.02
Mn	55	1	nogas	10376	0.04
Co	59	1	nogas	317	7.48
Ni	60	1	nogas	1273	0.68
Cu	63	1	nogas	4547	0.15
Zn	66	1	nogas	1487	0.75
As	75	1	nogas	192747	0.00
Sr	88	1	nogas	1273	0.35
Ag	107	1	nogas	573	2.59
Cd	111	1	nogas	37	227.24
Sb	121	1	nogas	2053	0.37
Tl	205	1	nogas	337	2.22
Pb	208	1	nogas	1260	0.48
[Pb]	206	1	nogas	367	7.95
[Pb]	207	1	nogas	263	3.00
Na	23	2	He	44372	0.01
Mg	24	2	He	277	3.02
Al	27	2	He	110	21.87
K	39	2	He	14155	0.01
Ca	43	2	He	3	5196.15
Ca	44	2	He	217	5.36
V	51	2	He	634	1.44
Cr	52	2	He	1383	0.85
Mn	55	2	He	130	15.66
Fe	56	2	He	4744	0.11
Co	59	2	He	63	103.79
Ni	60	2	He	183	11.26
Cu	63	2	He	1020	0.17
Zn	66	2	He	183	3.44
As	75	2	He	28	49.91
Se	78	2	He	7	687.39
B	11	1	nogas	101111	0.00
Si	28	1	nogas	1789418	0.00
Ca	43	1	nogas	910	0.44
Ca	44	1	nogas	123924	0.00

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	958604	0.00
Se	77	1	nogas	64381	0.01
Se	82	1	nogas	470	4.32
Mo	95	1	nogas	173	13.45
Sn	118	1	nogas	1407	0.51
Ba	137	1	nogas	237	16.10
Sb	121	2	He	277	13.09
Li	7	1	nogas	38667	0.02
P	31	1	nogas	67638	0.00
La	139	1	nogas	160	7.81

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	nogas	424595	4.01
Ge	72	1	nogas	1760485	1.93
In	115	1	nogas	1841567	0.49
Bi	209	1	nogas	1714556	3.00
Ge	72	2	He	144534	2.19

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	021CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:20:02-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	6978	0.09
Na	23	1	nogas	4492718	0.00
Mg	24	1	nogas	2165141	0.00
Al	27	1	nogas	73552	0.05
K	39	1	nogas	7709881	0.00
Ti	47	1	nogas	2510	0.14
V	51	1	nogas	1323172	0.00
Cr	52	1	nogas	66623	0.00
Mn	55	1	nogas	48223	0.00
Co	59	1	nogas	34834	0.00
Ni	60	1	nogas	9189	0.05
Cu	63	1	nogas	22908	0.01
Zn	66	1	nogas	7655	0.05
As	75	1	nogas	208078	0.00
Sr	88	1	nogas	40583	0.01
Ag	107	1	nogas	23770	0.00
Cd	111	1	nogas	4651	0.04
Sb	121	1	nogas	22278	0.01
Tl	205	1	nogas	38639	0.01
Pb	208	1	nogas	55985	0.00
[Pb]	206	1	nogas	13776	0.03
[Pb]	207	1	nogas	12205	0.02
Na	23	2	He	104173	0.00
Mg	24	2	He	29136	0.01
Al	27	2	He	217	10.07
K	39	2	He	28919	0.01
Ca	43	2	He	63	80.14
Ca	44	2	He	947	1.46
V	51	2	He	3779	0.10
Cr	52	2	He	5538	0.18
Mn	55	2	He	1753	0.26
Fe	56	2	He	348074	0.00
Co	59	2	He	7525	0.01
Ni	60	2	He	2294	0.60
Cu	63	2	He	6721	0.05
Zn	66	2	He	1027	1.46
As	75	2	He	612	0.75
Se	78	2	He	37	111.65
B	11	1	nogas	119671	0.00
Si	28	1	nogas	2380443	0.00

Calibration Standard Report

Ca	43	1	nogas	5578	0.09
Ca	44	1	nogas	198966	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	4688239	0.00
Se	77	1	nogas	67532	0.01
Se	82	1	nogas	763	1.33
Mo	95	1	nogas	8245	0.09
Sn	118	1	nogas	13752	0.02
Ba	137	1	nogas	7238	0.08
Sb	121	2	He	2984	0.24
P	31	1	nogas	74872	0.00
La	139	1	nogas	67	34.37

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	429308	2.95	424595	101.11	70	125	
Ge	72	1	nogas	1746046	1.39	1760485	99.18	70	125	
In	115	1	nogas	1864101	6.07	1841567	101.22	70	125	
Bi	209	1	nogas	1693794	3.33	1714556	98.79	70	125	
Ge	72	2	He	144316	3.23	144534	99.85	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	022CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:22:02-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	16944	0.03
Na	23	1	nogas	8933324	0.00
Mg	24	1	nogas	5379516	0.00
Al	27	1	nogas	104265	0.00
K	39	1	nogas	11160046	0.00
Ti	47	1	nogas	6198	0.10
V	51	1	nogas	1415125	0.00
Cr	52	1	nogas	112763	0.00
Mn	55	1	nogas	103370	0.00
Co	59	1	nogas	82992	0.00
Ni	60	1	nogas	19941	0.02
Cu	63	1	nogas	51753	0.00
Zn	66	1	nogas	16985	0.02
As	75	1	nogas	226169	0.00
Sr	88	1	nogas	101658	0.00
Ag	107	1	nogas	59106	0.00
Cd	111	1	nogas	12154	0.04
Sb	121	1	nogas	54759	0.01
Tl	205	1	nogas	97079	0.00
Pb	208	1	nogas	140076	0.00
[Pb]	206	1	nogas	34594	0.01
[Pb]	207	1	nogas	31641	0.01
Na	23	2	He	194443	0.00
Mg	24	2	He	72151	0.00
Al	27	2	He	387	4.70
K	39	2	He	52393	0.00
Ca	43	2	He	150	19.37
Ca	44	2	He	2237	0.29
V	51	2	He	8737	0.01
Cr	52	2	He	12775	0.01
Mn	55	2	He	4384	0.08
Fe	56	2	He	856356	0.00
Co	59	2	He	18336	0.01
Ni	60	2	He	5378	0.16
Cu	63	2	He	15427	0.03
Zn	66	2	He	2424	0.25
As	75	2	He	1489	0.19
Se	78	2	He	58	62.92
B	11	1	nogas	148427	0.00
Si	28	1	nogas	3265665	0.00

Calibration Standard Report

Ca	43	1	nogas	13185	0.01
Ca	44	1	nogas	314682	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	9996390	0.00
Se	77	1	nogas	70560	0.00
Se	82	1	nogas	1440	0.43
Mo	95	1	nogas	21039	0.02
Sn	118	1	nogas	33706	0.01
Ba	137	1	nogas	16492	0.01
Sb	121	2	He	6401	0.02
P	31	1	nogas	86635	0.00
La	139	1	nogas	543	3.90

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	432280	0.20	424595	101.81	70	125	
Ge	72	1	nogas	1819539	1.13	1760485	103.35	70	125	
In	115	1	nogas	1844037	2.77	1841567	100.13	70	125	
Bi	209	1	nogas	1692915	0.57	1714556	98.74	70	125	
Ge	72	2	He	151092	0.71	144534	104.54	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	023CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:24:00-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	36104	0.01
Na	23	1	nogas	16924986	0.00
Mg	24	1	nogas	11116462	0.00
Al	27	1	nogas	176768	0.00
K	39	1	nogas	17117588	0.00
Ti	47	1	nogas	12124	0.04
V	51	1	nogas	1614937	0.00
Cr	52	1	nogas	195991	0.00
Mn	55	1	nogas	201897	0.00
Co	59	1	nogas	172583	0.00
Ni	60	1	nogas	41207	0.01
Cu	63	1	nogas	100869	0.00
Zn	66	1	nogas	31230	0.01
As	75	1	nogas	256409	0.00
Sr	88	1	nogas	207559	0.00
Ag	107	1	nogas	120892	0.00
Cd	111	1	nogas	24210	0.01
Sb	121	1	nogas	107610	0.00
Tl	205	1	nogas	203270	0.00
Pb	208	1	nogas	286018	0.00
[Pb]	206	1	nogas	70697	0.00
[Pb]	207	1	nogas	64043	0.00
Na	23	2	He	356149	0.00
Mg	24	2	He	150935	0.00
Al	27	2	He	573	3.34
K	39	2	He	92551	0.00
Ca	43	2	He	337	6.01
Ca	44	2	He	5124	0.11
V	51	2	He	17052	0.02
Cr	52	2	He	24029	0.01
Mn	55	2	He	8799	0.07
Fe	56	2	He	1840400	0.00
Co	59	2	He	37903	0.00
Ni	60	2	He	11170	0.02
Cu	63	2	He	30870	0.01
Zn	66	2	He	4567	0.10
As	75	2	He	3107	0.06
Se	78	2	He	122	3.56
B	11	1	nogas	212570	0.00
Si	28	1	nogas	4837055	0.00

Calibration Standard Report

Ca	43	1	nogas	24693	0.01
Ca	44	1	nogas	512358	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	19460498	0.00
Se	77	1	nogas	76444	0.01
Se	82	1	nogas	2300	0.26
Mo	95	1	nogas	43480	0.01
Sn	118	1	nogas	66996	0.01
Ba	137	1	nogas	32511	0.01
Sb	121	2	He	13215	0.06
P	31	1	nogas	113516	0.00
La	139	1	nogas	130	27.12

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	419151	2.91	424595	98.72	70	125	
Ge	72	1	nogas	1741110	0.76	1760485	98.90	70	125	
In	115	1	nogas	1813998	1.52	1841567	98.50	70	125	
Bi	209	1	nogas	1713070	1.21	1714556	99.91	70	125	
Ge	72	2	He	145136	1.73	144534	100.42	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	024CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:25:59-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	327291	0.00
Na	23	1	nogas	143038416	0.00
Mg	24	1	nogas	98573433	0.00
Al	27	1	nogas	1442443	0.00
K	39	1	nogas	113008236	0.00
Ti	47	1	nogas	110814	0.00
V	51	1	nogas	2895142	0.00
Cr	52	1	nogas	1445140	0.00
Mn	55	1	nogas	1777672	0.00
Co	59	1	nogas	1528114	0.00
Ni	60	1	nogas	342110	0.00
Cu	63	1	nogas	858255	0.00
Zn	66	1	nogas	276528	0.00
As	75	1	nogas	509941	0.00
Sr	88	1	nogas	1834086	0.00
Ag	107	1	nogas	1079930	0.00
Cd	111	1	nogas	220717	0.00
Sb	121	1	nogas	927746	0.00
Tl	205	1	nogas	1870903	0.00
Pb	208	1	nogas	2544622	0.00
[Pb]	206	1	nogas	624047	0.00
[Pb]	207	1	nogas	565887	0.00
Na	23	2	He	2850066	0.00
Mg	24	2	He	1362510	0.00
Al	27	2	He	4544	0.03
K	39	2	He	719195	0.00
Ca	43	2	He	2650	0.25
Ca	44	2	He	42128	0.00
V	51	2	He	148795	0.00
Cr	52	2	He	200232	0.00
Mn	55	2	He	78313	0.00
Fe	56	2	He	15945685	0.00
Co	59	2	He	335279	0.00
Ni	60	2	He	96212	0.00
Cu	63	2	He	267366	0.00
Zn	66	2	He	40041	0.01
As	75	2	He	26317	0.00
Se	78	2	He	1056	0.11
B	11	1	nogas	1220926	0.00
Si	28	1	nogas	28694221	0.00

Calibration Standard Report

Ca	43	1	nogas	220004	0.00
Ca	44	1	nogas	3565110	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	164816512	0.00
Se	77	1	nogas	84673	0.01
Se	82	1	nogas	15480	0.01
Mo	95	1	nogas	393151	0.00
Sn	118	1	nogas	605448	0.00
Ba	137	1	nogas	294793	0.00
Sb	121	2	He	111739	0.00
P	31	1	nogas	441729	0.00
La	139	1	nogas	753	1.67

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	409608	3.69	424595	96.47	70	125	
Ge	72	1	nogas	1752180	2.43	1760485	99.53	70	125	
In	115	1	nogas	1850414	2.89	1841567	100.48	70	125	
Bi	209	1	nogas	1683909	0.40	1714556	98.21	70	125	
Ge	72	2	He	149087	0.70	144534	103.15	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	025CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:27:59-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	701543	0.00
Na	23	1	nogas	308088115	0.00
Mg	24	1	nogas	207464396	0.00
Al	27	1	nogas	2687611	0.00
K	39	1	nogas	231368622	0.00
Ti	47	1	nogas	236499	0.00
V	51	1	nogas	4855654	0.00
Cr	52	1	nogas	3030192	0.00
Mn	55	1	nogas	3680174	0.00
Co	59	1	nogas	3221337	0.00
Ni	60	1	nogas	709312	0.00
Cu	63	1	nogas	1753888	0.00
Zn	66	1	nogas	559505	0.00
As	75	1	nogas	870119	0.00
Sr	88	1	nogas	3928264	0.00
Ag	107	1	nogas	2276725	0.00
Cd	111	1	nogas	467319	0.00
Sb	121	1	nogas	2151764	0.00
Tl	205	1	nogas	3873621	0.00
Pb	208	1	nogas	5499130	0.00
[Pb]	206	1	nogas	1340340	0.00
[Pb]	207	1	nogas	1198976	0.00
Na	23	2	He	5903086	0.00
Mg	24	2	He	2803389	0.00
Al	27	2	He	8742	0.05
K	39	2	He	1513332	0.00
Ca	43	2	He	5277	0.05
Ca	44	2	He	86819	0.00
V	51	2	He	316246	0.00
Cr	52	2	He	423356	0.00
Mn	55	2	He	164941	0.00
Fe	56	2	He	33417999	0.00
Co	59	2	He	712418	0.00
Ni	60	2	He	202868	0.00
Cu	63	2	He	564765	0.00
Zn	66	2	He	84000	0.00
As	75	2	He	56225	0.00
Se	78	2	He	2325	0.06
B	11	1	nogas	2433031	0.00
Si	28	1	nogas	55762211	0.00

Calibration Standard Report

Ca	43	1	nogas	466671	0.00
Ca	44	1	nogas	7505381	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	352235741	0.00
Se	77	1	nogas	110943	0.00
Se	82	1	nogas	32556	0.01
Mo	95	1	nogas	830543	0.00
Sn	118	1	nogas	1296267	0.00
Ba	137	1	nogas	620388	0.00
Sb	121	2	He	242407	0.00
P	31	1	nogas	899499	0.00
La	139	1	nogas	603	2.49

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	364163	3.54	424595	85.77	70	125	
Ge	72	1	nogas	1770607	0.81	1760485	100.57	70	125	
In	115	1	nogas	1846738	0.63	1841567	100.28	70	125	
Bi	209	1	nogas	1695597	2.04	1714556	98.89	70	125	
Ge	72	2	He	143936	0.26	144534	99.59	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	027_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:32:17-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	100.820	4.062	337094	1.50	100	100.8	90	110	
Na	23	1	nogas	9455.140	1.839	149784137	1.91	10000	94.6	90	110	
Mg	24	1	nogas	9651.286	3.218	102911946	1.64	10000	96.5	90	110	
Al	27	1	nogas	100.275	3.588	1428786	2.63	100	100.3	90	110	
K	39	1	nogas	9463.917	2.050	115244594	1.84	10000	94.6	90	110	
Ti	47	1	nogas	93.766	3.180	113410	2.77	100	93.8	90	110	
V	51	1	nogas	85.527	2.863	2861191	2.80	100	85.5	90	110	ICV Main CR1 Failed
Cr	52	1	nogas	98.406	3.787	1544128	3.16	100	98.4	90	110	
Mn	55	1	nogas	97.614	0.920	1851884	2.11	100	97.6	90	110	
Co	59	1	nogas	96.132	0.380	1586941	0.88	100	96.1	90	110	
Ni	60	1	nogas	97.958	1.709	357940	0.70	100	98.0	90	110	
Cu	63	1	nogas	96.753	0.396	876835	0.99	100	96.8	90	110	
Zn	66	1	nogas	96.987	2.287	281272	1.21	100	97.0	90	110	
As	75	1	nogas	83.354	2.192	494729	2.01	100	83.4	90	110	ICV Main CR1 Failed
Sr	88	1	nogas	97.742	3.929	1961262	2.68	100	97.7	90	110	
Ag	107	1	nogas	94.614	1.696	1104005	1.55	100	94.6	90	110	
Cd	111	1	nogas	93.186	0.129	230644	0.96	100	93.2	90	110	
Sb	121	1	nogas	88.747	1.034	962035	0.37	100	88.7	90	110	ICV Main CR1 Failed
Tl	205	1	nogas	97.225	1.906	1948344	2.08	100	97.2	90	110	
Pb	208	1	nogas	98.603	2.260	2671551	2.26	100	98.6	90	110	
U	238	1	nogas	98.865	1.228	2758795	1.57	100	98.9	90	110	
[Pb]	206	1	nogas	94.912	3.475	653475	2.21	100	94.9	90	110	
[Pb]	207	1	nogas	94.855	2.116	585739	1.48	100	94.9	90	110	
Na	23	2	He	9504.642	1.461	2860316	1.09	10000	95.0	90	110	
Mg	24	2	He	9433.854	3.997	1340751	3.51	10000	94.3	90	110	
Al	27	2	He	96.593	9.717	4394	9.94	100	96.6	90	110	
K	39	2	He	9509.322	1.813	718584	1.78	10000	95.1	90	110	
Ca	43	2	He	9361.122	7.485	2524	7.75	10000	93.6	90	110	
Ca	44	2	He	9639.296	3.218	42506	2.68	10000	96.4	90	110	
V	51	2	He	95.317	2.424	151627	1.92	100	95.3	90	110	
Cr	52	2	He	93.548	2.108	200378	1.68	100	93.5	90	110	
Mn	55	2	He	95.137	1.534	79258	0.98	100	95.1	90	110	
Fe	56	2	He	9592.754	2.763	16199009	2.66	10000	95.9	90	110	
Co	59	2	He	95.023	1.481	341180	1.61	100	95.0	90	110	
Ni	60	2	He	96.329	1.674	98453	2.03	100	96.3	90	110	
Cu	63	2	He	96.435	3.092	274350	2.56	100	96.4	90	110	
Zn	66	2	He	96.884	3.307	41076	3.09	100	96.9	90	110	
As	75	2	He	94.244	2.752	26688	2.26	100	94.2	90	110	
Se	78	2	He	91.872	1.690	1066	1.79	100	91.9	90	110	
B	11	1	nogas	531.459	9.341	1315822	4.78	500	106.3	90	110	
Si	28	1	nogas	5062.906	2.230	30134301	1.05	5000	101.3	90	110	
Ca	43	1	nogas	9211.184	2.189	220363	1.63	10000	92.1	90	110	
Ca	44	1	nogas	9345.820	1.675	3651144	1.63	10000	93.5	90	110	
Fe	56	1	nogas	9639.559	1.269	173933941	1.13	10000	96.4	90	110	
Se	77	1	nogas	52.301	17.246	79289	3.63	100	52.3	90	110	ICV Main CR1 Failed
Se	82	1	nogas	93.575	4.025	15834	3.92	100	93.6	90	110	
Mo	95	1	nogas	96.660	0.952	411189	0.28	100	96.7	90	110	
Sn	118	1	nogas	93.069	2.365	638080	1.88	100	93.1	90	110	
Ba	137	1	nogas	90.443	0.685	297647	0.76	100	90.4	90	110	
Sb	121	2	He	91.607	0.153	111609	0.70	100	91.6	90	110	
Li	7	1	nogas	98.649	1.781	844977	3.66	100	98.6	90	110	
P	31	1	nogas	451.517	2.517	451179	0.90	500	90.3	90	110	
La	139	1	nogas	88.308	34.888	453	21.20	100	88.3	90	110	ICV Main CR1 Failed
Au	197	1	nogas	61.930	158.949	27	78.06	100	61.9	90	110	ICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	418046	3.90	424595	98.46	70	125	
Ge	72	1	nogas	1829049	1.23	1760485	103.89	70	125	
In	115	1	nogas	1978315	1.08	1841567	107.43	70	125	
Bi	209	1	nogas	1763532	2.17	1714556	102.86	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	147743	0.55	144534	102.22	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV2
Data File Name	028LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:34:14-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	2.017	9.018	7705	7.68	5	40.3	70	130	LLICV Main CR1 Failed
Na	23	1	nogas	199.568	2.710	4622808	0.92	500	39.9	70	130	LLICV Main CR1 Failed
Mg	24	1	nogas	216.333	3.540	2282867	2.63	500	43.3	70	130	LLICV Main CR1 Failed
Al	27	1	nogas	1.829	4.049	58347	0.43	5	36.6	70	130	LLICV Main CR1 Failed
K	39	1	nogas	193.881	10.949	7897216	1.33	500	38.8	70	130	LLICV Main CR1 Failed
Ti	47	1	nogas	2.165	8.269	2854	8.70	5	43.3	70	130	LLICV Main CR1 Failed
V	51	1	nogas	0.114	2327.250	1292124	4.74	5	2.3	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	2.051	3.811	68299	1.57	5	41.0	70	130	LLICV Main CR1 Failed
Mn	55	1	nogas	2.155	0.911	51843	1.47	5	43.1	70	130	LLICV Main CR1 Failed
Co	59	1	nogas	2.137	1.655	35882	2.15	5	42.7	70	130	LLICV Main CR1 Failed
Ni	60	1	nogas	2.026	7.547	9456	4.38	5	40.5	70	130	LLICV Main CR1 Failed
Cu	63	1	nogas	2.133	3.513	24139	2.59	5	42.7	70	130	LLICV Main CR1 Failed
Zn	66	1	nogas	1.942	4.054	8119	3.52	5	38.8	70	130	LLICV Main CR1 Failed
As	75	1	nogas	-1.125	-122.470	209579	3.19	5	-22.5	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	2.063	8.497	42999	6.39	5	41.3	70	130	LLICV Main CR1 Failed
Ag	107	1	nogas	2.132	3.380	25669	4.69	5	42.6	70	130	LLICV Main CR1 Failed
Cd	111	1	nogas	2.124	2.697	5311	1.69	5	42.5	70	130	LLICV Main CR1 Failed
Sb	121	1	nogas	3.556	10.115	36813	7.65	5	71.1	70	130	
Tl	205	1	nogas	2.233	5.046	45056	3.37	5	44.7	70	130	LLICV Main CR1 Failed
Pb	208	1	nogas	2.276	0.627	62905	0.61	5	45.5	70	130	LLICV Main CR1 Failed
U	238	1	nogas	2.217	1.043	61921	0.98	5	44.3	70	130	LLICV Main CR1 Failed
[Pb]	206	1	nogas	2.138	5.252	15087	4.97	5	42.8	70	130	LLICV Main CR1 Failed
[Pb]	207	1	nogas	2.229	2.704	14030	3.75	5	44.6	70	130	LLICV Main CR1 Failed
Na	23	2	He	206.451	1.459	104401	1.66	500	41.3	70	130	LLICV Main CR1 Failed
Mg	24	2	He	218.112	2.003	30659	1.83	500	43.6	70	130	LLICV Main CR1 Failed
Al	27	2	He	2.043	41.988	217	16.21	5	40.9	70	130	LLICV Main CR1 Failed
K	39	2	He	192.858	6.636	28442	3.33	500	38.6	70	130	LLICV Main CR1 Failed
Ca	43	2	He	317.298	62.035	87	59.21	500	63.5	70	130	LLICV Main CR1 Failed
Ca	44	2	He	182.415	24.319	1000	18.08	500	36.5	70	130	LLICV Main CR1 Failed
V	51	2	He	2.939	3.089	3939	3.68	5	58.8	70	130	LLICV Main CR1 Failed
Cr	52	2	He	2.082	8.919	5724	5.66	5	41.6	70	130	LLICV Main CR1 Failed
Mn	55	2	He	2.296	13.296	2000	11.53	5	45.9	70	130	LLICV Main CR1 Failed
Fe	56	2	He	209.211	2.669	350905	1.60	500	41.8	70	130	LLICV Main CR1 Failed
Co	59	2	He	2.166	3.768	7682	2.98	5	43.3	70	130	LLICV Main CR1 Failed
Ni	60	2	He	2.882	2.389	2454	3.87	5	57.6	70	130	LLICV Main CR1 Failed
Cu	63	2	He	2.924	4.921	7165	4.54	5	58.5	70	130	LLICV Main CR1 Failed
Zn	66	2	He	2.966	3.386	1147	4.80	5	59.3	70	130	LLICV Main CR1 Failed
As	75	2	He	2.205	8.583	639	7.12	5	44.1	70	130	LLICV Main CR1 Failed
Se	78	2	He	2.616	37.658	22	50.62	5	52.3	70	130	LLICV Main CR1 Failed
B	11	1	nogas	24.551	4.444	175283	3.01	25	98.2	70	130	
Si	28	1	nogas	105.560	12.258	2467989	1.17	25	422.2	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	210.438	3.643	6008	4.38	500	42.1	70	130	LLICV Main CR1 Failed
Ca	44	1	nogas	180.224	9.312	198218	1.40	500	36.0	70	130	LLICV Main CR1 Failed
Fe	56	1	nogas	213.201	4.025	4858426	1.72	500	42.6	70	130	LLICV Main CR1 Failed
Se	77	1	nogas	1.132	848.082	67736	4.74	5	22.6	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	2.962	26.109	983	13.81	5	59.2	70	130	LLICV Main CR1 Failed
Mo	95	1	nogas	2.210	6.158	9649	4.41	5	44.2	70	130	LLICV Main CR1 Failed
Sn	118	1	nogas	1.995	3.908	15197	3.15	5	39.9	70	130	LLICV Main CR1 Failed
Ba	137	1	nogas	2.239	2.410	7642	3.82	5	44.8	70	130	LLICV Main CR1 Failed
Sb	121	2	He	3.506	5.527	4084	6.32	5	70.1	70	130	
Li	7	1	nogas	2.077	11.834	61828	3.23	5	41.5	70	130	LLICV Main CR1 Failed
P	31	1	nogas	7.369	33.890	77101	1.17	25	29.5	70	130	LLICV Main CR1 Failed
La	139	1	nogas	-22.626	-47.284	100	34.64	5	-452.5	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	13.282	555.995	17	91.65	5	265.6	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	469731	1.49	424595	110.63	70	125	
Ge	72	1	nogas	1843689	1.78	1760485	104.73	70	125	

Low Level Initial Calibration Verification (LLICV) Report

In	115	1	nogas	1984177	1.63	1841567	107.74	70	125	
Bi	209	1	nogas	1762764	1.76	1714556	102.81	70	125	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	144824	1.16	144534	100.20	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	029LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:36:13-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	5.122	1.934	18429	3.27	5	102.4	70	130	
Na	23	1	nogas	511.022	1.832	9255039	1.68	500	102.2	70	130	
Mg	24	1	nogas	537.808	0.438	5555298	2.50	500	107.6	70	130	
Al	27	1	nogas	5.470	2.352	107518	1.01	5	109.4	70	130	
K	39	1	nogas	492.367	4.878	11181464	0.88	500	98.5	70	130	
Ti	47	1	nogas	5.180	2.828	6405	2.50	5	103.6	70	130	
V	51	1	nogas	6.464	45.795	1385747	5.42	5	129.3	70	130	
Cr	52	1	nogas	5.185	6.487	114583	2.21	5	103.7	70	130	
Mn	55	1	nogas	5.170	1.984	107208	1.16	5	103.4	70	130	
Co	59	1	nogas	5.302	2.548	86940	0.77	5	106.0	70	130	
Ni	60	1	nogas	5.329	4.627	21169	1.87	5	106.6	70	130	
Cu	63	1	nogas	5.406	3.177	52910	0.64	5	108.1	70	130	
Zn	66	1	nogas	5.016	3.416	16731	4.77	5	100.3	70	130	
As	75	1	nogas	5.734	33.079	228958	4.20	5	114.7	70	130	
Sr	88	1	nogas	5.243	3.430	105390	1.07	5	104.9	70	130	
Ag	107	1	nogas	5.297	2.300	61752	1.75	5	105.9	70	130	
Cd	111	1	nogas	5.220	2.306	12388	1.37	5	104.4	70	130	
Sb	121	1	nogas	5.819	3.750	57876	1.60	5	116.4	70	130	
Tl	205	1	nogas	4.942	0.963	101512	0.95	5	98.8	70	130	
Pb	208	1	nogas	5.404	0.494	147617	0.49	5	108.1	70	130	
U	238	1	nogas	5.211	1.757	148645	1.95	5	104.2	70	130	
[Pb]	206	1	nogas	5.043	0.594	35850	0.81	5	100.9	70	130	
[Pb]	207	1	nogas	5.146	1.001	32730	0.86	5	102.9	70	130	
Na	23	2	He	501.756	1.676	195442	1.58	500	100.4	70	130	
Mg	24	2	He	500.981	2.669	72010	1.84	500	100.2	70	130	
Al	27	2	He	3.993	32.816	310	19.62	5	79.9	70	130	
K	39	2	He	504.590	3.460	51534	2.51	500	100.9	70	130	
Ca	43	2	He	319.384	12.120	90	11.11	500	63.9	70	130	LLICV Main CR1 Failed
Ca	44	2	He	490.081	8.940	2390	8.82	500	98.0	70	130	
V	51	2	He	5.748	0.345	8571	1.10	5	115.0	70	130	
Cr	52	2	He	5.069	5.995	12284	4.59	5	101.4	70	130	
Mn	55	2	He	5.092	6.803	4401	6.40	5	101.8	70	130	
Fe	56	2	He	511.690	0.692	875290	0.81	500	102.3	70	130	
Co	59	2	He	5.198	1.740	18867	1.11	5	104.0	70	130	
Ni	60	2	He	5.527	8.866	5254	8.57	5	110.5	70	130	
Cu	63	2	He	5.734	3.024	15450	2.16	5	114.7	70	130	
Zn	66	2	He	6.520	3.626	2700	4.12	5	130.4	70	130	LLICV Main CR1 Failed
As	75	2	He	5.339	5.265	1550	4.09	5	106.8	70	130	
Se	78	2	He	5.675	9.470	59	9.84	5	113.5	70	130	
B	11	1	nogas	31.233	2.819	182991	2.22	25	124.9	70	130	
Si	28	1	nogas	265.210	3.702	3307450	0.81	25	1060.8	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	518.952	4.292	13175	3.66	500	103.8	70	130	
Ca	44	1	nogas	497.670	3.722	313163	0.24	500	99.5	70	130	
Fe	56	1	nogas	512.056	2.607	10080442	1.07	500	102.4	70	130	
Se	77	1	nogas	18.877	44.777	70680	3.86	5	377.5	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	4.742	38.332	1250	21.57	5	94.8	70	130	
Mo	95	1	nogas	5.320	4.391	22565	2.47	5	106.4	70	130	
Sn	118	1	nogas	5.178	1.685	35309	0.68	5	103.6	70	130	
Ba	137	1	nogas	5.243	3.447	16725	2.99	5	104.9	70	130	
Sb	121	2	He	5.987	1.957	6965	2.44	5	119.7	70	130	
Li	7	1	nogas	4.787	1.380	82473	2.04	5	95.7	70	130	
P	31	1	nogas	24.311	12.255	89879	0.49	25	97.2	70	130	
La	139	1	nogas	148.438	26.901	617	18.80	5	2968.8	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	92.356	130.587	33	75.50	5	1847.1	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	446564	1.65	424595	105.17	70	125	
Ge	72	1	nogas	1811148	2.37	1760485	102.88	70	125	
In	115	1	nogas	1891680	0.93	1841567	102.72	70	125	
Bi	209	1	nogas	1801365	0.22	1714556	105.06	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	148869	1.09	144534	103.00	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	030_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:38:12-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.009	168.8	150	35.3	1	
Na	23	1	nogas	-6.591	-40.3	1401700	1.1	100	
Mg	24	1	nogas	0.244	67.6	11439	15.7	100	
Al	27	1	nogas	0.146	55.4	33854	1.5	5	
K	39	1	nogas	-4.703	-228.3	5441072	0.3	100	
Ti	47	1	nogas	0.011	633.9	223	33.9	2.5	
V	51	1	nogas	0.071	2815.5	1259395	4.1	2.5	
Cr	52	1	nogas	-0.007	-696.5	35608	1.1	2.5	
Mn	55	1	nogas	0.001	1351.6	10623	4.5	2.5	
Co	59	1	nogas	0.003	233.4	367	25.9	2.5	
Ni	60	1	nogas	-0.211	-17.5	1237	9.5	2.5	
Cu	63	1	nogas	-0.037	-55.5	4321	2.2	2.5	
Zn	66	1	nogas	-0.330	-28.0	1493	16.0	2.5	
As	75	1	nogas	-2.272	-82.4	200574	4.1	2.5	
Sr	88	1	nogas	0.005	283.7	1393	17.7	2.5	
Ag	107	1	nogas	0.004	81.9	633	8.1	2.5	
Cd	111	1	nogas	0.001	870.6	40	43.3	1	
Sb	121	1	nogas	0.013	70.6	2217	4.6	2.5	
Tl	205	1	nogas	0.037	19.4	1080	11.6	1	
Pb	208	1	nogas	0.026	39.3	1960	14.0	2.5	
U	238	1	nogas	0.008	51.3	303	35.6	2.5	
[Pb]	206	1	nogas	0.020	42.8	513	12.7	2.5	
[Pb]	207	1	nogas	0.028	46.4	440	17.2	2.5	
Na	23	2	He	-9.097	-30.0	42628	1.9	100	
Mg	24	2	He	0.171	101.4	307	8.2	100	
Al	27	2	He	-0.705	-95.5	100	30.0	5	
K	39	2	He	-4.097	-179.5	13852	3.9	100	
Ca	43	2	He	37.053	58.5	13	43.3	100	
Ca	44	2	He	-28.371	-17.0	97	21.5	100	
V	51	2	He	0.798	0.7	595	1.1	2.5	
Cr	52	2	He	0.038	153.1	1493	8.2	2.5	
Mn	55	2	He	-0.083	-30.4	63	32.9	2.5	
Fe	56	2	He	0.374	70.7	5481	7.8	100	
Co	59	2	He	-0.002	-376.6	57	50.9	2.5	
Ni	60	2	He	0.598	7.3	157	28.8	2.5	
Cu	63	2	He	0.708	3.6	983	6.9	2.5	
Zn	66	2	He	0.520	4.4	130	7.7	2.5	
As	75	2	He	-0.002	-1656.7	28	36.7	2.5	
Se	78	2	He	1.890	31.4	14	49.5	2.5	
B	11	1	nogas	5.648	9.3	118105	1.7	10	

Initial Calibration Blank (ICB) Report

Si	28	1	nogas	0.182	4195.6	1828623	0.7	5	
Ca	43	1	nogas	1.244	545.5	960	18.3	100	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ca	44	1	nogas	-32.665	-28.1	114468	1.4	100	
Fe	56	1	nogas	-2.264	-8.5	939612	2.2	100	
Se	77	1	nogas	2.446	583.6	66348	5.3	2.5	
Se	82	1	nogas	-0.544	-136.5	393	30.3	2.5	
Mo	95	1	nogas	0.001	453.8	183	13.7	2.5	
Sn	118	1	nogas	-0.011	-319.3	1390	14.4	5	
Ba	137	1	nogas	-0.013	-27.6	203	5.7	2.5	
Sb	121	2	He	0.017	74.5	303	5.0	2.5	
P	31	1	nogas	-1.230	-190.7	68059	1.0	10	
La	139	1	nogas	-10.420	-211.7	133	49.9	2.5	
Au	197	1	nogas	-18.257	-266.8	10	100.0	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	nogas	438407	0.85	424595	103.25	70	125	
Ge	72	1	nogas	1798107	2.03	1760485	102.14	70	125	
In	115	1	nogas	1915003	2.25	1841567	103.99	70	125	
Bi	209	1	nogas	1741101	1.77	1714556	101.55	70	125	
Ge	72	2	He	147627	0.41	144534	102.14	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	031ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:40:11-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	-0.006	-336.4	97	76.3	0	ICSA Main CR1 Failed
Na	23	1	nogas	99615.128	1.0	1412027332	1.7	0	
Mg	24	1	nogas	103397.211	3.0	995830056	1.6	0	
Al	27	1	nogas	83497.102	2.7	1094983664	1.5	0	
K	39	1	nogas	96688.249	1.6	1060165390	0.4	0	
Ti	47	1	nogas	2044.532	2.6	2324759	2.8	0	
V	51	1	nogas	-7.338	-67.1	1076427	6.6	0	ICSA Main CR1 Failed
Cr	52	1	nogas	0.400	7.7	39990	0.5	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.400	8.1	17272	4.7	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.127	3.5	2287	2.6	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.594	2.8	3940	2.6	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.028	5.3	13175	2.4	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.363	6.8	6014	2.9	0	ICSA Main CR1 Failed
As	75	1	nogas	-2.266	-42.2	192107	0.2	0	ICSA Main CR1 Failed
Sr	88	1	nogas	1.039	3.4	20859	1.9	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.050	43.7	1113	21.9	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.350	4.9	3060	4.9	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.058	19.4	2537	2.8	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.012	33.1	527	12.4	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.133	3.8	4864	2.8	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.144	8.9	1240	6.9	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.141	8.3	1033	7.4	0	ICSA Main CR1 Failed
Na	23	2	He	96108.743	0.5	26820361	1.4	0	
Mg	24	2	He	95183.080	0.4	12724783	1.3	0	
Al	27	2	He	81496.876	1.2	3382391	1.9	0	
K	39	2	He	91126.831	0.9	6764619	0.9	0	
Ca	43	2	He	89999.639	5.1	22784	4.0	0	
Ca	44	2	He	93112.242	1.6	384446	0.9	0	
V	51	2	He	0.819	1.1	593	2.1	0	ICSA Main CR1 Failed
Cr	52	2	He	0.262	31.0	1853	7.8	0	ICSA Main CR1 Failed
Mn	55	2	He	0.373	17.3	417	13.2	0	ICSA Main CR1 Failed
Fe	56	2	He	95151.555	1.6	151134721	2.8	0	
Co	59	2	He	0.008	40.1	87	13.3	0	ICSA Main CR1 Failed
Ni	60	2	He	0.787	3.1	330	8.0	0	ICSA Main CR1 Failed
Cu	63	2	He	1.174	1.8	2177	3.7	0	ICSA Main CR1 Failed
Zn	66	2	He	-0.045	-682.7	347	34.4	0	ICSA Main CR1 Failed
As	75	2	He	0.137	80.6	63	47.4	0	ICSA Main CR1 Failed
Se	78	2	He	1.722	5.9	11	10.2	0	ICSA Main CR1 Failed
B	11	1	nogas	7.772	35.5	120545	2.5	0	ICSA Main CR1 Failed
Si	28	1	nogas	94.464	6.3	2248315	2.6	0	
Ca	43	1	nogas	98661.493	1.5	2214306	1.8	0	
Ca	44	1	nogas	96671.810	4.1	34434494	4.3	0	
Fe	56	1	nogas	95839.624	2.3	1620033736	1.9	0	
Se	77	1	nogas	5.515	91.0	64250	3.1	0	
Se	82	1	nogas	0.509	77.8	540	12.8	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2063.374	0.7	8262646	0.9	0	
Sn	118	1	nogas	0.043	83.5	1640	16.0	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.155	18.4	693	13.4	0	ICSA Main CR1 Failed
Sb	121	2	He	0.069	99.1	340	22.2	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	91316.561	1.8	72610291	0.4	0	
La	139	1	nogas	76.453	25.5	377	15.1	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	429467	3.89	424595	101.15	70	125	
Ge	72	1	nogas	1722437	1.42	1760485	97.84	70	125	
In	115	1	nogas	1791541	2.28	1841567	97.28	70	125	
Bi	209	1	nogas	1593575	1.11	1714556	92.94	70	125	
Ge	72	2	He	138983	1.17	144534	96.16	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	032ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T11:42:16-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	86.775	0.985	281607	1.91	100	86.8	80	120	
Na	23	1	nogas	108644.032	2.452	1507372434	0.60	100	108644.0	80	120	
Mg	24	1	nogas	113853.732	3.980	1073580824	2.65	100	113853.7	80	120	
Al	27	1	nogas	83465.691	5.670	1094598944	3.89	100	83465.7	80	120	ICSB Main CR1 Failed
K	39	1	nogas	104915.738	1.215	1150998459	3.72	100	104915.7	80	120	
Ti	47	1	nogas	2028.511	4.250	2306538	2.50	100	2028.5	80	120	ICSB Main CR1 Failed
V	51	1	nogas	77.152	4.961	2548726	1.04	100	77.2	80	120	
Cr	52	1	nogas	84.445	5.263	1252531	2.59	100	84.4	80	120	
Mn	55	1	nogas	84.979	5.494	1518831	2.69	100	85.0	80	120	
Co	59	1	nogas	84.704	2.752	1317135	1.57	100	84.7	80	120	
Ni	60	1	nogas	84.387	1.691	290778	1.21	100	84.4	80	120	
Cu	63	1	nogas	84.333	2.678	720426	0.76	100	84.3	80	120	
Zn	66	1	nogas	86.725	0.493	237268	2.35	100	86.7	80	120	
As	75	1	nogas	80.275	5.461	456172	2.67	100	80.3	80	120	
Sr	88	1	nogas	83.080	3.367	1571188	3.39	100	83.1	80	120	
Ag	107	1	nogas	78.747	1.928	865706	1.09	100	78.7	80	120	ICSB Main CR1 Failed
Cd	111	1	nogas	85.005	3.901	187449	2.82	100	85.0	80	120	
Sb	121	1	nogas	90.213	3.279	824660	1.22	100	90.2	80	120	
Tl	205	1	nogas	83.196	2.271	1481594	2.36	100	83.2	80	120	
Pb	208	1	nogas	79.283	0.504	2148343	0.50	100	79.3	80	120	ICSB Main CR1 Failed
U	238	1	nogas	96.426	1.970	2391140	2.21	100	96.4	80	120	
[Pb]	206	1	nogas	84.488	0.590	517090	0.19	100	84.5	80	120	
[Pb]	207	1	nogas	86.813	0.532	476439	0.25	100	86.8	80	120	
Na	23	2	He	104868.267	1.331	28843163	0.92	100	104868.3	80	120	
Mg	24	2	He	105588.518	2.238	13913796	1.76	100	105588.5	80	120	
Al	27	2	He	81417.463	1.806	3330608	0.85	100	81417.5	80	120	ICSB Main CR1 Failed
K	39	2	He	97870.434	1.104	7264170	1.10	100	97870.4	80	120	ICSB Main CR1 Failed
Ca	43	2	He	95779.750	3.762	23906	2.60	100	95779.7	80	120	ICSB Main CR1 Failed
Ca	44	2	He	101163.911	3.343	411679	2.16	100	101163.9	80	120	
V	51	2	He	84.461	0.845	124528	0.64	100	84.5	80	120	
Cr	52	2	He	82.472	1.415	163980	1.60	100	82.5	80	120	
Mn	55	2	He	83.338	0.479	64403	1.28	100	83.3	80	120	
Fe	56	2	He	105811.900	1.440	165642858	0.50	100	105811.9	80	120	
Co	59	2	He	84.529	1.124	281434	0.16	100	84.5	80	120	
Ni	60	2	He	81.940	2.736	77580	1.48	100	81.9	80	120	
Cu	63	2	He	82.460	3.012	217394	2.21	100	82.5	80	120	
Zn	66	2	He	89.807	3.038	33100	2.00	100	89.8	80	120	
As	75	2	He	85.099	2.487	22348	1.22	100	85.1	80	120	
Se	78	2	He	80.514	10.636	865	9.45	100	80.5	80	120	ICSB Main CR1 Failed
B	11	1	nogas	420.254	2.955	1031070	1.90	100	420.3	80	120	
Si	28	1	nogas	4542.844	4.532	25644792	2.11	100	4542.8	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	100049.215	3.363	2246099	2.80	100	100049.2	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	100214.920	2.138	35706674	2.40	100	100214.9	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	105751.557	5.432	1787030507	2.69	100	105751.6	80	120	
Se	77	1	nogas	78.759	9.997	80581	2.48	100	78.8	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	83.724	3.601	13395	3.37	100	83.7	80	120	
Mo	95	1	nogas	2134.575	2.255	8550180	0.75	100	2134.6	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	84.107	6.961	513287	2.12	100	84.1	80	120	
Ba	137	1	nogas	86.991	6.957	254729	1.13	100	87.0	80	120	
Sb	121	2	He	94.771	0.530	97549	1.69	100	94.8	80	120	
La	139	1	nogas	164.747	29.742	627	27.19	100	164.7	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	nogas	405318	1.07	424595	95.46	70	125	
Ge	72	1	nogas	1723548	2.84	1760485	97.90	70	125	
In	115	1	nogas	1765605	6.80	1841567	95.88	70	125	
Bi	209	1	nogas	1566927	0.40	1714556	91.39	70	125	
Ge	72	2	He	137011	1.28	144534	94.79	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	044_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:07:25-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.223	3.426	313751	1.31	100	100.2	90	110	
Na	23	1	nogas	9680.103	4.408	141794587	3.13	10000	96.8	90	110	
Mg	24	1	nogas	9598.537	3.486	94702175	2.81	10000	96.0	90	110	
Al	27	1	nogas	94.002	3.751	1297778	1.43	100	94.0	90	110	
K	39	1	nogas	9384.652	2.226	110624998	1.79	10000	93.8	90	110	
Ti	47	1	nogas	94.130	3.410	110158	2.61	100	94.1	90	110	
V	51	1	nogas	81.326	2.784	2692976	1.50	100	81.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.767	4.956	1424801	2.66	100	93.8	90	110	
Mn	55	1	nogas	95.822	2.647	1758655	0.42	100	95.8	90	110	
Co	59	1	nogas	94.220	4.583	1504153	1.93	100	94.2	90	110	
Ni	60	1	nogas	94.426	4.386	333789	1.72	100	94.4	90	110	
Cu	63	1	nogas	94.944	4.295	832261	1.93	100	94.9	90	110	
Zn	66	1	nogas	96.267	3.254	270184	2.83	100	96.3	90	110	
As	75	1	nogas	78.598	1.961	463125	2.29	100	78.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.282	3.081	1830917	2.24	100	94.3	90	110	
Ag	107	1	nogas	92.911	2.890	1048789	0.20	100	92.9	90	110	
Cd	111	1	nogas	96.192	2.074	218404	0.75	100	96.2	90	110	
Sb	121	1	nogas	99.177	2.917	930994	0.34	100	99.2	90	110	
Tl	205	1	nogas	97.708	4.999	1824330	4.21	100	97.7	90	110	
Pb	208	1	nogas	92.931	1.677	2517945	1.68	100	92.9	90	110	
U	238	1	nogas	99.144	1.645	2578397	1.83	100	99.1	90	110	
[Pb]	206	1	nogas	95.777	1.167	614757	1.78	100	95.8	90	110	
[Pb]	207	1	nogas	97.216	1.426	559549	1.86	100	97.2	90	110	
Na	23	2	He	9435.705	3.681	2714621	0.50	10000	94.4	90	110	
Mg	24	2	He	9310.473	4.230	1264806	1.15	10000	93.1	90	110	
Al	27	2	He	94.197	6.141	4097	4.58	100	94.2	90	110	
K	39	2	He	9204.642	0.806	696014	0.79	10000	92.0	90	110	
Ca	43	2	He	9887.324	2.149	2550	5.13	10000	98.9	90	110	
Ca	44	2	He	9778.659	2.813	41226	0.85	10000	97.8	90	110	
V	51	2	He	94.764	1.980	144150	1.32	100	94.8	90	110	
Cr	52	2	He	94.335	0.674	193275	2.88	100	94.3	90	110	
Mn	55	2	He	97.921	1.494	78016	2.14	100	97.9	90	110	
Fe	56	2	He	9581.540	2.941	15468622	0.78	10000	95.8	90	110	
Co	59	2	He	95.877	3.896	329025	0.76	100	95.9	90	110	
Ni	60	2	He	95.014	4.175	92801	0.93	100	95.0	90	110	
Cu	63	2	He	94.609	4.021	257259	0.77	100	94.6	90	110	
Zn	66	2	He	101.885	1.373	38695	3.54	100	101.9	90	110	
As	75	2	He	97.497	2.997	26398	1.71	100	97.5	90	110	
Se	78	2	He	91.433	2.505	1015	3.53	100	91.4	90	110	
B	11	1	nogas	488.143	4.207	1140483	1.81	500	97.6	90	110	
Si	28	1	nogas	4760.625	3.541	27521836	1.77	5000	95.2	90	110	
Ca	43	1	nogas	9307.655	1.701	215495	2.40	10000	93.1	90	110	
Ca	44	1	nogas	9278.101	1.707	3508613	2.25	10000	92.8	90	110	
Fe	56	1	nogas	9177.060	3.732	160209787	0.86	10000	91.8	90	110	
Se	77	1	nogas	28.539	45.387	71299	5.26	100	28.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.085	4.676	15076	1.77	100	92.1	90	110	
Mo	95	1	nogas	95.627	2.551	393565	0.57	100	95.6	90	110	
Sn	118	1	nogas	96.045	2.329	604198	2.84	100	96.0	90	110	
Ba	137	1	nogas	96.399	0.996	291049	0.53	100	96.4	90	110	
Sb	121	2	He	105.046	1.126	111482	2.56	100	105.0	90	110	
Li	7	1	nogas	99.041	2.734	793873	3.28	100	99.0	90	110	
P	31	1	nogas	437.848	1.880	425487	1.77	500	87.6	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	82.538	30.156	400	19.53	100	82.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	19.565	302.115	17	69.28	100	19.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	391312	3.38	424595	92.16	70	125	
Ge	72	1	nogas	1770293	2.93	1760485	100.56	70	125	
In	115	1	nogas	1815112	1.33	1841567	98.56	70	125	
Bi	209	1	nogas	1643545	1.99	1714556	95.86	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	141330	3.24	144534	97.78	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	045_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:09:20-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.102	48.8	470	34.8	1	
Na	23	1	nogas	78.003	1.9	2614456	1.8	100	
Mg	24	1	nogas	10.747	25.0	116362	23.5	100	
Al	27	1	nogas	1.758	4.4	53506	2.3	5	
K	39	1	nogas	26.412	64.6	5542628	0.5	100	
Ti	47	1	nogas	0.178	29.8	403	12.5	2.5	
V	51	1	nogas	-10.199	-33.3	1026764	7.8	2.5	
Cr	52	1	nogas	-0.208	-18.4	31187	3.7	2.5	
Mn	55	1	nogas	0.525	10.8	19440	3.2	2.5	
Co	59	1	nogas	0.091	37.6	1720	27.8	2.5	
Ni	60	1	nogas	0.005	1724.1	1917	11.6	2.5	
Cu	63	1	nogas	0.206	36.3	6184	7.4	2.5	
Zn	66	1	nogas	0.170	10.6	2784	4.3	2.5	
As	75	1	nogas	-11.097	-9.5	163678	3.1	2.5	
Sr	88	1	nogas	0.165	21.0	4341	12.1	2.5	
Ag	107	1	nogas	0.087	20.7	1513	10.7	2.5	
Cd	111	1	nogas	0.082	57.9	227	47.2	1	
Sb	121	1	nogas	1.137	34.9	12301	26.4	2.5	
Tl	205	1	nogas	0.212	35.2	4224	30.1	1	
Pb	208	1	nogas	0.125	26.5	4644	19.3	2.5	
U	238	1	nogas	0.091	37.9	2420	34.5	2.5	
[Pb]	206	1	nogas	0.142	40.7	1247	27.3	2.5	
[Pb]	207	1	nogas	0.122	14.9	947	9.6	2.5	
Na	23	2	He	77.547	6.1	65917	0.6	100	
Mg	24	2	He	7.720	8.7	1330	4.6	100	
Al	27	2	He	3.143	17.5	260	6.7	5	
K	39	2	He	9.818	77.0	14883	3.8	100	
Ca	43	2	He	13.281	337.1	7	173.2	100	
Ca	44	2	He	4.040	343.3	230	24.2	100	
V	51	2	He	0.837	4.2	637	10.2	2.5	
Cr	52	2	He	0.037	65.5	1440	5.5	2.5	
Mn	55	2	He	0.356	56.9	417	41.9	2.5	
Fe	56	2	He	6.039	4.6	14529	4.9	100	
Co	59	2	He	0.047	11.6	223	6.8	2.5	
Ni	60	2	He	0.627	1.2	180	5.6	2.5	
Cu	63	2	He	0.830	4.0	1283	5.5	2.5	
Zn	66	2	He	-0.249	-73.6	277	23.2	2.5	
As	75	2	He	0.039	178.6	38	48.6	2.5	
Se	78	2	He	1.168	23.7	5	57.3	2.5	
B	11	1	nogas	5.945	29.7	117183	1.8	10	
Si	28	1	nogas	19.942	68.4	1852433	1.2	5	CCB Main CR1 Failed
Ca	43	1	nogas	16.925	33.9	1267	8.7	100	
Ca	44	1	nogas	-43.695	-34.9	105539	2.3	100	
Fe	56	1	nogas	17.992	29.9	1239143	4.8	100	
Se	77	1	nogas	-34.582	-19.3	55244	4.0	2.5	
Se	82	1	nogas	0.106	308.5	477	11.6	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.224	34.3	1060	25.9	2.5	
Sn	118	1	nogas	0.126	46.7	2220	16.4	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.130	13.3	640	10.2	2.5	
Sb	121	2	He	0.838	17.7	1170	14.6	2.5	
P	31	1	nogas	-0.586	-435.1	65611	0.6	10	
La	139	1	nogas	-1.192	-1676.7	157	36.3	2.5	
Au	197	1	nogas	5.463	2314.7	13	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	432567	1.76	424595	101.88	70	125	
Ge	72	1	nogas	1720222	2.77	1760485	97.71	70	125	
In	115	1	nogas	1853717	3.11	1841567	100.66	70	125	
Bi	209	1	nogas	1627948	3.86	1714556	94.95	70	125	
Ge	72	2	He	142587	2.52	144534	98.65	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	056_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:31:22-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.720	0.470	306532	1.02	100	98.7	90	110	
Na	23	1	nogas	10079.423	3.562	139722791	0.44	10000	100.8	90	110	
Mg	24	1	nogas	10083.811	5.325	94133963	1.66	10000	100.8	90	110	
Al	27	1	nogas	97.294	3.931	1278004	1.12	100	97.3	90	110	
K	39	1	nogas	9464.174	5.663	106149963	3.86	10000	94.6	90	110	
Ti	47	1	nogas	93.244	3.895	103892	1.70	100	93.2	90	110	
V	51	1	nogas	80.602	5.609	2551570	1.28	100	80.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.989	4.384	1388238	1.74	100	96.0	90	110	
Mn	55	1	nogas	96.076	2.485	1679225	0.36	100	96.1	90	110	
Co	59	1	nogas	96.645	1.844	1470232	2.38	100	96.6	90	110	
Ni	60	1	nogas	97.062	2.960	326777	0.51	100	97.1	90	110	
Cu	63	1	nogas	97.806	3.082	816501	1.24	100	97.8	90	110	
Zn	66	1	nogas	100.834	1.913	269423	2.19	100	100.8	90	110	
As	75	1	nogas	80.973	6.501	448267	2.03	100	81.0	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.387	3.044	1763764	0.94	100	95.4	90	110	
Ag	107	1	nogas	92.713	2.991	996680	1.28	100	92.7	90	110	
Cd	111	1	nogas	96.255	3.720	209340	3.29	100	96.3	90	110	
Sb	121	1	nogas	101.314	2.960	905641	0.51	100	101.3	90	110	
Tl	205	1	nogas	99.041	1.747	1739346	2.28	100	99.0	90	110	
Pb	208	1	nogas	88.732	0.948	2404237	0.95	100	88.7	90	110	CCV Main CR1-2 Failed
U	238	1	nogas	103.584	3.958	2531684	1.08	100	103.6	90	110	
[Pb]	206	1	nogas	98.137	5.414	591721	1.52	100	98.1	90	110	
[Pb]	207	1	nogas	99.603	4.141	538727	0.92	100	99.6	90	110	
Na	23	2	He	9400.320	4.288	2605207	2.05	10000	94.0	90	110	
Mg	24	2	He	9414.782	3.554	1232258	1.50	10000	94.1	90	110	
Al	27	2	He	95.858	5.182	4014	2.73	100	95.9	90	110	
K	39	2	He	8737.705	2.324	661424	2.27	10000	87.4	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8638.310	7.531	2147	8.99	10000	86.4	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9470.416	0.728	38484	2.56	10000	94.7	90	110	
V	51	2	He	94.148	1.093	137962	1.27	100	94.1	90	110	
Cr	52	2	He	93.369	1.232	184239	1.42	100	93.4	90	110	
Mn	55	2	He	95.606	2.230	73366	1.72	100	95.6	90	110	
Fe	56	2	He	9559.284	4.796	14861644	2.54	10000	95.6	90	110	
Co	59	2	He	94.872	4.590	313603	2.27	100	94.9	90	110	
Ni	60	2	He	96.362	4.797	90668	2.62	100	96.4	90	110	
Cu	63	2	He	95.073	2.633	249170	2.83	100	95.1	90	110	
Zn	66	2	He	106.339	3.264	38872	2.89	100	106.3	90	110	
As	75	2	He	94.779	3.472	24717	1.18	100	94.8	90	110	
Se	78	2	He	92.332	3.476	987	2.24	100	92.3	90	110	
B	11	1	nogas	475.320	1.399	1103955	1.45	500	95.1	90	110	
Si	28	1	nogas	5064.433	4.353	27766868	1.74	5000	101.3	90	110	
Ca	43	1	nogas	9392.875	3.202	207005	1.19	10000	93.9	90	110	
Ca	44	1	nogas	9342.809	1.925	3363167	0.93	10000	93.4	90	110	
Fe	56	1	nogas	9420.456	1.774	156650599	1.27	10000	94.2	90	110	
Se	77	1	nogas	39.560	39.503	70239	2.82	100	39.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.036	2.806	15267	3.25	100	98.0	90	110	
Mo	95	1	nogas	96.686	4.394	378808	1.64	100	96.7	90	110	
Sn	118	1	nogas	97.580	2.002	587930	2.27	100	97.6	90	110	
Ba	137	1	nogas	96.965	1.565	280436	1.97	100	97.0	90	110	
Sb	121	2	He	105.366	2.659	107672	0.89	100	105.4	90	110	
Li	7	1	nogas	97.562	2.147	775855	2.50	100	97.6	90	110	
P	31	1	nogas	457.939	4.282	420627	0.89	500	91.6	90	110	
La	139	1	nogas	118.433	13.587	483	9.56	100	118.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-13.030	-414.523	10	100.00	100	-13.0	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	nogas	387843	0.55	424595	91.34	70	125	
Ge	72	1	nogas	1685809	2.80	1760485	95.76	70	125	
In	115	1	nogas	1738585	1.15	1841567	94.41	70	125	
Bi	209	1	nogas	1545953	3.86	1714556	90.17	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	136118	2.38	144534	94.18	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	057_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:33:19-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.050	36.1	277	22.1	1	
Na	23	1	nogas	68.335	5.1	2399837	1.2	100	
Mg	24	1	nogas	5.504	46.3	61889	39.3	100	
Al	27	1	nogas	-0.497	-6.5	23198	2.1	5	
K	39	1	nogas	33.170	44.7	5435102	0.5	100	
Ti	47	1	nogas	0.169	84.7	380	39.5	2.5	
V	51	1	nogas	-14.939	-24.2	912024	4.1	2.5	
Cr	52	1	nogas	-0.299	-28.6	28879	1.1	2.5	
Mn	55	1	nogas	0.291	1.9	14803	2.6	2.5	
Co	59	1	nogas	0.057	32.5	1167	26.8	2.5	
Ni	60	1	nogas	-0.036	-77.6	1727	7.0	2.5	
Cu	63	1	nogas	0.161	20.5	5618	1.8	2.5	
Zn	66	1	nogas	1.652	4.2	6571	3.1	2.5	
As	75	1	nogas	-10.550	-33.2	159895	4.3	2.5	
Sr	88	1	nogas	0.040	45.8	1937	20.1	2.5	
Ag	107	1	nogas	0.054	24.7	1117	15.8	2.5	
Cd	111	1	nogas	0.038	36.9	120	25.0	1	
Sb	121	1	nogas	1.705	15.2	16999	16.0	2.5	
Tl	205	1	nogas	0.169	34.1	3564	31.9	1	
Pb	208	1	nogas	0.081	49.0	3464	31.2	2.5	
U	238	1	nogas	0.060	42.1	1670	41.0	2.5	
[Pb]	206	1	nogas	0.079	52.1	877	31.6	2.5	
[Pb]	207	1	nogas	0.088	47.2	773	32.5	2.5	
Na	23	2	He	63.655	6.7	60339	2.0	100	
Mg	24	2	He	3.408	37.7	720	23.2	100	
Al	27	2	He	-0.723	-116.7	93	37.6	5	
K	39	2	He	-1.079	-403.5	14076	2.3	100	
Ca	43	2	He	27.048	146.2	10	100.0	100	
Ca	44	2	He	-18.878	-34.7	130	20.4	100	
V	51	2	He	0.775	6.0	526	12.9	2.5	
Cr	52	2	He	-0.008	-598.6	1313	7.4	2.5	
Mn	55	2	He	0.220	5.8	297	3.9	2.5	
Fe	56	2	He	2.572	17.7	8642	8.3	100	
Co	59	2	He	0.017	28.3	117	13.1	2.5	
Ni	60	2	He	0.683	12.5	230	35.6	2.5	
Cu	63	2	He	0.843	8.7	1287	14.9	2.5	
Zn	66	2	He	1.897	2.1	1063	2.0	2.5	
As	75	2	He	0.092	42.3	51	19.9	2.5	
Se	78	2	He	1.055	17.2	4	50.0	2.5	
B	11	1	nogas	6.932	40.7	114026	3.7	10	
Si	28	1	nogas	25.966	27.0	1823952	2.0	5	CCB Main CR1 Failed
Ca	43	1	nogas	1.753	224.5	900	12.6	100	
Ca	44	1	nogas	-73.701	-5.9	91904	1.5	100	
Fe	56	1	nogas	4.537	18.1	980959	3.6	100	
Se	77	1	nogas	-42.959	-42.9	51587	5.4	2.5	
Se	82	1	nogas	0.223	230.9	480	18.5	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.143	48.6	723	40.6	2.5	
Sn	118	1	nogas	0.064	35.4	1747	6.4	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.021	140.3	290	29.9	2.5	
Sb	121	2	He	1.236	8.0	1553	7.2	2.5	
P	31	1	nogas	-1.100	-288.9	63085	1.3	10	
La	139	1	nogas	-16.608	-13.0	107	5.4	2.5	
Au	197	1	nogas	18.058	435.8	17	91.7	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	412860	2.94	424595	97.24	70	125	
Ge	72	1	nogas	1664684	3.08	1760485	94.56	70	125	
In	115	1	nogas	1775830	1.47	1841567	96.43	70	125	
Bi	209	1	nogas	1677200	0.97	1714556	97.82	70	125	
Ge	72	2	He	138837	0.61	144534	96.06	70	125	

Sample Report

Sample Table

Sample Name	MBLK-123627
Data File Name	058SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:35:20-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.004	0.004	325.94	137	0.00	2000	
Na	23	1	nogas	56.114	56.114	13.13	2349370	0.00	200000	
Mg	24	1	nogas	12.482	12.482	8.05	136921	0.01	200000	
Al	27	1	nogas	2.791	2.791	3.63	70248	0.00	2000	
K	39	1	nogas	384.074	384.074	1.43	9894583	0.00	200000	
Ti	47	1	nogas	-0.013	-0.013	-309.05	197	-0.01	2000	
V	51	1	nogas	-24.449	-24.449	-5.06	815443	0.00	2000	
Cr	52	1	nogas	-0.497	-0.497	-4.92	28299	0.00	2000	
Mn	55	1	nogas	-0.079	-0.079	-49.29	9162	0.00	2000	
Co	59	1	nogas	0.005	0.005	113.93	413	0.00	2000	
Ni	60	1	nogas	-0.137	-0.137	-12.76	1507	-0.01	2000	
Cu	63	1	nogas	0.195	0.195	22.67	6391	0.00	2000	
Zn	66	1	nogas	1.368	1.368	6.30	6311	0.02	2000	
As	75	1	nogas	-20.802	-20.802	-8.80	139037	-0.01	2000	
Sr	88	1	nogas	0.174	0.174	13.74	4737	0.00	2000	
Ag	107	1	nogas	0.003	0.003	107.71	617	0.00	2000	
Cd	111	1	nogas	-0.006	-0.006	-31.98	23	-0.03	2000	
Sb	121	1	nogas	0.423	0.423	12.72	6141	0.01	2000	
Tl	205	1	nogas	0.013	0.013	49.82	593	0.00	2000	
Pb	208	1	nogas	0.136	0.136	16.43	4714	0.00	2000	
U	238	1	nogas	0.005	0.005	10.45	220	0.00	2000	
[Pb]	206	1	nogas	0.125	0.125	11.69	1227	0.01	2000	
[Pb]	207	1	nogas	0.116	0.116	12.97	973	0.01	2000	
Na	23	2	He	59.169	59.169	6.71	61884	0.10	200000	
Mg	24	2	He	13.934	13.934	4.56	2227	0.63	200000	
Al	27	2	He	1.941	1.941	17.78	213	0.91	2000	
K	39	2	He	379.816	379.816	1.56	42291	0.90	200000	
Ca	43	2	He	50.359	50.359	43.35	17	302.15	200000	
Ca	44	2	He	22.923	22.923	33.02	317	7.24	200000	
V	51	2	He	0.721	0.721	2.39	466	0.15	2000	
Cr	52	2	He	0.039	0.039	193.80	1473	0.00	2000	
Mn	55	2	He	0.024	0.024	183.87	150	0.02	2000	
Fe	56	2	He	1.965	1.965	10.73	8042	0.02	200000	
Co	59	2	He	-0.001	-0.001	-1635.84	60	0.00	2000	
Ni	60	2	He	0.729	0.729	6.74	287	0.25	2000	
Cu	63	2	He	0.888	0.888	9.92	1473	0.06	2000	
Zn	66	2	He	0.872	0.872	19.53	717	0.12	2000	
As	75	2	He	-0.033	-0.033	-76.92	19	-0.17	2000	
Se	78	2	He	1.271	1.271	20.87	7	19.06	2000	
B	11	1	nogas	53.071	53.071	7.49	235553	0.02	2000	

Sample Report

Si	28	1	nogas	25.762	25.762	26.48	1974178	0.00	2000	
Ca	43	1	nogas	36.008	36.008	9.98	1777	2.03	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ca	44	1	nogas	-64.852	-64.852	-6.18	102821	-0.06	200000	
Fe	56	1	nogas	-1.932	-1.932	-43.11	947656	0.00	200000	
Se	77	1	nogas	-86.020	-86.020	-10.58	45895	-0.19	2000	
Se	82	1	nogas	0.027	0.027	3074.40	487	0.01	2000	
Mo	95	1	nogas	0.120	0.120	23.21	680	0.02	2000	
Sn	118	1	nogas	-0.109	-0.109	-3.98	750	-0.01	2000	
Ba	137	1	nogas	0.037	0.037	36.56	370	0.01	2000	
Sb	121	2	He	0.429	0.429	20.06	747	0.06	2000	
La	139	1	nogas	-34.683	-34.683	-24.91	60	-57.81	2000	
Au	197	1	nogas	131.826	131.826	101.72	40	329.56	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	445100	2.80	424595	104.83	70	125	
Ge	72	1	nogas	1802318	0.27	1760485	102.38	70	125	
In	115	1	nogas	1945063	3.10	1841567	105.62	70	125	
Bi	209	1	nogas	1743618	2.91	1714556	101.69	70	125	
Ge	72	2	He	145400	0.23	144534	100.60	70	125	

Sample Report

Sample Table

Sample Name	LCS-123627
Data File Name	059SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:37:21-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	46.007	46.007	4.43	165238	0.03	2000	
Na	23	1	nogas	4366.000	4366.000	3.92	72986816	0.01	200000	
Mg	24	1	nogas	4520.256	4520.256	3.56	50277700	0.01	200000	
Al	27	1	nogas	83.408	83.408	2.73	1248101	0.01	2000	
K	39	1	nogas	4425.086	4425.086	5.55	59403337	0.01	200000	
Ti	47	1	nogas	44.707	44.707	1.45	56657	0.08	2000	
V	51	1	nogas	22.617	22.617	15.46	1774965	0.00	2000	
Cr	52	1	nogas	44.064	44.064	2.54	743980	0.01	2000	
Mn	55	1	nogas	46.469	46.469	2.93	927262	0.01	2000	
Co	59	1	nogas	45.833	45.833	3.45	790841	0.01	2000	
Ni	60	1	nogas	47.316	47.316	3.29	181800	0.03	2000	
Cu	63	1	nogas	46.728	46.728	4.62	444977	0.01	2000	
Zn	66	1	nogas	48.666	48.666	2.30	148836	0.03	2000	
As	75	1	nogas	22.867	22.867	14.00	302421	0.01	2000	
Sr	88	1	nogas	0.033	0.033	24.51	2080	0.00	2000	
Ag	107	1	nogas	45.604	45.604	5.50	556171	0.01	2000	
Cd	111	1	nogas	46.917	46.917	1.92	117562	0.04	2000	
Sb	121	1	nogas	51.381	51.381	4.31	522021	0.01	2000	
Tl	205	1	nogas	45.797	45.797	0.49	947025	0.00	2000	
Pb	208	1	nogas	52.482	52.482	0.79	1337985	0.00	2000	
U	238	1	nogas	0.002	0.002	50.63	160	0.00	2000	
[Pb]	206	1	nogas	46.484	46.484	1.12	330492	0.01	2000	
[Pb]	207	1	nogas	46.656	46.656	0.81	297400	0.02	2000	
Na	23	2	He	4588.859	4588.859	1.36	1471254	0.31	200000	
Mg	24	2	He	4480.047	4480.047	0.37	667277	0.67	200000	
Al	27	2	He	74.228	74.228	10.06	3567	2.08	2000	
K	39	2	He	4695.127	4695.127	1.93	361960	1.30	200000	
Ca	43	2	He	3698.130	3698.130	5.57	1047	353.31	200000	
Ca	44	2	He	4390.403	4390.403	1.83	20411	21.51	200000	
V	51	2	He	45.611	45.611	0.96	75650	0.06	2000	
Cr	52	2	He	45.827	45.827	0.89	103604	0.04	2000	
Mn	55	2	He	45.706	45.706	6.84	39944	0.11	2000	
Fe	56	2	He	4399.724	4399.724	5.05	7783346	0.06	200000	
Co	59	2	He	44.811	44.811	4.65	168528	0.03	2000	
Ni	60	2	He	46.030	46.030	2.06	49033	0.09	2000	
Cu	63	2	He	46.966	46.966	1.55	139429	0.03	2000	
Zn	66	2	He	51.525	51.525	4.18	21636	0.24	2000	
As	75	2	He	46.084	46.084	3.60	13685	0.34	2000	
Se	78	2	He	47.789	47.789	8.04	577	8.29	2000	
B	11	1	nogas	431.916	431.916	4.62	1169614	0.04	2000	
Si	28	1	nogas	4801.975	4801.975	2.93	29976329	0.02	2000	>LDR
Ca	43	1	nogas	4341.448	4341.448	3.04	109081	3.98	200000	
Ca	44	1	nogas	4346.321	4346.321	3.02	1846706	0.24	200000	
Fe	56	1	nogas	4507.211	4507.211	5.02	85516716	0.01	200000	

Sample Report

Se	77	1	nogas	-52.310	-52.310	-25.95	56983	-0.09	2000	
Se	82	1	nogas	45.676	45.676	6.31	8345	0.55	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	46.914	46.914	2.72	208709	0.02	2000	
Sn	118	1	nogas	-0.112	-0.112	-11.15	757	-0.01	2000	
Ba	137	1	nogas	46.491	46.491	2.77	154982	0.03	2000	
Sb	121	2	He	52.445	52.445	1.63	61114	0.09	2000	
La	139	1	nogas	-14.444	-14.444	-93.97	127	-11.40	2000	
Au	197	1	nogas	43.320	43.320	126.83	23	185.66	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	448685	2.05	424595	105.67	70	125	
Ge	72	1	nogas	1912747	3.26	1760485	108.65	70	125	
In	115	1	nogas	2003113	2.58	1841567	108.77	70	125	
Bi	209	1	nogas	1819215	0.85	1714556	106.10	70	125	
Ge	72	2	He	154782	1.28	144534	107.09	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-07SD
Data File Name	062SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:43:26-06:00
Sample Type	Sample
Dilution	5
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	-0.004	-0.018	-504.33	100	0.00	2000	
Na	23	1	nogas	33738.809	168694.046	6.24	497417144	0.01	200000	
Mg	24	1	nogas	737.307	3686.533	4.09	7384578	0.01	200000	
Al	27	1	nogas	3.629	18.143	85.44	81402	0.00	2000	
K	39	1	nogas	15662.891	78314.455	2.11	182508258	0.01	200000	
Ti	47	1	nogas	0.135	0.674	39.70	370	0.04	2000	
V	51	1	nogas	-26.861	-134.303	-5.07	764482	0.00	2000	
Cr	52	1	nogas	-0.587	-2.936	-12.87	26700	0.00	2000	
Mn	55	1	nogas	1.132	5.661	4.91	31344	0.00	2000	
Co	59	1	nogas	0.010	0.048	74.38	473	0.00	2000	
Ni	60	1	nogas	0.329	1.646	26.12	3144	0.01	2000	
Cu	63	1	nogas	0.333	1.663	7.99	7535	0.00	2000	
Zn	66	1	nogas	1.351	6.754	16.48	6191	0.02	2000	
As	75	1	nogas	-20.383	-101.917	-3.25	139120	-0.01	2000	
Sr	88	1	nogas	149.193	745.965	1.26	2921452	0.01	2000	
Ag	107	1	nogas	-0.013	-0.065	-28.33	433	0.00	2000	
Cd	111	1	nogas	-0.002	-0.010	-147.07	33	-0.01	2000	
Sb	121	1	nogas	0.244	1.222	4.70	4394	0.01	2000	
Tl	205	1	nogas	0.004	0.020	143.18	410	0.00	2000	
Pb	208	1	nogas	-0.016	-0.081	-43.44	847	0.00	2000	
U	238	1	nogas	0.003	0.014	38.30	163	0.00	2000	
[Pb]	206	1	nogas	-0.028	-0.142	-41.11	177	-0.02	2000	
[Pb]	207	1	nogas	-0.015	-0.074	-85.78	173	-0.01	2000	
Na	23	2	He	32588.586	162942.932	2.97	9694066	0.34	200000	
Mg	24	2	He	698.757	3493.785	2.78	99548	0.70	200000	
Al	27	2	He	1.941	9.703	9.49	217	0.90	2000	
K	39	2	He	15470.817	77354.083	0.43	1160198	1.33	200000	
Ca	43	2	He	1547.326	7736.630	12.77	420	368.40	200000	
Ca	44	2	He	1200.914	6004.572	6.88	5488	21.88	200000	
V	51	2	He	0.712	3.562	4.88	460	0.15	2000	
Cr	52	2	He	-0.019	-0.097	-315.67	1373	0.00	2000	
Mn	55	2	He	1.048	5.238	8.05	1003	0.10	2000	
Fe	56	2	He	43.407	217.037	0.58	78129	0.06	200000	
Co	59	2	He	0.010	0.050	47.48	100	0.01	2000	
Ni	60	2	He	0.785	3.927	9.33	350	0.22	2000	
Cu	63	2	He	0.812	4.061	3.23	1280	0.06	2000	
Zn	66	2	He	1.154	5.770	24.41	840	0.14	2000	
As	75	2	He	0.289	1.444	18.14	110	0.26	2000	
Se	78	2	He	0.749	3.746	13.39	1	112.37	2000	
B	11	1	nogas	24.603	123.015	4.44	153583	0.02	2000	
Si	28	1	nogas	639.386	3196.930	4.30	5297444	0.01	2000	
Ca	43	1	nogas	713.675	3568.376	3.36	17522	4.07	200000	
Ca	44	1	nogas	624.376	3121.882	5.90	355127	0.18	200000	
Fe	56	1	nogas	49.603	248.014	5.69	1840181	0.00	200000	

Sample Report

Se	77	1	nogas	-83.027	-415.133	-5.18	46162	-0.18	2000	
Se	82	1	nogas	0.158	0.788	190.76	503	0.03	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.373	1.865	9.99	1723	0.02	2000	
Sn	118	1	nogas	-0.047	-0.236	-48.38	1143	0.00	2000	
Ba	137	1	nogas	14.721	73.603	2.62	46861	0.03	2000	
Sb	121	2	He	0.271	1.355	30.78	583	0.05	2000	
La	139	1	nogas	-4.201	-21.006	-405.97	153	-2.74	2000	
Au	197	1	nogas	0.204	1.021	37601.53	13	1.53	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	411338	0.92	424595	96.88	70	125	
Ge	72	1	nogas	1784943	2.64	1760485	101.39	70	125	
In	115	1	nogas	1905985	2.54	1841567	103.50	70	125	
Bi	209	1	nogas	1707882	2.62	1714556	99.61	70	125	
Ge	72	2	He	147728	1.36	144534	102.21	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-07MS
Data File Name	063SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:45:27-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	59.725	59.725	6.08	149530	0.04	2000	
Na	23	1	nogas	163022.264	163022.264	5.75	2394400987	0.01	200000	
Mg	24	1	nogas	7862.412	7862.412	3.88	78548179	0.01	200000	
Al	27	1	nogas	85.631	85.631	3.24	1157066	0.01	2000	
K	39	1	nogas	81214.627	81214.627	1.58	893982320	0.01	200000	
Ti	47	1	nogas	45.459	45.459	0.54	52037	0.09	2000	
V	51	1	nogas	17.420	17.420	7.62	1512526	0.00	2000	
Cr	52	1	nogas	42.107	42.107	2.37	643685	0.01	2000	
Mn	55	1	nogas	47.713	47.713	2.29	859952	0.01	2000	
Co	59	1	nogas	44.400	44.400	2.71	692334	0.01	2000	
Ni	60	1	nogas	46.165	46.165	2.59	160333	0.03	2000	
Cu	63	1	nogas	46.183	46.183	0.65	397604	0.01	2000	
Zn	66	1	nogas	48.218	48.218	1.26	133258	0.04	2000	
As	75	1	nogas	22.435	22.435	6.98	271893	0.01	2000	
Sr	88	1	nogas	738.959	738.959	1.32	13999160	0.01	2000	
Ag	107	1	nogas	42.771	42.771	1.35	471697	0.01	2000	
Cd	111	1	nogas	45.603	45.603	2.41	102579	0.04	2000	
Sb	121	1	nogas	49.413	49.413	1.15	453851	0.01	2000	
Tl	205	1	nogas	43.431	43.431	2.77	792142	0.01	2000	
Pb	208	1	nogas	44.762	44.762	2.15	1141366	0.00	2000	
U	238	1	nogas	0.011	0.011	33.50	363	0.00	2000	
[Pb]	206	1	nogas	45.241	45.241	1.81	283751	0.02	2000	
[Pb]	207	1	nogas	45.121	45.121	0.51	253780	0.02	2000	
Na	23	2	He	166764.590	166764.590	2.55	46160268	0.36	200000	
Mg	24	2	He	7761.244	7761.244	2.24	1030105	0.75	200000	
Al	27	2	He	88.175	88.175	2.61	3754	2.35	2000	
K	39	2	He	77067.159	77067.159	0.87	5723112	1.35	200000	
Ca	43	2	He	11848.982	11848.982	5.45	2980	397.58	200000	
Ca	44	2	He	10114.066	10114.066	1.80	41631	24.29	200000	
V	51	2	He	45.088	45.088	1.06	66637	0.07	2000	
Cr	52	2	He	44.367	44.367	0.48	89429	0.05	2000	
Mn	55	2	He	48.195	48.195	1.77	37552	0.13	2000	
Fe	56	2	He	4561.081	4561.081	1.35	7193916	0.06	200000	
Co	59	2	He	44.963	44.963	4.31	150757	0.03	2000	
Ni	60	2	He	45.543	45.543	2.20	43228	0.11	2000	
Cu	63	2	He	46.242	46.242	4.56	122322	0.04	2000	
Zn	66	2	He	51.574	51.574	2.61	19297	0.27	2000	
As	75	2	He	47.617	47.617	2.68	12606	0.38	2000	
Se	78	2	He	44.221	44.221	6.01	475	9.30	2000	
B	11	1	nogas	735.453	735.453	7.82	1335701	0.06	2000	
Si	28	1	nogas	7977.300	7977.300	2.16	43836281	0.02	2000	>LDR
Ca	43	1	nogas	7910.043	7910.043	2.72	178862	4.42	200000	
Ca	44	1	nogas	7875.481	7875.481	1.86	2924948	0.27	200000	
Fe	56	1	nogas	4407.196	4407.196	3.15	75608654	0.01	200000	

Sample Report

Se	77	1	nogas	-55.837	-55.837	-10.85	50724	-0.11	2000	
Se	82	1	nogas	46.960	46.960	0.36	7735	0.61	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	46.884	46.884	1.86	188447	0.02	2000	
Sn	118	1	nogas	-0.094	-0.094	-24.20	790	-0.01	2000	
Ba	137	1	nogas	119.511	119.511	1.03	357242	0.03	2000	
Sb	121	2	He	52.718	52.718	1.24	54746	0.10	2000	
La	139	1	nogas	105.854	105.854	8.61	463	22.85	2000	
Au	197	1	nogas	22.790	22.790	280.72	17	136.74	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	313160	4.03	424595	73.75	70	125	
Ge	72	1	nogas	1727375	0.55	1760485	98.12	70	125	
In	115	1	nogas	1797274	1.21	1841567	97.59	70	125	
Bi	209	1	nogas	1604995	1.63	1714556	93.61	70	125	
Ge	72	2	He	137941	0.96	144534	95.44	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-07MSD
Data File Name	064SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:47:27-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	58.824	58.824	2.16	143220	0.04	2000	
Na	23	1	nogas	162296.712	162296.712	5.29	2244155317	0.01	200000	
Mg	24	1	nogas	7681.339	7681.339	1.18	72278220	0.01	200000	
Al	27	1	nogas	85.668	85.668	1.33	1125856	0.01	2000	
K	39	1	nogas	76969.749	76969.749	2.25	824447918	0.01	200000	
Ti	47	1	nogas	43.831	43.831	3.58	48799	0.09	2000	
V	51	1	nogas	17.026	17.026	14.57	1464342	0.00	2000	
Cr	52	1	nogas	41.501	41.501	1.42	617594	0.01	2000	
Mn	55	1	nogas	46.923	46.923	1.69	822838	0.01	2000	
Co	59	1	nogas	43.683	43.683	1.62	662667	0.01	2000	
Ni	60	1	nogas	46.225	46.225	1.46	156154	0.03	2000	
Cu	63	1	nogas	45.768	45.768	0.63	383310	0.01	2000	
Zn	66	1	nogas	47.690	47.690	1.33	128221	0.04	2000	
As	75	1	nogas	21.837	21.837	8.70	262579	0.01	2000	
Sr	88	1	nogas	684.402	684.402	3.56	12609024	0.01	2000	
Ag	107	1	nogas	42.066	42.066	2.22	451244	0.01	2000	
Cd	111	1	nogas	44.465	44.465	1.38	97111	0.05	2000	
Sb	121	1	nogas	50.308	50.308	1.25	449428	0.01	2000	
Tl	205	1	nogas	41.796	41.796	1.35	752546	0.01	2000	
Pb	208	1	nogas	43.496	43.496	0.98	1109099	0.00	2000	
U	238	1	nogas	0.009	0.009	38.59	310	0.00	2000	
[Pb]	206	1	nogas	43.510	43.510	1.43	269351	0.02	2000	
[Pb]	207	1	nogas	44.252	44.252	1.23	245601	0.02	2000	
Na	23	2	He	153620.728	153620.728	4.60	42620830	0.36	200000	
Mg	24	2	He	7403.072	7403.072	3.26	984928	0.75	200000	
Al	27	2	He	91.835	91.835	7.56	3914	2.35	2000	
K	39	2	He	73125.952	73125.952	1.45	5431156	1.35	200000	
Ca	43	2	He	11024.924	11024.924	4.88	2784	396.07	200000	
Ca	44	2	He	10025.069	10025.069	1.20	41387	24.22	200000	
V	51	2	He	44.284	44.284	2.84	65603	0.07	2000	
Cr	52	2	He	43.271	43.271	1.24	87494	0.05	2000	
Mn	55	2	He	47.704	47.704	2.43	37278	0.13	2000	
Fe	56	2	He	4560.332	4560.332	1.33	7212839	0.06	200000	
Co	59	2	He	43.914	43.914	2.85	147638	0.03	2000	
Ni	60	2	He	44.619	44.619	6.93	42423	0.11	2000	
Cu	63	2	He	44.382	44.382	5.15	117624	0.04	2000	
Zn	66	2	He	49.936	49.936	4.23	18740	0.27	2000	
As	75	2	He	47.484	47.484	1.08	12604	0.38	2000	
Se	78	2	He	44.081	44.081	4.57	475	9.29	2000	
B	11	1	nogas	702.599	702.599	3.90	1244509	0.06	2000	
Si	28	1	nogas	7568.025	7568.025	2.52	40534248	0.02	2000	>LDR
Ca	43	1	nogas	7663.001	7663.001	2.14	168553	4.55	200000	
Ca	44	1	nogas	7489.935	7489.935	0.08	2711648	0.28	200000	
Fe	56	1	nogas	4350.064	4350.064	1.86	72617993	0.01	200000	

Sample Report

Se	77	1	nogas	-69.097	-69.097	-10.56	46466	-0.15	2000	
Se	82	1	nogas	45.573	45.573	5.48	7315	0.62	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	45.904	45.904	1.44	179472	0.03	2000	
Sn	118	1	nogas	-0.081	-0.081	-20.94	843	-0.01	2000	
Ba	137	1	nogas	114.759	114.759	1.18	333144	0.03	2000	
Sb	121	2	He	51.790	51.790	3.74	53924	0.10	2000	
La	139	1	nogas	115.357	115.357	15.06	477	24.20	2000	
Au	197	1	nogas	41.559	41.559	2.12	20	207.79	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	304121	1.68	424595	71.63	70	125	
Ge	72	1	nogas	1680238	1.15	1760485	95.44	70	125	
In	115	1	nogas	1745326	0.55	1841567	94.77	70	125	
Bi	209	1	nogas	1583926	0.81	1714556	92.38	70	125	
Ge	72	2	He	138356	2.62	144534	95.73	70	125	

Sample Report

Sample Table

Sample Name	HS17120868-07PDS
Data File Name	065SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:49:29-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	101.401	101.401	2.25	249347	0.04	2000	
Na	23	1	nogas	166789.006	166789.006	2.57	2343738119	0.01	200000	
Mg	24	1	nogas	11489.754	11489.754	1.24	109802415	0.01	200000	
Al	27	1	nogas	76.613	76.613	5.63	1020499	0.01	2000	
K	39	1	nogas	82089.824	82089.824	2.73	888482787	0.01	200000	
Ti	47	1	nogas	77.315	77.315	1.51	86884	0.09	2000	
V	51	1	nogas	43.818	43.818	3.19	1940319	0.00	2000	
Cr	52	1	nogas	75.518	75.518	2.02	1108171	0.01	2000	
Mn	55	1	nogas	81.677	81.677	0.74	1440291	0.01	2000	
Co	59	1	nogas	78.000	78.000	1.45	1195758	0.01	2000	
Ni	60	1	nogas	80.044	80.044	1.57	271931	0.03	2000	
Cu	63	1	nogas	79.012	79.012	2.97	665550	0.01	2000	
Zn	66	1	nogas	82.237	82.237	2.38	221806	0.04	2000	
As	75	1	nogas	52.165	52.165	2.53	361069	0.01	2000	
Sr	88	1	nogas	713.294	713.294	5.08	13281906	0.01	2000	
Ag	107	1	nogas	74.220	74.220	2.04	804208	0.01	2000	
Cd	111	1	nogas	79.040	79.040	0.54	173097	0.05	2000	
Sb	121	1	nogas	82.372	82.372	1.22	742504	0.01	2000	
Tl	205	1	nogas	76.387	76.387	5.01	1385340	0.01	2000	
Pb	208	1	nogas	76.249	76.249	0.59	1943336	0.00	2000	
U	238	1	nogas	0.012	0.012	35.55	373	0.00	2000	
[Pb]	206	1	nogas	74.980	74.980	4.87	467384	0.02	2000	
[Pb]	207	1	nogas	76.426	76.426	3.95	427269	0.02	2000	
Na	23	2	He	163160.671	163160.671	1.02	44295438	0.37	200000	
Mg	24	2	He	10991.038	10991.038	3.18	1430363	0.77	200000	
Al	27	2	He	80.015	80.015	5.13	3354	2.39	2000	
K	39	2	He	76982.338	76982.338	1.14	5716828	1.35	200000	
Ca	43	2	He	15051.279	15051.279	1.85	3714	405.28	200000	
Ca	44	2	He	13614.969	13614.969	1.90	54908	24.80	200000	
V	51	2	He	79.565	79.565	2.39	115800	0.07	2000	
Cr	52	2	He	78.312	78.312	1.02	153829	0.05	2000	
Mn	55	2	He	82.026	82.026	0.85	62603	0.13	2000	
Fe	56	2	He	7898.757	7898.757	1.34	12217069	0.06	200000	
Co	59	2	He	78.899	78.899	2.34	259474	0.03	2000	
Ni	60	2	He	78.573	78.573	0.65	73464	0.11	2000	
Cu	63	2	He	78.340	78.340	2.67	203906	0.04	2000	
Zn	66	2	He	86.135	86.135	3.68	31364	0.27	2000	
As	75	2	He	84.218	84.218	2.25	21842	0.39	2000	
Se	78	2	He	75.666	75.666	3.32	803	9.43	2000	
B	11	1	nogas	159.036	159.036	2.38	341232	0.05	2000	
Si	28	1	nogas	3205.507	3205.507	4.43	18347018	0.02	2000	>LDR
Ca	43	1	nogas	11037.122	11037.122	2.38	244993	4.51	200000	
Ca	44	1	nogas	10876.076	10876.076	1.91	3925690	0.28	200000	
Fe	56	1	nogas	7776.527	7776.527	1.12	130482482	0.01	200000	

Sample Report

Se	77	1	nogas	-50.251	-50.251	-6.74	51109	-0.10	2000	
Se	82	1	nogas	78.491	78.491	2.03	12404	0.63	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	81.292	81.292	2.02	321124	0.03	2000	
Sn	118	1	nogas	-0.094	-0.094	-10.32	767	-0.01	2000	
Ba	137	1	nogas	153.748	153.748	1.71	447505	0.03	2000	
Sb	121	2	He	83.847	83.847	2.41	85241	0.10	2000	
La	139	1	nogas	148.358	148.358	39.96	570	26.03	2000	
Au	197	1	nogas	-31.126	-31.126	-202.63	7	-466.89	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	307166	0.65	424595	72.34	70	125	
Ge	72	1	nogas	1698383	1.38	1760485	96.47	70	125	
In	115	1	nogas	1750428	1.05	1841567	95.05	70	125	
Bi	209	1	nogas	1597615	3.78	1714556	93.18	70	125	
Ge	72	2	He	135307	1.40	144534	93.62	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	068_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:55:38-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	103.457	4.507	300707	1.02	100	103.5	90	110	
Na	23	1	nogas	9919.951	2.202	134606807	1.70	10000	99.2	90	110	
Mg	24	1	nogas	10099.219	2.642	92330404	3.34	10000	101.0	90	110	
Al	27	1	nogas	96.050	3.196	1229660	4.31	100	96.1	90	110	
K	39	1	nogas	9796.191	1.170	106857486	1.89	10000	98.0	90	110	
Ti	47	1	nogas	93.335	2.107	101291	2.30	100	93.3	90	110	
V	51	1	nogas	80.897	5.301	2489207	1.42	100	80.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	98.465	0.614	1386334	0.85	100	98.5	90	110	
Mn	55	1	nogas	101.104	1.573	1720656	2.96	100	101.1	90	110	
Co	59	1	nogas	98.860	2.229	1464330	3.08	100	98.9	90	110	
Ni	60	1	nogas	99.256	0.678	325396	0.92	100	99.3	90	110	
Cu	63	1	nogas	96.880	0.237	787714	1.29	100	96.9	90	110	
Zn	66	1	nogas	99.137	1.782	257899	0.42	100	99.1	90	110	
As	75	1	nogas	77.858	1.242	427114	1.72	100	77.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	97.603	1.682	1757510	1.44	100	97.6	90	110	
Ag	107	1	nogas	93.489	0.727	978717	0.74	100	93.5	90	110	
Cd	111	1	nogas	94.533	2.886	205376	0.60	100	94.5	90	110	
Sb	121	1	nogas	102.954	1.754	896150	0.54	100	103.0	90	110	
Tl	205	1	nogas	95.582	1.168	1699644	0.19	100	95.6	90	110	
Pb	208	1	nogas	94.088	3.699	2397691	3.70	100	94.1	90	110	
U	238	1	nogas	99.758	0.518	2470266	0.67	100	99.8	90	110	
[Pb]	206	1	nogas	95.706	2.727	584836	2.15	100	95.7	90	110	
[Pb]	207	1	nogas	97.337	4.094	533379	3.74	100	97.3	90	110	
Na	23	2	He	9523.253	5.938	2627269	2.29	10000	95.2	90	110	
Mg	24	2	He	9541.520	3.968	1243860	0.91	10000	95.4	90	110	
Al	27	2	He	94.169	9.588	3927	6.63	100	94.2	90	110	
K	39	2	He	8627.518	2.066	653262	2.02	10000	86.3	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9639.377	9.251	2380	5.88	10000	96.4	90	110	
Ca	44	2	He	9572.276	4.233	38734	3.87	10000	95.7	90	110	
V	51	2	He	92.419	6.573	134742	3.04	100	92.4	90	110	
Cr	52	2	He	93.205	3.253	183253	4.30	100	93.2	90	110	
Mn	55	2	He	94.793	0.929	72496	3.53	100	94.8	90	110	
Fe	56	2	He	9573.615	2.484	14833750	1.93	10000	95.7	90	110	
Co	59	2	He	94.952	5.036	312600	1.70	100	95.0	90	110	
Ni	60	2	He	95.953	7.375	89864	3.89	100	96.0	90	110	
Cu	63	2	He	95.646	7.834	249354	4.46	100	95.6	90	110	
Zn	66	2	He	102.741	5.791	37392	2.35	100	102.7	90	110	
As	75	2	He	95.927	3.474	24938	4.94	100	95.9	90	110	
Se	78	2	He	90.926	8.117	967	4.85	100	90.9	90	110	
B	11	1	nogas	510.131	4.786	1102771	0.53	500	102.0	90	110	
Si	28	1	nogas	4988.472	1.847	26666535	2.07	5000	99.8	90	110	
Ca	43	1	nogas	9420.336	2.264	202158	0.84	10000	94.2	90	110	
Ca	44	1	nogas	9302.730	0.440	3261210	1.04	10000	93.0	90	110	
Fe	56	1	nogas	9884.800	1.942	160004162	2.28	10000	98.8	90	110	
Se	77	1	nogas	29.691	23.214	66344	3.62	100	29.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.540	2.980	14933	1.54	100	98.5	90	110	
Mo	95	1	nogas	96.857	1.279	369657	0.92	100	96.9	90	110	
Sn	118	1	nogas	96.761	1.016	582479	1.34	100	96.8	90	110	
Ba	137	1	nogas	96.109	2.832	277656	1.78	100	96.1	90	110	
Sb	121	2	He	103.515	4.086	105344	0.59	100	103.5	90	110	
Li	7	1	nogas	101.595	0.889	755740	3.85	100	101.6	90	110	
P	31	1	nogas	450.528	1.462	404100	1.66	500	90.1	90	110	
La	139	1	nogas	98.306	20.505	427	13.73	100	98.3	90	110	
Au	197	1	nogas	135.018	155.337	37	103.25	100	135.0	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	nogas	363487	3.95	424595	85.61	70	125	
Ge	72	1	nogas	1640992	1.44	1760485	93.21	70	125	
In	115	1	nogas	1737269	2.36	1841567	94.34	70	125	
Bi	209	1	nogas	1564792	1.01	1714556	91.27	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	135624	3.51	144534	93.84	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	069_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T12:57:34-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.057	6.5	303	5.0	1	
Na	23	1	nogas	130.355	3.5	3268508	2.1	100	CCB Main CR1 Failed
Mg	24	1	nogas	6.551	32.2	71791	28.8	100	
Al	27	1	nogas	-0.502	-6.4	23365	2.6	5	
K	39	1	nogas	56.913	10.1	5744261	0.3	100	
Ti	47	1	nogas	0.114	60.8	323	22.8	2.5	
V	51	1	nogas	-16.713	-13.5	891868	3.7	2.5	
Cr	52	1	nogas	-0.331	-16.6	28739	2.0	2.5	
Mn	55	1	nogas	0.355	9.3	16057	2.4	2.5	
Co	59	1	nogas	0.054	52.3	1120	38.6	2.5	
Ni	60	1	nogas	0.062	106.1	2067	9.9	2.5	
Cu	63	1	nogas	0.262	28.4	6518	9.6	2.5	
Zn	66	1	nogas	0.204	73.7	2814	15.1	2.5	
As	75	1	nogas	-11.544	-17.6	158564	4.0	2.5	
Sr	88	1	nogas	0.098	31.5	3024	19.1	2.5	
Ag	107	1	nogas	0.051	32.2	1093	15.7	2.5	
Cd	111	1	nogas	0.042	69.1	130	50.4	1	
Sb	121	1	nogas	1.260	15.1	13182	13.3	2.5	
Tl	205	1	nogas	0.195	42.7	3801	40.4	1	
Pb	208	1	nogas	0.058	50.0	2737	27.0	2.5	
U	238	1	nogas	0.061	51.3	1600	50.0	2.5	
[Pb]	206	1	nogas	0.061	59.4	713	32.5	2.5	
[Pb]	207	1	nogas	0.062	58.1	583	35.1	2.5	
Na	23	2	He	128.804	3.2	78200	0.9	100	CCB Main CR1 Failed
Mg	24	2	He	3.501	25.6	730	15.6	100	
Al	27	2	He	-0.955	-114.2	83	54.1	5	
K	39	2	He	41.119	14.4	17201	2.6	100	
Ca	43	2	He	40.387	113.6	13	86.6	100	
Ca	44	2	He	-9.791	-145.1	167	34.1	100	
V	51	2	He	0.813	2.8	581	5.2	2.5	
Cr	52	2	He	-0.089	-32.0	1147	4.5	2.5	
Mn	55	2	He	0.200	7.8	280	3.6	2.5	
Fe	56	2	He	2.946	9.3	9202	4.0	100	
Co	59	2	He	0.021	44.3	130	23.1	2.5	
Ni	60	2	He	0.646	5.0	193	15.8	2.5	
Cu	63	2	He	0.842	8.0	1280	14.5	2.5	
Zn	66	2	He	-0.175	-115.3	297	25.3	2.5	
As	75	2	He	0.025	264.3	33	52.9	2.5	
Se	78	2	He	1.422	46.2	8	90.1	2.5	
B	11	1	nogas	8.611	31.9	119019	3.5	10	
Si	28	1	nogas	36.386	10.6	1896021	1.7	5	CCB Main CR1 Failed
Ca	43	1	nogas	4.346	154.7	963	14.8	100	
Ca	44	1	nogas	-87.938	-3.3	87905	1.1	100	
Fe	56	1	nogas	6.030	40.7	1015106	3.8	100	
Se	77	1	nogas	-38.006	-35.2	53235	5.3	2.5	
Se	82	1	nogas	0.464	86.5	520	12.6	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.138	44.5	707	34.8	2.5	
Sn	118	1	nogas	0.067	84.1	1787	20.2	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.059	66.6	407	29.3	2.5	
Sb	121	2	He	1.052	8.6	1357	6.3	2.5	
P	31	1	nogas	-2.995	-36.8	62280	0.5	10	
La	139	1	nogas	-28.454	-25.5	73	28.4	2.5	
Au	197	1	nogas	-12.094	-458.0	10	100.0	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	nogas	417158	4.26	424595	98.25	70	125	
Ge	72	1	nogas	1681109	1.31	1760485	95.49	70	125	
In	115	1	nogas	1791228	0.75	1841567	97.27	70	125	
Bi	209	1	nogas	1567931	1.17	1714556	91.45	70	125	
Ge	72	2	He	138365	0.79	144534	95.73	70	125	

Sample Report

Sample Table

Sample Name	HS17120912-01
Data File Name	071SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:01:38-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.077	0.077	20.49	393	0.02	2000	
Na	23	1	nogas	12165.909	12165.909	4.70	186960342	0.01	200000	
Mg	24	1	nogas	2884.315	2884.315	5.34	29911522	0.01	200000	
Al	27	1	nogas	10.615	10.615	2.58	172979	0.01	2000	
K	39	1	nogas	449.024	449.024	1.58	10358179	0.00	200000	
Ti	47	1	nogas	1.210	1.210	20.12	1607	0.08	2000	
V	51	1	nogas	11.470	11.470	51.02	1431138	0.00	2000	
Cr	52	1	nogas	32.638	32.638	1.50	514829	0.01	2000	
Mn	55	1	nogas	64.272	64.272	4.13	1173403	0.01	2000	
Co	59	1	nogas	2.091	2.091	5.19	33421	0.01	2000	
Ni	60	1	nogas	88.942	88.942	4.72	312032	0.03	2000	
Cu	63	1	nogas	1.598	1.598	3.09	18356	0.01	2000	
Zn	66	1	nogas	5.447	5.447	3.64	17402	0.03	2000	
As	75	1	nogas	-11.013	-11.013	-21.80	167273	-0.01	2000	
Sr	88	1	nogas	137.937	137.937	1.76	2656231	0.01	2000	
Ag	107	1	nogas	0.014	0.014	64.85	727	0.00	2000	
Cd	111	1	nogas	0.112	0.112	6.46	293	0.04	2000	
Sb	121	1	nogas	0.376	0.376	3.41	5541	0.01	2000	
Tl	205	1	nogas	0.009	0.009	12.17	510	0.00	2000	
Pb	208	1	nogas	0.012	0.012	44.51	1557	0.00	2000	
U	238	1	nogas	0.301	0.301	4.50	8119	0.00	2000	
[Pb]	206	1	nogas	0.010	0.010	32.73	427	0.00	2000	
[Pb]	207	1	nogas	0.017	0.017	13.61	360	0.00	2000	
Na	23	2	He	11751.195	11751.195	3.10	3422312	0.34	200000	
Mg	24	2	He	2818.164	2818.164	3.75	388954	0.72	200000	
Al	27	2	He	11.541	11.541	29.63	623	1.85	2000	
K	39	2	He	433.715	433.715	1.34	46284	0.94	200000	
Ca	43	2	He	9924.602	9924.602	7.47	2597	382.17	200000	
Ca	44	2	He	10135.831	10135.831	3.01	43384	23.36	200000	
V	51	2	He	1.340	1.340	6.81	1417	0.09	2000	
Cr	52	2	He	32.545	32.545	2.59	68611	0.05	2000	
Mn	55	2	He	63.543	63.543	2.49	51436	0.12	2000	
Fe	56	2	He	617.366	617.366	2.24	1016555	0.06	200000	
Co	59	2	He	1.990	1.990	2.59	6998	0.03	2000	
Ni	60	2	He	83.527	83.527	4.72	82777	0.10	2000	
Cu	63	2	He	2.161	2.161	7.70	4977	0.04	2000	
Zn	66	2	He	5.277	5.277	1.85	2390	0.22	2000	
As	75	2	He	0.093	0.093	34.72	53	0.17	2000	
Se	78	2	He	1.512	1.512	46.27	9	16.20	2000	
B	11	1	nogas	167.306	167.306	10.94	512360	0.03	2000	
Si	28	1	nogas	18238.557	18238.557	1.36	99538389	0.02	2000	>LDR
Ca	43	1	nogas	10171.698	10171.698	2.83	233467	4.36	200000	
Ca	44	1	nogas	10002.766	10002.766	4.57	3741912	0.27	200000	
Fe	56	1	nogas	661.250	661.250	3.81	12339934	0.01	200000	

Sample Report

Se	77	1	nogas	-34.935	-34.935	-45.34	56274	-0.06	2000	
Se	82	1	nogas	3.645	3.645	27.60	1043	0.35	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.181	0.181	7.27	913	0.02	2000	
Sn	118	1	nogas	-0.082	-0.082	-18.58	880	-0.01	2000	
Ba	137	1	nogas	125.817	125.817	4.74	382436	0.03	2000	
Sb	121	2	He	0.334	0.334	25.46	637	0.05	2000	
La	139	1	nogas	702.042	702.042	1.47	2230	31.48	2000	
Au	197	1	nogas	17.925	17.925	435.20	17	107.55	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	442711	1.83	424595	104.27	70	125	
Ge	72	1	nogas	1755178	0.60	1760485	99.70	70	125	
In	115	1	nogas	1828746	2.08	1841567	99.30	70	125	
Bi	209	1	nogas	1688922	1.05	1714556	98.50	70	125	
Ge	72	2	He	143478	2.55	144534	99.27	70	125	

Sample Report

Sample Table

Sample Name	HS17120912-06
Data File Name	072SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:03:39-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.626	0.626	11.63	2200	0.03	2000	
Na	23	1	nogas	43168.056	43168.056	0.22	665572665	0.01	200000	
Mg	24	1	nogas	1761.295	1761.295	2.24	18441273	0.01	200000	
Al	27	1	nogas	1360.317	1360.317	2.00	17587104	0.01	2000	
K	39	1	nogas	342.178	342.178	1.22	8856838	0.00	200000	
Ti	47	1	nogas	15.792	15.792	4.55	17884	0.09	2000	
V	51	1	nogas	33.282	33.282	5.33	1756402	0.00	2000	
Cr	52	1	nogas	1.211	1.211	2.49	50890	0.00	2000	
Mn	55	1	nogas	81.803	81.803	1.40	1439760	0.01	2000	
Co	59	1	nogas	7.734	7.734	1.44	118606	0.01	2000	
Ni	60	1	nogas	4.798	4.798	4.27	18026	0.03	2000	
Cu	63	1	nogas	2.964	2.964	1.51	29154	0.01	2000	
Zn	66	1	nogas	8.944	8.944	4.91	26106	0.03	2000	
As	75	1	nogas	-3.311	-3.311	-48.49	185892	0.00	2000	
Sr	88	1	nogas	44.589	44.589	2.30	829964	0.01	2000	
Ag	107	1	nogas	0.018	0.018	58.40	743	0.00	2000	
Cd	111	1	nogas	0.094	0.094	54.61	247	0.04	2000	
Sb	121	1	nogas	0.230	0.230	15.15	4044	0.01	2000	
Tl	205	1	nogas	0.024	0.024	34.04	787	0.00	2000	
Pb	208	1	nogas	1.150	1.150	4.07	30545	0.00	2000	
U	238	1	nogas	0.539	0.539	4.39	14497	0.00	2000	
[Pb]	206	1	nogas	1.167	1.167	3.55	8065	0.01	2000	
[Pb]	207	1	nogas	0.993	0.993	5.05	6131	0.02	2000	
Na	23	2	He	43649.976	43649.976	4.80	12452320	0.35	200000	
Mg	24	2	He	1799.854	1799.854	4.02	245812	0.73	200000	
Al	27	2	He	1339.132	1339.132	3.35	56841	2.36	2000	
K	39	2	He	305.142	305.142	2.71	36760	0.83	200000	
Ca	43	2	He	2864.211	2864.211	4.41	743	385.30	200000	
Ca	44	2	He	2385.421	2385.421	3.07	10260	23.25	200000	
V	51	2	He	5.284	5.284	4.51	7455	0.07	2000	
Cr	52	2	He	1.456	1.456	3.72	4331	0.03	2000	
Mn	55	2	He	77.140	77.140	1.99	61734	0.12	2000	
Fe	56	2	He	1222.292	1222.292	1.69	1986330	0.06	200000	
Co	59	2	He	7.491	7.491	3.42	25879	0.03	2000	
Ni	60	2	He	5.185	5.185	5.36	4671	0.11	2000	
Cu	63	2	He	3.307	3.307	2.25	8072	0.04	2000	
Zn	66	2	He	8.909	8.909	11.59	3730	0.24	2000	
As	75	2	He	1.286	1.286	8.67	377	0.34	2000	
Se	78	2	He	1.876	1.876	18.77	13	14.07	2000	
B	11	1	nogas	71.590	71.590	5.18	263137	0.03	2000	
Si	28	1	nogas	34870.264	34870.264	4.47	182166337	0.02	2000	>LDR
Ca	43	1	nogas	2327.584	2327.584	4.22	52257	4.45	200000	
Ca	44	1	nogas	2387.305	2387.305	4.22	952904	0.25	200000	
Fe	56	1	nogas	1238.893	1238.893	1.78	21530745	0.01	200000	

Sample Report

Se	77	1	nogas	-10.733	-10.733	-64.61	59668	-0.02	2000	
Se	82	1	nogas	1.823	1.823	27.26	730	0.25	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.067	0.067	26.59	430	0.02	2000	
Sn	118	1	nogas	-0.043	-0.043	-27.92	1103	0.00	2000	
Ba	137	1	nogas	108.816	108.816	1.46	325237	0.03	2000	
Sb	121	2	He	0.145	0.145	49.20	427	0.03	2000	
La	139	1	nogas	38941.821	38941.821	1.38	113067	34.44	2000	>LDR
Au	197	1	nogas	17.872	17.872	594.22	17	107.23	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	416841	1.16	424595	98.17	70	125	
Ge	72	1	nogas	1695418	2.78	1760485	96.30	70	125	
In	115	1	nogas	1796938	0.96	1841567	97.58	70	125	
Bi	209	1	nogas	1690215	1.50	1714556	98.58	70	125	
Ge	72	2	He	141901	2.15	144534	98.18	70	125	

Sample Report

Sample Table

Sample Name	HS17120912-07
Data File Name	073SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:05:41-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.001	0.001	2805.12	97	0.00	2000	
Na	23	1	nogas	235621.266	235621.266	3.41	3426923943	0.01	200000	>LDR
Mg	24	1	nogas	5271.742	5271.742	2.63	52163227	0.01	200000	
Al	27	1	nogas	85.721	85.721	7.05	1135280	0.01	2000	
K	39	1	nogas	154697.782	154697.782	0.93	1665986471	0.01	200000	
Ti	47	1	nogas	0.452	0.452	32.37	703	0.06	2000	
V	51	1	nogas	-6.651	-6.651	-67.70	1070871	0.00	2000	
Cr	52	1	nogas	11.347	11.347	0.51	194790	0.01	2000	
Mn	55	1	nogas	24.103	24.103	2.02	431119	0.01	2000	
Co	59	1	nogas	0.138	0.138	4.72	2417	0.01	2000	
Ni	60	1	nogas	1.191	1.191	20.72	5884	0.02	2000	
Cu	63	1	nogas	0.848	0.848	11.18	11460	0.01	2000	
Zn	66	1	nogas	4.496	4.496	8.25	14252	0.03	2000	
As	75	1	nogas	-14.429	-14.429	-6.46	150747	-0.01	2000	
Sr	88	1	nogas	2082.393	2082.393	2.26	38693194	0.01	2000	>LDR
Ag	107	1	nogas	0.005	0.005	177.99	603	0.00	2000	
Cd	111	1	nogas	0.039	0.039	37.45	123	0.03	2000	
Sb	121	1	nogas	0.380	0.380	3.96	5391	0.01	2000	
Tl	205	1	nogas	-0.006	-0.006	-29.19	207	0.00	2000	
Pb	208	1	nogas	0.038	0.038	9.87	2233	0.00	2000	
U	238	1	nogas	0.322	0.322	3.54	8006	0.00	2000	
[Pb]	206	1	nogas	0.045	0.045	39.07	607	0.01	2000	
[Pb]	207	1	nogas	0.041	0.041	12.07	463	0.01	2000	
Na	23	2	He	226415.660	226415.660	2.71	63551612	0.36	200000	>LDR
Mg	24	2	He	5013.995	5013.995	3.06	675090	0.74	200000	
Al	27	2	He	78.149	78.149	1.49	3390	2.31	2000	
K	39	2	He	146908.592	146908.592	0.55	10896803	1.35	200000	
Ca	43	2	He	110208.354	110208.354	4.41	28095	392.27	200000	
Ca	44	2	He	108479.957	108479.957	1.52	450966	24.06	200000	
V	51	2	He	1.883	1.883	0.91	2207	0.09	2000	
Cr	52	2	He	11.755	11.755	1.87	25021	0.05	2000	
Mn	55	2	He	24.880	24.880	4.23	19721	0.13	2000	
Fe	56	2	He	43.660	43.660	4.00	74394	0.06	200000	
Co	59	2	He	0.024	0.024	68.50	143	0.02	2000	
Ni	60	2	He	1.100	1.100	3.68	637	0.17	2000	
Cu	63	2	He	1.208	1.208	4.65	2284	0.05	2000	
Zn	66	2	He	4.271	4.271	8.15	1957	0.22	2000	
As	75	2	He	0.798	0.798	11.78	241	0.33	2000	
Se	78	2	He	1.658	1.658	28.13	11	15.55	2000	
B	11	1	nogas	96.553	96.553	2.76	269786	0.04	2000	
Si	28	1	nogas	6231.084	6231.084	5.22	33949404	0.02	2000	>LDR
Ca	43	1	nogas	106451.039	106451.039	3.87	2349558	4.53	200000	
Ca	44	1	nogas	104822.759	104822.759	4.69	36703549	0.29	200000	
Fe	56	1	nogas	55.702	55.702	2.81	1848849	0.00	200000	

Sample Report

Se	77	1	nogas	-56.513	-56.513	-10.00	49605	-0.11	2000	
Se	82	1	nogas	2.128	2.128	6.28	777	0.27	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	3.347	3.347	3.28	13352	0.03	2000	
Sn	118	1	nogas	-0.056	-0.056	-57.04	1023	-0.01	2000	
Ba	137	1	nogas	215.550	215.550	3.34	642357	0.03	2000	
Sb	121	2	He	0.370	0.370	9.82	657	0.06	2000	
La	139	1	nogas	283.407	283.407	8.87	977	29.02	2000	
Au	197	1	nogas	-30.827	-30.827	-103.18	7	-462.41	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	351232	1.92	424595	82.72	70	125	
Ge	72	1	nogas	1694727	2.04	1760485	96.26	70	125	
In	115	1	nogas	1793010	2.09	1841567	97.36	70	125	
Bi	209	1	nogas	1557152	2.21	1714556	90.82	70	125	
Ge	72	2	He	139949	1.32	144534	96.83	70	125	

Sample Report

Sample Table

Sample Name	HS17120912-11
Data File Name	074SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:07:43-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.002	0.002	327.57	90	0.00	2000	
Na	23	1	nogas	246548.477	246548.477	3.17	3485325011	0.01	200000	>LDR
Mg	24	1	nogas	4072.592	4072.592	4.57	39149953	0.01	200000	
Al	27	1	nogas	24.114	24.114	6.71	342157	0.01	2000	
K	39	1	nogas	206969.597	206969.597	1.63	2232922050	0.01	200000	>LDR
Ti	47	1	nogas	0.259	0.259	27.32	490	0.05	2000	
V	51	1	nogas	-13.091	-13.091	-13.24	963800	0.00	2000	
Cr	52	1	nogas	8.432	8.432	4.05	153832	0.01	2000	
Mn	55	1	nogas	15.857	15.857	2.09	287890	0.01	2000	
Co	59	1	nogas	1.229	1.229	4.28	19137	0.01	2000	
Ni	60	1	nogas	7.944	7.944	6.42	28703	0.03	2000	
Cu	63	1	nogas	1.342	1.342	4.23	15634	0.01	2000	
Zn	66	1	nogas	4.299	4.299	2.45	13779	0.03	2000	
As	75	1	nogas	-17.053	-17.053	-10.34	142915	-0.01	2000	
Sr	88	1	nogas	1066.017	1066.017	2.65	19861975	0.01	2000	
Ag	107	1	nogas	0.011	0.011	32.44	670	0.00	2000	
Cd	111	1	nogas	0.017	0.017	53.41	73	0.02	2000	
Sb	121	1	nogas	0.324	0.324	7.91	4891	0.01	2000	
Tl	205	1	nogas	-0.007	-0.007	-73.48	187	0.00	2000	
Pb	208	1	nogas	0.233	0.233	1.64	7187	0.00	2000	
U	238	1	nogas	0.005	0.005	32.82	210	0.00	2000	
[Pb]	206	1	nogas	0.248	0.248	2.92	1837	0.01	2000	
[Pb]	207	1	nogas	0.244	0.244	3.43	1563	0.02	2000	
Na	23	2	He	228260.495	228260.495	0.96	66278982	0.34	200000	>LDR
Mg	24	2	He	3730.213	3730.213	0.71	519662	0.72	200000	
Al	27	2	He	20.847	20.847	16.83	1030	2.02	2000	
K	39	2	He	200727.312	200727.312	2.25	14883569	1.35	200000	>LDR
Ca	43	2	He	13295.090	13295.090	6.26	3510	378.73	200000	
Ca	44	2	He	10043.248	10043.248	3.00	43384	23.15	200000	
V	51	2	He	0.943	0.943	1.56	812	0.12	2000	
Cr	52	2	He	8.723	8.723	1.04	19564	0.04	2000	
Mn	55	2	He	15.930	15.930	4.50	13108	0.12	2000	
Fe	56	2	He	445.593	445.593	1.91	741708	0.06	200000	
Co	59	2	He	1.129	1.129	1.60	4034	0.03	2000	
Ni	60	2	He	7.240	7.240	7.43	6831	0.11	2000	
Cu	63	2	He	1.592	1.592	8.31	3440	0.05	2000	
Zn	66	2	He	3.978	3.978	19.39	1910	0.21	2000	
As	75	2	He	0.771	0.771	22.97	241	0.32	2000	
Se	78	2	He	1.858	1.858	29.40	13	13.93	2000	
B	11	1	nogas	140.650	140.650	1.42	314658	0.04	2000	
Si	28	1	nogas	1491.146	1491.146	5.84	9464857	0.02	2000	
Ca	43	1	nogas	6533.786	6533.786	2.07	145469	4.49	200000	
Ca	44	1	nogas	6394.069	6394.069	4.05	2357821	0.27	200000	
Fe	56	1	nogas	476.940	476.940	1.99	8874459	0.01	200000	

Sample Report

Se	77	1	nogas	-74.125	-74.125	-9.96	45888	-0.16	2000	
Se	82	1	nogas	2.902	2.902	23.23	897	0.32	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	4.313	4.313	5.61	17205	0.03	2000	
Sn	118	1	nogas	-0.071	-0.071	-35.75	913	-0.01	2000	
Ba	137	1	nogas	156.559	156.559	2.79	458345	0.03	2000	
Sb	121	2	He	0.398	0.398	9.52	710	0.06	2000	
La	139	1	nogas	67.307	67.307	20.40	343	19.60	2000	
Au	197	1	nogas	-11.587	-11.587	-480.66	10	-115.87	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	311541	1.55	424595	73.37	70	125	
Ge	72	1	nogas	1699279	1.44	1760485	96.52	70	125	
In	115	1	nogas	1761669	4.00	1841567	95.66	70	125	
Bi	209	1	nogas	1550449	1.30	1714556	90.43	70	125	
Ge	72	2	He	144758	1.27	144534	100.15	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	080_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:19:53-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.654	5.445	319561	1.51	100	97.7	90	110	
Na	23	1	nogas	9655.094	8.204	140190299	1.08	10000	96.6	90	110	
Mg	24	1	nogas	9814.395	7.169	96014121	1.50	10000	98.1	90	110	
Al	27	1	nogas	98.116	7.600	1310189	3.16	100	98.1	90	110	
K	39	1	nogas	9434.639	5.540	107673632	0.30	10000	94.3	90	110	
Ti	47	1	nogas	93.532	5.949	105993	1.32	100	93.5	90	110	
V	51	1	nogas	89.165	6.075	2746028	3.23	100	89.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.403	10.144	1401815	4.98	100	95.4	90	110	
Mn	55	1	nogas	97.707	4.884	1737230	2.20	100	97.7	90	110	
Co	59	1	nogas	94.420	2.114	1462879	4.95	100	94.4	90	110	
Ni	60	1	nogas	96.039	5.115	328921	0.04	100	96.0	90	110	
Cu	63	1	nogas	96.174	2.972	817393	2.41	100	96.2	90	110	
Zn	66	1	nogas	97.632	3.958	265456	1.12	100	97.6	90	110	
As	75	1	nogas	83.282	7.067	463611	2.80	100	83.3	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.237	3.502	1794027	5.56	100	95.2	90	110	
Ag	107	1	nogas	94.700	4.481	1035757	1.01	100	94.7	90	110	
Cd	111	1	nogas	97.402	6.826	216941	1.49	100	97.4	90	110	
Sb	121	1	nogas	100.941	6.752	917365	1.78	100	100.9	90	110	
Tl	205	1	nogas	96.612	3.737	1782105	0.69	100	96.6	90	110	
Pb	208	1	nogas	97.410	1.697	2482312	1.70	100	97.4	90	110	
U	238	1	nogas	103.017	8.280	2642486	4.02	100	103.0	90	110	
[Pb]	206	1	nogas	96.136	3.823	609410	0.63	100	96.1	90	110	
[Pb]	207	1	nogas	96.834	3.868	550505	1.92	100	96.8	90	110	
Na	23	2	He	9677.776	2.475	2703880	3.02	10000	96.8	90	110	
Mg	24	2	He	9373.028	1.652	1237308	2.94	10000	93.7	90	110	
Al	27	2	He	91.394	5.378	3864	3.68	100	91.4	90	110	
K	39	2	He	8912.986	0.337	674409	0.33	10000	89.1	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9585.240	4.104	2400	5.73	10000	95.9	90	110	
Ca	44	2	He	9530.243	0.617	39031	1.68	10000	95.3	90	110	
V	51	2	He	94.646	1.697	139796	0.85	100	94.6	90	110	
Cr	52	2	He	94.838	1.717	188629	2.30	100	94.8	90	110	
Mn	55	2	He	96.319	0.875	74517	1.93	100	96.3	90	110	
Fe	56	2	He	9672.432	3.729	15162952	2.63	10000	96.7	90	110	
Co	59	2	He	95.750	4.047	319103	2.42	100	95.7	90	110	
Ni	60	2	He	95.301	3.670	90405	2.05	100	95.3	90	110	
Cu	63	2	He	95.644	2.932	252664	2.75	100	95.6	90	110	
Zn	66	2	He	104.494	0.970	38514	1.67	100	104.5	90	110	
As	75	2	He	97.049	2.804	25515	1.25	100	97.0	90	110	
Se	78	2	He	95.127	9.603	1025	8.99	100	95.1	90	110	
B	11	1	nogas	480.982	8.972	1176118	6.09	500	96.2	90	110	
Si	28	1	nogas	4997.581	6.419	27892684	1.67	5000	100.0	90	110	
Ca	43	1	nogas	9622.001	4.391	215743	0.72	10000	96.2	90	110	
Ca	44	1	nogas	9568.090	4.259	3501216	1.12	10000	95.7	90	110	
Fe	56	1	nogas	9528.074	5.103	161123504	0.23	10000	95.3	90	110	
Se	77	1	nogas	41.135	41.371	71879	5.37	100	41.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	92.909	5.503	14743	4.24	100	92.9	90	110	
Mo	95	1	nogas	94.619	6.158	377073	1.36	100	94.6	90	110	
Sn	118	1	nogas	96.259	5.997	594083	1.12	100	96.3	90	110	
Ba	137	1	nogas	97.645	7.562	289058	0.81	100	97.6	90	110	
Sb	121	2	He	105.552	3.424	108724	2.11	100	105.6	90	110	
Li	7	1	nogas	98.453	2.908	825385	1.70	100	98.5	90	110	
P	31	1	nogas	448.817	7.081	420610	1.56	500	89.8	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	116.407	30.861	487	15.42	100	116.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	164.307	85.598	43	58.08	100	164.3	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	nogas	409345	4.03	424595	96.41	70	125	
Ge	72	1	nogas	1716851	5.02	1760485	97.52	70	125	
In	115	1	nogas	1785507	6.60	1841567	96.96	70	125	
Bi	209	1	nogas	1624912	4.50	1714556	94.77	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	137196	1.64	144534	94.92	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	081_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:21:48-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.047	97.4	293	58.3	1	
Na	23	1	nogas	86.796	6.2	2699560	2.1	100	
Mg	24	1	nogas	8.076	27.5	88264	26.0	100	
Al	27	1	nogas	-0.437	-14.2	24670	1.0	5	
K	39	1	nogas	66.638	23.8	5961795	0.4	100	
Ti	47	1	nogas	0.049	75.6	257	15.7	2.5	
V	51	1	nogas	2.165	200.1	1235725	3.6	2.5	
Cr	52	1	nogas	-0.070	-204.5	33020	3.9	2.5	
Mn	55	1	nogas	0.516	8.1	19220	3.2	2.5	
Co	59	1	nogas	0.057	33.1	1197	26.7	2.5	
Ni	60	1	nogas	-0.042	-62.5	1757	4.2	2.5	
Cu	63	1	nogas	0.159	38.0	5778	10.6	2.5	
Zn	66	1	nogas	0.096	25.9	2574	2.4	2.5	
As	75	1	nogas	-6.888	-48.9	176369	3.6	2.5	
Sr	88	1	nogas	0.109	11.7	3294	9.1	2.5	
Ag	107	1	nogas	0.065	22.3	1273	14.7	2.5	
Cd	111	1	nogas	0.070	36.3	200	30.0	1	
Sb	121	1	nogas	1.141	13.9	12375	14.0	2.5	
Tl	205	1	nogas	0.221	35.3	4481	30.2	1	
Pb	208	1	nogas	0.067	47.2	2970	27.2	2.5	
U	238	1	nogas	0.065	56.7	1773	51.6	2.5	
[Pb]	206	1	nogas	0.064	51.0	770	24.7	2.5	
[Pb]	207	1	nogas	0.064	34.2	627	17.9	2.5	
Na	23	2	He	80.943	2.8	68185	1.2	100	
Mg	24	2	He	5.296	27.1	1017	18.8	100	
Al	27	2	He	-0.517	-89.0	107	19.5	5	
K	39	2	He	39.137	3.2	17055	0.5	100	
Ca	43	2	He	63.155	60.9	20	50.0	100	
Ca	44	2	He	-4.115	-137.2	200	13.2	100	
V	51	2	He	0.830	3.1	636	5.5	2.5	
Cr	52	2	He	-0.024	-125.9	1340	4.5	2.5	
Mn	55	2	He	0.298	38.2	373	24.2	2.5	
Fe	56	2	He	2.739	7.7	9323	4.0	100	
Co	59	2	He	0.018	37.9	127	18.2	2.5	
Ni	60	2	He	0.650	6.2	207	19.6	2.5	
Cu	63	2	He	0.807	5.2	1247	10.2	2.5	
Zn	66	2	He	-0.153	-73.9	320	13.6	2.5	
As	75	2	He	0.019	163.8	33	26.5	2.5	
Se	78	2	He	1.444	18.0	9	35.3	2.5	
B	11	1	nogas	22.003	8.3	162553	4.3	10	CCB Main CR1 Failed
Si	28	1	nogas	25.339	17.1	1875495	1.3	5	CCB Main CR1 Failed
Ca	43	1	nogas	11.680	5.1	1147	1.3	100	
Ca	44	1	nogas	-99.661	-4.5	85504	2.3	100	
Fe	56	1	nogas	27.109	6.3	1390016	3.6	100	
Se	77	1	nogas	-18.020	-95.1	58668	4.1	2.5	
Se	82	1	nogas	0.161	99.7	483	4.8	2.5	

Continuing Calibration Blank (CCB) Report

Mo	95	1	nogas	0.192	36.4	937	32.1	2.5	
Sn	118	1	nogas	0.119	35.0	2177	11.2	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.058	38.6	417	17.4	2.5	
Sb	121	2	He	0.818	4.6	1170	4.4	2.5	
P	31	1	nogas	1.194	213.9	66805	0.6	10	
La	139	1	nogas	-22.779	-58.0	93	43.3	2.5	
Au	197	1	nogas	19.537	159.8	17	34.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	452530	1.79	424595	106.58	70	125	
Ge	72	1	nogas	1714531	2.48	1760485	97.39	70	125	
In	115	1	nogas	1855819	1.42	1841567	100.77	70	125	
Bi	209	1	nogas	1660382	2.44	1714556	96.84	70	125	
Ge	72	2	He	145307	1.12	144534	100.54	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	092_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:43:43-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.772	3.532	311403	2.00	100	98.8	90	110	
Na	23	1	nogas	9730.520	2.084	135287220	2.04	10000	97.3	90	110	
Mg	24	1	nogas	10103.671	0.769	94607938	0.75	10000	101.0	90	110	
Al	27	1	nogas	100.248	1.722	1290921	2.29	100	100.2	90	110	
K	39	1	nogas	9687.709	1.683	106470211	1.64	10000	96.9	90	110	
Ti	47	1	nogas	94.213	2.727	102942	1.09	100	94.2	90	110	
V	51	1	nogas	88.615	8.717	2635021	3.23	100	88.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	97.745	1.929	1386015	0.44	100	97.7	90	110	
Mn	55	1	nogas	101.429	1.948	1738038	2.05	100	101.4	90	110	
Co	59	1	nogas	96.664	1.555	1441696	1.29	100	96.7	90	110	
Ni	60	1	nogas	97.942	1.833	323348	0.71	100	97.9	90	110	
Cu	63	1	nogas	98.072	2.438	802865	1.62	100	98.1	90	110	
Zn	66	1	nogas	99.913	2.346	261739	1.56	100	99.9	90	110	
As	75	1	nogas	87.282	3.157	459053	2.50	100	87.3	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.088	0.940	1742607	1.45	100	96.1	90	110	
Ag	107	1	nogas	94.875	3.036	999969	0.81	100	94.9	90	110	
Cd	111	1	nogas	96.096	4.560	209131	1.82	100	96.1	90	110	
Sb	121	1	nogas	104.227	1.362	913730	1.59	100	104.2	90	110	
Tl	205	1	nogas	95.272	2.115	1740606	0.97	100	95.3	90	110	
Pb	208	1	nogas	94.907	1.065	2418563	1.06	100	94.9	90	110	
U	238	1	nogas	98.828	3.401	2513753	1.62	100	98.8	90	110	
[Pb]	206	1	nogas	94.288	2.606	591993	1.58	100	94.3	90	110	
[Pb]	207	1	nogas	95.892	2.572	539865	1.01	100	95.9	90	110	
Na	23	2	He	9316.381	1.843	2581150	0.83	10000	93.2	90	110	
Mg	24	2	He	9342.176	2.286	1222022	1.20	10000	93.4	90	110	
Al	27	2	He	90.203	11.246	3780	9.86	100	90.2	90	110	
K	39	2	He	8728.193	1.361	660720	1.33	10000	87.3	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9645.638	13.802	2394	14.00	10000	96.5	90	110	
Ca	44	2	He	9242.436	2.275	37525	2.48	10000	92.4	90	110	
V	51	2	He	93.358	1.552	136678	0.95	100	93.4	90	110	
Cr	52	2	He	92.435	2.561	182255	2.48	100	92.4	90	110	
Mn	55	2	He	92.091	1.751	70615	1.11	100	92.1	90	110	
Fe	56	2	He	9406.688	1.319	14619854	0.33	10000	94.1	90	110	
Co	59	2	He	94.281	1.762	311540	0.82	100	94.3	90	110	
Ni	60	2	He	95.218	2.769	89552	2.07	100	95.2	90	110	
Cu	63	2	He	95.802	2.669	250834	1.61	100	95.8	90	110	
Zn	66	2	He	103.482	1.895	37809	2.16	100	103.5	90	110	
As	75	2	He	97.362	0.706	25379	1.29	100	97.4	90	110	
Se	78	2	He	91.914	4.483	981	3.56	100	91.9	90	110	
B	11	1	nogas	484.546	7.962	1139857	4.34	500	96.9	90	110	
Si	28	1	nogas	5108.524	2.552	27455857	1.13	5000	102.2	90	110	
Ca	43	1	nogas	9506.739	2.500	205436	0.35	10000	95.1	90	110	
Ca	44	1	nogas	9373.025	3.404	3307139	1.30	10000	93.7	90	110	
Fe	56	1	nogas	9713.663	1.908	158371920	2.60	10000	97.1	90	110	
Se	77	1	nogas	61.894	17.968	73685	3.88	100	61.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.237	5.178	14996	4.94	100	98.2	90	110	
Mo	95	1	nogas	97.564	1.885	374965	0.81	100	97.6	90	110	
Sn	118	1	nogas	97.470	4.071	587634	1.36	100	97.5	90	110	
Ba	137	1	nogas	95.405	4.001	276106	1.47	100	95.4	90	110	
Sb	121	2	He	101.608	1.956	103767	0.86	100	101.6	90	110	
Li	7	1	nogas	98.419	4.157	794338	2.66	100	98.4	90	110	
P	31	1	nogas	470.188	2.954	421843	0.37	500	94.0	90	110	
La	139	1	nogas	92.519	36.313	410	21.12	100	92.5	90	110	
Au	197	1	nogas	95.466	115.778	30	66.67	100	95.5	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	nogas	394043	3.13	424595	92.80	70	125	
Ge	72	1	nogas	1652771	2.25	1760485	93.88	70	125	
In	115	1	nogas	1741060	3.10	1841567	94.54	70	125	
Bi	209	1	nogas	1608211	2.90	1714556	93.80	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	135986	1.12	144534	94.09	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	093_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T13:45:39-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.062	45.6	327	30.7	1	
Na	23	1	nogas	53.572	10.4	2138553	1.5	100	
Mg	24	1	nogas	6.581	23.7	70649	19.7	100	
Al	27	1	nogas	-0.535	-12.5	23355	3.3	5	
K	39	1	nogas	53.343	17.0	5808200	1.1	100	
Ti	47	1	nogas	0.088	83.8	300	26.0	2.5	
V	51	1	nogas	-13.752	-24.6	958920	5.4	2.5	
Cr	52	1	nogas	-0.323	-9.6	29370	2.3	2.5	
Mn	55	1	nogas	0.452	5.2	18062	1.0	2.5	
Co	59	1	nogas	0.053	37.5	1123	26.5	2.5	
Ni	60	1	nogas	-0.140	-10.1	1420	4.4	2.5	
Cu	63	1	nogas	0.038	73.6	4741	3.1	2.5	
Zn	66	1	nogas	0.097	62.0	2570	5.2	2.5	
As	75	1	nogas	-8.940	-23.4	169659	3.6	2.5	
Sr	88	1	nogas	0.060	44.2	2354	20.0	2.5	
Ag	107	1	nogas	0.061	54.0	1223	28.1	2.5	
Cd	111	1	nogas	0.034	83.1	113	53.9	1	
Sb	121	1	nogas	1.046	19.5	11464	15.2	2.5	
Tl	205	1	nogas	0.230	36.0	4651	34.8	1	
Pb	208	1	nogas	0.066	40.6	2947	23.3	2.5	
U	238	1	nogas	0.062	34.8	1713	34.4	2.5	
[Pb]	206	1	nogas	0.060	40.8	747	22.8	2.5	
[Pb]	207	1	nogas	0.071	22.7	663	15.3	2.5	
Na	23	2	He	53.126	11.5	57326	3.4	100	
Mg	24	2	He	3.960	33.6	793	22.6	100	
Al	27	2	He	-1.283	-31.9	70	24.7	5	
K	39	2	He	35.400	21.8	16778	3.4	100	
Ca	43	2	He	13.735	165.8	7	86.6	100	
Ca	44	2	He	-8.308	-47.6	173	8.8	100	
V	51	2	He	0.828	2.6	604	4.9	2.5	
Cr	52	2	He	-0.074	-73.7	1180	9.8	2.5	
Mn	55	2	He	0.311	20.8	367	13.7	2.5	
Fe	56	2	He	4.007	12.7	10900	7.0	100	
Co	59	2	He	0.029	41.1	157	25.8	2.5	
Ni	60	2	He	0.698	2.5	243	6.3	2.5	
Cu	63	2	He	0.734	7.6	993	15.4	2.5	
Zn	66	2	He	-0.032	-520.3	350	17.8	2.5	
As	75	2	He	0.029	193.3	34	43.6	2.5	
Se	78	2	He	1.118	41.4	5	107.9	2.5	
B	11	1	nogas	18.880	12.8	145884	5.0	10	CCB Main CR1 Failed
Si	28	1	nogas	13.335	16.1	1809539	1.8	5	CCB Main CR1 Failed
Ca	43	1	nogas	3.862	136.1	970	11.5	100	
Ca	44	1	nogas	-115.023	-7.4	79896	1.7	100	
Fe	56	1	nogas	18.881	11.6	1248773	1.6	100	
Se	77	1	nogas	-27.799	-45.1	56441	4.4	2.5	
Se	82	1	nogas	0.877	54.4	593	14.3	2.5	
Mo	95	1	nogas	0.171	44.4	847	34.6	2.5	
Sn	118	1	nogas	0.113	31.3	2100	7.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.009	321.3	260	30.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.747	23.3	1043	17.7	2.5	
P	31	1	nogas	0.099	1984.9	65832	1.5	10	
La	139	1	nogas	-26.691	-33.4	80	33.1	2.5	
Au	197	1	nogas	-32.826	-183.2	7	173.2	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	nogas	426461	1.28	424595	100.44	70	125	
Ge	72	1	nogas	1711353	2.20	1760485	97.21	70	125	
In	115	1	nogas	1824777	3.17	1841567	99.09	70	125	
Bi	209	1	nogas	1652255	1.56	1714556	96.37	70	125	
Ge	72	2	He	138625	0.64	144534	95.91	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	104_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:07:43-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	95.476	3.754	310539	2.03	100	95.5	90	110	
Na	23	1	nogas	9675.637	0.945	135824786	2.38	10000	96.8	90	110	
Mg	24	1	nogas	9949.774	1.132	94064204	2.59	10000	99.5	90	110	
Al	27	1	nogas	97.597	1.218	1279079	2.72	100	97.6	90	110	
K	39	1	nogas	9541.533	3.847	106697725	2.57	10000	95.4	90	110	
Ti	47	1	nogas	94.111	1.603	104596	1.22	100	94.1	90	110	
V	51	1	nogas	90.105	4.544	2705885	1.17	100	90.1	90	110	
Cr	52	1	nogas	95.530	1.631	1378548	1.76	100	95.5	90	110	
Mn	55	1	nogas	99.421	3.869	1732363	2.82	100	99.4	90	110	
Co	59	1	nogas	95.007	4.496	1440851	3.85	100	95.0	90	110	
Ni	60	1	nogas	95.288	1.108	320025	1.47	100	95.3	90	110	
Cu	63	1	nogas	94.826	0.613	789764	1.48	100	94.8	90	110	
Zn	66	1	nogas	97.755	2.249	260525	2.52	100	97.8	90	110	
As	75	1	nogas	84.539	7.596	458085	2.88	100	84.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.965	3.287	1751018	1.81	100	95.0	90	110	
Ag	107	1	nogas	95.853	2.599	1027611	1.83	100	95.9	90	110	
Cd	111	1	nogas	95.732	2.536	213758	1.17	100	95.7	90	110	
Sb	121	1	nogas	101.944	2.596	908822	1.82	100	101.9	90	110	
Tl	205	1	nogas	92.782	4.164	1726771	3.50	100	92.8	90	110	
Pb	208	1	nogas	96.418	0.471	2457040	0.47	100	96.4	90	110	
U	238	1	nogas	101.332	2.894	2625830	0.44	100	101.3	90	110	
[Pb]	206	1	nogas	92.319	4.123	590373	2.54	100	92.3	90	110	
[Pb]	207	1	nogas	94.354	2.779	541131	0.20	100	94.4	90	110	
Na	23	2	He	9291.881	0.036	2573070	0.57	10000	92.9	90	110	
Mg	24	2	He	9221.895	1.017	1205720	1.50	10000	92.2	90	110	
Al	27	2	He	84.292	7.426	3540	6.75	100	84.3	90	110	CCV Main CR1-2 Failed
K	39	2	He	8627.329	0.902	653248	0.88	10000	86.3	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9113.573	7.159	2260	7.68	10000	91.1	90	110	
Ca	44	2	He	9377.371	1.582	38046	2.02	10000	93.8	90	110	
V	51	2	He	92.885	1.695	135896	1.25	100	92.9	90	110	
Cr	52	2	He	94.031	2.014	185266	2.13	100	94.0	90	110	
Mn	55	2	He	95.694	3.015	73332	3.11	100	95.7	90	110	
Fe	56	2	He	9413.225	2.741	14621550	2.79	10000	94.1	90	110	
Co	59	2	He	93.713	1.833	309488	1.85	100	93.7	90	110	
Ni	60	2	He	95.621	2.197	89880	1.68	100	95.6	90	110	
Cu	63	2	He	96.125	1.773	251557	1.64	100	96.1	90	110	
Zn	66	2	He	103.568	4.031	37813	3.78	100	103.6	90	110	
As	75	2	He	94.793	2.472	24691	2.04	100	94.8	90	110	
Se	78	2	He	94.441	5.861	1008	5.56	100	94.4	90	110	
B	11	1	nogas	455.731	2.947	1112964	1.91	500	91.1	90	110	
Si	28	1	nogas	4997.846	1.670	27356595	0.58	5000	100.0	90	110	
Ca	43	1	nogas	9270.646	1.336	203789	0.20	10000	92.7	90	110	
Ca	44	1	nogas	9176.811	1.264	3296403	1.28	10000	91.8	90	110	
Fe	56	1	nogas	9549.305	2.833	158311420	1.78	10000	95.5	90	110	
Se	77	1	nogas	53.739	24.765	73130	2.43	100	53.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.750	2.161	14880	3.11	100	95.7	90	110	
Mo	95	1	nogas	95.112	3.660	371688	2.28	100	95.1	90	110	
Sn	118	1	nogas	94.359	1.319	583764	1.44	100	94.4	90	110	
Ba	137	1	nogas	95.516	1.671	283601	0.13	100	95.5	90	110	
Sb	121	2	He	103.369	0.952	105507	1.42	100	103.4	90	110	
Li	7	1	nogas	96.341	1.620	803200	1.17	100	96.3	90	110	
P	31	1	nogas	455.324	2.887	417509	1.09	500	91.1	90	110	
La	139	1	nogas	119.850	23.629	500	15.87	100	119.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	39.641	241.388	20	86.60	100	39.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	406444	1.73	424595	95.72	70	125	
Ge	72	1	nogas	1680701	1.53	1760485	95.47	70	125	
In	115	1	nogas	1785193	1.72	1841567	96.94	70	125	
Bi	209	1	nogas	1638325	2.76	1714556	95.55	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	135894	0.54	144534	94.02	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	105_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:09:42-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.047	23.9	280	12.4	1	
Na	23	1	nogas	45.888	16.3	2093728	1.1	100	
Mg	24	1	nogas	6.862	25.8	75772	22.6	100	
Al	27	1	nogas	-0.543	-9.5	23365	1.7	5	
K	39	1	nogas	47.753	20.1	5778185	0.8	100	
Ti	47	1	nogas	0.092	80.6	307	26.4	2.5	
V	51	1	nogas	-4.981	-120.6	1117118	9.8	2.5	
Cr	52	1	nogas	-0.250	-37.5	30576	5.2	2.5	
Mn	55	1	nogas	0.646	5.1	21599	1.5	2.5	
Co	59	1	nogas	0.049	50.4	1073	35.3	2.5	
Ni	60	1	nogas	-0.130	-19.4	1460	5.2	2.5	
Cu	63	1	nogas	0.024	68.5	4647	2.3	2.5	
Zn	66	1	nogas	-0.015	-211.2	2284	3.6	2.5	
As	75	1	nogas	-9.225	-29.4	169690	5.5	2.5	
Sr	88	1	nogas	0.054	31.5	2267	13.7	2.5	
Ag	107	1	nogas	0.071	50.9	1340	29.6	2.5	
Cd	111	1	nogas	0.064	38.2	180	29.4	1	
Sb	121	1	nogas	0.914	16.4	10323	12.5	2.5	
Tl	205	1	nogas	0.203	36.6	4147	32.9	1	
Pb	208	1	nogas	0.062	39.7	2837	22.0	2.5	
U	238	1	nogas	0.057	28.0	1570	25.5	2.5	
[Pb]	206	1	nogas	0.060	60.4	747	30.4	2.5	
[Pb]	207	1	nogas	0.063	46.5	620	26.9	2.5	
Na	23	2	He	43.943	13.3	54829	0.3	100	
Mg	24	2	He	4.280	16.9	837	11.1	100	
Al	27	2	He	0.479	54.0	143	10.7	5	
K	39	2	He	29.319	15.3	16327	2.0	100	
Ca	43	2	He	26.987	4.8	10	0.0	100	
Ca	44	2	He	-2.451	-616.7	197	29.4	100	
V	51	2	He	0.876	2.1	677	4.2	2.5	
Cr	52	2	He	-0.010	-496.4	1310	9.0	2.5	
Mn	55	2	He	0.448	38.8	473	26.6	2.5	
Fe	56	2	He	3.381	6.0	9933	5.9	100	
Co	59	2	He	0.038	45.0	187	29.5	2.5	
Ni	60	2	He	0.630	9.0	180	33.8	2.5	
Cu	63	2	He	0.723	2.8	963	2.4	2.5	
Zn	66	2	He	-0.191	-98.6	290	20.7	2.5	
As	75	2	He	0.037	118.8	37	32.8	2.5	
Se	78	2	He	1.110	33.8	5	89.2	2.5	
B	11	1	nogas	12.005	23.1	132045	2.3	10	CCB Main CR1 Failed
Si	28	1	nogas	20.592	31.1	1857004	0.6	5	CCB Main CR1 Failed
Ca	43	1	nogas	3.500	190.0	967	14.7	100	
Ca	44	1	nogas	-120.657	-3.7	78350	1.0	100	
Fe	56	1	nogas	18.516	2.7	1249672	1.9	100	
Se	77	1	nogas	-26.101	-26.3	57136	3.3	2.5	
Se	82	1	nogas	0.152	418.9	483	19.7	2.5	
Mo	95	1	nogas	0.154	30.4	787	23.5	2.5	
Sn	118	1	nogas	0.094	47.9	1963	15.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.050	82.6	380	31.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.782	2.6	1080	2.4	2.5	
P	31	1	nogas	-1.090	-135.2	65263	3.2	10	
La	139	1	nogas	-23.853	-48.2	87	37.1	2.5	
Au	197	1	nogas	-33.743	-173.5	7	173.2	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	nogas	434387	2.83	424595	102.31	70	125	
Ge	72	1	nogas	1720357	1.39	1760485	97.72	70	125	
In	115	1	nogas	1799359	1.79	1841567	97.71	70	125	
Bi	209	1	nogas	1661463	2.26	1714556	96.90	70	125	
Ge	72	2	He	138868	3.29	144534	96.08	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	116_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:31:53-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.857	3.687	320461	0.80	100	97.9	90	110	
Na	23	1	nogas	9754.273	4.198	141760262	2.74	10000	97.5	90	110	
Mg	24	1	nogas	9932.861	2.969	97233617	1.41	10000	99.3	90	110	
Al	27	1	nogas	97.615	0.839	1314273	1.25	100	97.6	90	110	
K	39	1	nogas	9261.123	1.520	106598394	2.09	10000	92.6	90	110	
Ti	47	1	nogas	92.665	1.246	105836	1.92	100	92.7	90	110	
V	51	1	nogas	82.066	2.062	2640639	1.79	100	82.1	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.076	0.637	1380933	0.29	100	93.1	90	110	
Mn	55	1	nogas	99.967	1.040	1790078	0.43	100	100.0	90	110	
Co	59	1	nogas	93.311	1.282	1454324	1.46	100	93.3	90	110	
Ni	60	1	nogas	93.424	1.761	322443	2.32	100	93.4	90	110	
Cu	63	1	nogas	94.192	1.078	806072	1.59	100	94.2	90	110	
Zn	66	1	nogas	98.175	2.177	268846	2.81	100	98.2	90	110	
As	75	1	nogas	76.728	4.143	445871	2.98	100	76.7	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	94.477	1.797	1790575	2.52	100	94.5	90	110	
Ag	107	1	nogas	92.903	0.599	1023496	0.22	100	92.9	90	110	
Cd	111	1	nogas	95.270	1.148	214068	0.16	100	95.3	90	110	
Sb	121	1	nogas	100.532	1.099	920986	0.49	100	100.5	90	110	
Tl	205	1	nogas	94.487	2.736	1759100	0.20	100	94.5	90	110	
Pb	208	1	nogas	99.401	1.275	2533009	1.27	100	99.4	90	110	
U	238	1	nogas	101.273	2.589	2625668	1.41	100	101.3	90	110	
[Pb]	206	1	nogas	94.494	2.087	604660	0.81	100	94.5	90	110	
[Pb]	207	1	nogas	97.672	1.909	560470	1.06	100	97.7	90	110	
Na	23	2	He	9411.172	1.369	2613126	2.20	10000	94.1	90	110	
Mg	24	2	He	9328.722	0.566	1223077	0.83	10000	93.3	90	110	
Al	27	2	He	91.181	3.859	3830	2.73	100	91.2	90	110	
K	39	2	He	8645.602	2.004	654602	1.96	10000	86.5	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8726.758	1.998	2170	2.80	10000	87.3	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9143.472	0.961	37204	0.81	10000	91.4	90	110	
V	51	2	He	93.012	1.994	136456	0.81	100	93.0	90	110	
Cr	52	2	He	94.899	2.621	187499	2.95	100	94.9	90	110	
Mn	55	2	He	98.030	1.889	75340	2.84	100	98.0	90	110	
Fe	56	2	He	9499.354	0.973	14797851	1.84	10000	95.0	90	110	
Co	59	2	He	93.392	0.920	309288	0.56	100	93.4	90	110	
Ni	60	2	He	92.719	4.115	87378	3.64	100	92.7	90	110	
Cu	63	2	He	94.022	2.699	246689	1.71	100	94.0	90	110	
Zn	66	2	He	103.932	1.283	38053	1.33	100	103.9	90	110	
As	75	2	He	95.002	1.990	24821	3.07	100	95.0	90	110	
Se	78	2	He	89.083	2.790	953	3.57	100	89.1	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	467.898	6.528	1147135	3.12	500	93.6	90	110	
Si	28	1	nogas	4831.573	0.413	27234188	0.37	5000	96.6	90	110	
Ca	43	1	nogas	9426.856	1.565	212926	1.83	10000	94.3	90	110	
Ca	44	1	nogas	9200.837	1.902	3395843	2.34	10000	92.0	90	110	
Fe	56	1	nogas	9179.567	0.859	156437383	1.58	10000	91.8	90	110	
Se	77	1	nogas	23.565	51.169	68442	4.47	100	23.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.514	3.451	15097	3.80	100	94.5	90	110	
Mo	95	1	nogas	94.554	0.826	379786	1.20	100	94.6	90	110	
Sn	118	1	nogas	94.364	1.334	587368	0.60	100	94.4	90	110	
Ba	137	1	nogas	95.870	1.008	286428	0.30	100	95.9	90	110	
Sb	121	2	He	104.072	1.095	106521	1.36	100	104.1	90	110	
Li	7	1	nogas	94.067	2.121	790564	1.71	100	94.1	90	110	
P	31	1	nogas	428.323	0.973	407566	1.27	500	85.7	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	121.203	32.743	507	21.74	100	121.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	55.398	53.661	23	24.74	100	55.4	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	nogas	409383	3.41	424595	96.42	70	125	
Ge	72	1	nogas	1726822	0.72	1760485	98.09	70	125	
In	115	1	nogas	1796143	1.24	1841567	97.53	70	125	
Bi	209	1	nogas	1638925	2.57	1714556	95.59	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	136282	1.24	144534	94.29	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	117_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:33:50-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.050	10.8	307	5.0	1	
Na	23	1	nogas	35.047	5.9	1976669	0.6	100	
Mg	24	1	nogas	9.086	19.0	99624	19.1	100	
Al	27	1	nogas	-0.513	-10.2	24169	2.1	5	
K	39	1	nogas	31.831	29.6	5701549	0.9	100	
Ti	47	1	nogas	0.030	271.0	240	38.2	2.5	
V	51	1	nogas	-1.846	-143.8	1191807	4.6	2.5	
Cr	52	1	nogas	-0.246	-10.9	31157	1.3	2.5	
Mn	55	1	nogas	1.177	1.7	31551	0.6	2.5	
Co	59	1	nogas	0.060	36.7	1257	26.5	2.5	
Ni	60	1	nogas	-0.162	-17.0	1377	6.9	2.5	
Cu	63	1	nogas	-0.016	-268.7	4381	8.6	2.5	
Zn	66	1	nogas	-0.064	-124.5	2187	9.0	2.5	
As	75	1	nogas	-10.023	-16.9	170032	3.8	2.5	
Sr	88	1	nogas	0.088	38.1	2944	20.8	2.5	
Ag	107	1	nogas	0.061	26.8	1250	13.6	2.5	
Cd	111	1	nogas	0.047	52.9	147	39.4	1	
Sb	121	1	nogas	0.971	24.8	11027	19.4	2.5	
Tl	205	1	nogas	0.231	29.9	4724	29.6	1	
Pb	208	1	nogas	0.067	52.0	2970	29.9	2.5	
U	238	1	nogas	0.069	40.2	1907	40.3	2.5	
[Pb]	206	1	nogas	0.059	76.4	750	41.6	2.5	
[Pb]	207	1	nogas	0.070	23.1	670	15.8	2.5	
Na	23	2	He	35.227	4.8	51410	1.8	100	
Mg	24	2	He	6.969	7.9	1173	7.1	100	
Al	27	2	He	-0.843	-92.7	87	37.1	5	
K	39	2	He	11.664	65.0	15020	3.7	100	
Ca	43	2	He	54.539	42.1	17	34.6	100	
Ca	44	2	He	-19.897	-29.8	123	18.7	100	
V	51	2	He	0.932	2.9	747	5.5	2.5	
Cr	52	2	He	-0.039	-147.8	1227	10.2	2.5	
Mn	55	2	He	0.994	13.0	883	10.5	2.5	
Fe	56	2	He	3.914	8.4	10563	5.2	100	
Co	59	2	He	0.035	56.6	173	36.6	2.5	
Ni	60	2	He	0.649	9.2	193	30.3	2.5	
Cu	63	2	He	0.726	5.2	953	10.5	2.5	
Zn	66	2	He	-0.337	-46.0	233	25.1	2.5	
As	75	2	He	0.019	173.6	31	27.0	2.5	
Se	78	2	He	1.496	7.4	9	13.3	2.5	
B	11	1	nogas	6.818	36.3	125262	3.5	10	
Si	28	1	nogas	1.740	293.1	1788473	1.2	5	
Ca	43	1	nogas	2.440	60.6	960	3.6	100	
Ca	44	1	nogas	-131.520	-2.2	75803	2.3	100	
Fe	56	1	nogas	18.288	6.3	1267172	1.1	100	
Se	77	1	nogas	-37.783	-16.9	55478	3.0	2.5	
Se	82	1	nogas	0.057	957.4	477	17.1	2.5	
Mo	95	1	nogas	0.178	46.8	893	36.7	2.5	
Sn	118	1	nogas	0.077	27.1	1933	8.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.045	13.6	383	8.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.799	19.7	1077	14.4	2.5	
P	31	1	nogas	-1.674	-111.5	65898	1.5	10	
La	139	1	nogas	-31.924	-13.8	67	22.9	2.5	
Au	197	1	nogas	34.525	256.0	20	86.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	454400	1.82	424595	107.02	70	125	
Ge	72	1	nogas	1750026	0.98	1760485	99.41	70	125	
In	115	1	nogas	1877551	3.23	1841567	101.95	70	125	
Bi	209	1	nogas	1672626	2.29	1714556	97.55	70	125	
Ge	72	2	He	136135	0.96	144534	94.19	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	128_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:55:55-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	95.879	0.496	317026	0.95	100	95.9	90	110	
Na	23	1	nogas	9738.510	5.492	143241545	1.45	10000	97.4	90	110	
Mg	24	1	nogas	9869.066	5.165	97771765	1.10	10000	98.7	90	110	
Al	27	1	nogas	100.336	1.357	1346176	2.02	100	100.3	90	110	
K	39	1	nogas	9634.824	3.168	110324161	0.75	10000	96.3	90	110	
Ti	47	1	nogas	92.243	3.072	105007	0.02	100	92.2	90	110	
V	51	1	nogas	87.926	5.475	2734242	1.93	100	87.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.020	4.171	1418858	2.28	100	96.0	90	110	
Mn	55	1	nogas	101.432	2.584	1810742	1.93	100	101.4	90	110	
Co	59	1	nogas	98.068	5.438	1523015	3.22	100	98.1	90	110	
Ni	60	1	nogas	97.456	4.752	335052	1.71	100	97.5	90	110	
Cu	63	1	nogas	95.878	2.704	817803	0.48	100	95.9	90	110	
Zn	66	1	nogas	98.477	0.792	268935	3.21	100	98.5	90	110	
As	75	1	nogas	82.978	7.588	464254	1.80	100	83.0	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.156	2.296	1816895	2.43	100	96.2	90	110	
Ag	107	1	nogas	94.846	3.853	1041383	1.23	100	94.8	90	110	
Cd	111	1	nogas	98.478	1.801	217944	1.78	100	98.5	90	110	
Sb	121	1	nogas	102.139	2.768	932818	1.56	100	102.1	90	110	
Tl	205	1	nogas	97.286	1.240	1816862	1.20	100	97.3	90	110	
Pb	208	1	nogas	99.743	1.023	2541738	1.02	100	99.7	90	110	
U	238	1	nogas	100.927	2.443	2624623	2.40	100	100.9	90	110	
[Pb]	206	1	nogas	96.475	0.454	619180	0.41	100	96.5	90	110	
[Pb]	207	1	nogas	98.226	0.674	565319	0.67	100	98.2	90	110	
Na	23	2	He	9672.711	3.805	2683106	2.68	10000	96.7	90	110	
Mg	24	2	He	9657.392	1.944	1265728	0.81	10000	96.6	90	110	
Al	27	2	He	89.884	14.730	3777	14.16	100	89.9	90	110	CCV Main CR1-2 Failed
K	39	2	He	8809.439	1.551	666738	1.52	10000	88.1	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9827.677	7.286	2440	4.65	10000	98.3	90	110	
Ca	44	2	He	9534.160	3.340	38764	1.17	10000	95.3	90	110	
V	51	2	He	94.483	2.776	138577	1.01	100	94.5	90	110	
Cr	52	2	He	95.354	4.227	188255	2.12	100	95.4	90	110	
Mn	55	2	He	95.776	3.318	73561	1.26	100	95.8	90	110	
Fe	56	2	He	9711.117	2.743	15119924	1.17	10000	97.1	90	110	
Co	59	2	He	95.639	1.507	316663	1.51	100	95.6	90	110	
Ni	60	2	He	96.351	3.608	90774	1.24	100	96.4	90	110	
Cu	63	2	He	96.179	3.674	252263	1.71	100	96.2	90	110	
Zn	66	2	He	102.582	2.995	37549	1.94	100	102.6	90	110	
As	75	2	He	97.488	2.608	25454	0.67	100	97.5	90	110	
Se	78	2	He	94.100	7.653	1006	5.30	100	94.1	90	110	
B	11	1	nogas	496.728	1.268	1224125	1.63	500	99.3	90	110	
Si	28	1	nogas	5002.015	4.890	28033998	1.71	5000	100.0	90	110	
Ca	43	1	nogas	9485.144	2.559	213580	1.70	10000	94.9	90	110	
Ca	44	1	nogas	9277.857	4.744	3411092	1.96	10000	92.8	90	110	
Fe	56	1	nogas	9699.489	5.399	164644583	2.96	10000	97.0	90	110	
Se	77	1	nogas	43.042	47.498	72538	5.17	100	43.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.801	4.296	15247	3.41	100	95.8	90	110	
Mo	95	1	nogas	95.309	1.284	381723	2.08	100	95.3	90	110	
Sn	118	1	nogas	97.048	2.602	595001	3.06	100	97.0	90	110	
Ba	137	1	nogas	99.825	2.384	293687	0.59	100	99.8	90	110	
Sb	121	2	He	105.590	2.862	108024	1.58	100	105.6	90	110	
Li	7	1	nogas	95.839	0.600	812204	0.36	100	95.8	90	110	
P	31	1	nogas	452.611	6.166	425332	2.17	500	90.5	90	110	
La	139	1	nogas	106.462	22.924	457	13.38	100	106.5	90	110	
Au	197	1	nogas	20.066	400.198	17	91.65	100	20.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	413005	0.48	424595	97.27	70	125	
Ge	72	1	nogas	1722308	3.12	1760485	97.83	70	125	
In	115	1	nogas	1769215	2.18	1841567	96.07	70	125	
Bi	209	1	nogas	1643279	0.06	1714556	95.84	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	136275	2.60	144534	94.29	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	129_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T14:57:52-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.036	62.8	257	33.1	1	
Na	23	1	nogas	74.185	5.7	2576872	1.1	100	
Mg	24	1	nogas	7.260	29.7	81967	26.1	100	
Al	27	1	nogas	-0.525	-13.5	24510	2.1	5	
K	39	1	nogas	26.559	26.1	5760338	0.6	100	
Ti	47	1	nogas	0.097	83.5	323	28.1	2.5	
V	51	1	nogas	-9.170	-45.6	1084568	7.9	2.5	
Cr	52	1	nogas	-0.240	-23.0	31914	4.4	2.5	
Mn	55	1	nogas	0.659	5.3	22668	1.0	2.5	
Co	59	1	nogas	0.054	45.6	1190	32.2	2.5	
Ni	60	1	nogas	-0.126	-1.2	1533	2.1	2.5	
Cu	63	1	nogas	-0.016	-147.6	4477	5.8	2.5	
Zn	66	1	nogas	-0.090	-68.2	2163	9.8	2.5	
As	75	1	nogas	-12.957	-14.3	163895	5.5	2.5	
Sr	88	1	nogas	0.058	44.2	2424	19.1	2.5	
Ag	107	1	nogas	0.054	46.9	1193	22.6	2.5	
Cd	111	1	nogas	0.055	58.9	167	45.0	1	
Sb	121	1	nogas	0.888	19.8	10463	14.7	2.5	
Tl	205	1	nogas	0.243	40.4	5038	37.0	1	
Pb	208	1	nogas	0.076	37.5	3197	22.7	2.5	
U	238	1	nogas	0.069	49.2	1937	46.4	2.5	
[Pb]	206	1	nogas	0.073	34.6	853	19.7	2.5	
[Pb]	207	1	nogas	0.068	51.2	667	30.3	2.5	
Na	23	2	He	63.992	2.9	60389	1.6	100	
Mg	24	2	He	5.303	6.8	973	6.3	100	
Al	27	2	He	-0.315	-209.4	110	24.1	5	
K	39	2	He	13.600	39.9	15163	2.7	100	
Ca	43	2	He	27.364	252.7	10	173.2	100	
Ca	44	2	He	-15.725	-66.6	143	31.5	100	
V	51	2	He	0.865	0.9	661	2.9	2.5	
Cr	52	2	He	-0.070	-153.0	1187	17.1	2.5	
Mn	55	2	He	0.460	20.5	483	14.7	2.5	
Fe	56	2	He	3.740	8.0	10487	4.2	100	
Co	59	2	He	0.030	87.7	160	54.1	2.5	
Ni	60	2	He	0.687	7.6	233	21.1	2.5	
Cu	63	2	He	0.753	3.7	1043	6.4	2.5	
Zn	66	2	He	-0.321	-42.2	243	20.7	2.5	
As	75	2	He	0.033	119.2	36	30.1	2.5	
Se	78	2	He	0.996	21.3	3	69.3	2.5	
B	11	1	nogas	17.372	24.8	152699	4.4	10	CCB Main CR1 Failed
Si	28	1	nogas	-1.073	-715.3	1810023	1.1	5	
Ca	43	1	nogas	1.216	556.6	950	15.2	100	
Ca	44	1	nogas	-145.951	-0.7	72062	1.8	100	
Fe	56	1	nogas	20.608	9.0	1334009	1.6	100	
Se	77	1	nogas	-50.886	-3.9	53609	2.5	2.5	
Se	82	1	nogas	-0.406	-177.9	413	28.4	2.5	
Mo	95	1	nogas	0.169	44.1	877	34.2	2.5	
Sn	118	1	nogas	0.135	30.5	2304	11.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.042	116.6	370	40.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.667	9.5	960	6.5	2.5	
P	31	1	nogas	-2.950	-6.6	66229	2.1	10	
La	139	1	nogas	-28.498	-36.8	77	41.9	2.5	
Au	197	1	nogas	-16.958	-2.1	10	0.0	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	nogas	458212	3.12	424595	107.92	70	125	
Ge	72	1	nogas	1786471	1.88	1760485	101.48	70	125	
In	115	1	nogas	1871050	0.81	1841567	101.60	70	125	
Bi	209	1	nogas	1708134	0.70	1714556	99.63	70	125	
Ge	72	2	He	138736	1.31	144534	95.99	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	140_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:20:11-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.418	1.988	322110	0.68	100	97.4	90	110	
Na	23	1	nogas	10178.875	3.933	152401841	3.12	10000	101.8	90	110	
Mg	24	1	nogas	9562.408	2.850	96478979	2.51	10000	95.6	90	110	
Al	27	1	nogas	103.813	3.189	1378759	3.56	100	103.8	90	110	
K	39	1	nogas	9666.316	2.514	109655211	1.98	10000	96.7	90	110	
Ti	47	1	nogas	94.222	2.224	106289	2.47	100	94.2	90	110	
V	51	1	nogas	90.078	3.261	2746028	1.14	100	90.1	90	110	
Cr	52	1	nogas	94.614	3.702	1385991	3.62	100	94.6	90	110	
Mn	55	1	nogas	100.899	1.815	1784458	1.15	100	100.9	90	110	
Co	59	1	nogas	96.541	1.108	1486129	0.32	100	96.5	90	110	
Ni	60	1	nogas	98.483	2.958	335571	2.25	100	98.5	90	110	
Cu	63	1	nogas	96.936	1.905	819155	1.12	100	96.9	90	110	
Zn	66	1	nogas	98.385	2.200	266060	1.43	100	98.4	90	110	
As	75	1	nogas	82.713	5.691	459232	2.46	100	82.7	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.461	2.411	1861460	1.67	100	99.5	90	110	
Ag	107	1	nogas	94.307	1.248	1026284	1.79	100	94.3	90	110	
Cd	111	1	nogas	94.807	0.759	217480	1.17	100	94.8	90	110	
Sb	121	1	nogas	104.025	2.065	941183	1.28	100	104.0	90	110	
Tl	205	1	nogas	97.967	2.918	1803018	1.16	100	98.0	90	110	
Pb	208	1	nogas	96.956	0.762	2470753	0.76	100	97.0	90	110	
U	238	1	nogas	99.522	1.387	2551063	1.13	100	99.5	90	110	
[Pb]	206	1	nogas	96.850	1.064	612735	1.59	100	96.8	90	110	
[Pb]	207	1	nogas	96.703	0.646	548667	1.91	100	96.7	90	110	
Na	23	2	He	9788.898	3.914	2754600	3.68	10000	97.9	90	110	
Mg	24	2	He	9423.185	5.144	1252282	2.85	10000	94.2	90	110	
Al	27	2	He	97.902	0.213	4164	2.07	100	97.9	90	110	
K	39	2	He	8842.238	1.509	669168	1.48	10000	88.4	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9051.611	8.462	2280	6.33	10000	90.5	90	110	
Ca	44	2	He	9382.743	2.069	38728	3.65	10000	93.8	90	110	
V	51	2	He	93.462	2.987	139061	1.89	100	93.5	90	110	
Cr	52	2	He	94.911	1.596	190176	1.39	100	94.9	90	110	
Mn	55	2	He	96.264	2.192	75017	0.68	100	96.3	90	110	
Fe	56	2	He	9618.614	2.980	15192158	1.35	10000	96.2	90	110	
Co	59	2	He	95.596	4.012	320990	2.37	100	95.6	90	110	
Ni	60	2	He	94.494	3.055	90313	0.81	100	94.5	90	110	
Cu	63	2	He	93.130	4.018	247750	1.76	100	93.1	90	110	
Zn	66	2	He	103.077	3.145	38270	1.27	100	103.1	90	110	
As	75	2	He	96.200	3.090	25480	1.10	100	96.2	90	110	
Se	78	2	He	92.283	9.312	1001	7.51	100	92.3	90	110	
B	11	1	nogas	542.606	0.526	1328286	1.47	500	108.5	90	110	
Si	28	1	nogas	5141.269	1.847	28516334	2.47	5000	102.8	90	110	
Ca	43	1	nogas	9678.984	2.317	215892	1.67	10000	96.8	90	110	
Ca	44	1	nogas	9556.358	3.117	3478654	2.58	10000	95.6	90	110	
Fe	56	1	nogas	9668.546	2.279	162675416	1.49	10000	96.7	90	110	
Se	77	1	nogas	34.858	55.573	70061	5.33	100	34.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.632	1.987	15233	1.79	100	96.6	90	110	
Mo	95	1	nogas	96.304	3.640	381998	2.91	100	96.3	90	110	
Sn	118	1	nogas	94.351	2.732	599468	1.85	100	94.4	90	110	
Ba	137	1	nogas	95.365	3.444	290833	2.97	100	95.4	90	110	
Sb	121	2	He	101.848	1.659	105729	1.43	100	101.8	90	110	
Li	7	1	nogas	96.838	1.578	820444	2.11	100	96.8	90	110	
P	31	1	nogas	465.589	1.926	431923	2.43	500	93.1	90	110	
La	139	1	nogas	123.067	12.797	523	8.83	100	123.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	22.245	373.260	17	91.65	100	22.2	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	nogas	413104	1.93	424595	97.29	70	125	
Ge	72	1	nogas	1705655	0.80	1760485	96.89	70	125	
In	115	1	nogas	1833507	0.95	1841567	99.56	70	125	
Bi	209	1	nogas	1620028	2.02	1714556	94.49	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	138239	2.28	144534	95.64	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	141_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:22:10-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.039	46.7	270	25.9	1	
Na	23	1	nogas	301.961	5.7	5976477	3.5	100	CCB Main CR1 Failed
Mg	24	1	nogas	9.910	27.7	108982	24.3	100	
Al	27	1	nogas	-0.462	-20.1	24904	4.4	5	
K	39	1	nogas	59.744	5.7	6022209	0.1	100	
Ti	47	1	nogas	0.052	134.3	267	30.1	2.5	
V	51	1	nogas	-0.878	-334.9	1210908	4.4	2.5	
Cr	52	1	nogas	-0.186	-34.8	32098	3.4	2.5	
Mn	55	1	nogas	0.682	6.4	22668	3.6	2.5	
Co	59	1	nogas	0.063	55.2	1307	41.5	2.5	
Ni	60	1	nogas	0.133	28.8	2407	6.2	2.5	
Cu	63	1	nogas	0.103	33.2	5421	5.5	2.5	
Zn	66	1	nogas	0.102	82.6	2650	8.7	2.5	
As	75	1	nogas	-9.166	-28.5	173115	5.1	2.5	
Sr	88	1	nogas	0.167	3.6	4471	2.4	2.5	
Ag	107	1	nogas	0.081	43.0	1480	26.3	2.5	
Cd	111	1	nogas	0.042	85.6	140	62.3	1	
Sb	121	1	nogas	0.832	15.3	9766	11.8	2.5	
Tl	205	1	nogas	0.224	46.3	4731	43.3	1	
Pb	208	1	nogas	0.053	54.9	2600	28.3	2.5	
U	238	1	nogas	0.068	33.1	1947	32.0	2.5	
[Pb]	206	1	nogas	0.049	60.4	700	28.7	2.5	
[Pb]	207	1	nogas	0.053	58.3	587	32.3	2.5	
Na	23	2	He	286.438	3.2	124134	1.2	100	CCB Main CR1 Failed
Mg	24	2	He	7.320	22.4	1260	16.6	100	
Al	27	2	He	-0.758	-98.1	93	34.4	5	
K	39	2	He	31.705	16.9	16504	2.4	100	
Ca	43	2	He	65.590	118.7	20	100.0	100	
Ca	44	2	He	-4.270	-185.6	193	18.2	100	
V	51	2	He	0.876	2.1	688	3.6	2.5	
Cr	52	2	He	-0.073	-67.7	1200	7.9	2.5	
Mn	55	2	He	0.534	13.3	550	11.1	2.5	
Fe	56	2	He	3.926	1.1	10950	0.6	100	
Co	59	2	He	0.027	84.2	153	50.7	2.5	
Ni	60	2	He	0.694	2.0	243	4.7	2.5	
Cu	63	2	He	0.688	5.8	883	12.4	2.5	
Zn	66	2	He	-0.331	-13.9	243	6.3	2.5	
As	75	2	He	0.043	138.8	39	42.3	2.5	
Se	78	2	He	1.232	29.6	6	66.7	2.5	
B	11	1	nogas	40.462	5.0	214055	3.7	10	CCB Main CR1 Failed
Si	28	1	nogas	-0.547	-352.7	1779541	1.1	5	
Ca	43	1	nogas	13.900	19.7	1223	5.0	100	
Ca	44	1	nogas	-132.613	-2.8	75532	1.3	100	
Fe	56	1	nogas	24.797	18.5	1381255	5.3	100	
Se	77	1	nogas	-30.639	-24.3	57190	2.7	2.5	
Se	82	1	nogas	0.389	87.7	530	9.8	2.5	
Mo	95	1	nogas	0.165	16.4	847	12.6	2.5	
Sn	118	1	nogas	0.092	36.5	2080	10.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.029	42.7	340	12.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.590	7.5	893	5.3	2.5	
P	31	1	nogas	1.676	89.8	68728	1.3	10	
La	139	1	nogas	-30.092	-41.1	73	51.6	2.5	
Au	197	1	nogas	49.458	155.8	23	65.5	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	464863	1.87	424595	109.48	70	125	
Ge	72	1	nogas	1753136	0.66	1760485	99.58	70	125	
In	115	1	nogas	1919974	1.25	1841567	104.26	70	125	
Bi	209	1	nogas	1725646	0.41	1714556	100.65	70	125	
Ge	72	2	He	140886	1.02	144534	97.48	70	125	

Sample Report

Sample Table

Sample Name	MBLK-123627
Data File Name	144SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:28:10-06:00
Sample Type	Sample
Dilution	1
Comment	B123627 TW
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	-0.021	-0.021	-42.22	53	-0.04	2000	
Na	23	1	nogas	214.650	214.650	4.63	4991769	0.00	200000	
Mg	24	1	nogas	11.539	11.539	6.70	134163	0.01	200000	
Al	27	1	nogas	2.701	2.701	5.79	72236	0.00	2000	
K	39	1	nogas	49.495	49.495	33.08	6357023	0.00	200000	
Ti	47	1	nogas	0.028	0.028	93.30	257	0.01	2000	
V	51	1	nogas	-13.246	-13.246	-12.59	1068062	0.00	2000	
Cr	52	1	nogas	-0.613	-0.613	-6.38	27794	0.00	2000	
Mn	55	1	nogas	0.148	0.148	15.55	13995	0.00	2000	
Co	59	1	nogas	-0.005	-0.005	-92.99	260	0.00	2000	
Ni	60	1	nogas	-0.067	-0.067	-49.16	1840	0.00	2000	
Cu	63	1	nogas	-0.118	-0.118	-10.03	3777	0.00	2000	
Zn	66	1	nogas	-0.160	-0.160	-13.92	2073	-0.01	2000	
As	75	1	nogas	-21.846	-21.846	-3.96	141945	-0.02	2000	
Sr	88	1	nogas	0.042	0.042	30.54	2240	0.00	2000	
Ag	107	1	nogas	-0.005	-0.005	-240.53	550	0.00	2000	
Cd	111	1	nogas	-0.013	-0.013	-17.62	7	-0.20	2000	
Sb	121	1	nogas	-0.038	-0.038	-79.37	1813	0.00	2000	
Tl	205	1	nogas	-0.003	-0.003	-111.45	293	0.00	2000	
Pb	208	1	nogas	-0.026	-0.026	-7.09	593	0.00	2000	
U	238	1	nogas	0.001	0.001	144.11	130	0.00	2000	
[Pb]	206	1	nogas	-0.034	-0.034	-24.40	147	-0.02	2000	
[Pb]	207	1	nogas	-0.019	-0.019	-29.15	160	-0.01	2000	
Na	23	2	He	207.342	207.342	2.07	108677	0.19	200000	
Mg	24	2	He	10.715	10.715	6.89	1837	0.58	200000	
Al	27	2	He	2.290	2.290	60.99	237	0.97	2000	
K	39	2	He	55.171	55.171	15.23	18242	0.30	200000	
Ca	43	2	He	-12.565	-12.565	0.00	0	#DIV/0!	200000	
Ca	44	2	He	-16.080	-16.080	-82.18	153	-10.49	200000	
V	51	2	He	0.788	0.788	1.44	591	0.13	2000	
Cr	52	2	He	-0.147	-0.147	-23.11	1120	-0.01	2000	
Mn	55	2	He	0.203	0.203	13.65	307	0.07	2000	
Fe	56	2	He	-0.039	-0.039	-255.92	4874	0.00	200000	
Co	59	2	He	-0.009	-0.009	-80.40	33	-0.03	2000	
Ni	60	2	He	0.614	0.614	2.67	177	0.35	2000	
Cu	63	2	He	0.631	0.631	1.49	777	0.08	2000	
Zn	66	2	He	-0.448	-0.448	-20.84	213	-0.21	2000	
As	75	2	He	-0.035	-0.035	-71.81	19	-0.18	2000	
Se	78	2	He	1.084	1.084	9.09	5	23.22	2000	
B	11	1	nogas	25.697	25.697	10.24	188850	0.01	2000	
Si	28	1	nogas	26.980	26.980	41.29	2073131	0.00	2000	
Ca	43	1	nogas	-8.573	-8.573	-59.13	767	-1.12	200000	
Ca	44	1	nogas	-167.884	-167.884	-2.47	67572	-0.25	200000	
Fe	56	1	nogas	14.865	14.865	21.74	1302180	0.00	200000	

Sample Report

Se	77	1	nogas	-91.599	-91.599	-8.69	46700	-0.20	2000	
Se	82	1	nogas	-0.146	-0.146	-188.74	480	-0.03	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	-0.004	-0.004	-80.08	167	0.00	2000	
Sn	118	1	nogas	-0.113	-0.113	-19.01	750	-0.02	2000	
Ba	137	1	nogas	0.291	0.291	20.54	1227	0.02	2000	
Sb	121	2	He	-0.055	-0.055	-53.52	227	-0.02	2000	
La	139	1	nogas	-41.421	-41.421	-13.70	40	-103.55	2000	
Au	197	1	nogas	-51.658	-51.658	-53.25	3	-1549.73	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	497990	1.73	424595	117.29	70	125	
Ge	72	1	nogas	1887219	2.69	1760485	107.20	70	125	
In	115	1	nogas	2009300	2.86	1841567	109.11	70	125	
Bi	209	1	nogas	1801840	1.56	1714556	105.09	70	125	
Ge	72	2	He	150375	1.36	144534	104.04	70	125	

Sample Report

Sample Table

Sample Name	HS17120912-07
Data File Name	147SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:34:31-06:00
Sample Type	Sample
Dilution	10
Comment	B123627 TW Na
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	-0.014	-0.144	-71.61	70	-0.02	2000	
Na	23	1	nogas	24972.269	249722.694	1.60	364979091	0.01	200000	
Mg	24	1	nogas	553.092	5530.921	1.19	5486565	0.01	200000	
Al	27	1	nogas	8.213	82.129	1.46	141356	0.01	2000	
K	39	1	nogas	15558.362	155583.623	2.77	178937079	0.01	200000	
Ti	47	1	nogas	0.059	0.592	144.00	277	0.02	2000	
V	51	1	nogas	-2.233	-22.327	-122.67	1192173	0.00	2000	
Cr	52	1	nogas	0.867	8.675	15.64	47785	0.00	2000	
Mn	55	1	nogas	2.855	28.553	0.94	62242	0.00	2000	
Co	59	1	nogas	0.008	0.079	62.86	443	0.00	2000	
Ni	60	1	nogas	0.064	0.636	39.01	2174	0.00	2000	
Cu	63	1	nogas	-0.031	-0.313	-19.61	4281	0.00	2000	
Zn	66	1	nogas	0.346	3.462	11.62	3337	0.01	2000	
As	75	1	nogas	-14.645	-146.450	-21.01	155942	-0.01	2000	
Sr	88	1	nogas	205.313	2053.133	2.12	3966206	0.01	2000	
Ag	107	1	nogas	0.000	0.000	-63434.93	573	0.00	2000	
Cd	111	1	nogas	-0.006	-0.057	-161.02	23	-0.02	2000	
Sb	121	1	nogas	-0.066	-0.659	-11.54	1440	0.00	2000	
Tl	205	1	nogas	-0.008	-0.077	-35.29	187	0.00	2000	
Pb	208	1	nogas	-0.029	-0.288	-1.57	527	-0.01	2000	
U	238	1	nogas	0.027	0.269	23.78	813	0.00	2000	
[Pb]	206	1	nogas	-0.038	-0.376	-12.00	117	-0.03	2000	
[Pb]	207	1	nogas	-0.029	-0.288	-5.33	90	-0.03	2000	
Na	23	2	He	23919.113	239191.127	3.48	6769426	0.35	200000	
Mg	24	2	He	535.137	5351.368	1.95	72489	0.74	200000	
Al	27	2	He	7.701	77.013	20.54	447	1.72	2000	
K	39	2	He	14393.570	143935.705	1.74	1080398	1.33	200000	
Ca	43	2	He	10694.383	106943.826	12.71	2740	390.27	200000	
Ca	44	2	He	10417.446	104174.456	4.61	43595	23.90	200000	
V	51	2	He	0.933	9.331	1.79	771	0.12	2000	
Cr	52	2	He	1.059	10.593	9.71	3480	0.03	2000	
Mn	55	2	He	2.566	25.661	4.12	2154	0.12	2000	
Fe	56	2	He	4.292	42.915	6.72	11487	0.04	200000	
Co	59	2	He	-0.011	-0.110	-66.52	23	-0.05	2000	
Ni	60	2	He	0.642	6.424	8.09	193	0.33	2000	
Cu	63	2	He	0.660	6.603	5.75	803	0.08	2000	
Zn	66	2	He	0.037	0.369	302.23	380	0.01	2000	
As	75	2	He	0.048	0.483	111.00	40	0.12	2000	
Se	78	2	He	1.179	11.794	45.59	5	22.11	2000	
B	11	1	nogas	21.404	214.043	11.79	160253	0.01	2000	
Si	28	1	nogas	585.474	5854.738	0.76	4939870	0.01	2000	
Ca	43	1	nogas	10255.657	102556.566	1.91	236143	4.34	200000	
Ca	44	1	nogas	10129.280	101292.796	2.37	3800036	0.27	200000	
Fe	56	1	nogas	24.314	243.143	11.27	1379088	0.00	200000	

Sample Report

Se	77	1	nogas	-58.405	-584.050	-21.69	51119	-0.11	2000	
Se	82	1	nogas	0.376	3.762	190.46	530	0.07	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.318	3.181	10.69	1477	0.02	2000	
Sn	118	1	nogas	-0.044	-0.445	-42.40	1120	0.00	2000	
Ba	137	1	nogas	21.384	213.843	3.04	65535	0.03	2000	
Sb	121	2	He	-0.076	-0.761	-5.68	190	-0.04	2000	
La	139	1	nogas	-10.102	-101.024	-112.88	130	-7.77	2000	
Au	197	1	nogas	50.706	507.056	207.28	23	217.31	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	450593	2.06	424595	106.12	70	125	
Ge	72	1	nogas	1761262	1.42	1760485	100.04	70	125	
In	115	1	nogas	1837237	1.68	1841567	99.76	70	125	
Bi	209	1	nogas	1707490	1.07	1714556	99.59	70	125	
Ge	72	2	He	140349	2.37	144534	97.10	70	125	

Sample Report

Sample Table

Sample Name	HS17120912-11
Data File Name	148SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:36:33-06:00
Sample Type	Sample
Dilution	10
Comment	B123627 TW KNa
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	-0.023	-0.230	-31.93	40	-0.06	2000	
Na	23	1	nogas	25225.049	252250.488	3.56	374337717	0.01	200000	
Mg	24	1	nogas	409.969	4099.688	0.63	4133034	0.01	200000	
Al	27	1	nogas	2.346	23.460	10.18	63552	0.00	2000	
K	39	1	nogas	20500.671	205006.712	3.63	237390714	0.01	200000	
Ti	47	1	nogas	0.052	0.519	163.52	270	0.02	2000	
V	51	1	nogas	-5.013	-50.131	-137.42	1157618	0.00	2000	
Cr	52	1	nogas	0.517	5.167	23.38	43211	0.00	2000	
Mn	55	1	nogas	1.922	19.221	4.52	45924	0.00	2000	
Co	59	1	nogas	0.122	1.219	16.53	2284	0.01	2000	
Ni	60	1	nogas	0.667	6.675	13.94	4344	0.02	2000	
Cu	63	1	nogas	-0.016	-0.159	-218.97	4474	0.00	2000	
Zn	66	1	nogas	0.287	2.869	28.18	3217	0.01	2000	
As	75	1	nogas	-14.429	-144.286	-21.45	158819	-0.01	2000	
Sr	88	1	nogas	102.497	1024.973	4.49	2008397	0.01	2000	
Ag	107	1	nogas	-0.012	-0.124	-25.41	440	0.00	2000	
Cd	111	1	nogas	0.001	0.013	888.03	40	0.00	2000	
Sb	121	1	nogas	-0.099	-0.992	-6.06	1147	-0.01	2000	
Tl	205	1	nogas	-0.008	-0.080	-33.18	173	0.00	2000	
Pb	208	1	nogas	-0.010	-0.102	-10.18	1000	0.00	2000	
U	238	1	nogas	0.001	0.007	106.39	100	0.00	2000	
[Pb]	206	1	nogas	-0.014	-0.140	-26.97	263	-0.01	2000	
[Pb]	207	1	nogas	-0.003	-0.027	-117.59	237	0.00	2000	
Na	23	2	He	23102.360	231023.601	2.81	6795542	0.34	200000	
Mg	24	2	He	370.025	3700.251	3.60	52159	0.71	200000	
Al	27	2	He	1.319	13.186	46.47	187	0.71	2000	
K	39	2	He	20070.180	200701.800	2.08	1500908	1.34	200000	
Ca	43	2	He	1140.719	11407.195	40.67	307	371.96	200000	
Ca	44	2	He	921.353	9213.530	6.03	4207	21.90	200000	
V	51	2	He	0.842	8.416	4.03	657	0.13	2000	
Cr	52	2	He	0.829	8.290	19.99	3137	0.03	2000	
Mn	55	2	He	1.661	16.608	5.42	1493	0.11	2000	
Fe	56	2	He	43.419	434.188	1.05	77118	0.06	200000	
Co	59	2	He	0.091	0.913	23.78	387	0.02	2000	
Ni	60	2	He	1.241	12.412	5.74	807	0.15	2000	
Cu	63	2	He	0.709	7.089	6.71	973	0.07	2000	
Zn	66	2	He	0.120	1.197	54.89	427	0.03	2000	
As	75	2	He	0.102	1.023	49.91	57	0.18	2000	
Se	78	2	He	1.039	10.388	16.99	4	25.97	2000	
B	11	1	nogas	22.655	226.548	9.41	166130	0.01	2000	
Si	28	1	nogas	116.631	1166.305	9.06	2452172	0.00	2000	
Ca	43	1	nogas	639.210	6392.099	5.24	15794	4.05	200000	
Ca	44	1	nogas	481.410	4814.103	4.51	302973	0.16	200000	
Fe	56	1	nogas	64.538	645.381	7.02	2103290	0.00	200000	

Sample Report

Se	77	1	nogas	-54.855	-548.546	-34.09	52633	-0.10	2000	
Se	82	1	nogas	0.623	6.229	77.34	577	0.11	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.404	4.042	8.76	1853	0.02	2000	
Sn	118	1	nogas	-0.054	-0.537	-41.64	1083	0.00	2000	
Ba	137	1	nogas	14.729	147.290	2.74	46036	0.03	2000	
Sb	121	2	He	-0.074	-0.739	-67.50	200	-0.04	2000	
La	139	1	nogas	-18.547	-185.472	-17.12	107	-17.39	2000	
Au	197	1	nogas	73.420	734.202	44.82	27	275.33	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	458344	3.11	424595	107.95	70	125	
Ge	72	1	nogas	1786764	2.26	1760485	101.49	70	125	
In	115	1	nogas	1871393	2.75	1841567	101.62	70	125	
Bi	209	1	nogas	1639713	2.48	1714556	95.63	70	125	
Ge	72	2	He	145783	0.90	144534	100.86	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	152_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:44:38-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	94.481	4.294	320442	2.19	100	94.5	90	110	
Na	23	1	nogas	10029.553	0.696	145707724	0.97	10000	100.3	90	110	
Mg	24	1	nogas	10224.635	1.845	100077150	2.42	10000	102.2	90	110	
Al	27	1	nogas	100.938	5.106	1359164	3.57	100	100.9	90	110	
K	39	1	nogas	9476.640	4.378	109033261	1.43	10000	94.8	90	110	
Ti	47	1	nogas	92.560	0.649	105862	2.23	100	92.6	90	110	
V	51	1	nogas	90.646	2.576	2793831	1.38	100	90.6	90	110	
Cr	52	1	nogas	94.537	4.521	1403109	1.66	100	94.5	90	110	
Mn	55	1	nogas	97.662	0.558	1751635	2.30	100	97.7	90	110	
Co	59	1	nogas	96.755	1.591	1509891	1.40	100	96.8	90	110	
Ni	60	1	nogas	96.774	4.142	334181	1.51	100	96.8	90	110	
Cu	63	1	nogas	95.964	4.324	821769	1.84	100	96.0	90	110	
Zn	66	1	nogas	97.805	3.490	268069	1.29	100	97.8	90	110	
As	75	1	nogas	80.616	2.206	458962	2.70	100	80.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.023	3.475	1802706	2.42	100	95.0	90	110	
Ag	107	1	nogas	92.769	3.927	1022928	1.70	100	92.8	90	110	
Cd	111	1	nogas	95.761	1.321	214721	1.96	100	95.8	90	110	
Sb	121	1	nogas	101.248	2.427	928633	1.22	100	101.2	90	110	
Tl	205	1	nogas	95.265	1.679	1771265	2.86	100	95.3	90	110	
Pb	208	1	nogas	97.640	1.357	2488172	1.36	100	97.6	90	110	
U	238	1	nogas	99.614	3.917	2577327	1.14	100	99.6	90	110	
[Pb]	206	1	nogas	94.334	1.898	602724	2.59	100	94.3	90	110	
[Pb]	207	1	nogas	95.848	3.275	548959	1.75	100	95.8	90	110	
Na	23	2	He	9441.419	1.227	2658426	1.52	10000	94.4	90	110	
Mg	24	2	He	9310.084	0.359	1237975	0.80	10000	93.1	90	110	
Al	27	2	He	91.191	7.235	3887	7.50	100	91.2	90	110	
K	39	2	He	8656.606	1.789	655417	1.75	10000	86.6	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8919.428	11.846	2250	12.39	10000	89.2	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9255.666	2.437	38190	1.80	10000	92.6	90	110	
V	51	2	He	93.113	1.300	138566	1.73	100	93.1	90	110	
Cr	52	2	He	93.079	1.684	186517	1.08	100	93.1	90	110	
Mn	55	2	He	93.359	0.742	72764	0.50	100	93.4	90	110	
Fe	56	2	He	9286.622	1.052	14670602	0.84	10000	92.9	90	110	
Co	59	2	He	92.679	1.691	311276	1.07	100	92.7	90	110	
Ni	60	2	He	91.775	1.776	87723	1.66	100	91.8	90	110	
Cu	63	2	He	94.473	0.318	251440	0.84	100	94.5	90	110	
Zn	66	2	He	102.354	3.507	38010	3.07	100	102.4	90	110	
As	75	2	He	92.253	0.977	24442	1.11	100	92.3	90	110	
Se	78	2	He	85.058	2.744	923	2.59	100	85.1	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	495.049	8.048	1250664	3.90	500	99.0	90	110	
Si	28	1	nogas	4976.657	4.069	28022960	1.08	5000	99.5	90	110	
Ca	43	1	nogas	9194.553	3.668	207889	1.55	10000	91.9	90	110	
Ca	44	1	nogas	9038.918	2.676	3341818	1.44	10000	90.4	90	110	
Fe	56	1	nogas	9482.468	1.911	161753758	0.91	10000	94.8	90	110	
Se	77	1	nogas	38.721	34.303	71939	5.48	100	38.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.951	4.695	14710	2.28	100	92.0	90	110	
Mo	95	1	nogas	93.512	3.892	375948	2.08	100	93.5	90	110	
Sn	118	1	nogas	94.908	2.663	589346	0.81	100	94.9	90	110	
Ba	137	1	nogas	96.717	4.958	288147	2.32	100	96.7	90	110	
Sb	121	2	He	102.027	1.747	105907	1.12	100	102.0	90	110	
Li	7	1	nogas	94.580	1.466	823141	2.17	100	94.6	90	110	
P	31	1	nogas	448.042	4.789	423609	1.45	500	89.6	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	117.789	30.391	497	21.53	100	117.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-14.329	-643.212	10	173.21	100	-14.3	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	nogas	424005	3.49	424595	99.86	70	125	
Ge	72	1	nogas	1729494	2.83	1760485	98.24	70	125	
In	115	1	nogas	1792493	2.59	1841567	97.34	70	125	
Bi	209	1	nogas	1636344	3.41	1714556	95.44	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	138212	0.63	144534	95.63	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	153_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T15:46:35-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.058	7.1	343	6.7	1	
Na	23	1	nogas	92.211	5.9	2839368	1.0	100	
Mg	24	1	nogas	7.108	29.0	80125	23.9	100	
Al	27	1	nogas	-0.473	-13.5	24624	3.5	5	
K	39	1	nogas	42.241	42.1	5795618	0.4	100	
Ti	47	1	nogas	0.056	186.2	270	45.1	2.5	
V	51	1	nogas	-1.393	-447.2	1193744	6.1	2.5	
Cr	52	1	nogas	-0.194	-67.9	31794	3.6	2.5	
Mn	55	1	nogas	0.590	7.2	20889	1.4	2.5	
Co	59	1	nogas	0.070	29.7	1417	25.5	2.5	
Ni	60	1	nogas	-0.116	-16.0	1530	3.0	2.5	
Cu	63	1	nogas	-0.039	-57.4	4171	4.6	2.5	
Zn	66	1	nogas	-0.143	-63.7	1960	10.0	2.5	
As	75	1	nogas	-9.852	-41.8	169777	4.7	2.5	
Sr	88	1	nogas	0.065	32.9	2504	15.5	2.5	
Ag	107	1	nogas	0.080	12.1	1457	10.0	2.5	
Cd	111	1	nogas	0.039	65.0	130	46.8	1	
Sb	121	1	nogas	0.815	20.3	9570	16.9	2.5	
Tl	205	1	nogas	0.262	40.3	5391	37.2	1	
Pb	208	1	nogas	0.063	59.5	2860	33.3	2.5	
U	238	1	nogas	0.072	29.3	2030	27.0	2.5	
[Pb]	206	1	nogas	0.048	65.8	683	30.7	2.5	
[Pb]	207	1	nogas	0.074	36.1	700	22.9	2.5	
Na	23	2	He	101.016	6.6	69483	1.4	100	CCB Main CR1 Failed
Mg	24	2	He	4.296	20.1	823	12.2	100	
Al	27	2	He	-1.344	-53.6	67	45.8	5	
K	39	2	He	12.790	30.4	15103	1.9	100	
Ca	43	2	He	13.839	330.5	7	173.2	100	
Ca	44	2	He	-16.073	-104.5	140	50.0	100	
V	51	2	He	0.886	2.9	680	3.6	2.5	
Cr	52	2	He	-0.108	-36.4	1093	8.5	2.5	
Mn	55	2	He	0.383	8.7	417	7.7	2.5	
Fe	56	2	He	4.286	17.9	11148	8.8	100	
Co	59	2	He	0.029	52.4	153	30.8	2.5	
Ni	60	2	He	0.743	8.1	283	21.3	2.5	
Cu	63	2	He	0.724	5.5	950	12.1	2.5	
Zn	66	2	He	-0.329	-15.5	237	8.8	2.5	
As	75	2	He	0.014	308.5	30	38.5	2.5	
Se	78	2	He	1.242	39.2	6	88.2	2.5	
B	11	1	nogas	21.386	21.7	165778	3.9	10	CCB Main CR1 Failed
Si	28	1	nogas	-7.690	-158.4	1731490	0.8	5	
Ca	43	1	nogas	4.246	72.7	997	4.1	100	
Ca	44	1	nogas	-155.425	-5.8	66903	1.8	100	
Fe	56	1	nogas	21.069	14.6	1309962	1.9	100	
Se	77	1	nogas	-36.362	-43.7	55558	3.8	2.5	
Se	82	1	nogas	0.012	5439.9	467	19.8	2.5	
Mo	95	1	nogas	0.155	46.7	803	37.8	2.5	
Sn	118	1	nogas	0.092	50.9	2030	16.3	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.038	27.1	360	9.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.565	9.8	840	7.1	2.5	
P	31	1	nogas	1.662	170.0	68340	0.3	10	
La	139	1	nogas	-35.180	-32.4	57	62.0	2.5	
Au	197	1	nogas	-50.024	-60.6	3	173.2	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	nogas	466980	5.14	424595	109.98	70	125	
Ge	72	1	nogas	1744752	3.44	1760485	99.11	70	125	
In	115	1	nogas	1873594	1.29	1841567	101.74	70	125	
Bi	209	1	nogas	1700473	4.07	1714556	99.18	70	125	
Ge	72	2	He	136413	1.86	144534	94.38	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	164_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:08:49-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	93.075	4.488	322816	1.97	100	93.1	90	110	
Na	23	1	nogas	9961.984	2.909	148906087	0.91	10000	99.6	90	110	
Mg	24	1	nogas	9737.615	4.060	98034438	2.05	10000	97.4	90	110	
Al	27	1	nogas	101.592	6.498	1378355	3.39	100	101.6	90	110	
K	39	1	nogas	9515.667	2.369	110420844	1.66	10000	95.2	90	110	
Ti	47	1	nogas	94.188	1.186	108639	3.41	100	94.2	90	110	
V	51	1	nogas	92.727	5.954	2852760	0.88	100	92.7	90	110	
Cr	52	1	nogas	97.189	2.882	1453969	0.69	100	97.2	90	110	
Mn	55	1	nogas	99.984	4.415	1806620	1.22	100	100.0	90	110	
Co	59	1	nogas	97.017	7.183	1524832	4.01	100	97.0	90	110	
Ni	60	1	nogas	95.961	6.741	333957	3.52	100	96.0	90	110	
Cu	63	1	nogas	94.590	5.848	816500	2.64	100	94.6	90	110	
Zn	66	1	nogas	98.859	1.875	273272	1.46	100	98.9	90	110	
As	75	1	nogas	79.923	9.132	460125	2.13	100	79.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	95.614	6.923	1827326	3.78	100	95.6	90	110	
Ag	107	1	nogas	93.149	4.419	1035501	1.35	100	93.1	90	110	
Cd	111	1	nogas	96.380	0.500	216630	0.84	100	96.4	90	110	
Sb	121	1	nogas	103.718	3.506	958924	0.48	100	103.7	90	110	
Tl	205	1	nogas	96.413	4.816	1782606	3.14	100	96.4	90	110	
Pb	208	1	nogas	98.015	2.107	2497714	2.11	100	98.0	90	110	
U	238	1	nogas	102.491	0.786	2640217	2.09	100	102.5	90	110	
[Pb]	206	1	nogas	95.896	4.551	609360	2.93	100	95.9	90	110	
[Pb]	207	1	nogas	97.051	2.976	553108	1.38	100	97.1	90	110	
Na	23	2	He	9874.714	3.918	2765123	1.78	10000	98.7	90	110	
Mg	24	2	He	9658.410	2.314	1278464	1.37	10000	96.6	90	110	
Al	27	2	He	92.985	3.382	3944	4.31	100	93.0	90	110	
K	39	2	He	8835.563	1.098	668673	1.07	10000	88.4	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9222.933	2.473	2317	4.97	10000	92.2	90	110	
Ca	44	2	He	9386.656	2.880	38550	0.63	10000	93.9	90	110	
V	51	2	He	93.732	1.192	138884	1.98	100	93.7	90	110	
Cr	52	2	He	94.185	3.170	187878	2.65	100	94.2	90	110	
Mn	55	2	He	96.069	1.872	74538	1.05	100	96.1	90	110	
Fe	56	2	He	9504.277	1.564	14949266	2.00	10000	95.0	90	110	
Co	59	2	He	95.595	3.036	319587	1.03	100	95.6	90	110	
Ni	60	2	He	94.357	4.521	89759	2.06	100	94.4	90	110	
Cu	63	2	He	96.274	3.559	255024	1.19	100	96.3	90	110	
Zn	66	2	He	104.725	3.439	38728	4.69	100	104.7	90	110	
As	75	2	He	95.964	2.942	25309	2.17	100	96.0	90	110	
Se	78	2	He	88.833	5.258	961	7.46	100	88.8	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	478.807	5.374	1241124	1.36	500	95.8	90	110	
Si	28	1	nogas	5183.945	5.405	29352171	2.08	5000	103.7	90	110	
Ca	43	1	nogas	9354.586	1.517	213343	1.98	10000	93.5	90	110	
Ca	44	1	nogas	9271.929	0.709	3454596	2.59	10000	92.7	90	110	
Fe	56	1	nogas	9576.814	5.853	164583195	2.67	10000	95.8	90	110	
Se	77	1	nogas	30.293	70.166	70530	3.60	100	30.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.956	3.044	14836	0.41	100	92.0	90	110	
Mo	95	1	nogas	94.736	4.116	383970	0.95	100	94.7	90	110	
Sn	118	1	nogas	97.236	0.704	605399	0.98	100	97.2	90	110	
Ba	137	1	nogas	96.475	2.426	288284	1.56	100	96.5	90	110	
Sb	121	2	He	103.729	3.082	107185	2.13	100	103.7	90	110	
Li	7	1	nogas	93.423	4.197	831672	2.57	100	93.4	90	110	
P	31	1	nogas	451.817	3.786	430231	0.18	500	90.4	90	110	
La	139	1	nogas	127.865	29.694	527	20.92	100	127.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	232.836	69.594	57	53.91	100	232.8	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	nogas	433634	3.60	424595	102.13	70	125	
Ge	72	1	nogas	1744019	3.15	1760485	99.06	70	125	
In	115	1	nogas	1796564	0.85	1841567	97.56	70	125	
Bi	209	1	nogas	1627774	1.69	1714556	94.94	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	137632	2.54	144534	95.22	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	165_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:10:44-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.057	26.6	343	14.4	1	
Na	23	1	nogas	212.387	6.3	4818060	1.3	100	CCB Main CR1 Failed
Mg	24	1	nogas	8.174	30.8	94730	25.6	100	
Al	27	1	nogas	-0.402	-8.0	25882	0.4	5	
K	39	1	nogas	64.206	16.1	6112876	0.4	100	
Ti	47	1	nogas	0.088	79.4	310	26.4	2.5	
V	51	1	nogas	-4.050	-74.6	1162146	3.1	2.5	
Cr	52	1	nogas	-0.253	-36.8	31320	2.7	2.5	
Mn	55	1	nogas	0.520	6.7	19864	2.0	2.5	
Co	59	1	nogas	0.064	35.3	1340	28.4	2.5	
Ni	60	1	nogas	0.127	43.4	2400	6.5	2.5	
Cu	63	1	nogas	0.059	57.0	5077	7.3	2.5	
Zn	66	1	nogas	0.035	177.6	2480	5.6	2.5	
As	75	1	nogas	-11.327	-27.8	167116	4.6	2.5	
Sr	88	1	nogas	0.092	23.9	3067	15.5	2.5	
Ag	107	1	nogas	0.060	14.5	1253	8.5	2.5	
Cd	111	1	nogas	0.060	87.9	173	68.8	1	
Sb	121	1	nogas	0.727	16.5	8866	14.2	2.5	
Tl	205	1	nogas	0.278	35.1	5755	33.6	1	
Pb	208	1	nogas	0.054	42.0	2640	21.9	2.5	
U	238	1	nogas	0.076	41.5	2150	40.4	2.5	
[Pb]	206	1	nogas	0.046	43.3	677	20.1	2.5	
[Pb]	207	1	nogas	0.048	57.7	553	30.9	2.5	
Na	23	2	He	230.504	4.6	107618	0.8	100	CCB Main CR1 Failed
Mg	24	2	He	5.861	10.0	1057	7.6	100	
Al	27	2	He	-0.497	-148.6	103	29.6	5	
K	39	2	He	38.956	9.9	17041	1.7	100	
Ca	43	2	He	26.144	147.9	10	100.0	100	
Ca	44	2	He	-4.629	-278.8	190	27.4	100	
V	51	2	He	0.895	4.7	711	6.8	2.5	
Cr	52	2	He	-0.005	-762.2	1330	8.0	2.5	
Mn	55	2	He	0.264	25.0	333	14.2	2.5	
Fe	56	2	He	4.501	5.4	11794	1.1	100	
Co	59	2	He	0.023	87.2	140	50.0	2.5	
Ni	60	2	He	0.688	7.3	237	21.3	2.5	
Cu	63	2	He	0.740	5.8	1020	12.7	2.5	
Zn	66	2	He	-0.371	-18.5	227	10.2	2.5	
As	75	2	He	0.045	179.3	39	55.8	2.5	
Se	78	2	He	1.171	8.1	5	21.7	2.5	
B	11	1	nogas	19.967	16.1	163956	3.8	10	CCB Main CR1 Failed
Si	28	1	nogas	29.682	19.1	1955155	3.1	5	CCB Main CR1 Failed
Ca	43	1	nogas	4.451	138.3	1013	12.5	100	
Ca	44	1	nogas	-141.115	-1.1	72972	2.1	100	
Fe	56	1	nogas	25.255	8.0	1398818	2.4	100	
Se	77	1	nogas	-39.562	-40.0	55515	4.8	2.5	
Se	82	1	nogas	-0.228	-186.4	437	16.6	2.5	
Mo	95	1	nogas	0.178	32.6	907	27.7	2.5	
Sn	118	1	nogas	0.125	52.6	2197	18.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.036	39.1	347	13.3	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.503	26.0	797	17.8	2.5	
P	31	1	nogas	-0.963	-381.4	67029	2.8	10	
La	139	1	nogas	-29.069	-52.1	73	61.5	2.5	
Au	197	1	nogas	-0.298	-25875.3	13	114.6	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	nogas	471456	2.17	424595	111.04	70	125	
Ge	72	1	nogas	1765318	1.64	1760485	100.27	70	125	
In	115	1	nogas	1835714	1.26	1841567	99.68	70	125	
Bi	209	1	nogas	1712625	0.58	1714556	99.89	70	125	
Ge	72	2	He	139985	2.14	144534	96.85	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	176_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:32:46-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	104.704	3.542	350931	1.33	100	104.7	90	110	
Na	23	1	nogas	11102.214	3.638	198378746	1.92	10000	111.0	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	9361.491	4.638	112773015	2.27	10000	93.6	90	110	
Al	27	1	nogas	93.810	5.791	1520967	2.81	100	93.8	90	110	
K	39	1	nogas	9646.887	3.530	133377390	0.46	10000	96.5	90	110	
Ti	47	1	nogas	90.847	0.736	124983	3.55	100	90.8	90	110	
V	51	1	nogas	131.342	1.099	4216094	2.80	100	131.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.298	1.431	1684115	1.62	100	94.3	90	110	
Mn	55	1	nogas	96.830	4.757	2086909	1.88	100	96.8	90	110	
Co	59	1	nogas	96.613	5.303	1811720	2.39	100	96.6	90	110	
Ni	60	1	nogas	100.622	5.637	417638	2.86	100	100.6	90	110	
Cu	63	1	nogas	96.092	3.091	989736	1.00	100	96.1	90	110	
Zn	66	1	nogas	97.144	1.661	320345	2.38	100	97.1	90	110	
As	75	1	nogas	106.472	7.467	651205	1.92	100	106.5	90	110	
Sr	88	1	nogas	94.352	4.486	2152676	4.00	100	94.4	90	110	
Ag	107	1	nogas	90.984	4.929	1206459	3.32	100	91.0	90	110	
Cd	111	1	nogas	94.873	1.774	255257	1.75	100	94.9	90	110	
Sb	121	1	nogas	98.820	4.719	1089459	1.80	100	98.8	90	110	
Tl	205	1	nogas	96.028	1.721	1959494	0.32	100	96.0	90	110	
Pb	208	1	nogas	106.977	0.466	2725979	0.47	100	107.0	90	110	
U	238	1	nogas	95.730	1.111	2720251	0.63	100	95.7	90	110	
[Pb]	206	1	nogas	94.274	0.846	661176	0.85	100	94.3	90	110	
[Pb]	207	1	nogas	95.848	1.061	602810	1.44	100	95.8	90	110	
Na	23	2	He	11073.107	3.572	3815246	2.53	10000	110.7	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	8951.740	5.265	1459833	4.20	10000	89.5	90	110	CCV Main CR1-2 Failed
Al	27	2	He	90.591	9.667	4734	8.15	100	90.6	90	110	
K	39	2	He	10988.925	1.654	828189	1.63	10000	109.9	90	110	
Ca	43	2	He	8828.045	10.292	2734	11.44	10000	88.3	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9379.996	2.980	47478	2.30	10000	93.8	90	110	
V	51	2	He	93.575	1.032	170834	0.33	100	93.6	90	110	
Cr	52	2	He	92.871	0.692	228353	1.82	100	92.9	90	110	
Mn	55	2	He	93.341	0.715	89253	0.50	100	93.3	90	110	
Fe	56	2	He	9315.424	0.643	18054897	0.97	10000	93.2	90	110	
Co	59	2	He	92.635	3.980	381629	2.84	100	92.6	90	110	
Ni	60	2	He	92.816	4.155	108820	3.01	100	92.8	90	110	
Cu	63	2	He	92.759	3.054	302794	1.92	100	92.8	90	110	
Zn	66	2	He	100.424	0.917	45764	0.52	100	100.4	90	110	
As	75	2	He	95.555	0.852	31059	1.07	100	95.6	90	110	
Se	78	2	He	88.744	2.160	1181	1.19	100	88.7	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	527.615	5.391	1311641	3.22	500	105.5	90	110	
Si	28	1	nogas	4736.353	3.692	32175560	0.50	5000	94.7	90	110	
Ca	43	1	nogas	9379.327	2.060	255070	1.33	10000	93.8	90	110	
Ca	44	1	nogas	9302.453	1.974	4134117	4.22	10000	93.0	90	110	
Fe	56	1	nogas	9604.442	3.299	196951004	0.34	10000	96.0	90	110	
Se	77	1	nogas	153.239	10.395	117198	0.87	100	153.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.981	5.829	19181	3.19	100	100.0	90	110	
Mo	95	1	nogas	92.457	3.401	447110	2.92	100	92.5	90	110	
Sn	118	1	nogas	93.238	2.791	694949	2.82	100	93.2	90	110	
Ba	137	1	nogas	90.876	3.737	325001	1.98	100	90.9	90	110	
Sb	121	2	He	97.262	3.711	123858	2.62	100	97.3	90	110	
Li	7	1	nogas	101.919	4.692	873069	2.54	100	101.9	90	110	
P	31	1	nogas	448.712	3.486	510146	0.31	500	89.7	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	142.298	23.879	680	16.57	100	142.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	29.196	170.158	20	50.00	100	29.2	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	nogas	418934	2.99	424595	98.67	70	125	
Ge	72	1	nogas	2079855	3.00	1760485	118.14	70	125	
In	115	1	nogas	2150945	2.51	1841567	116.80	70	125	
Bi	209	1	nogas	1795810	1.56	1714556	104.74	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	169570	1.20	144534	117.32	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	177_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:34:46-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.054	9.7	333	4.6	1	
Na	23	1	nogas	1599.395	1.2	29609401	1.2	100	CCB Main CR1 Failed
Mg	24	1	nogas	31.464	20.0	383833	20.5	100	
Al	27	1	nogas	0.979	175.6	51794	51.1	5	
K	39	1	nogas	74.573	6.9	7282500	0.3	100	
Ti	47	1	nogas	0.049	105.7	310	23.3	2.5	
V	51	1	nogas	27.735	8.6	2022070	2.2	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.196	50.7	44373	2.9	2.5	
Mn	55	1	nogas	0.434	2.5	21403	0.5	2.5	
Co	59	1	nogas	0.062	33.3	1530	25.0	2.5	
Ni	60	1	nogas	3.490	2.7	16598	3.3	2.5	CCB Main CR1 Failed
Cu	63	1	nogas	1.309	5.4	18643	4.0	2.5	
Zn	66	1	nogas	0.357	6.7	3947	2.0	2.5	
As	75	1	nogas	6.317	16.1	263057	1.1	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.169	26.1	5311	18.8	2.5	
Ag	107	1	nogas	0.059	36.1	1457	20.0	2.5	
Cd	111	1	nogas	0.040	46.5	153	33.5	1	
Sb	121	1	nogas	0.609	16.0	9056	11.8	2.5	
Tl	205	1	nogas	0.234	37.6	5148	32.0	1	
Pb	208	1	nogas	0.036	49.0	2187	20.8	2.5	
U	238	1	nogas	0.067	31.3	2000	27.5	2.5	
[Pb]	206	1	nogas	0.033	51.5	623	16.5	2.5	
[Pb]	207	1	nogas	0.026	49.6	447	20.2	2.5	
Na	23	2	He	1615.957	2.1	595726	1.0	100	CCB Main CR1 Failed
Mg	24	2	He	24.686	3.4	4311	3.6	100	
Al	27	2	He	-0.516	-76.9	123	16.9	5	
K	39	2	He	142.251	2.6	24693	1.1	100	CCB Main CR1 Failed
Ca	43	2	He	30.689	161.1	13	114.6	100	
Ca	44	2	He	-7.721	-111.8	213	21.1	100	
V	51	2	He	1.144	2.6	1307	5.1	2.5	
Cr	52	2	He	-0.071	-32.2	1437	3.5	2.5	
Mn	55	2	He	0.200	20.1	340	10.2	2.5	
Fe	56	2	He	3.553	3.6	12341	2.2	100	
Co	59	2	He	0.021	19.6	160	10.8	2.5	
Ni	60	2	He	0.659	1.1	250	4.0	2.5	
Cu	63	2	He	0.625	1.5	850	4.2	2.5	
Zn	66	2	He	-0.154	-159.9	370	30.7	2.5	
As	75	2	He	0.058	102.0	51	37.7	2.5	
Se	78	2	He	0.942	18.4	3	69.3	2.5	
B	11	1	nogas	20.770	0.6	166155	1.4	10	CCB Main CR1 Failed
Si	28	1	nogas	-53.240	-12.8	1762687	2.8	5	
Ca	43	1	nogas	1.873	198.8	1117	8.8	100	
Ca	44	1	nogas	-156.776	-3.0	78631	2.0	100	
Fe	56	1	nogas	38.357	6.2	1900329	1.6	100	
Se	77	1	nogas	42.023	17.4	86699	2.1	2.5	CCB Main CR1 Failed
Se	82	1	nogas	1.341	23.6	800	7.0	2.5	
Mo	95	1	nogas	0.164	29.5	993	23.7	2.5	
Sn	118	1	nogas	0.085	54.7	2304	14.6	5	
Ba	137	1	nogas	0.043	41.1	437	14.7	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.328	3.5	737	2.8	2.5	
P	31	1	nogas	-4.206	-64.3	75290	2.4	10	
La	139	1	nogas	-27.294	-25.9	93	27.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	12.198	807.7	17	124.9	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	471560	1.48	424595	111.06	70	125	
Ge	72	1	nogas	2063655	1.01	1760485	117.22	70	125	
In	115	1	nogas	2176623	2.51	1841567	118.19	70	125	
Bi	209	1	nogas	1813218	3.24	1714556	105.75	70	125	
Ge	72	2	He	167997	1.00	144534	116.23	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	188_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:57:01-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	102.478	1.843	344956	1.90	100	102.5	90	110	
Na	23	1	nogas	10310.121	2.705	187207529	4.08	10000	103.1	90	110	
Mg	24	1	nogas	9246.265	1.504	113116182	2.44	10000	92.5	90	110	
Al	27	1	nogas	92.678	3.152	1492801	2.23	100	92.7	90	110	
K	39	1	nogas	9413.167	3.420	129332449	1.26	10000	94.1	90	110	
Ti	47	1	nogas	94.775	2.145	129390	3.78	100	94.8	90	110	
V	51	1	nogas	140.931	1.000	4384128	2.21	100	140.9	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.780	1.821	1679794	1.79	100	94.8	90	110	
Mn	55	1	nogas	97.118	2.314	2078855	2.70	100	97.1	90	110	
Co	59	1	nogas	92.568	6.505	1722999	4.73	100	92.6	90	110	
Ni	60	1	nogas	96.120	3.686	396233	1.78	100	96.1	90	110	
Cu	63	1	nogas	94.085	3.161	961908	1.11	100	94.1	90	110	
Zn	66	1	nogas	97.054	2.707	317635	2.86	100	97.1	90	110	
As	75	1	nogas	109.426	2.944	657973	0.71	100	109.4	90	110	
Sr	88	1	nogas	94.099	1.777	2131961	3.95	100	94.1	90	110	
Ag	107	1	nogas	90.881	2.791	1196278	0.74	100	90.9	90	110	
Cd	111	1	nogas	98.446	1.757	253074	0.67	100	98.4	90	110	
Sb	121	1	nogas	97.663	1.296	1069316	0.85	100	97.7	90	110	
Tl	205	1	nogas	97.229	0.823	1904591	2.83	100	97.2	90	110	
Pb	208	1	nogas	104.107	1.714	2652888	1.71	100	104.1	90	110	
U	238	1	nogas	98.099	2.136	2674805	0.47	100	98.1	90	110	
[Pb]	206	1	nogas	95.621	0.434	643608	1.58	100	95.6	90	110	
[Pb]	207	1	nogas	96.555	1.088	582730	0.95	100	96.6	90	110	
Na	23	2	He	10733.349	2.449	3535569	1.70	10000	107.3	90	110	
Mg	24	2	He	9241.801	4.882	1440112	3.77	10000	92.4	90	110	
Al	27	2	He	96.429	2.271	4811	3.90	100	96.4	90	110	
K	39	2	He	10857.006	1.547	818417	1.52	10000	108.6	90	110	
Ca	43	2	He	8619.999	10.013	2547	9.20	10000	86.2	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9347.428	0.992	45216	1.38	10000	93.5	90	110	
V	51	2	He	95.554	1.922	166688	0.46	100	95.6	90	110	
Cr	52	2	He	93.873	2.020	220558	3.24	100	93.9	90	110	
Mn	55	2	He	95.786	1.226	87515	1.35	100	95.8	90	110	
Fe	56	2	He	9601.220	0.759	17783498	2.35	10000	96.0	90	110	
Co	59	2	He	94.386	3.131	371541	1.35	100	94.4	90	110	
Ni	60	2	He	94.883	2.286	106318	0.53	100	94.9	90	110	
Cu	63	2	He	94.432	0.825	294636	1.49	100	94.4	90	110	
Zn	66	2	He	104.190	3.143	45353	3.12	100	104.2	90	110	
As	75	2	He	99.349	1.004	30859	2.52	100	99.3	90	110	
Se	78	2	He	95.931	8.560	1220	6.91	100	95.9	90	110	
B	11	1	nogas	541.760	5.388	1349215	2.35	500	108.4	90	110	
Si	28	1	nogas	4638.648	0.553	31334812	1.93	5000	92.8	90	110	
Ca	43	1	nogas	9405.245	1.617	253869	1.35	10000	94.1	90	110	
Ca	44	1	nogas	9282.802	2.822	4092233	1.65	10000	92.8	90	110	
Fe	56	1	nogas	9521.507	2.883	193826129	1.43	10000	95.2	90	110	
Se	77	1	nogas	170.249	6.000	120885	0.17	100	170.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.056	2.009	18330	3.41	100	96.1	90	110	
Mo	95	1	nogas	91.908	2.950	441421	5.12	100	91.9	90	110	
Sn	118	1	nogas	94.816	0.610	675302	1.31	100	94.8	90	110	
Ba	137	1	nogas	97.366	0.837	332835	1.07	100	97.4	90	110	
Sb	121	2	He	100.493	2.652	122280	1.72	100	100.5	90	110	
Li	7	1	nogas	100.596	3.522	865768	1.51	100	100.6	90	110	
P	31	1	nogas	433.800	0.632	492322	1.82	500	86.8	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	148.276	4.241	670	1.49	100	148.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-17.758	-282.102	10	100.00	100	-17.8	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	nogas	420661	3.77	424595	99.07	70	125	
Ge	72	1	nogas	2063971	2.16	1760485	117.24	70	125	
In	115	1	nogas	2055114	1.68	1841567	111.60	70	125	
Bi	209	1	nogas	1723448	2.02	1714556	100.52	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	162036	1.75	144534	112.11	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	189_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T16:59:00-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.067	29.6	353	18.8	1	
Na	23	1	nogas	1205.911	0.8	22397021	1.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	24.910	16.0	301287	16.7	100	
Al	27	1	nogas	-0.591	-15.2	26923	5.4	5	
K	39	1	nogas	36.184	26.7	6691332	0.4	100	
Ti	47	1	nogas	0.119	16.3	400	7.5	2.5	
V	51	1	nogas	35.459	11.8	2154067	2.7	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.354	40.1	46485	3.7	2.5	
Mn	55	1	nogas	0.436	3.5	21159	3.2	2.5	
Co	59	1	nogas	0.055	47.4	1377	36.0	2.5	
Ni	60	1	nogas	2.047	10.6	10530	6.8	2.5	
Cu	63	1	nogas	0.740	4.1	12695	4.0	2.5	
Zn	66	1	nogas	0.432	33.4	4137	12.4	2.5	
As	75	1	nogas	8.141	27.3	266462	2.0	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.127	16.7	4321	12.8	2.5	
Ag	107	1	nogas	0.054	39.7	1367	21.7	2.5	
Cd	111	1	nogas	0.040	24.3	143	17.6	1	
Sb	121	1	nogas	0.638	19.2	9266	15.8	2.5	
Tl	205	1	nogas	0.258	38.8	5611	36.0	1	
Pb	208	1	nogas	0.050	39.1	2530	19.6	2.5	
U	238	1	nogas	0.067	40.4	2007	38.4	2.5	
[Pb]	206	1	nogas	0.035	61.9	633	23.8	2.5	
[Pb]	207	1	nogas	0.054	36.4	613	19.7	2.5	
Na	23	2	He	1309.362	0.4	467206	0.7	100	CCB Main CR1 Failed
Mg	24	2	He	22.698	4.1	3784	3.7	100	
Al	27	2	He	-1.431	-9.1	73	7.9	5	
K	39	2	He	114.094	3.9	22607	1.5	100	CCB Main CR1 Failed
Ca	43	2	He	10.397	191.3	7	86.6	100	
Ca	44	2	He	-15.930	-66.1	163	30.8	100	
V	51	2	He	1.191	3.2	1321	5.5	2.5	
Cr	52	2	He	0.034	195.8	1603	9.7	2.5	
Mn	55	2	He	0.090	72.8	223	26.2	2.5	
Fe	56	2	He	4.153	4.9	12798	2.5	100	
Co	59	2	He	0.021	41.8	150	23.1	2.5	
Ni	60	2	He	0.713	11.7	297	30.6	2.5	
Cu	63	2	He	0.660	2.6	913	5.2	2.5	
Zn	66	2	He	0.073	185.1	447	12.3	2.5	
As	75	2	He	0.031	156.2	40	36.3	2.5	
Se	78	2	He	0.956	9.7	3	34.6	2.5	
B	11	1	nogas	19.789	6.1	151851	1.9	10	CCB Main CR1 Failed
Si	28	1	nogas	-74.790	-2.9	1605477	0.9	5	
Ca	43	1	nogas	2.287	114.5	1113	6.6	100	
Ca	44	1	nogas	-172.371	-1.1	71071	2.1	100	
Fe	56	1	nogas	45.522	4.0	2018873	2.0	100	
Se	77	1	nogas	54.771	19.8	88903	2.0	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.246	36.5	590	4.5	2.5	
Mo	95	1	nogas	0.174	41.6	1027	35.2	2.5	
Sn	118	1	nogas	0.109	33.7	2340	11.0	5	
Ba	137	1	nogas	0.039	41.2	397	13.9	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.467	24.7	863	15.4	2.5	
P	31	1	nogas	-8.804	-8.0	69999	1.0	10	
La	139	1	nogas	-23.635	-24.7	100	20.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	-19.629	-243.3	10	100.0	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	nogas	437657	1.12	424595	103.08	70	125	
Ge	72	1	nogas	2036775	1.72	1760485	115.69	70	125	
In	115	1	nogas	2049892	0.69	1841567	111.31	70	125	
Bi	209	1	nogas	1798290	0.51	1714556	104.88	70	125	
Ge	72	2	He	159355	0.65	144534	110.25	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	201_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T17:35:28-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.060	4.3	367	4.2	1	
Na	23	1	nogas	356.976	2.0	7267013	1.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	9.924	23.4	116393	18.2	100	
Al	27	1	nogas	-0.512	-9.8	27030	0.6	5	
K	39	1	nogas	26.366	54.9	6301774	1.0	100	
Ti	47	1	nogas	0.089	89.0	343	27.5	2.5	
V	51	1	nogas	44.703	8.3	2251716	3.9	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.478	15.3	46713	5.1	2.5	
Mn	55	1	nogas	0.483	16.5	21259	6.0	2.5	
Co	59	1	nogas	0.056	55.8	1333	39.9	2.5	
Ni	60	1	nogas	0.572	4.4	4391	4.4	2.5	
Cu	63	1	nogas	0.184	30.8	6821	6.8	2.5	
Zn	66	1	nogas	-0.139	-31.8	2214	4.4	2.5	
As	75	1	nogas	12.721	14.8	272532	3.1	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.077	18.9	3067	8.0	2.5	
Ag	107	1	nogas	0.052	36.2	1280	16.5	2.5	
Cd	111	1	nogas	0.036	39.1	130	26.6	1	
Sb	121	1	nogas	0.576	23.3	8225	15.2	2.5	
Tl	205	1	nogas	0.253	36.4	5474	33.6	1	
Pb	208	1	nogas	0.058	62.5	2737	33.7	2.5	
U	238	1	nogas	0.073	32.7	2162	31.0	2.5	
[Pb]	206	1	nogas	0.032	79.2	603	28.3	2.5	
[Pb]	207	1	nogas	0.051	57.1	590	30.1	2.5	
Na	23	2	He	409.345	3.0	167343	1.7	100	CCB Main CR1 Failed
Mg	24	2	He	7.121	6.4	1300	4.0	100	
Al	27	2	He	-0.946	-61.4	90	29.4	5	
K	39	2	He	59.946	12.2	18596	2.9	100	
Ca	43	2	He	36.743	153.0	13	114.6	100	
Ca	44	2	He	-16.480	-74.8	150	37.1	100	
V	51	2	He	1.227	2.7	1288	5.1	2.5	
Cr	52	2	He	0.050	91.2	1527	5.6	2.5	
Mn	55	2	He	0.167	37.6	273	20.2	2.5	
Fe	56	2	He	4.466	6.9	12448	3.3	100	
Co	59	2	He	0.038	18.7	200	13.2	2.5	
Ni	60	2	He	0.678	8.9	240	26.0	2.5	
Cu	63	2	He	0.686	6.9	923	14.9	2.5	
Zn	66	2	He	-0.414	-21.2	223	14.4	2.5	
As	75	2	He	0.118	50.7	62	27.5	2.5	
Se	78	2	He	1.317	15.5	7	31.5	2.5	
B	11	1	nogas	14.903	23.5	155926	2.7	10	CCB Main CR1 Failed
Si	28	1	nogas	-49.855	-8.3	1690265	1.5	5	
Ca	43	1	nogas	-1.002	-404.4	987	12.8	100	
Ca	44	1	nogas	-167.348	-3.3	70232	1.5	100	
Fe	56	1	nogas	33.963	9.7	1715859	1.3	100	
Se	77	1	nogas	70.026	15.8	89237	3.6	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.165	-514.7	493	29.3	2.5	
Mo	95	1	nogas	0.176	27.5	990	21.1	2.5	
Sn	118	1	nogas	0.064	57.9	1970	13.3	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.058	12.7	450	5.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.369	44.2	697	26.9	2.5	
P	31	1	nogas	-3.673	-56.3	71816	0.4	10	
La	139	1	nogas	-38.357	-7.9	50	20.0	2.5	
Au	197	1	nogas	12.884	779.6	17	124.9	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	487692	3.44	424595	114.86	70	125	
Ge	72	1	nogas	1955668	2.49	1760485	111.09	70	125	
In	115	1	nogas	2000141	0.46	1841567	108.61	70	125	
Bi	209	1	nogas	1786006	0.42	1714556	104.17	70	125	
Ge	72	2	He	148421	1.03	144534	102.69	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	203_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T17:39:30-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	96.088	1.534	335940	1.05	100	96.1	90	110	
Na	23	1	nogas	10103.452	5.715	159019691	3.29	10000	101.0	90	110	
Mg	24	1	nogas	9643.991	0.800	102344154	1.68	10000	96.4	90	110	
Al	27	1	nogas	98.069	0.825	1424636	0.94	100	98.1	90	110	
K	39	1	nogas	9396.858	0.292	116627061	1.00	10000	94.0	90	110	
Ti	47	1	nogas	92.074	1.432	113473	1.54	100	92.1	90	110	
V	51	1	nogas	130.209	3.366	3756361	2.59	100	130.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.009	2.007	1536120	2.69	100	96.0	90	110	
Mn	55	1	nogas	97.946	3.248	1893036	3.56	100	97.9	90	110	
Co	59	1	nogas	94.394	1.654	1587438	0.97	100	94.4	90	110	
Ni	60	1	nogas	94.475	0.490	351817	0.70	100	94.5	90	110	
Cu	63	1	nogas	93.041	1.943	859218	1.89	100	93.0	90	110	
Zn	66	1	nogas	99.150	1.367	292934	1.33	100	99.1	90	110	
As	75	1	nogas	105.114	2.436	579318	2.29	100	105.1	90	110	
Sr	88	1	nogas	97.038	3.674	1984011	2.95	100	97.0	90	110	
Ag	107	1	nogas	93.718	0.998	1114114	0.30	100	93.7	90	110	
Cd	111	1	nogas	96.505	1.023	234086	2.78	100	96.5	90	110	
Sb	121	1	nogas	102.530	2.063	1013620	2.34	100	102.5	90	110	
Tl	205	1	nogas	92.885	2.543	1818971	0.68	100	92.9	90	110	
Pb	208	1	nogas	101.342	1.435	2582448	1.43	100	101.3	90	110	
U	238	1	nogas	99.218	3.169	2705624	2.23	100	99.2	90	110	
[Pb]	206	1	nogas	92.597	2.758	623188	1.27	100	92.6	90	110	
[Pb]	207	1	nogas	95.277	2.398	575072	1.88	100	95.3	90	110	
Na	23	2	He	9741.950	2.300	2976003	2.27	10000	97.4	90	110	
Mg	24	2	He	9218.809	2.799	1330435	1.95	10000	92.2	90	110	
Al	27	2	He	91.141	3.934	4217	4.66	100	91.1	90	110	
K	39	2	He	9308.513	3.066	703708	3.00	10000	93.1	90	110	
Ca	43	2	He	8072.749	9.166	2210	9.24	10000	80.7	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	8888.146	5.001	39810	4.01	10000	88.9	90	110	CCV Main CR1-2 Failed
V	51	2	He	92.687	1.434	149713	1.30	100	92.7	90	110	
Cr	52	2	He	92.646	2.094	201525	1.57	100	92.6	90	110	
Mn	55	2	He	89.539	2.786	75750	2.06	100	89.5	90	110	CCV Main CR1-2 Failed
Fe	56	2	He	9046.156	3.366	15511575	3.01	10000	90.5	90	110	
Co	59	2	He	93.072	2.279	339307	1.52	100	93.1	90	110	
Ni	60	2	He	93.171	2.579	96666	1.63	100	93.2	90	110	
Cu	63	2	He	94.107	1.949	271846	1.07	100	94.1	90	110	
Zn	66	2	He	100.549	0.638	40542	0.76	100	100.5	90	110	
As	75	2	He	95.969	0.689	27601	1.62	100	96.0	90	110	
Se	78	2	He	87.831	8.726	1034	7.87	100	87.8	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	509.636	5.237	1324683	3.05	500	101.9	90	110	
Si	28	1	nogas	4878.872	2.070	29660815	2.68	5000	97.6	90	110	
Ca	43	1	nogas	9559.453	1.539	232966	0.80	10000	95.6	90	110	
Ca	44	1	nogas	9226.027	1.926	3673682	1.43	10000	92.3	90	110	
Fe	56	1	nogas	9531.159	1.746	175225921	1.65	10000	95.3	90	110	
Se	77	1	nogas	147.381	8.202	103681	3.56	100	147.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.273	2.361	16581	1.66	100	96.3	90	110	
Mo	95	1	nogas	94.193	2.196	408216	1.50	100	94.2	90	110	
Sn	118	1	nogas	94.467	1.431	634588	0.33	100	94.5	90	110	
Ba	137	1	nogas	95.613	1.772	308301	1.68	100	95.6	90	110	
Sb	121	2	He	98.470	2.585	110959	1.95	100	98.5	90	110	
Li	7	1	nogas	98.461	2.242	881174	1.31	100	98.5	90	110	
P	31	1	nogas	451.047	3.191	459385	3.38	500	90.2	90	110	
La	139	1	nogas	108.289	16.784	507	9.93	100	108.3	90	110	
Au	197	1	nogas	31.364	313.890	20	100.00	100	31.4	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	nogas	436785	2.17	424595	102.87	70	125	
Ge	72	1	nogas	1863409	0.76	1760485	105.85	70	125	
In	115	1	nogas	1938557	1.75	1841567	105.27	70	125	
Bi	209	1	nogas	1723716	2.08	1714556	100.53	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	150031	0.96	144534	103.80	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	213_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:00:25-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	99.171	6.183	344321	2.75	100	99.2	90	110	
Na	23	1	nogas	9968.301	2.234	159925729	1.30	10000	99.7	90	110	
Mg	24	1	nogas	9664.498	2.269	104446996	0.98	10000	96.6	90	110	
Al	27	1	nogas	99.111	3.733	1424135	2.48	100	99.1	90	110	
K	39	1	nogas	9457.656	3.162	116093953	1.18	10000	94.6	90	110	
Ti	47	1	nogas	92.687	2.859	113015	1.10	100	92.7	90	110	
V	51	1	nogas	120.667	5.015	3538316	1.41	100	120.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.498	0.991	1512258	1.90	100	95.5	90	110	
Mn	55	1	nogas	98.732	2.362	1887876	0.67	100	98.7	90	110	
Co	59	1	nogas	94.935	0.514	1580301	2.13	100	94.9	90	110	
Ni	60	1	nogas	93.960	2.123	346233	0.84	100	94.0	90	110	
Cu	63	1	nogas	91.456	2.005	835886	1.77	100	91.5	90	110	
Zn	66	1	nogas	96.919	1.043	283452	1.84	100	96.9	90	110	
As	75	1	nogas	98.287	3.793	549808	1.06	100	98.3	90	110	
Sr	88	1	nogas	95.860	4.084	1939159	2.24	100	95.9	90	110	
Ag	107	1	nogas	93.984	2.264	1105553	0.75	100	94.0	90	110	
Cd	111	1	nogas	96.041	1.910	232198	0.68	100	96.0	90	110	
Sb	121	1	nogas	102.778	1.938	1005366	0.50	100	102.8	90	110	
Tl	205	1	nogas	91.720	1.765	1799367	1.53	100	91.7	90	110	
Pb	208	1	nogas	100.270	0.855	2555160	0.85	100	100.3	90	110	
U	238	1	nogas	97.139	2.823	2653302	1.92	100	97.1	90	110	
[Pb]	206	1	nogas	92.679	1.742	624818	0.79	100	92.7	90	110	
[Pb]	207	1	nogas	94.794	1.221	573094	0.24	100	94.8	90	110	
Na	23	2	He	9956.600	0.788	2929289	0.54	10000	99.6	90	110	
Mg	24	2	He	9302.645	2.647	1293801	3.45	10000	93.0	90	110	
Al	27	2	He	93.388	6.282	4161	6.97	100	93.4	90	110	
K	39	2	He	9177.085	1.286	693973	1.26	10000	91.8	90	110	
Ca	43	2	He	9012.601	3.149	2377	3.43	10000	90.1	90	110	
Ca	44	2	He	9349.202	2.449	40345	2.66	10000	93.5	90	110	
V	51	2	He	93.408	1.733	145352	0.73	100	93.4	90	110	
Cr	52	2	He	94.828	1.422	198708	1.58	100	94.8	90	110	
Mn	55	2	He	91.692	2.394	74745	2.86	100	91.7	90	110	
Fe	56	2	He	9450.759	1.298	15613072	0.96	10000	94.5	90	110	
Co	59	2	He	94.164	1.696	330744	1.22	100	94.2	90	110	
Ni	60	2	He	93.728	2.440	93690	1.43	100	93.7	90	110	
Cu	63	2	He	95.113	3.112	264690	2.21	100	95.1	90	110	
Zn	66	2	He	103.175	1.491	40068	1.12	100	103.2	90	110	
As	75	2	He	97.121	3.526	26903	2.68	100	97.1	90	110	
Se	78	2	He	85.888	8.191	974	7.40	100	85.9	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	513.877	3.070	1327212	1.16	500	102.8	90	110	
Si	28	1	nogas	4969.624	2.405	29856255	0.68	5000	99.4	90	110	
Ca	43	1	nogas	9484.381	4.047	228675	2.29	10000	94.8	90	110	
Ca	44	1	nogas	9358.276	4.508	3684526	2.65	10000	93.6	90	110	
Fe	56	1	nogas	9328.447	0.427	169768637	2.17	10000	93.3	90	110	
Se	77	1	nogas	117.171	11.733	95385	3.25	100	117.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.607	3.440	16461	1.57	100	96.6	90	110	
Mo	95	1	nogas	93.562	4.833	401123	3.05	100	93.6	90	110	
Sn	118	1	nogas	94.417	1.985	632441	2.20	100	94.4	90	110	
Ba	137	1	nogas	94.687	2.158	304372	0.11	100	94.7	90	110	
Sb	121	2	He	100.098	0.977	108681	1.79	100	100.1	90	110	
Li	7	1	nogas	99.681	4.854	886299	4.44	100	99.7	90	110	
P	31	1	nogas	454.233	4.649	457113	2.31	500	90.8	90	110	
La	139	1	nogas	123.558	26.893	553	18.81	100	123.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	48.937	153.907	23	65.47	100	48.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	434319	3.71	424595	102.29	70	125	
Ge	72	1	nogas	1844258	1.87	1760485	104.76	70	125	
In	115	1	nogas	1932919	2.06	1841567	104.96	70	125	
Bi	209	1	nogas	1726309	0.99	1714556	100.69	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	144543	1.06	144534	100.01	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	214_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:02:23-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.086	69.0	470	51.6	1	
Na	23	1	nogas	355.925	1.9	7358965	0.6	100	CCB Main CR1 Failed
Mg	24	1	nogas	10.544	20.1	125445	18.6	100	
Al	27	1	nogas	-0.405	-17.7	27140	2.1	5	
K	39	1	nogas	46.126	15.5	6209574	0.9	100	
Ti	47	1	nogas	0.105	51.3	347	17.6	2.5	
V	51	1	nogas	30.060	13.7	1860145	3.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.287	20.6	41296	1.2	2.5	
Mn	55	1	nogas	0.474	1.3	20008	2.6	2.5	
Co	59	1	nogas	0.065	42.6	1430	33.1	2.5	
Ni	60	1	nogas	0.484	8.7	3840	5.2	2.5	
Cu	63	1	nogas	0.144	13.0	6111	1.4	2.5	
Zn	66	1	nogas	-0.175	-11.9	1997	4.5	2.5	
As	75	1	nogas	6.342	42.3	236437	3.4	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.108	27.8	3534	17.8	2.5	
Ag	107	1	nogas	0.051	50.6	1207	25.0	2.5	
Cd	111	1	nogas	0.058	29.0	183	22.0	1	
Sb	121	1	nogas	0.617	23.4	8222	17.6	2.5	
Tl	205	1	nogas	0.272	31.8	5715	30.3	1	
Pb	208	1	nogas	0.055	51.8	2670	27.3	2.5	
U	238	1	nogas	0.079	27.5	2270	26.4	2.5	
[Pb]	206	1	nogas	0.034	115.7	603	44.4	2.5	
[Pb]	207	1	nogas	0.051	37.2	580	20.3	2.5	
Na	23	2	He	399.137	2.4	161527	1.2	100	CCB Main CR1 Failed
Mg	24	2	He	7.308	9.8	1303	5.7	100	
Al	27	2	He	-1.507	-79.5	63	81.0	5	
K	39	2	He	46.164	3.9	17575	0.8	100	
Ca	43	2	He	25.091	152.0	10	100.0	100	
Ca	44	2	He	-11.149	-98.1	170	27.0	100	
V	51	2	He	1.095	4.1	1057	5.3	2.5	
Cr	52	2	He	0.001	7461.9	1400	12.2	2.5	
Mn	55	2	He	0.198	26.8	293	12.9	2.5	
Fe	56	2	He	4.681	10.3	12591	4.6	100	
Co	59	2	He	0.029	34.0	167	19.3	2.5	
Ni	60	2	He	0.768	9.3	327	20.4	2.5	
Cu	63	2	He	0.687	9.6	910	19.1	2.5	
Zn	66	2	He	-0.405	-0.6	223	2.6	2.5	
As	75	2	He	0.038	56.5	39	17.8	2.5	
Se	78	2	He	1.447	30.9	9	58.1	2.5	
B	11	1	nogas	19.636	6.0	168774	1.6	10	CCB Main CR1 Failed
Si	28	1	nogas	-33.432	-27.5	1695481	1.0	5	
Ca	43	1	nogas	4.761	103.2	1073	11.3	100	
Ca	44	1	nogas	-158.025	-3.2	70168	0.7	100	
Fe	56	1	nogas	28.071	7.8	1520869	3.2	100	
Se	77	1	nogas	41.386	23.9	77746	2.5	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.297	-36.5	447	3.4	2.5	
Mo	95	1	nogas	0.168	53.9	910	43.8	2.5	
Sn	118	1	nogas	0.099	18.3	2197	4.0	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.089	60.8	547	30.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.429	30.0	750	18.8	2.5	
P	31	1	nogas	2.946	87.9	73764	0.9	10	
La	139	1	nogas	-24.669	-21.2	93	16.4	2.5	
Au	197	1	nogas	31.835	155.2	20	50.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	487730	2.65	424595	114.87	70	125	
Ge	72	1	nogas	1854533	2.08	1760485	105.34	70	125	
In	115	1	nogas	1986217	1.79	1841567	107.85	70	125	
Bi	209	1	nogas	1740335	1.62	1714556	101.50	70	125	
Ge	72	2	He	145925	2.17	144534	100.96	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	217_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:08:27-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	92.833	5.378	349111	1.64	100	92.8	90	110	
Na	23	1	nogas	10302.266	1.518	160738741	1.67	10000	103.0	90	110	
Mg	24	1	nogas	10177.494	5.027	106932971	2.44	10000	101.8	90	110	
Al	27	1	nogas	96.584	3.383	1425060	1.17	100	96.6	90	110	
K	39	1	nogas	9085.024	2.311	114734494	3.32	10000	90.9	90	110	
Ti	47	1	nogas	91.445	1.832	114454	0.94	100	91.4	90	110	
V	51	1	nogas	106.924	5.788	3368758	2.42	100	106.9	90	110	
Cr	52	1	nogas	92.869	4.972	1509750	3.72	100	92.9	90	110	
Mn	55	1	nogas	95.218	4.242	1868436	2.09	100	95.2	90	110	
Co	59	1	nogas	91.605	4.290	1564095	2.36	100	91.6	90	110	
Ni	60	1	nogas	91.428	4.218	345722	2.32	100	91.4	90	110	
Cu	63	1	nogas	90.338	2.757	847263	0.60	100	90.3	90	110	
Zn	66	1	nogas	95.675	0.964	287222	2.19	100	95.7	90	110	
As	75	1	nogas	88.882	3.836	531272	1.72	100	88.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	96.374	3.053	2001211	1.78	100	96.4	90	110	
Ag	107	1	nogas	92.293	1.587	1114380	1.47	100	92.3	90	110	
Cd	111	1	nogas	95.289	0.894	240376	1.14	100	95.3	90	110	
Sb	121	1	nogas	101.062	1.940	1014643	0.97	100	101.1	90	110	
Tl	205	1	nogas	95.797	2.322	1875520	2.93	100	95.8	90	110	
Pb	208	1	nogas	101.158	2.620	2577765	2.62	100	101.2	90	110	
U	238	1	nogas	97.677	1.846	2662448	1.31	100	97.7	90	110	
[Pb]	206	1	nogas	94.262	2.622	634234	3.25	100	94.3	90	110	
[Pb]	207	1	nogas	94.986	0.992	573068	1.62	100	95.0	90	110	
Na	23	2	He	9591.490	2.423	2865014	0.93	10000	95.9	90	110	
Mg	24	2	He	9219.564	2.929	1300896	2.03	10000	92.2	90	110	
Al	27	2	He	85.114	6.316	3857	5.29	100	85.1	90	110	CCV Main CR1-2 Failed
K	39	2	He	9011.160	2.973	681681	2.91	10000	90.1	90	110	
Ca	43	2	He	8168.852	0.612	2187	2.11	10000	81.7	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	8977.411	2.834	39318	2.09	10000	89.8	90	110	CCV Main CR1-2 Failed
V	51	2	He	92.816	1.776	146572	0.59	100	92.8	90	110	
Cr	52	2	He	92.907	1.546	197594	1.18	100	92.9	90	110	
Mn	55	2	He	90.513	1.768	74869	0.37	100	90.5	90	110	
Fe	56	2	He	9245.734	1.191	15501741	1.14	10000	92.5	90	110	
Co	59	2	He	93.908	3.551	334687	2.43	100	93.9	90	110	
Ni	60	2	He	93.627	4.250	94959	2.85	100	93.6	90	110	
Cu	63	2	He	94.442	1.652	266742	0.64	100	94.4	90	110	
Zn	66	2	He	100.315	2.877	39560	4.19	100	100.3	90	110	
As	75	2	He	95.578	2.456	26870	0.98	100	95.6	90	110	
Se	78	2	He	81.442	1.334	937	1.60	100	81.4	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	467.275	4.317	1316765	0.77	500	93.5	90	110	
Si	28	1	nogas	4790.860	3.046	29605513	0.69	5000	95.8	90	110	
Ca	43	1	nogas	9058.664	2.268	224346	3.71	10000	90.6	90	110	
Ca	44	1	nogas	8980.379	2.524	3636571	3.77	10000	89.8	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	9159.978	5.000	170984766	2.87	10000	91.6	90	110	
Se	77	1	nogas	83.986	23.871	89750	4.42	100	84.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	95.809	5.208	16755	3.17	100	95.8	90	110	
Mo	95	1	nogas	93.090	1.944	409746	0.83	100	93.1	90	110	
Sn	118	1	nogas	93.113	2.412	650613	1.47	100	93.1	90	110	
Ba	137	1	nogas	91.404	0.222	306637	2.22	100	91.4	90	110	
Sb	121	2	He	98.533	1.582	108559	0.39	100	98.5	90	110	
Li	7	1	nogas	99.956	7.156	961534	4.26	100	100.0	90	110	
P	31	1	nogas	441.558	1.487	458240	1.52	500	88.3	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	99.163	31.017	497	18.60	100	99.2	90	110	
Au	197	1	nogas	49.584	234.033	23	98.97	100	49.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	470349	3.72	424595	110.78	70	125	
Ge	72	1	nogas	1892849	2.19	1760485	107.52	70	125	
In	115	1	nogas	2016530	2.01	1841567	109.50	70	125	
Bi	209	1	nogas	1722534	0.63	1714556	100.47	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	146697	1.59	144534	101.50	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	218_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:10:24-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.074	45.5	437	28.6	1	
Na	23	1	nogas	316.977	4.9	6776715	1.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	10.106	29.5	120918	24.5	100	
Al	27	1	nogas	-0.513	-14.9	26589	5.4	5	
K	39	1	nogas	35.135	62.6	6306326	0.1	100	
Ti	47	1	nogas	0.091	70.6	340	20.4	2.5	
V	51	1	nogas	21.794	14.0	1770191	3.6	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.050	149.6	39032	1.6	2.5	
Mn	55	1	nogas	0.455	11.4	20355	3.3	2.5	
Co	59	1	nogas	0.068	41.7	1513	29.4	2.5	
Ni	60	1	nogas	0.315	24.5	3330	5.9	2.5	
Cu	63	1	nogas	0.101	48.3	5918	3.8	2.5	
Zn	66	1	nogas	-0.129	-45.9	2207	4.1	2.5	
As	75	1	nogas	0.322	982.9	223863	4.6	2.5	
Sr	88	1	nogas	0.091	43.5	3290	21.3	2.5	
Ag	107	1	nogas	0.066	34.8	1443	20.0	2.5	
Cd	111	1	nogas	0.075	38.1	223	31.5	1	
Sb	121	1	nogas	0.624	22.2	8589	14.7	2.5	
Tl	205	1	nogas	0.275	43.2	5881	42.2	1	
Pb	208	1	nogas	0.060	45.5	2793	25.0	2.5	
U	238	1	nogas	0.088	38.3	2560	38.6	2.5	
[Pb]	206	1	nogas	0.046	71.1	700	34.0	2.5	
[Pb]	207	1	nogas	0.059	51.5	640	30.8	2.5	
Na	23	2	He	359.370	3.1	151664	1.1	100	CCB Main CR1 Failed
Mg	24	2	He	6.134	7.1	1153	5.2	100	
Al	27	2	He	-0.855	-67.7	93	27.0	5	
K	39	2	He	42.604	3.7	17312	0.7	100	
Ca	43	2	He	49.024	114.5	17	91.7	100	
Ca	44	2	He	-13.235	-51.3	163	19.7	100	
V	51	2	He	1.043	3.4	987	6.7	2.5	
Cr	52	2	He	-0.015	-321.4	1380	6.2	2.5	
Mn	55	2	He	0.145	37.8	253	17.8	2.5	
Fe	56	2	He	4.616	9.8	12631	4.7	100	
Co	59	2	He	0.025	74.1	153	44.4	2.5	
Ni	60	2	He	0.757	7.6	320	17.4	2.5	
Cu	63	2	He	0.717	5.5	1010	12.4	2.5	
Zn	66	2	He	-0.607	-4.0	147	7.9	2.5	
As	75	2	He	0.037	206.3	39	55.1	2.5	
Se	78	2	He	1.436	25.3	9	48.0	2.5	
B	11	1	nogas	13.696	32.6	158843	4.3	10	CCB Main CR1 Failed
Si	28	1	nogas	-46.641	-32.6	1680872	1.6	5	
Ca	43	1	nogas	0.956	434.3	1020	12.0	100	
Ca	44	1	nogas	-165.962	-4.2	69649	0.5	100	
Fe	56	1	nogas	23.250	25.7	1485424	4.8	100	
Se	77	1	nogas	3.157	457.9	71186	5.2	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.128	-271.7	493	13.5	2.5	
Mo	95	1	nogas	0.167	35.7	933	24.8	2.5	
Sn	118	1	nogas	0.242	92.0	3153	48.2	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.056	89.7	437	37.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.410	25.8	737	14.9	2.5	
P	31	1	nogas	0.317	564.7	74246	3.0	10	
La	139	1	nogas	-21.331	-74.5	103	48.7	2.5	
Au	197	1	nogas	13.792	199.6	17	34.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	507565	3.76	424595	119.54	70	125	
Ge	72	1	nogas	1925436	4.34	1760485	109.37	70	125	
In	115	1	nogas	1971070	0.22	1841567	107.03	70	125	
Bi	209	1	nogas	1766163	1.54	1714556	103.01	70	125	
Ge	72	2	He	147642	1.35	144534	102.15	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	219LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:12:24-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.683	4.982	19187	0.68	5	93.7	70	130	
Na	23	1	nogas	836.958	1.089	14830249	0.61	500	167.4	70	130	LLICV Main CR1 Failed
Mg	24	1	nogas	539.329	1.134	5819187	0.63	500	107.9	70	130	
Al	27	1	nogas	5.196	1.988	111233	1.40	5	103.9	70	130	
K	39	1	nogas	540.826	6.461	12582460	0.91	500	108.2	70	130	
Ti	47	1	nogas	4.874	5.492	6471	2.64	5	97.5	70	130	
V	51	1	nogas	34.889	3.370	2043610	3.18	5	697.8	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	5.339	1.813	125437	1.91	5	106.8	70	130	
Mn	55	1	nogas	5.479	3.940	121093	1.12	5	109.6	70	130	
Co	59	1	nogas	5.055	2.881	88896	0.81	5	101.1	70	130	
Ni	60	1	nogas	5.572	3.607	23636	0.67	5	111.4	70	130	
Cu	63	1	nogas	5.341	2.138	56117	0.81	5	106.8	70	130	
Zn	66	1	nogas	5.199	1.711	18493	2.61	5	104.0	70	130	
As	75	1	nogas	10.805	5.153	263772	3.20	5	216.1	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	5.091	2.718	109789	1.28	5	101.8	70	130	
Ag	107	1	nogas	5.081	3.192	63522	2.14	5	101.6	70	130	
Cd	111	1	nogas	5.178	2.772	12848	2.96	5	103.6	70	130	
Sb	121	1	nogas	5.628	4.919	60091	3.47	5	112.6	70	130	
Tl	205	1	nogas	5.117	1.060	102783	1.32	5	102.3	70	130	
Pb	208	1	nogas	5.653	4.057	145251	4.02	5	113.1	70	130	
U	238	1	nogas	5.127	1.338	143016	1.08	5	102.5	70	130	
[Pb]	206	1	nogas	5.144	2.100	35756	2.56	5	102.9	70	130	
[Pb]	207	1	nogas	5.254	2.486	32687	4.05	5	105.1	70	130	
Na	23	2	He	871.104	2.205	300742	0.60	500	174.2	70	130	LLICV Main CR1 Failed
Mg	24	2	He	512.557	1.370	72496	0.77	500	102.5	70	130	
Al	27	2	He	4.707	51.035	337	32.58	5	94.1	70	130	
K	39	2	He	539.244	3.185	54101	2.35	500	107.8	70	130	
Ca	43	2	He	462.787	29.502	127	27.73	500	92.6	70	130	
Ca	44	2	He	472.504	7.048	2274	5.00	500	94.5	70	130	
V	51	2	He	6.170	0.573	9102	1.05	5	123.4	70	130	
Cr	52	2	He	5.138	0.511	12238	1.33	5	102.8	70	130	
Mn	55	2	He	5.128	10.073	4357	8.73	5	102.6	70	130	
Fe	56	2	He	508.025	4.488	854825	2.89	500	101.6	70	130	
Co	59	2	He	5.283	6.589	18873	7.16	5	105.7	70	130	
Ni	60	2	He	5.880	3.833	5534	5.01	5	117.6	70	130	
Cu	63	2	He	5.994	1.496	15940	0.48	5	119.9	70	130	
Zn	66	2	He	4.793	11.732	2254	11.33	5	95.9	70	130	
As	75	2	He	5.382	13.118	1539	13.56	5	107.6	70	130	
Se	78	2	He	5.476	20.574	55	22.08	5	109.5	70	130	
B	11	1	nogas	29.600	10.483	203769	0.94	25	118.4	70	130	
Si	28	1	nogas	200.701	9.946	3162689	1.18	25	802.8	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	501.912	5.055	13689	2.24	500	100.4	70	130	
Ca	44	1	nogas	355.110	6.179	278705	0.81	500	71.0	70	130	
Fe	56	1	nogas	530.292	3.586	11154211	1.55	500	106.1	70	130	
Se	77	1	nogas	39.330	19.206	80953	5.04	5	786.6	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	5.071	6.803	1403	6.74	5	101.4	70	130	
Mo	95	1	nogas	4.989	4.120	22712	3.99	5	99.8	70	130	
Sn	118	1	nogas	5.201	0.602	37067	0.63	5	104.0	70	130	
Ba	137	1	nogas	5.154	1.857	17192	1.46	5	103.1	70	130	
Sb	121	2	He	5.711	1.927	6551	3.40	5	114.2	70	130	
Li	7	1	nogas	4.967	6.023	95715	1.54	5	99.3	70	130	
P	31	1	nogas	26.940	12.239	98720	0.85	25	107.8	70	130	
La	139	1	nogas	122.787	20.426	563	13.79	5	2455.7	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	-34.869	-81.209	7	86.60	5	-697.4	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	509032	4.45	424595	119.89	70	125	
Ge	72	1	nogas	1942055	2.75	1760485	110.31	70	125	
In	115	1	nogas	1977334	0.39	1841567	107.37	70	125	
Bi	209	1	nogas	1762024	2.34	1714556	102.77	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	146496	1.62	144534	101.36	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	220SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:14:23-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	020CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	1.924	1.924	5.91	7828	0.02	2000	
Na	23	1	nogas	486.580	486.580	2.73	9509504	0.01	200000	
Mg	24	1	nogas	223.109	223.109	1.94	2472055	0.01	200000	
Al	27	1	nogas	2.043	2.043	6.81	64788	0.00	2000	
K	39	1	nogas	227.083	227.083	7.32	8751703	0.00	200000	
Ti	47	1	nogas	2.237	2.237	2.92	3104	0.07	2000	
V	51	1	nogas	33.943	33.943	10.67	2030088	0.00	2000	
Cr	52	1	nogas	2.296	2.296	6.80	76137	0.00	2000	
Mn	55	1	nogas	2.415	2.415	2.95	59968	0.00	2000	
Co	59	1	nogas	2.053	2.053	3.53	36420	0.01	2000	
Ni	60	1	nogas	2.473	2.473	7.84	11717	0.02	2000	
Cu	63	1	nogas	2.111	2.111	3.33	25284	0.01	2000	
Zn	66	1	nogas	2.150	2.150	3.80	9216	0.02	2000	
As	75	1	nogas	8.905	8.905	27.00	257582	0.00	2000	
Sr	88	1	nogas	2.031	2.031	4.67	44757	0.00	2000	
Ag	107	1	nogas	1.996	1.996	4.55	25409	0.01	2000	
Cd	111	1	nogas	2.107	2.107	5.66	5388	0.04	2000	
Sb	121	1	nogas	2.124	2.124	1.21	24164	0.01	2000	
Tl	205	1	nogas	2.047	2.047	6.85	41493	0.00	2000	
Pb	208	1	nogas	2.208	2.208	1.68	57504	0.00	2000	
U	238	1	nogas	2.069	2.069	1.66	58074	0.00	2000	
[Pb]	206	1	nogas	2.036	2.036	7.53	14437	0.01	2000	
[Pb]	207	1	nogas	1.972	1.972	2.40	12498	0.02	2000	
Na	23	2	He	518.317	518.317	2.71	200446	0.26	200000	
Mg	24	2	He	205.872	205.872	2.66	29770	0.69	200000	
Al	27	2	He	1.288	1.288	100.93	190	0.68	2000	
K	39	2	He	249.103	249.103	3.22	32608	0.76	200000	
Ca	43	2	He	73.527	73.527	76.22	23	315.11	200000	
Ca	44	2	He	181.425	181.425	23.91	1027	17.67	200000	
V	51	2	He	3.014	3.014	1.12	4171	0.07	2000	
Cr	52	2	He	1.921	1.921	1.02	5544	0.03	2000	
Mn	55	2	He	2.017	2.017	7.69	1827	0.11	2000	
Fe	56	2	He	197.559	197.559	0.55	341108	0.06	200000	
Co	59	2	He	2.105	2.105	8.41	7675	0.03	2000	
Ni	60	2	He	2.744	2.744	2.34	2380	0.12	2000	
Cu	63	2	He	2.728	2.728	1.94	6808	0.04	2000	
Zn	66	2	He	1.930	1.930	8.74	1153	0.17	2000	
As	75	2	He	2.061	2.061	2.56	617	0.33	2000	
Se	78	2	He	2.681	2.681	30.90	23	11.49	2000	
B	11	1	nogas	14.517	14.517	13.97	158930	0.01	2000	

Sample Report

Si	28	1	nogas	40.964	40.964	14.43	2223134	0.00	2000	
Ca	43	1	nogas	210.945	210.945	1.95	6358	3.32	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ca	44	1	nogas	35.526	35.526	21.35	151372	0.02	200000	
Fe	56	1	nogas	224.432	224.432	1.33	5347216	0.00	200000	
Se	77	1	nogas	40.371	40.371	25.02	81391	0.05	2000	
Se	82	1	nogas	2.244	2.244	23.88	913	0.25	2000	
Mo	95	1	nogas	1.941	1.941	6.31	8982	0.02	2000	
Sn	118	1	nogas	1.975	1.975	5.31	15417	0.01	2000	
Ba	137	1	nogas	2.231	2.231	2.53	7789	0.03	2000	
Sb	121	2	He	2.200	2.200	14.55	2740	0.08	2000	
La	139	1	nogas	-19.322	-19.322	-36.51	113	-17.05	2000	
Au	197	1	nogas	79.036	79.036	162.03	30	263.45	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	499892	1.97	424595	117.73	70	125	
Ge	72	1	nogas	1947306	1.54	1760485	110.61	70	125	
In	115	1	nogas	2030022	1.75	1841567	110.23	70	125	
Bi	209	1	nogas	1771818	3.65	1714556	103.34	70	125	
Ge	72	2	He	148946	1.90	144534	103.05	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	221ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:16:22-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	-0.010	-154.3	87	63.5	0	ICSA Main CR1 Failed
Na	23	1	nogas	101975.274	4.4	1493946033	3.2	0	
Mg	24	1	nogas	101467.477	2.9	1010573623	2.6	0	
Al	27	1	nogas	84702.890	0.7	1133452730	0.6	0	
K	39	1	nogas	97283.054	2.1	1088207158	1.1	0	
Ti	47	1	nogas	2027.715	4.7	2351703	4.0	0	
V	51	1	nogas	20.828	13.1	1598940	2.0	0	
Cr	52	1	nogas	0.683	13.1	44955	1.9	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.662	9.6	22340	4.1	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.101	13.4	1910	10.6	0	ICSA Main CR1 Failed
Ni	60	1	nogas	1.233	7.8	6254	6.5	0	ICSA Main CR1 Failed
Cu	63	1	nogas	1.089	11.4	13975	8.0	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.564	6.4	6695	5.2	0	ICSA Main CR1 Failed
As	75	1	nogas	19.603	0.5	267349	1.0	0	
Sr	88	1	nogas	1.101	4.9	22488	5.0	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.022	26.1	817	8.3	0	ICSA Main CR1 Failed
Cd	111	1	nogas	1.303	7.1	2980	6.4	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.021	95.6	2247	8.8	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.042	7.6	1067	5.2	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.053	5.3	2613	2.8	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.060	9.0	720	5.0	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.063	18.7	597	11.4	0	ICSA Main CR1 Failed
Na	23	2	He	97261.662	2.5	26714470	3.1	0	
Mg	24	2	He	94049.643	1.0	12374675	1.5	0	
Al	27	2	He	75513.454	1.6	3084592	2.2	0	
K	39	2	He	86902.288	1.7	6451675	1.7	0	
Ca	43	2	He	83842.373	1.6	20899	2.0	0	
Ca	44	2	He	88572.271	1.2	359947	0.7	0	
V	51	2	He	0.938	1.1	760	2.1	0	ICSA Main CR1 Failed
Cr	52	2	He	0.322	22.3	1943	7.9	0	ICSA Main CR1 Failed
Mn	55	2	He	0.334	26.6	380	18.2	0	ICSA Main CR1 Failed
Fe	56	2	He	94111.301	2.9	147086458	2.4	0	
Co	59	2	He	-0.005	-95.4	43	35.3	0	ICSA Main CR1 Failed
Ni	60	2	He	0.747	6.8	287	16.5	0	ICSA Main CR1 Failed
Cu	63	2	He	0.974	0.8	1613	0.9	0	ICSA Main CR1 Failed
Zn	66	2	He	0.090	222.2	390	19.4	0	ICSA Main CR1 Failed
As	75	2	He	0.052	136.4	40	46.4	0	ICSA Main CR1 Failed
Se	78	2	He	1.000	10.8	3	34.6	0	ICSA Main CR1 Failed
B	11	1	nogas	11.679	12.0	138071	3.9	0	ICSA Main CR1 Failed
Si	28	1	nogas	32.829	30.6	1962462	2.0	0	
Ca	43	1	nogas	98868.400	1.3	2263842	1.6	0	
Ca	44	1	nogas	98104.099	2.7	35644552	2.3	0	
Fe	56	1	nogas	96109.726	1.5	1657459204	0.9	0	
Se	77	1	nogas	108.828	1.8	89004	1.2	0	
Se	82	1	nogas	-0.105	-626.0	453	22.5	0	ICSA Main CR1 Failed
Mo	95	1	nogas	2035.125	0.8	8314172	0.4	0	
Sn	118	1	nogas	0.009	363.8	1440	15.6	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.203	16.9	840	11.7	0	ICSA Main CR1 Failed
Sb	121	2	He	-0.019	-185.4	243	15.6	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	94542.430	2.7	76689826	1.7	0	
La	139	1	nogas	65.119	17.4	347	8.8	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	456363	1.38	424595	107.48	70	125	
Ge	72	1	nogas	1757239	1.11	1760485	99.82	70	125	
In	115	1	nogas	1806845	0.74	1841567	98.11	70	125	
Bi	209	1	nogas	1595541	0.42	1714556	93.06	70	125	
Ge	72	2	He	136784	0.62	144534	94.64	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	222ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\122
Acq Date Time	2017-12-21T18:18:26-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	020CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	85.948	2.771	296658	1.87	100	85.9	80	120	
Na	23	1	nogas	107087.627	2.629	1604297603	0.69	100	107087.6	80	120	ICSB Main CR1 Failed
Mg	24	1	nogas	106530.417	1.714	1084894824	0.60	100	106530.4	80	120	ICSB Main CR1 Failed
Al	27	1	nogas	83869.055	2.584	1106718330	3.36	100	83869.1	80	120	ICSB Main CR1 Failed
K	39	1	nogas	107129.861	2.135	1180991960	1.04	100	107129.9	80	120	
Ti	47	1	nogas	2099.394	1.959	2400860	0.40	100	2099.4	80	120	ICSB Main CR1 Failed
V	51	1	nogas	96.687	4.339	2904955	1.76	100	96.7	80	120	ICSB Main CR1 Failed
Cr	52	1	nogas	85.673	4.166	1277642	2.60	100	85.7	80	120	
Mn	55	1	nogas	87.111	2.186	1566179	0.73	100	87.1	80	120	
Co	59	1	nogas	82.853	2.224	1295777	2.95	100	82.9	80	120	
Ni	60	1	nogas	83.776	2.225	290275	2.10	100	83.8	80	120	
Cu	63	1	nogas	81.510	0.392	700516	1.95	100	81.5	80	120	
Zn	66	1	nogas	88.775	0.885	244144	2.29	100	88.8	80	120	
As	75	1	nogas	95.930	5.471	508940	2.15	100	95.9	80	120	ICSB Main CR1 Failed
Sr	88	1	nogas	88.045	0.927	1674093	0.86	100	88.0	80	120	
Ag	107	1	nogas	81.392	2.604	899587	1.38	100	81.4	80	120	
Cd	111	1	nogas	88.774	2.732	196847	1.58	100	88.8	80	120	
Sb	121	1	nogas	95.040	2.552	873535	0.94	100	95.0	80	120	
Tl	205	1	nogas	88.973	2.082	1572430	1.36	100	89.0	80	120	
Pb	208	1	nogas	84.769	0.667	2160349	0.67	100	84.8	80	120	
U	238	1	nogas	92.998	0.642	2288758	0.41	100	93.0	80	120	
[Pb]	206	1	nogas	88.003	1.757	534523	1.07	100	88.0	80	120	
[Pb]	207	1	nogas	88.917	1.240	484320	0.96	100	88.9	80	120	
Na	23	2	He	105919.913	1.353	28446757	1.34	100	105919.9	80	120	
Mg	24	2	He	102438.997	1.041	13182065	1.35	100	102439.0	80	120	
Al	27	2	He	77396.421	1.202	3091830	1.24	100	77396.4	80	120	ICSB Main CR1 Failed
K	39	2	He	94920.321	1.796	7045632	1.79	100	94920.3	80	120	
Ca	43	2	He	94323.065	3.694	22991	3.28	100	94323.1	80	120	
Ca	44	2	He	100886.093	1.770	400949	1.35	100	100886.1	80	120	ICSB Main CR1 Failed
V	51	2	He	86.908	0.464	125137	0.05	100	86.9	80	120	
Cr	52	2	He	85.284	1.141	165528	0.83	100	85.3	80	120	
Mn	55	2	He	82.339	2.489	62129	2.23	100	82.3	80	120	
Fe	56	2	He	105132.052	2.802	160713601	2.85	100	105132.1	80	120	
Co	59	2	He	84.311	2.346	274094	2.01	100	84.3	80	120	
Ni	60	2	He	83.458	2.663	77173	2.27	100	83.5	80	120	
Cu	63	2	He	84.487	3.392	217527	3.00	100	84.5	80	120	
Zn	66	2	He	93.146	1.583	33514	1.41	100	93.1	80	120	
As	75	2	He	89.129	2.294	22857	2.06	100	89.1	80	120	
Se	78	2	He	78.772	5.979	827	6.31	100	78.8	80	120	ICSB Main CR1 Failed
B	11	1	nogas	439.775	1.674	1143108	0.17	100	439.8	80	120	
Si	28	1	nogas	4516.055	1.377	25656879	1.94	100	4516.1	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	106458.697	3.881	2402521	2.38	100	106458.7	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	105304.602	2.874	37711503	1.87	100	105304.6	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	107084.630	2.644	1820452707	1.09	100	107084.6	80	120	
Se	77	1	nogas	141.297	7.922	95013	2.03	100	141.3	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	85.952	2.693	13812	0.98	100	86.0	80	120	
Mo	95	1	nogas	2164.440	1.589	8719419	2.37	100	2164.4	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	87.245	2.893	535992	1.65	100	87.2	80	120	
Ba	137	1	nogas	86.226	1.205	254273	0.41	100	86.2	80	120	
Sb	121	2	He	92.672	2.137	93135	1.71	100	92.7	80	120	
La	139	1	nogas	182.965	13.482	677	9.03	100	183.0	80	120	

QC ISTD Table

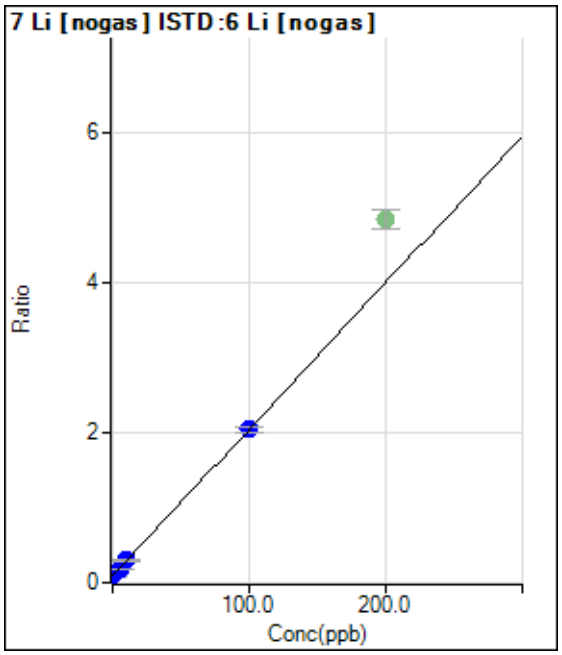
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	431210	1.59	424595	101.56	70	125	
Ge	72	1	nogas	1732664	1.61	1760485	98.42	70	125	
In	115	1	nogas	1772761	1.60	1841567	96.26	70	125	
Bi	209	1	nogas	1555206	0.72	1714556	90.71	70	125	
Ge	72	2	He	133778	0.42	144534	92.56	70	125	

Calibration for 027_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\122117A.b\
Analysis File: 122117A.batch.bin
DA Date-Time: 2017-12-21 12:34:57
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	020CALB.d	CAL BLK	2017-12-21 11:18:01
2	021CALS.d	2/10/200	2017-12-21 11:20:02
3	022CALS.d	5/25/500	2017-12-21 11:22:02
4	023CALS.d	10/50/1000	2017-12-21 11:24:00
5	024CALS.d	100/500/10K	2017-12-21 11:25:59
6	025CALS.d	200/1000/20K	2017-12-21 11:27:59
7			

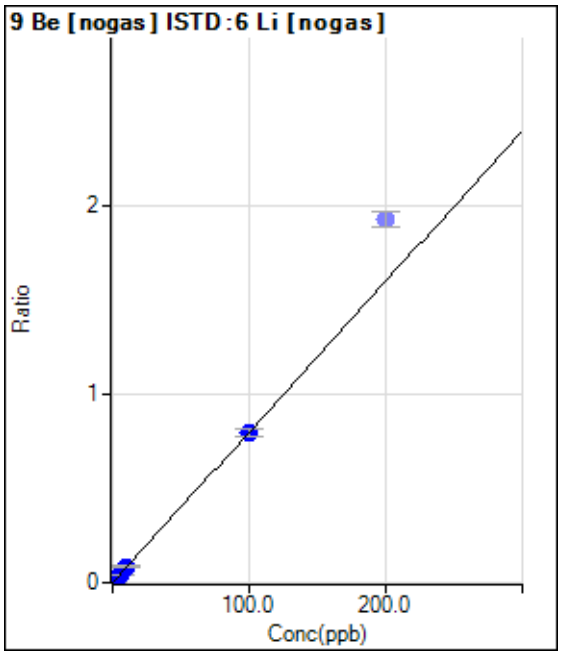
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	38666.84	0.0910	P	3.5
2	☐	2.000	1.903	55077.86	0.1282	P	2.5
3	☐	5.000	4.659	78744.96	0.1822	P	2.3
4	☐	10.000	10.501	124245.63	0.2965	P	1.8
5	☐	100.000	99.969	837978.74	2.0474	P	3.3
6	☑	200.000		1762766.17	4.8413	A	5.2
7	☐	1.000					

y = 0.0196 * x + 0.0910
R = 1.0000
DL = 0.485
BEC = 4.65

Weight: <None>
Min Conc: <None>

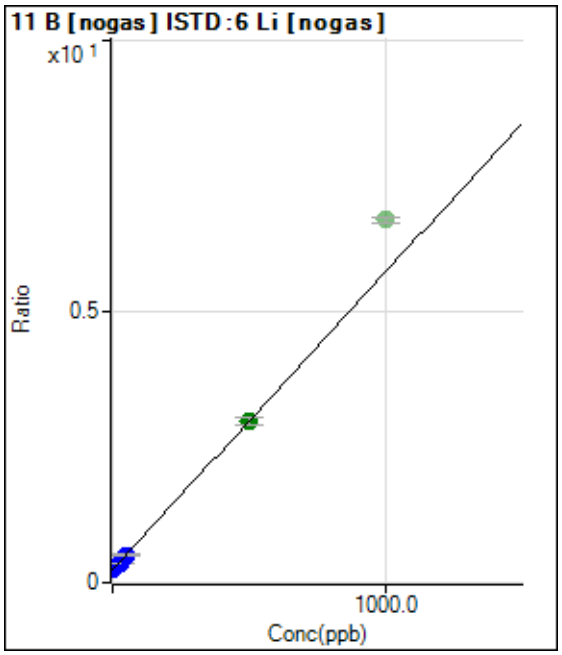


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	116.67	0.0003	P	48.3
2	☐	2.000	1.996	6978.06	0.0162	P	3.9
3	☐	5.000	4.864	16944.48	0.0392	P	5.6
4	☐	10.000	10.740	36104.46	0.0862	P	5.1
5	☐	100.000	99.933	327291.36	0.8000	P	5.1
6	☑	200.000		701542.93	1.9277	P	4.2
7	☐	1.000					

y = 0.0080 * x + 2.7134E-004
R = 1.0000
DL = 0.04913
BEC = 0.0339

Weight: <None>
Min Conc: <None>

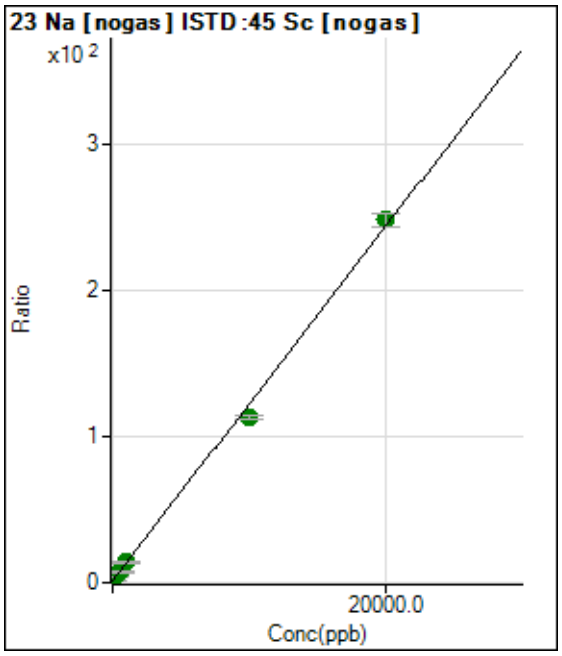
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	101110.97	0.2384	P	4.1
2	☐	10.000	7.401	119670.72	0.2790	P	4.7
3	☐	25.000	19.131	148427.07	0.3434	P	0.7
4	☐	50.000	49.073	212570.42	0.5076	P	5.5
5	☐	500.000	500.438	1220926.29	2.9842	A	4.8
6	☑	1000.000		2433030.69	6.6832	A	1.3
7	☐	5.000					

y = 0.0055 * x + 0.2384
R = 0.9999
DL = 5.348
BEC = 43.45

Weight: <None>
Min Conc: <None>

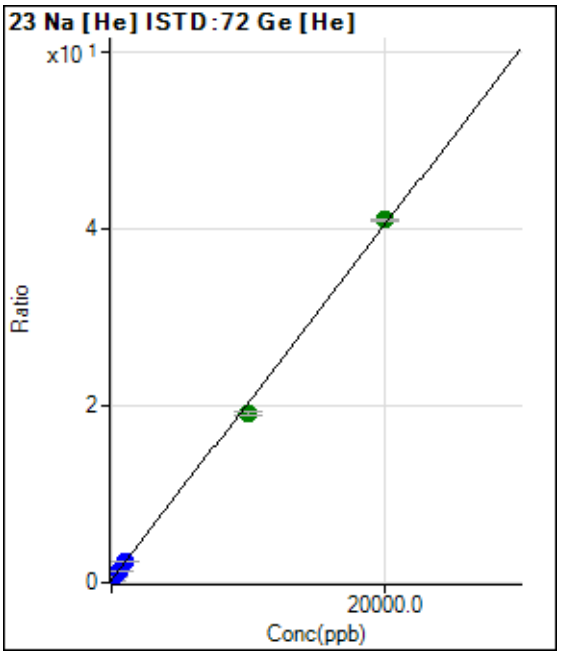


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1498728.03	1.2079	A	2.2
2	☐	200.000	208.239	4492718.33	3.7326	A	2.4
3	☐	500.000	500.701	8933324.16	7.2783	A	1.7
4	☐	1000.000	1046.375	16924985.80	13.8940	A	3.3
5	☐	10000.00	9231.759	143038415.7	113.132	A	2.8
6	☐	20000.00	20381.70	308088115.2	248.312	A	3.5
7	☐	100.000					

y = 0.0121 * x + 1.2079
R = 0.9989
DL = 6.685
BEC = 99.63

Weight: <None>
Min Conc: <None>

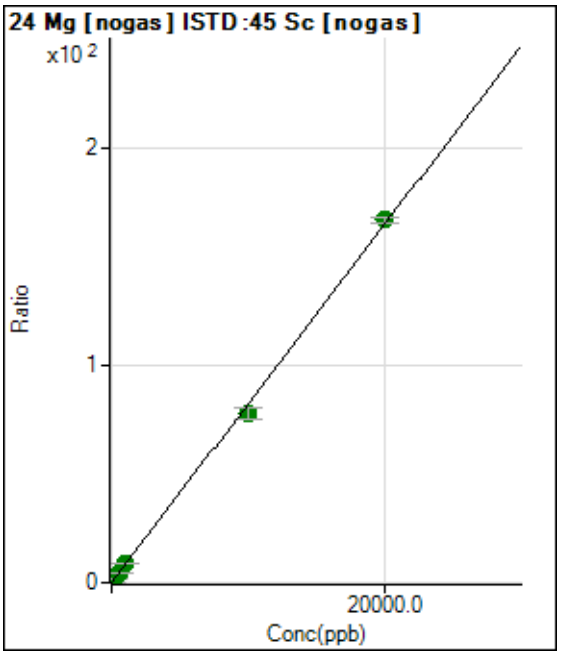
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	44372.24	0.3070	P	2.3
2	☐	200.000	207.345	104173.38	0.7227	P	5.3
3	☐	500.000	488.825	194442.57	1.2869	P	0.3
4	☐	1000.000	1071.237	356148.87	2.4545	P	2.9
5	☐	10000.00	9383.694	2850066.10	19.1184	A	2.8
6	☐	20000.00	20304.79	5903086.37	41.0118	A	0.2
7	☐	100.000					

y = 0.0020 * x + 0.3070
R = 0.9993
DL = 10.68
BEC = 153.1

Weight: <None>
Min Conc: <None>

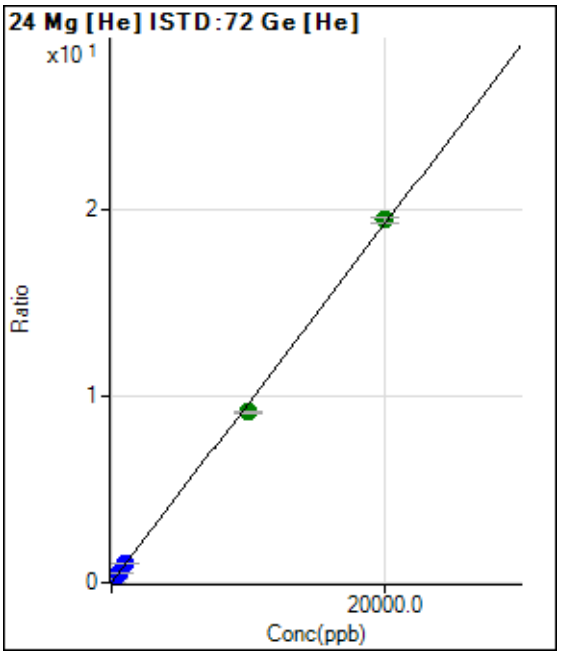


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	8903.82	0.0072	P	6.9
2	☐	200.000	217.234	2165140.74	1.7990	A	2.9
3	☐	500.000	530.481	5379516.40	4.3826	A	1.4
4	☐	1000.000	1105.585	11116462.23	9.1262	A	3.8
5	☐	10000.00	9455.631	98573433.46	77.9983	A	5.9
6	☐	20000.00	20265.97	207464396.3	167.163	A	1.9
7	☐	100.000					

y = 0.0082 * x + 0.0072
R = 0.9994
DL = 0.1802
BEC = 0.8703

Weight: <None>
Min Conc: <None>

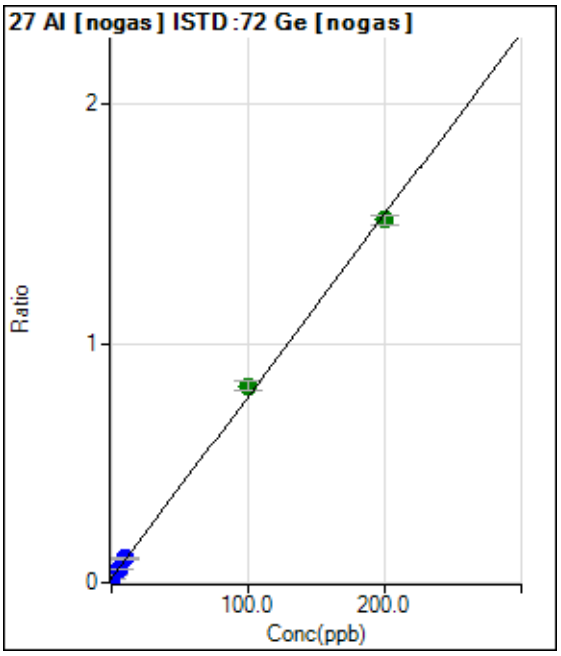
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0019	P	6.3
2	☐	200.000	208.176	29136.29	0.2022	P	6.4
3	☐	500.000	494.473	72150.95	0.4775	P	0.5
4	☐	1000.000	1079.637	150934.68	1.0404	P	3.7
5	☐	10000.00	9499.617	1362509.88	9.1393	A	0.9
6	☐	20000.00	20246.26	2803389.23	19.4763	A	1.6
7	☐	100.000					

y = 9.6187E-004 * x + 0.0019
R = 0.9995
DL = 0.3771
BEC = 1.988

Weight: <None>
Min Conc: <None>

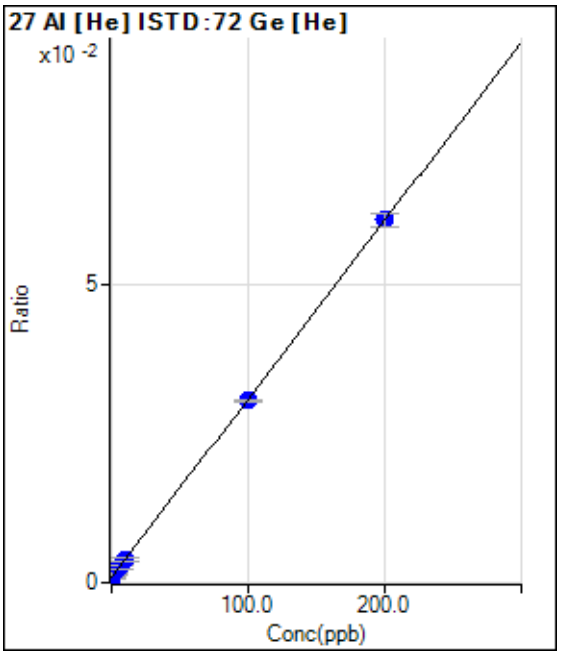


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31219.85	0.0177	P	4.7
2	☐	2.000	3.187	73551.95	0.0420	P	34.2
3	☐	5.000	5.197	104265.44	0.0573	P	2.7
4	☐	10.000	11.006	176767.63	0.1015	P	2.2
5	☐	100.000	105.839	1442442.79	0.8237	A	4.5
6	☐	200.000	197.013	2687610.59	1.5180	A	2.4
7	☐	1.000					

y = 0.0076 * x + 0.0177
R = 0.9994
DL = 0.328
BEC = 2.327

Weight: <None>
Min Conc: <None>

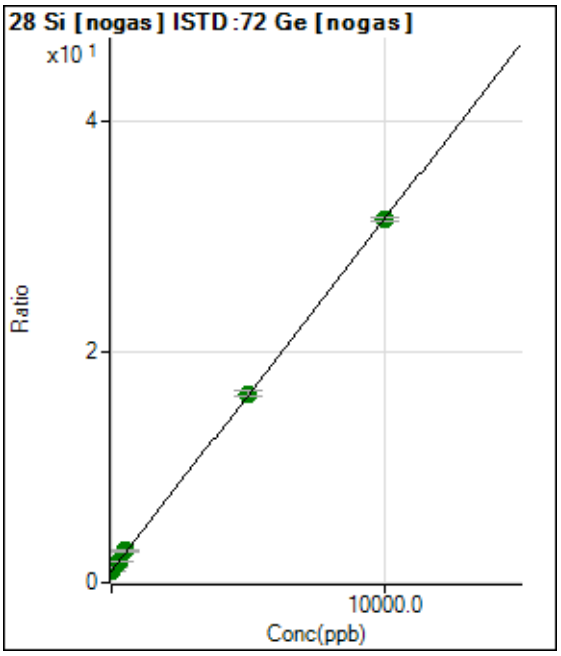
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.419	110.00	0.0008	P	25.2
2	☐	2.000	2.070	216.67	0.0015	P	23.3
3	☐	5.000	5.595	386.68	0.0026	P	17.9
4	☐	10.000	10.231	573.35	0.0039	P	17.7
5	☐	100.000	99.101	4543.97	0.0305	P	1.4
6	☐	200.000	200.422	8742.15	0.0607	P	4.0
7	☐	1.000					

y = 2.9860E-004 * x + 8.8769E-004
R = 1.0000
DL = 1.929
BEC = 2.973

Weight: <None>
Min Conc: <None>

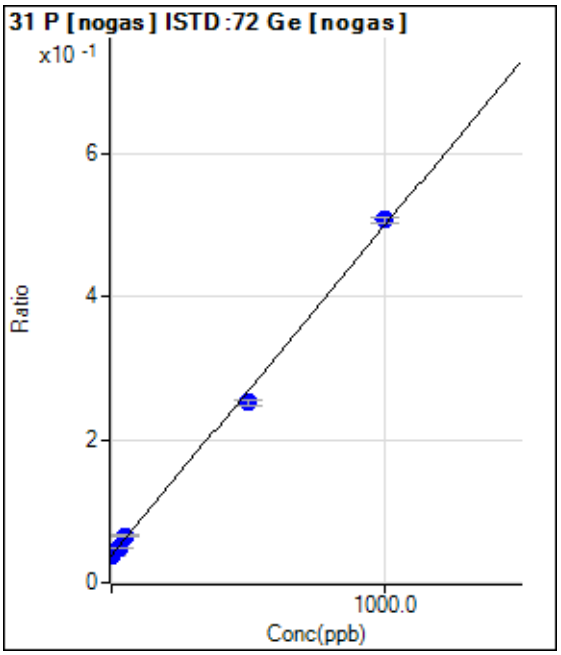


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1789417.68	1.0167	A	2.2
2	☐	100.000	113.592	2380442.93	1.3636	A	2.3
3	☐	250.000	254.831	3265665.16	1.7949	A	1.2
4	☐	500.000	576.907	4837054.82	2.7785	A	2.6
5	☐	5000.000	5031.504	28694221.24	16.3821	A	2.8
6	☐	10000.00	9980.146	55762210.84	31.4945	A	0.9
7	☐	5.000					

y = 0.0031 * x + 1.0167
R = 1.0000
DL = 22.45
BEC = 332.9

Weight: <None>
Min Conc: <None>

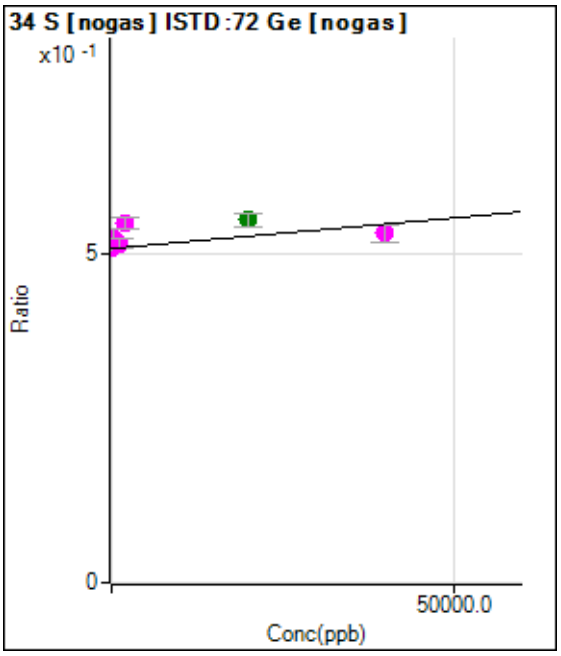
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	67638.03	0.0384	P	2.5
2	☐	10.000	9.668	74871.92	0.0429	P	3.0
3	☐	25.000	19.914	86634.76	0.0476	P	1.6
4	☐	50.000	58.037	113515.52	0.0652	P	2.6
5	☐	500.000	463.406	441729.23	0.2522	P	2.8
6	☐	1000.000	1018.026	899499.00	0.5080	P	1.3
7	☐	5.000					

y = 4.6130E-004 * x + 0.0384
R = 0.9990
DL = 6.191
BEC = 83.31

Weight: <None>
Min Conc: <None>

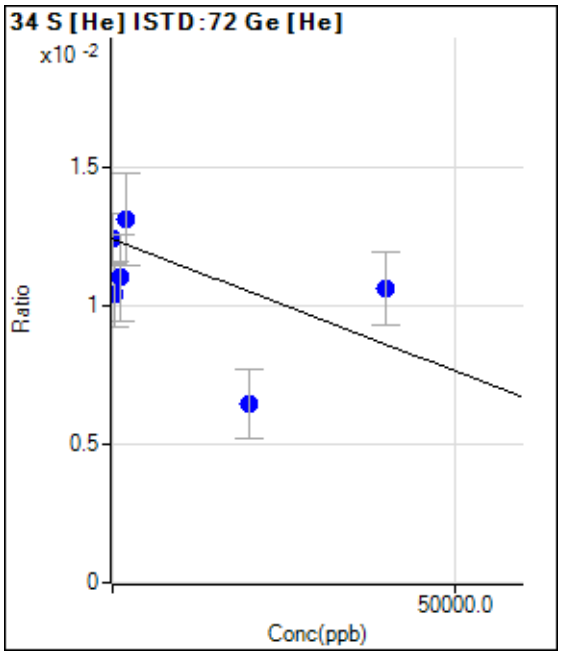


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	892724.86	0.5071	M	0.5
2	☐	400.000	16455.62	911696.11	0.5223	M	5.4
3	☐	1000.000	7779.748	935858.45	0.5143	M	2.5
4	☐	2000.000	42408.97	951127.27	0.5463	M	3.4
5	☐	20000.00	46732.64	963610.21	0.5503	A	3.8
6	☐	40000.00	24283.18	937583.09	0.5295	M	5.2
7	☐	100.000					

y = 9.2480E-007 * x + 0.5071
R = 0.3607
DL = 8604
BEC = 5.483E+05

Weight: <None>
Min Conc: <None>

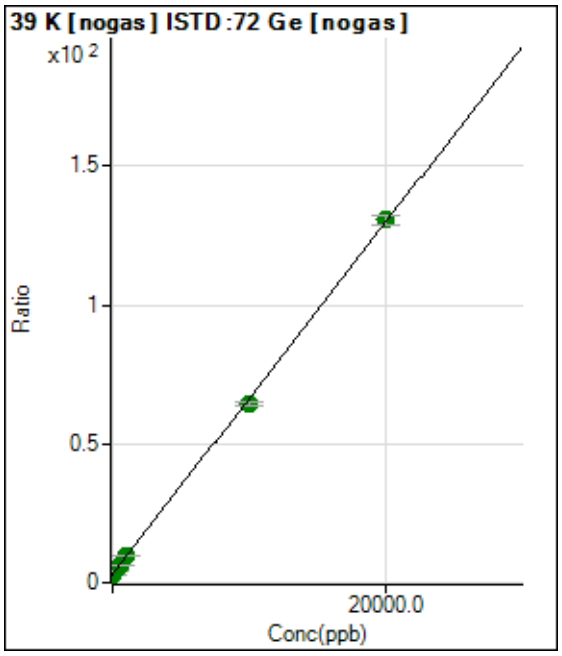
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1800.51	0.0124	P	14.7
2	☐	400.000	20992.77	1500.36	0.0104	P	22.0
3	☐	1000.000	14562.66	1667.09	0.0110	P	28.4
4	☐	2000.000	-7290.543	1900.53	0.0131	P	25.5
5	☐	20000.00	62507.79	966.84	0.0065	P	39.1
6	☐	40000.00	18665.63	1533.74	0.0107	P	24.7
7	☐	100.000					

y = -9.5131E-008 * x + 0.0124
R = -0.4265
DL = -5.75E+04
BEC = -1.307E+05

Weight: <None>
Min Conc: <None>

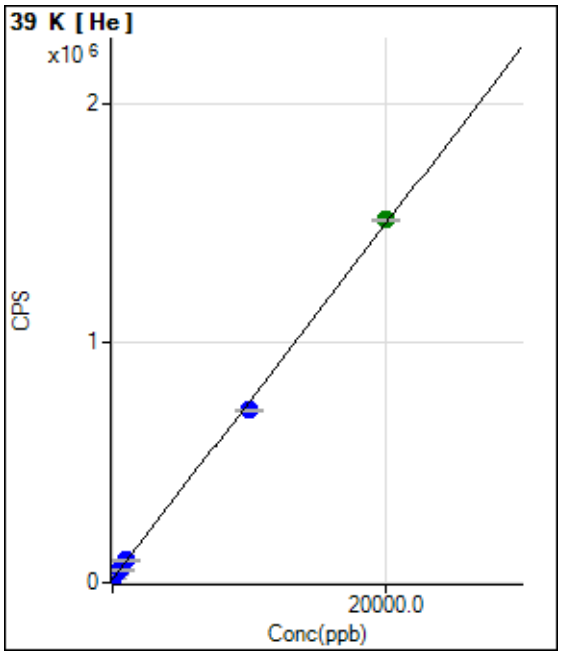


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5379792.05	3.0567	A	2.2
2	☐	200.000	214.655	7709881.16	4.4166	A	2.4
3	☐	500.000	485.684	11160045.56	6.1336	A	1.0
4	☐	1000.000	1069.478	17117587.88	9.8320	A	1.3
5	☐	10000.00	9700.353	113008235.8	64.5100	A	1.8
6	☐	20000.00	20146.56	231368621.8	130.688	A	2.6
7	☐	100.000					

y = 0.0063 * x + 3.0567
R = 0.9998
DL = 32.02
BEC = 482.5

Weight: <None>
Min Conc: <None>

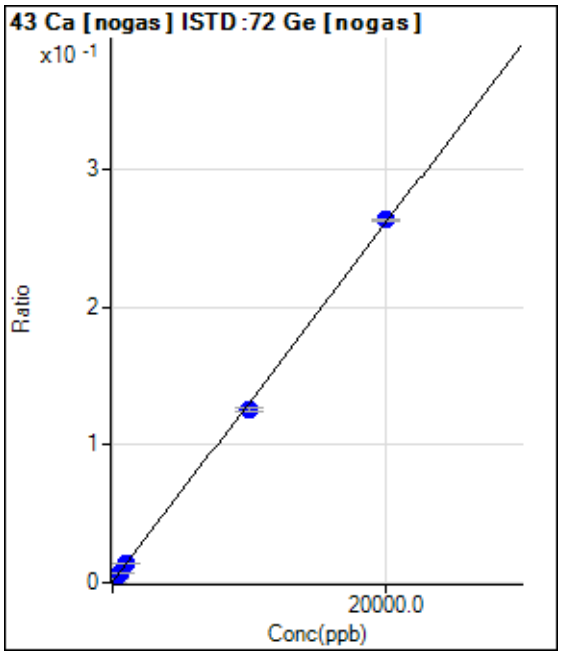
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	14155.47		P	1.1
2	☐	200.000	199.302	28919.30		P	1.8
3	☐	500.000	516.185	52393.24		P	1.9
4	☐	1000.000	1058.290	92551.13		P	3.1
5	☐	10000.00	9517.568	719194.83		P	0.7
6	☐	20000.00	20237.90	1513332.37		A	0.6
7	☐	100.000					

y = 74.0777 * x + 14155.4733
R = 0.9996
DL = 6.434
BEC = 191.1

Weight: <None>
Min Conc: <None>

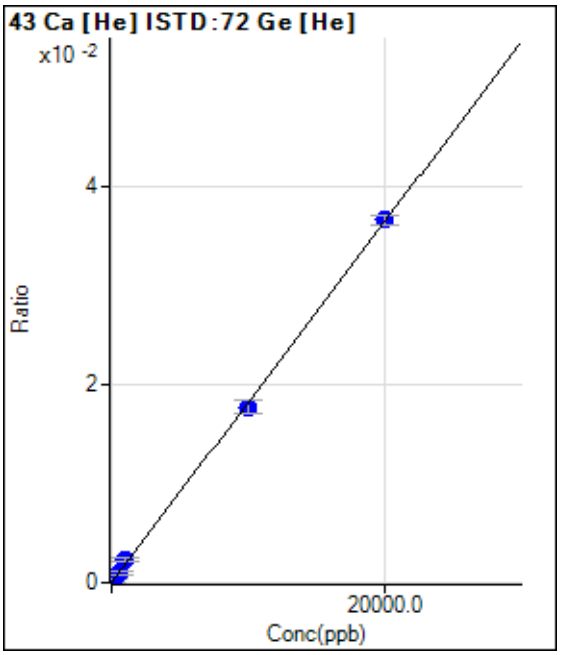


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	910.04	0.0005	P	2.4
2	☐	200.000	205.612	5577.61	0.0032	P	5.3
3	☐	500.000	516.734	13184.89	0.0072	P	2.0
4	☐	1000.000	1049.153	24693.42	0.0142	P	0.8
5	☐	10000.00	9602.613	220003.64	0.1256	P	1.6
6	☐	20000.00	20195.76	466670.86	0.2636	P	0.4
7	☐	100.000					

y = 1.3025E-005 * x + 5.1682E-004
R = 0.9997
DL = 2.808
BEC = 39.68

Weight: <None>
Min Conc: <None>

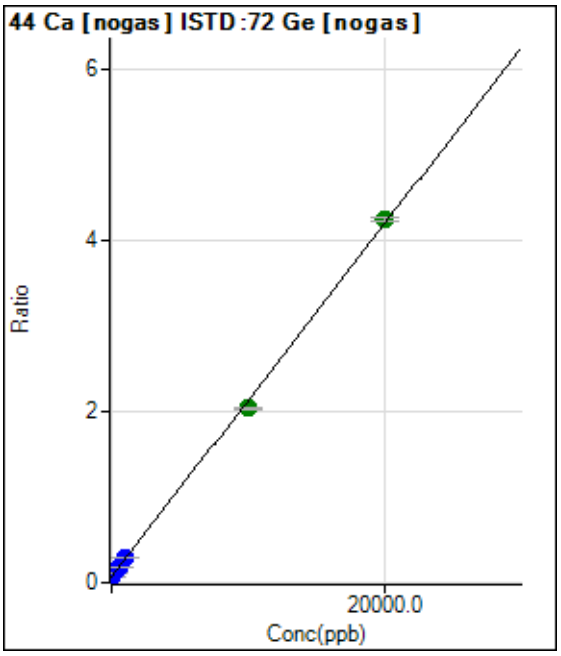
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	200.000	228.762	63.33	0.0004	P	51.6
3	☐	500.000	532.242	150.00	0.0010	P	29.0
4	☐	1000.000	1261.703	336.68	0.0023	P	20.6
5	☐	10000.00	9747.216	2650.25	0.0178	P	7.2
6	☐	20000.00	20112.21	5277.49	0.0367	P	2.8
7	☐	100.000					

y = 1.8220E-006 * x + 2.2893E-005
R = 0.9998
DL = 65.29
BEC = 12.57

Weight: <None>
Min Conc: <None>

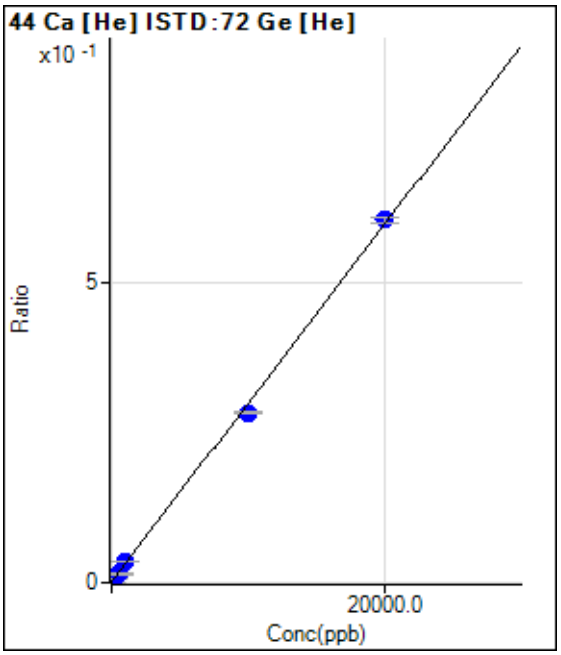


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	123923.64	0.0704	P	2.7
2	☐	200.000	211.380	198966.13	0.1140	P	2.0
3	☐	500.000	497.510	314681.80	0.1729	P	1.0
4	☐	1000.000	1086.310	512357.78	0.2943	P	0.4
5	☐	10000.00	9533.972	3565109.84	2.0351	A	1.9
6	☐	20000.00	20228.64	7505381.14	4.2389	A	1.0
7	☐	100.000					

y = 2.0607E-004 * x + 0.0704
R = 0.9996
DL = 27.57
BEC = 341.7

Weight: <None>
Min Conc: <None>

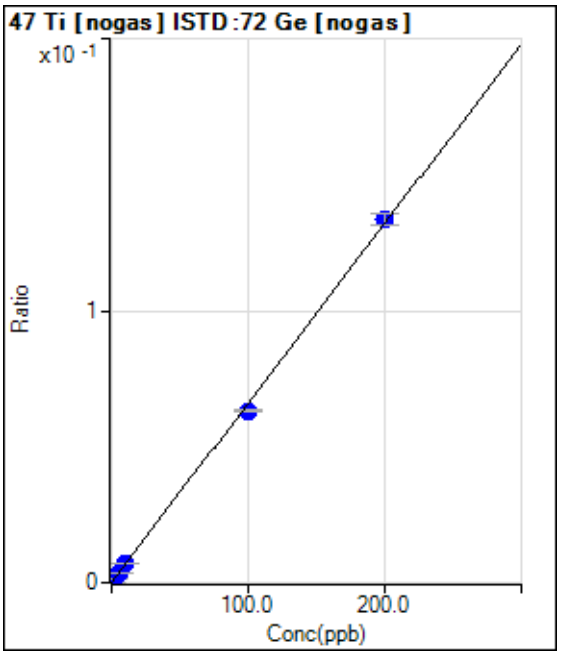
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	216.67	0.0015	P	10.0
2	☐	200.000	170.611	946.71	0.0066	P	14.2
3	☐	500.000	448.239	2236.84	0.0148	P	7.0
4	☐	1000.000	1139.466	5124.13	0.0353	P	7.4
5	☐	10000.00	9465.210	42128.03	0.2826	P	1.2
6	☐	20000.00	20262.01	86819.47	0.6032	P	1.4
7	☐	100.000					

y = 2.9695E-005 * x + 0.0015
R = 0.9995
DL = 15.19
BEC = 50.43

Weight: <None>
Min Conc: <None>

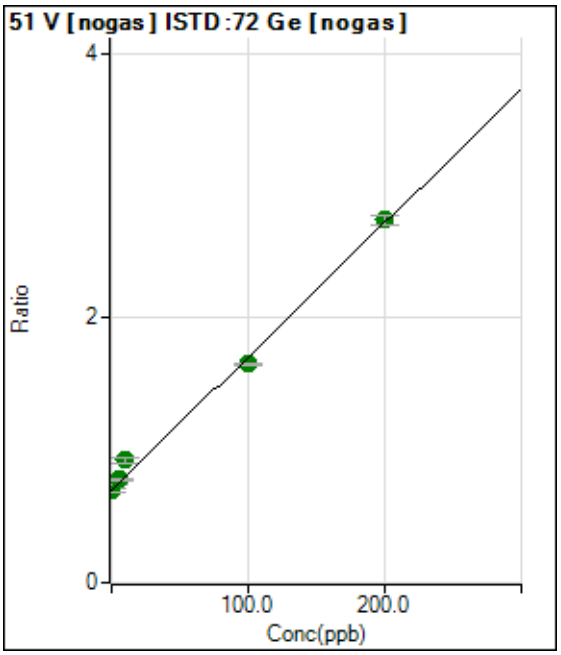


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	206.67	0.0001	P	23.2
2	☐	2.000	2.000	2510.22	0.0014	P	3.2
3	☐	5.000	4.981	6197.82	0.0034	P	5.8
4	☐	10.000	10.372	12124.20	0.0070	P	4.9
5	☐	100.000	95.638	110813.59	0.0632	P	1.0
6	☐	200.000	202.163	236499.16	0.1336	P	3.0
7	☐	1.000					

y = 6.6010E-004 * x + 1.1769E-004
R = 0.9997
DL = 0.1239
BEC = 0.1783

Weight: <None>
Min Conc: <None>

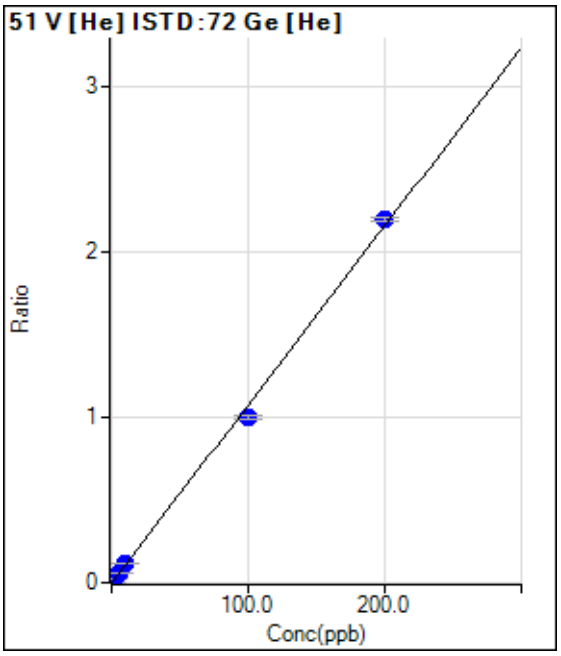
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1231065.78	0.6996	A	4.2
2	☐	2.000	5.797	1323171.84	0.7582	A	5.2
3	☐	5.000	7.735	1415124.61	0.7778	A	2.7
4	☐	10.000	22.573	1614937.05	0.9277	A	4.5
5	☐	100.000	94.272	2895141.80	1.6525	A	0.9
6	☐	200.000	202.129	4855654.15	2.7427	A	2.7
7	☐	1.000					

y = 0.0101 * x + 0.6996
R = 0.9975
DL = 8.708
BEC = 69.21

Weight: <None>
Min Conc: <None>

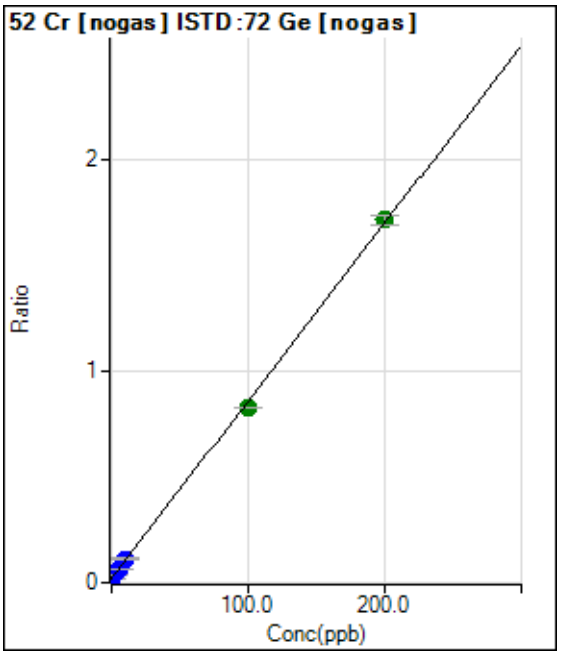


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.830	634.01	0.0044	P	8.8
2	☐	2.000	2.847	3779.07	0.0262	P	4.5
3	☐	5.000	5.771	8737.40	0.0578	P	0.9
4	☐	10.000	11.292	17052.50	0.1175	P	4.0
5	☐	100.000	92.704	148795.09	0.9981	P	2.3
6	☐	200.000	203.555	316246.36	2.1971	P	1.1
7	☐	1.000					

y = 0.0108 * x - 0.0046
R = 0.9990
DL = 0.1075
BEC = -0.4247

Weight: <None>
Min Conc: <None>

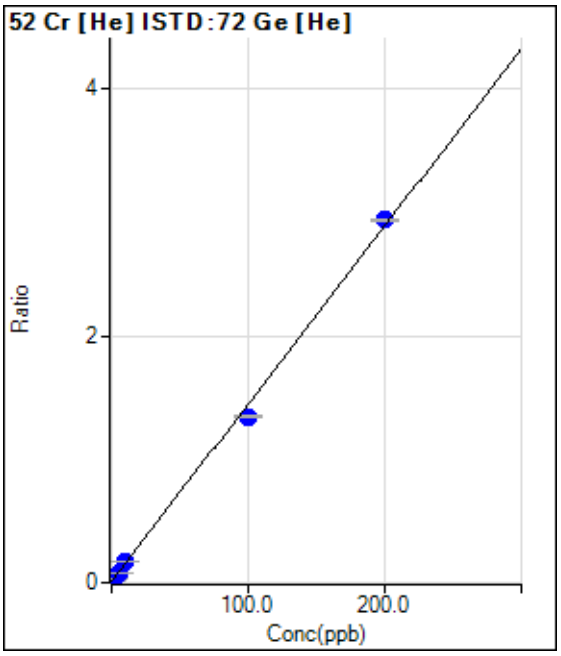
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	34973.42	0.0199	P	5.3
2	☐	2.000	2.184	66622.78	0.0382	P	3.4
3	☐	5.000	5.026	112763.46	0.0620	P	0.8
4	☐	10.000	11.066	195990.92	0.1126	P	3.4
5	☐	100.000	96.066	1445140.50	0.8248	A	0.6
6	☐	200.000	201.911	3030192.04	1.7116	A	2.6
7	☐	1.000					

y = 0.0084 * x + 0.0199
R = 0.9997
DL = 0.3748
BEC = 2.371

Weight: <None>
Min Conc: <None>

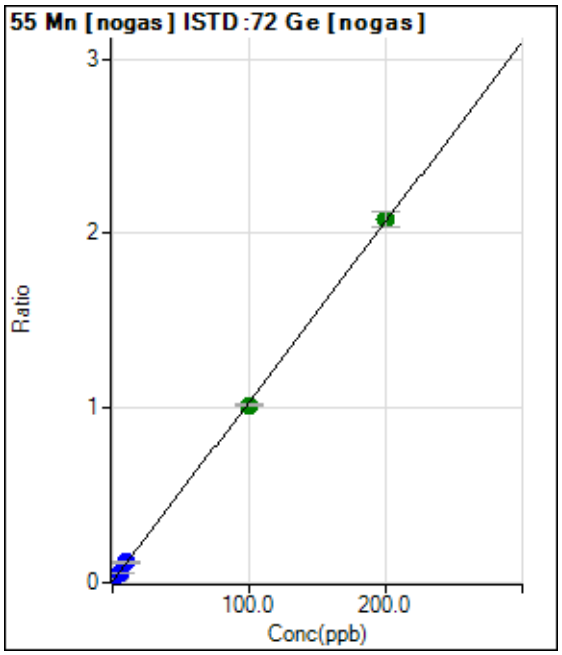


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1383.41	0.0096	P	11.1
2	☐	2.000	2.003	5537.59	0.0384	P	10.7
3	☐	5.000	5.209	12774.63	0.0846	P	1.7
4	☐	10.000	10.835	24029.34	0.1656	P	1.5
5	☐	100.000	92.631	200232.30	1.3431	P	1.3
6	☐	200.000	203.637	423356.39	2.9413	P	0.5
7	☐	1.000					

y = 0.0144 * x + 0.0096
R = 0.9990
DL = 0.2206
BEC = 0.6647

Weight: <None>
Min Conc: <None>

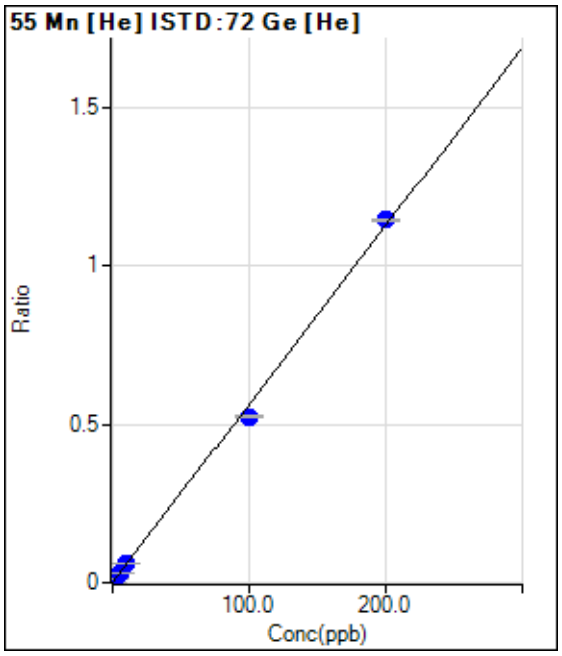
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10376.39	0.0059	P	4.5
2	☐	2.000	2.107	48223.25	0.0276	P	0.9
3	☐	5.000	4.939	103369.65	0.0568	P	4.7
4	☐	10.000	10.675	201897.12	0.1160	P	1.5
5	☐	100.000	97.839	1777671.74	1.0147	A	1.2
6	☐	200.000	201.047	3680173.69	2.0789	A	4.1
7	☐	1.000					

y = 0.0103 * x + 0.0059
R = 0.9999
DL = 0.07749
BEC = 0.5718

Weight: <None>
Min Conc: <None>

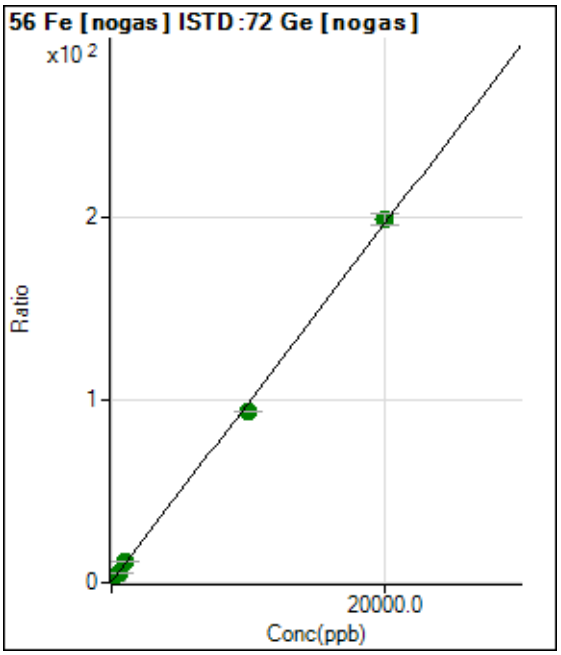


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0009	P	18.7
2	☐	2.000	2.002	1753.45	0.0122	P	7.6
3	☐	5.000	4.994	4383.92	0.0290	P	3.1
4	☐	10.000	10.610	8798.90	0.0606	P	5.8
5	☐	100.000	93.153	78313.00	0.5253	P	1.4
6	☐	200.000	203.393	164940.58	1.1459	P	0.7
7	☐	1.000					

y = 0.0056 * x + 8.9726E-004
R = 0.9992
DL = 0.08917
BEC = 0.1594

Weight: <None>
Min Conc: <None>

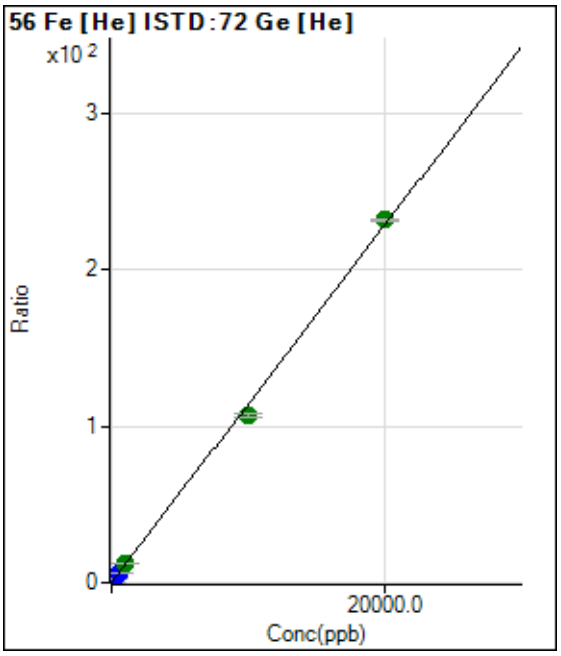
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	958603.70	0.5448	P	3.4
2	☐	200.000	218.251	4688239.04	2.6856	A	2.6
3	☐	500.000	504.584	9996389.55	5.4943	A	3.2
4	☐	1000.000	1083.936	19460497.83	11.1773	A	0.7
5	☐	10000.00	9534.106	164816512.0	94.0667	A	0.2
6	☐	20000.00	20228.45	352235741.2	198.969	A	3.2
7	☐	100.000					

y = 0.0098 * x + 0.5448
R = 0.9996
DL = 5.718
BEC = 55.53

Weight: <None>
Min Conc: <None>

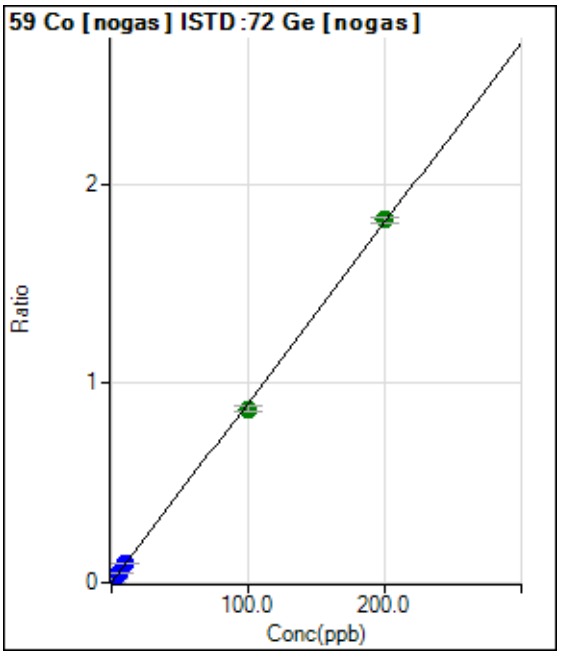


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4744.02	0.0329	P	7.7
2	☐	200.000	208.301	348074.00	2.4131	P	2.3
3	☐	500.000	493.137	856356.34	5.6678	P	0.3
4	☐	1000.000	1106.999	1840399.71	12.6822	A	1.2
5	☐	10000.00	9358.202	15945685.18	106.966	A	2.2
6	☐	20000.00	20315.63	33417998.67	232.173	A	0.6
7	☐	100.000					

y = 0.0114 * x + 0.0329
R = 0.9992
DL = 0.6621
BEC = 2.876

Weight: <None>
Min Conc: <None>

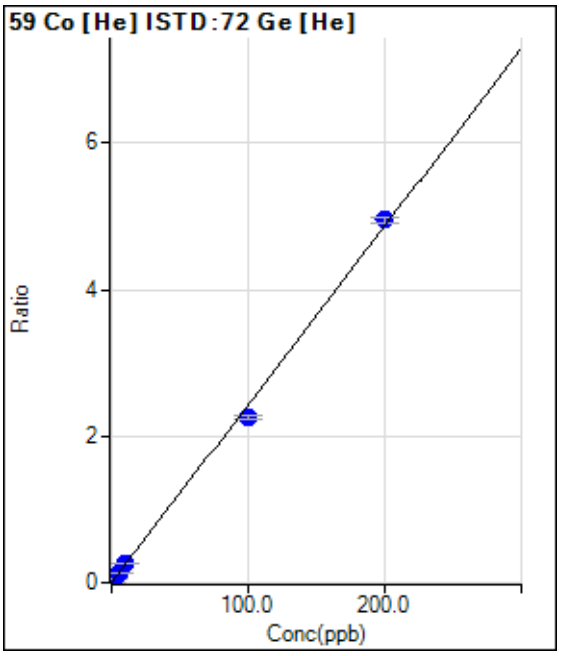
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	316.68	0.0002	P	25.3
2	☐	2.000	2.191	34833.51	0.0200	P	2.4
3	☐	5.000	5.035	82991.91	0.0456	P	2.5
4	☐	10.000	10.965	172583.23	0.0991	P	1.5
5	☐	100.000	96.664	1528113.52	0.8725	A	2.8
6	☐	200.000	201.617	3221336.83	1.8195	A	1.9
7	☐	1.000					

y = 0.0090 * x + 1.8044E-004
R = 0.9998
DL = 0.0152
BEC = 0.02

Weight: <None>
Min Conc: <None>

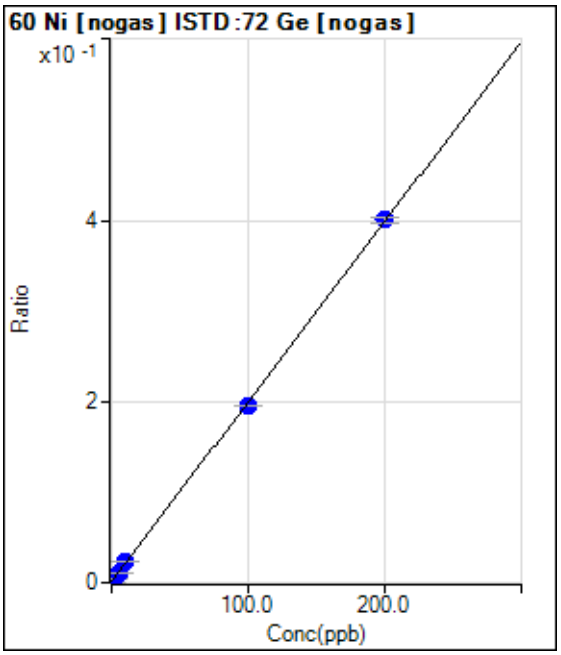


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	63.33	0.0004	P	64.2
2	☐	2.000	2.129	7525.00	0.0522	P	2.4
3	☐	5.000	4.977	18336.12	0.1214	P	2.4
4	☐	10.000	10.731	37902.83	0.2612	P	1.5
5	☐	100.000	92.544	335278.89	2.2490	P	2.0
6	☐	200.000	203.691	712417.77	4.9496	P	1.5
7	☐	1.000					

y = 0.0243 * x + 4.3479E-004
R = 0.9990
DL = 0.03447
BEC = 0.01789

Weight: <None>
Min Conc: <None>

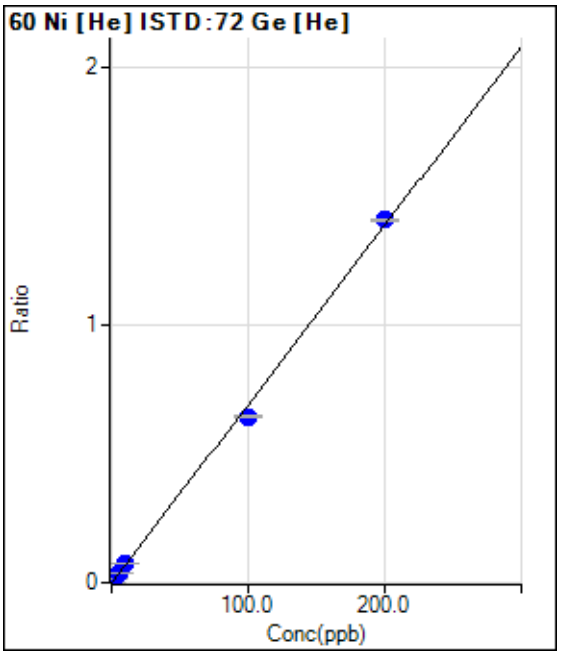
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.193	1273.40	0.0007	P	9.5
2	☐	2.000	2.091	9189.09	0.0053	P	3.9
3	☐	5.000	4.958	19941.16	0.0110	P	3.6
4	☐	10.000	11.357	41206.83	0.0237	P	3.0
5	☐	100.000	97.710	342109.72	0.1952	P	0.8
6	☐	200.000	201.078	709312.49	0.4006	P	1.3
7	☐	1.000					

y = 0.0020 * x + 0.0011
R = 0.9999
DL = 0.1035
BEC = 0.5576

Weight: <None>
Min Conc: <None>

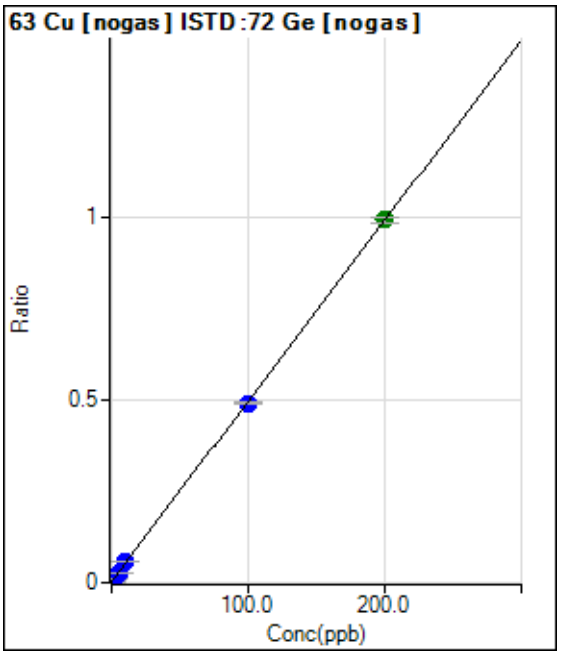


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.627	183.33	0.0013	P	18.7
2	☐	2.000	2.730	2293.52	0.0159	P	12.5
3	☐	5.000	5.566	5377.53	0.0356	P	8.3
4	☐	10.000	11.521	11170.22	0.0770	P	2.4
5	☐	100.000	93.307	96212.07	0.6454	P	1.1
6	☐	200.000	203.249	202867.59	1.4094	P	0.6
7	☐	1.000					

y = 0.0069 * x - 0.0031
R = 0.9991
DL = 0.1023
BEC = -0.445

Weight: <None>
Min Conc: <None>

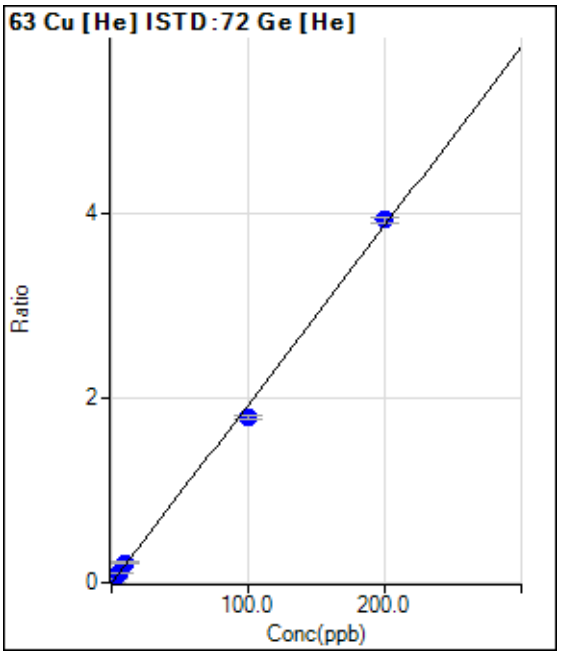
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4547.31	0.0026	P	8.0
2	☐	2.000	2.139	22907.99	0.0131	P	4.5
3	☐	5.000	5.248	51753.44	0.0284	P	1.4
4	☐	10.000	11.233	100868.97	0.0579	P	3.4
5	☐	100.000	98.883	858255.06	0.4899	P	1.6
6	☐	200.000	200.489	1753887.58	0.9906	A	1.5
7	☐	1.000					

y = 0.0049 * x + 0.0026
R = 1.0000
DL = 0.126
BEC = 0.5245

Weight: <None>
Min Conc: <None>

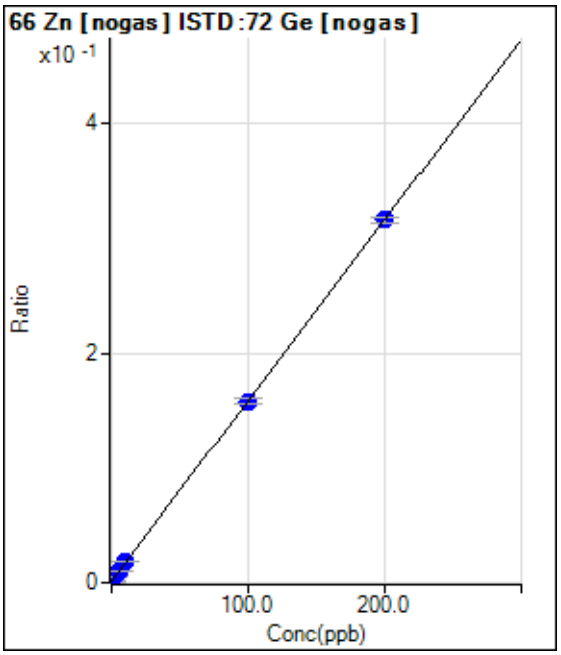


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.729	1020.05	0.0071	P	1.6
2	☐	2.000	2.776	6721.34	0.0466	P	6.2
3	☐	5.000	5.647	15426.72	0.1021	P	4.6
4	☐	10.000	11.372	30869.73	0.2128	P	5.6
5	☐	100.000	93.137	267366.07	1.7934	P	2.8
6	☐	200.000	203.339	564764.92	3.9237	P	1.7
7	☐	1.000					

y = 0.0193 * x - 0.0070
R = 0.9991
DL = 0.01778
BEC = -0.3638

Weight: <None>
Min Conc: <None>

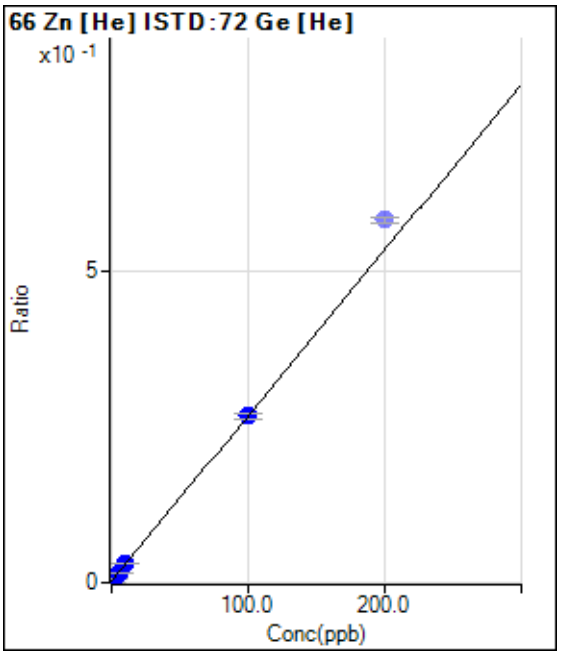
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.322	1486.75	0.0008	P	11.0
2	☐	2.000	1.930	7655.04	0.0044	P	3.2
3	☐	5.000	5.078	16984.78	0.0093	P	1.7
4	☐	10.000	10.553	31230.31	0.0179	P	2.4
5	☐	100.000	99.581	276527.54	0.1579	P	2.8
6	☐	200.000	200.181	559504.67	0.3160	P	1.4
7	☐	1.000					

y = 0.0016 * x + 0.0014
R = 1.0000
DL = 0.1778
BEC = 0.8594

Weight: <None>
Min Conc: <None>

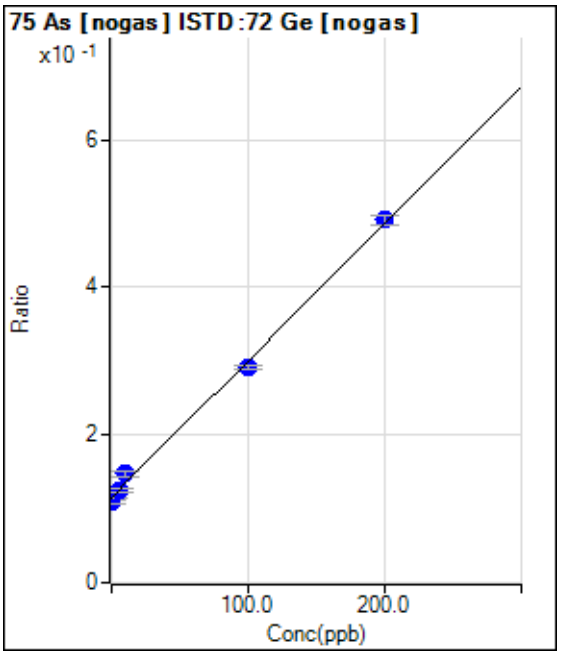


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.503	183.33	0.0013	P	7.9
2	☐	2.000	1.688	1026.71	0.0071	P	12.9
3	☐	5.000	5.045	2423.54	0.0160	P	5.7
4	☐	10.000	10.851	4567.31	0.0315	P	6.1
5	☐	100.000	99.919	40040.94	0.2686	P	3.1
6	☑	200.000		83999.97	0.5836	P	1.9
7	☐	1.000					

y = 0.0027 * x + 0.0026
R = 0.9999
DL = 0.1133
BEC = 0.9802

Weight: <None>
Min Conc: <None>

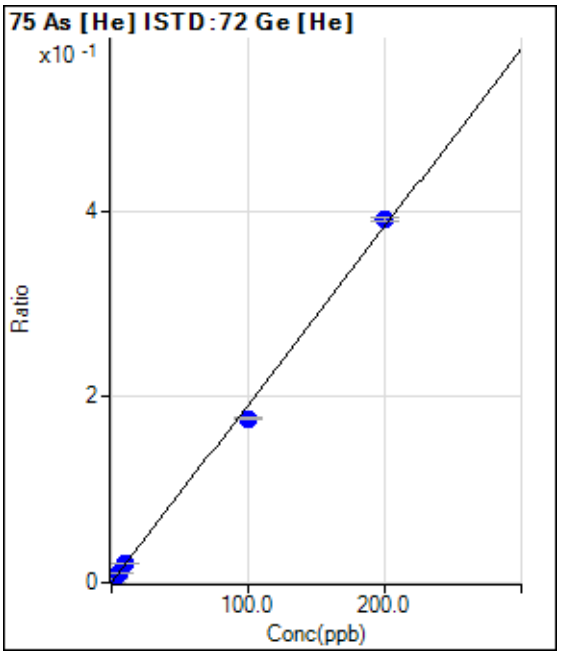
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-3.359	192746.51	0.1095	P	5.5
2	☐	2.000	1.872	208078.12	0.1192	P	5.6
3	☐	5.000	4.594	226169.18	0.1243	P	3.7
4	☐	10.000	16.997	256408.90	0.1473	P	5.1
5	☐	100.000	94.469	509941.15	0.2911	P	1.6
6	☐	200.000	202.427	870119.49	0.4915	P	3.0
7	☐	1.000					

y = 0.0019 * x + 0.1158
R = 0.9986
DL = 9.66
BEC = 62.36

Weight: <None>
Min Conc: <None>

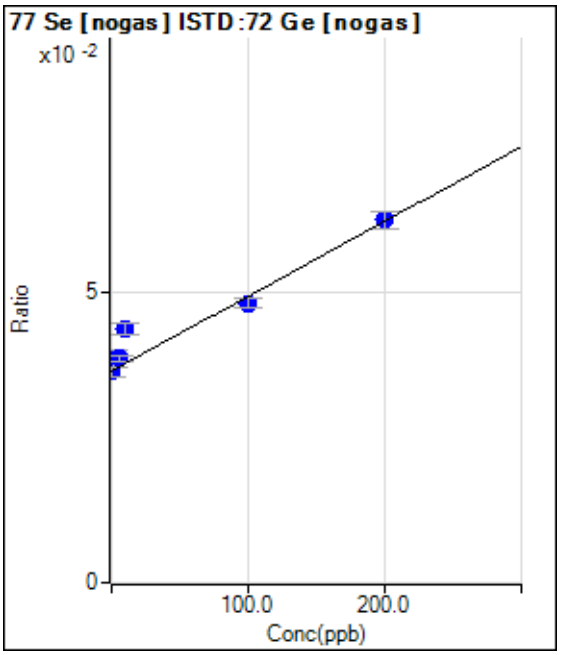


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	27.78	0.0002	P	15.3
2	☐	2.000	2.115	612.23	0.0042	P	3.5
3	☐	5.000	5.046	1488.96	0.0099	P	2.9
4	☐	10.000	11.081	3106.95	0.0214	P	2.4
5	☐	100.000	92.088	26316.83	0.1765	P	1.0
6	☐	200.000	203.900	56225.48	0.3906	P	1.2
7	☐	1.000					

y = 0.0019 * x + 1.9251E-004
R = 0.9989
DL = 0.0462
BEC = 0.1005

Weight: <None>
Min Conc: <None>

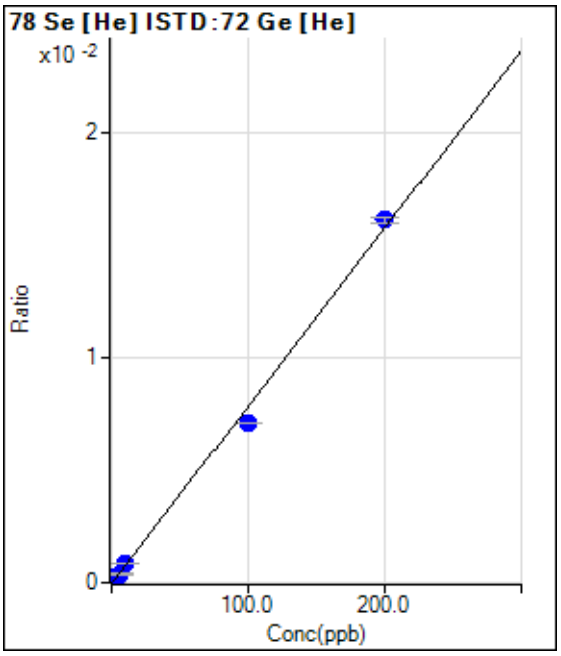
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	64380.95	0.0366	P	6.3
2	☐	2.000	16.422	67532.37	0.0387	P	8.0
3	☐	5.000	16.959	70560.00	0.0388	P	2.7
4	☐	10.000	56.732	76443.55	0.0439	P	5.0
5	☐	100.000	90.770	84672.63	0.0483	P	3.1
6	☐	200.000	201.835	110943.03	0.0627	P	4.5
7	☐	1.000					

y = 1.2925E-004 * x + 0.0366
R = 0.9724
DL = 53.09
BEC = 283

Weight: <None>
Min Conc: <None>

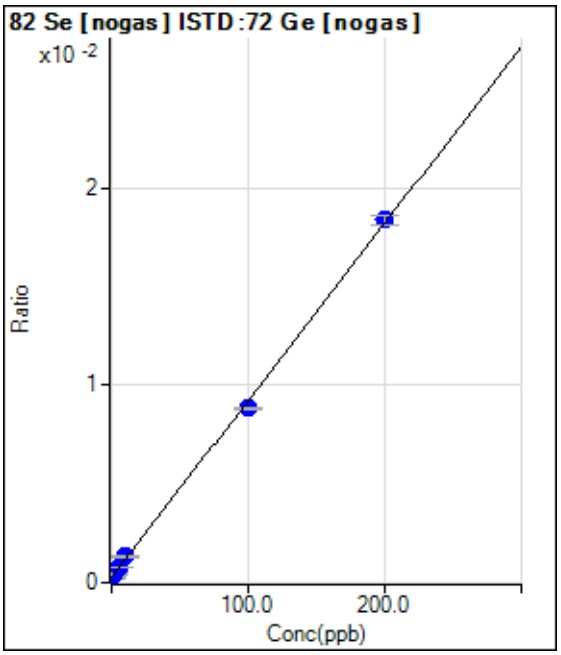


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	1.274	6.67	0.0000	P	45.4
2	☐	2.000	3.877	36.67	0.0003	P	37.9
3	☐	5.000	5.534	58.00	0.0004	P	35.8
4	☐	10.000	11.312	122.00	0.0008	P	3.4
5	☐	100.000	90.200	1056.03	0.0071	P	0.4
6	☐	200.000	204.802	2324.82	0.0162	P	1.5
7	☐	1.000					

y = 7.9134E-005 * x - 5.4697E-005
R = 0.9981
DL = 0.7949
BEC = -0.6912

Weight: <None>
Min Conc: <None>

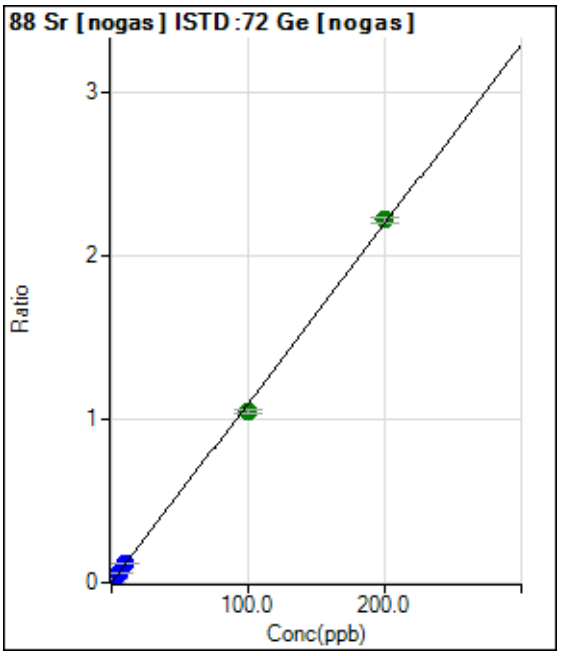
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	470.01	0.0003	P	21.5
2	☐	2.000	1.889	763.36	0.0004	P	8.9
3	☐	5.000	5.848	1440.08	0.0008	P	7.2
4	☐	10.000	11.756	2300.18	0.0013	P	6.7
5	☐	100.000	95.561	15480.22	0.0088	P	0.4
6	☐	200.000	202.112	32556.43	0.0184	P	2.9
7	☐	1.000					

y = 8.9659E-005 * x + 2.6753E-004
R = 0.9996
DL = 1.928
BEC = 2.984

Weight: <None>
Min Conc: <None>

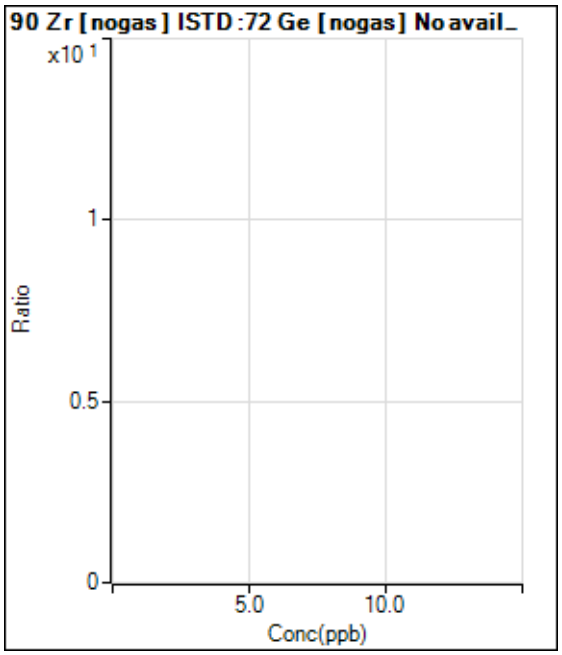


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1273.40	0.0007	P	6.3
2	☐	2.000	2.054	40582.99	0.0232	P	3.9
3	☐	5.000	5.030	101658.07	0.0559	P	2.9
4	☐	10.000	10.806	207559.33	0.1192	P	2.5
5	☐	100.000	95.405	1834085.65	1.0470	A	2.1
6	☐	200.000	202.256	3928264.32	2.2188	A	1.8
7	☐	1.000					

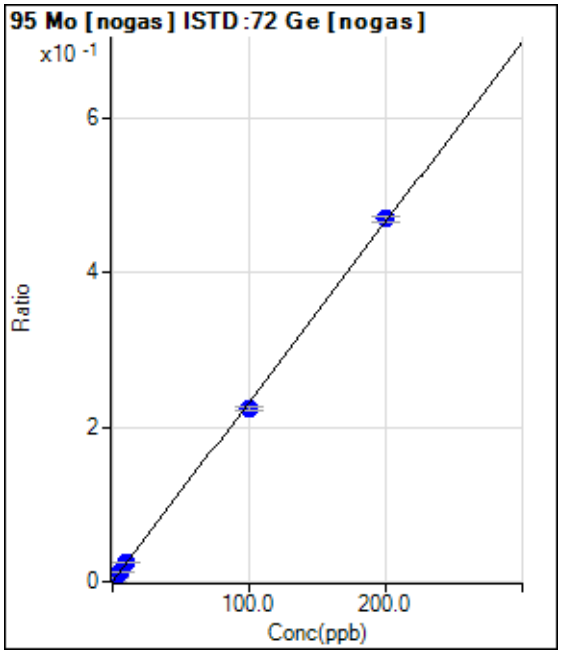
y = 0.0110 * x + 7.2391E-004
R = 0.9996
DL = 0.01253
BEC = 0.06601

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

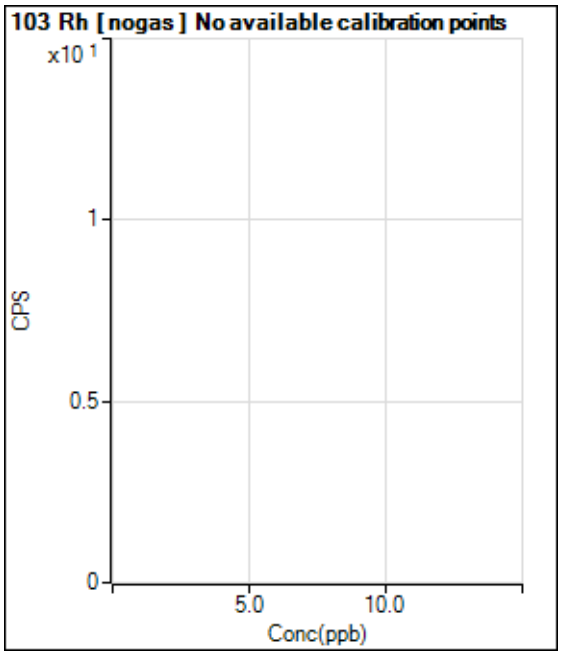


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	173.33	0.0001	P	24.7
2	☐	2.000	1.989	8245.36	0.0047	P	7.1
3	☐	5.000	4.933	21039.50	0.0116	P	4.9
4	☐	10.000	10.698	43480.41	0.0250	P	1.6
5	☐	100.000	96.490	393150.65	0.2244	P	2.5
6	☐	200.000	201.722	830542.91	0.4691	P	1.5
7	☐	1.000					

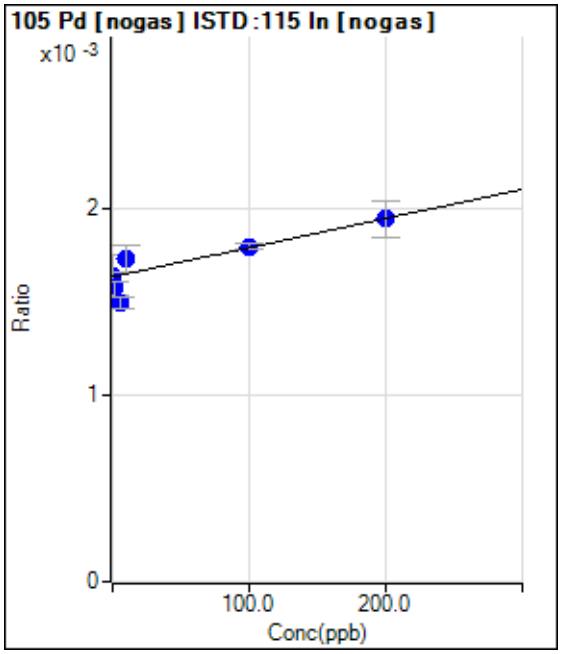
y = 0.0023 * x + 9.8668E-005
R = 0.9998
DL = 0.03143
BEC = 0.04244

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			46.67		P	44.6
2	☐			50.00		P	40.0
3	☐			26.67		P	21.7
4	☐			40.00		P	109.
5	☐			110.00		P	24.1
6	☐			280.01		P	14.3
7	☐						



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3016.98	0.0016	P	13.8
2	☐	2.000	-38.248	2943.63	0.0016	P	4.6
3	☐	5.000	-88.586	2763.61	0.0015	P	4.0
4	☐	10.000	60.434	3143.68	0.0017	P	8.5
5	☐	100.000	103.890	3333.70	0.0018	P	1.9
6	☐	200.000	198.275	3600.44	0.0019	P	10.0
7	☐	1.000					

y = 1.5659E-006 * x + 0.0016

R = 0.8889

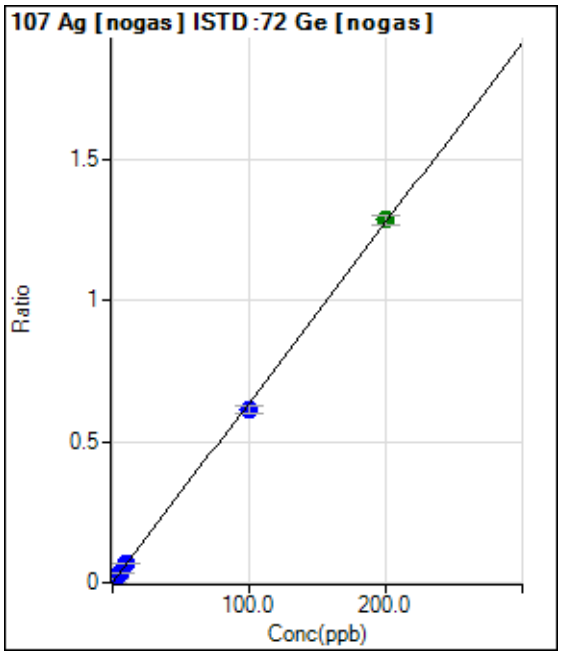
DL = 432.9

BEC = 1046

Weight: <None>

Min Conc: <None>

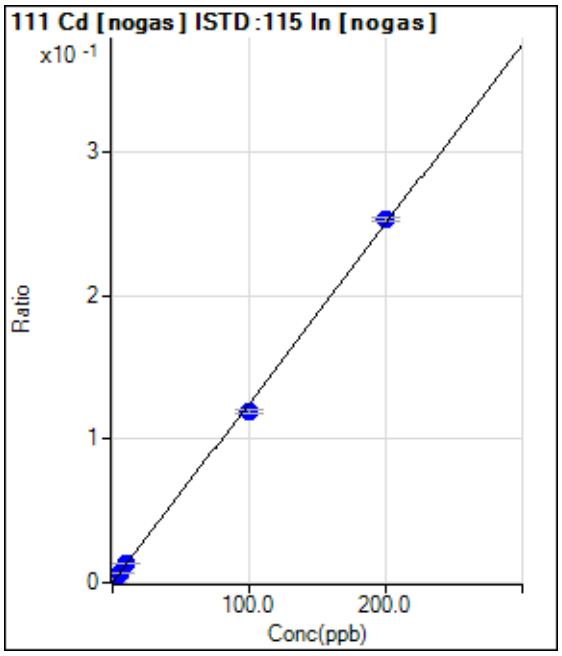
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	573.35	0.0003	P	15.5
2	☐	2.000	2.084	23769.77	0.0136	P	1.6
3	☐	5.000	5.044	59105.90	0.0325	P	1.5
4	☐	10.000	10.839	120892.34	0.0694	P	1.5
5	☐	100.000	96.669	1079929.65	0.6167	P	4.4
6	☐	200.000	201.622	2276724.60	1.2860	A	2.7
7	☐	1.000					

y = 0.0064 * x + 3.2588E-004
R = 0.9998
DL = 0.02375
BEC = 0.05111

Weight: <None>
Min Conc: <None>

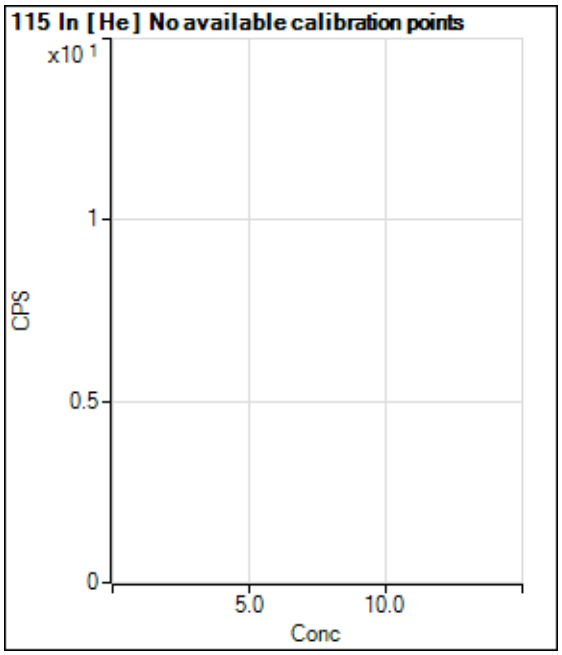


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	36.67	0.0000	P	83.4
2	☐	2.000	1.983	4650.70	0.0025	P	5.2
3	☐	5.000	5.251	12154.37	0.0066	P	2.9
4	☐	10.000	10.657	24210.42	0.0134	P	3.1
5	☐	100.000	95.380	220717.35	0.1193	P	2.6
6	☐	200.000	202.271	467319.21	0.2530	P	0.9
7	☐	1.000					

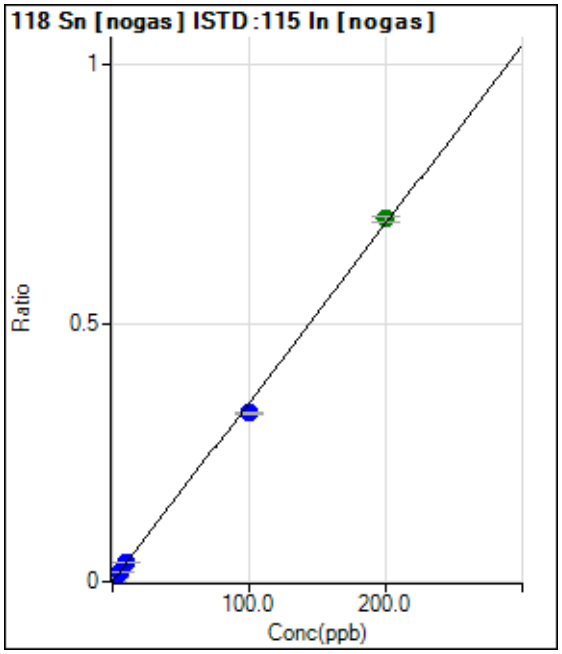
y = 0.0013 * x + 1.9944E-005
R = 0.9996
DL = 0.03989
BEC = 0.01594

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			179491.29		P	3.1
2	☐			178007.60		P	2.5
3	☐			183934.96		P	0.5
4	☐			183853.64		P	3.7
5	☐			181184.24		P	0.5
6	☐			176880.07		P	0.3
7	☐						

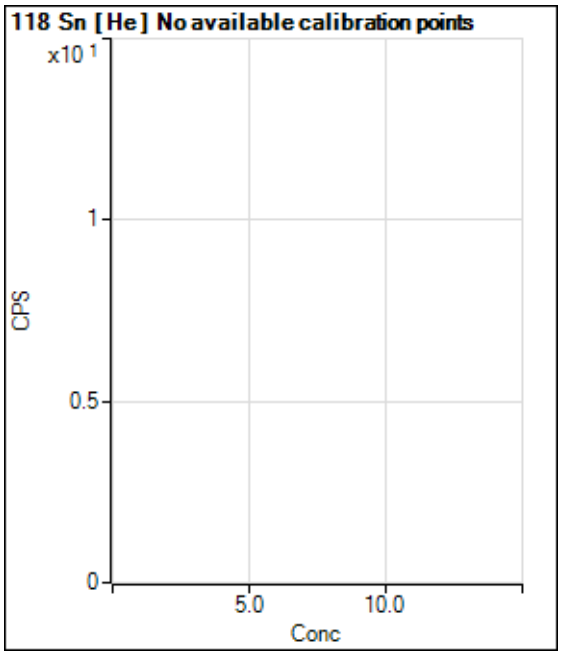


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1406.75	0.0008	P	7.0
2	☐	2.000	1.917	13752.34	0.0074	P	4.8
3	☐	5.000	5.066	33706.09	0.0183	P	1.9
4	☐	10.000	10.465	66995.97	0.0370	P	5.9
5	☐	100.000	94.402	605447.69	0.3272	P	1.1
6	☐	200.000	202.775	1296267.27	0.7019	A	1.5
7	☐	1.000					

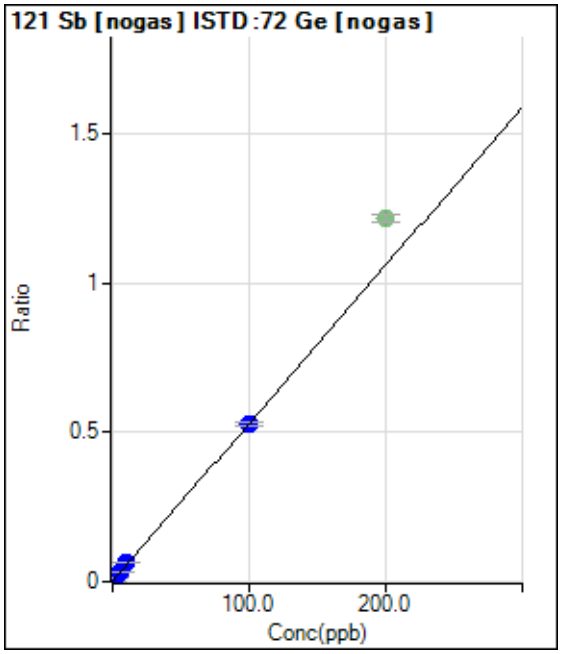
y = 0.0035 * x + 7.6383E-004
R = 0.9994
DL = 0.0466
BEC = 0.2209

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			206.67		P	22.4
2	☐			1800.12		P	8.3
3	☐			4550.68		P	5.2
4	☐			8982.49		P	2.1
5	☐			80607.60		P	5.2
6	☐			165436.03		P	1.9
7	☐						

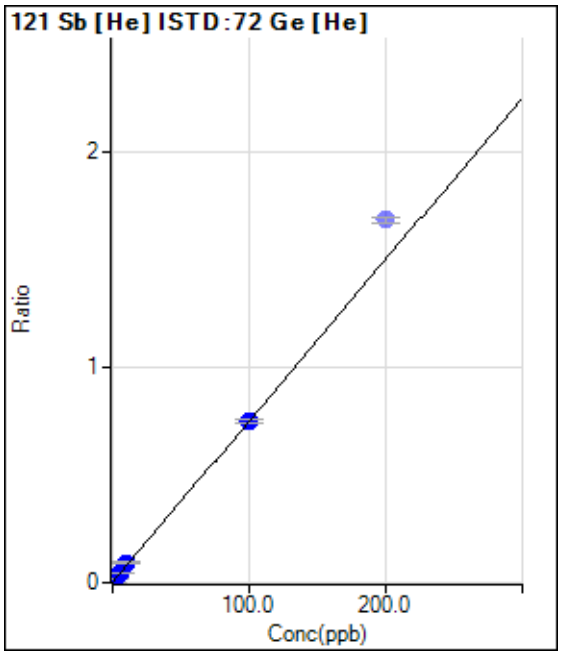


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2053.49	0.0012	P	7.6
2	☐	2.000	2.190	22277.92	0.0128	P	1.7
3	☐	5.000	5.464	54759.36	0.0301	P	2.1
4	☐	10.000	11.456	107610.08	0.0618	P	1.7
5	☐	100.000	99.827	927746.50	0.5296	P	2.5
6	☑	200.000		2151763.98	1.2154	A	2.0
7	☐	1.000					

y = 0.0053 * x + 0.0012
R = 0.9999
DL = 0.05013
BEC = 0.2204

Weight: <None>
Min Conc: <None>

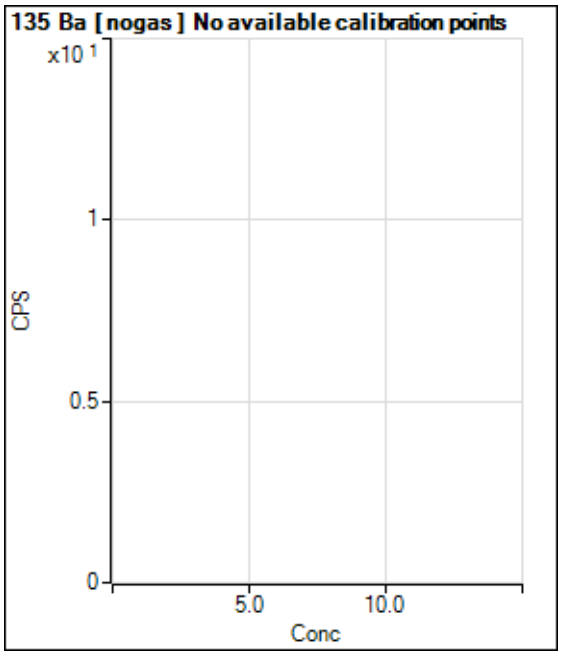
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	276.68	0.0019	P	38.5
2	☐	2.000	2.504	2983.64	0.0207	P	7.6
3	☐	5.000	5.398	6401.29	0.0424	P	0.8
4	☐	10.000	11.897	13215.24	0.0911	P	8.0
5	☐	100.000	99.780	111739.25	0.7495	P	1.7
6	☑	200.000		242407.49	1.6841	P	1.5
7	☐	1.000					

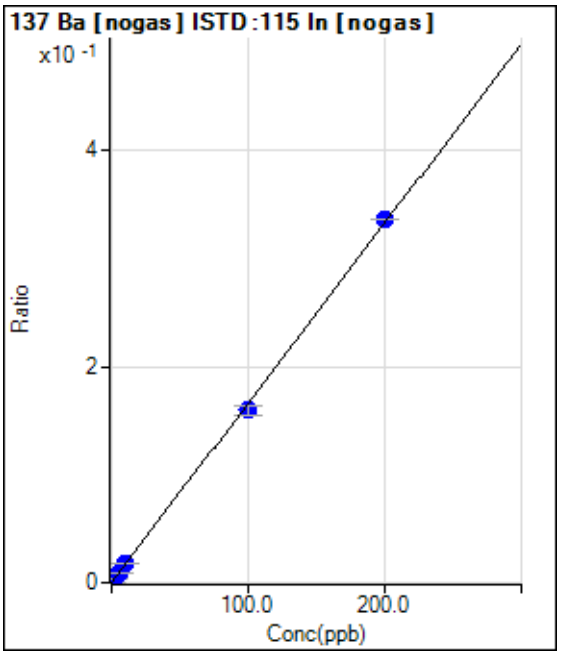
y = 0.0075 * x + 0.0019
R = 0.9998
DL = 0.2967
BEC = 0.2568

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			130.00		P	30.8
2	☐			3943.85		P	7.6
3	☐			9546.13		P	2.0
4	☐			19134.19		P	2.3
5	☐			167520.14		P	2.2
6	☐			351318.08		P	1.2
7	☐						

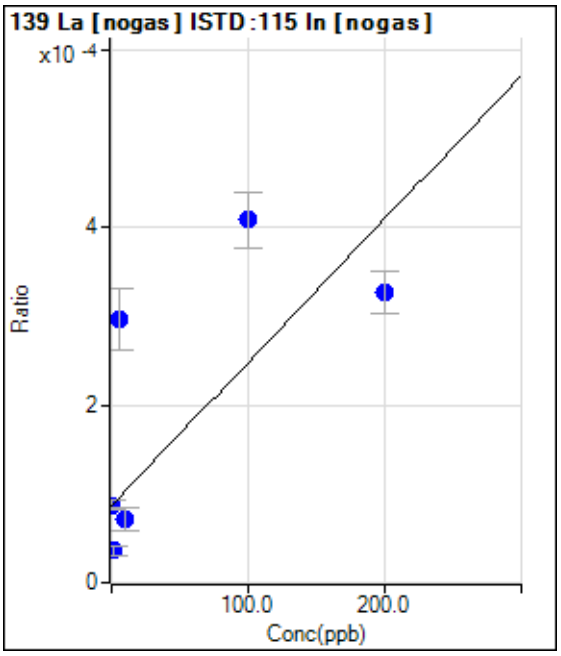
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	236.67	0.0001	P	37.7
2	☐	2.000	2.261	7238.30	0.0039	P	5.4
3	☐	5.000	5.307	16491.51	0.0089	P	4.1
4	☐	10.000	10.705	32510.86	0.0179	P	1.7
5	☐	100.000	95.849	294793.36	0.1594	P	4.8
6	☐	200.000	202.030	620387.59	0.3359	P	0.2
7	☐	1.000					

y = 0.0017 * x + 1.2839E-004
R = 0.9997
DL = 0.0873
BEC = 0.07724

Weight: <None>
Min Conc: <None>

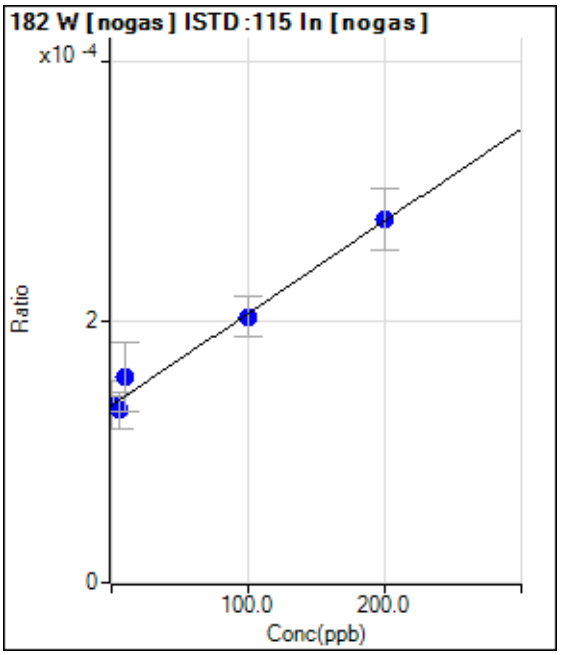


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	160.00	0.0001	P	12.4
2	☐	2.000	-31.420	66.67	0.0000	P	28.2
3	☐	5.000	129.498	543.36	0.0003	P	23.5
4	☐	10.000	-9.361	130.00	0.0001	P	36.1
5	☐	100.000	199.225	753.36	0.0004	P	15.6
6	☐	200.000	148.577	603.35	0.0003	P	14.8
7	☐	100.000					

y = 1.6136E-006 * x + 8.6877E-005
R = 0.6772
DL = 20.11
BEC = 53.84

Weight: <None>
Min Conc: <None>

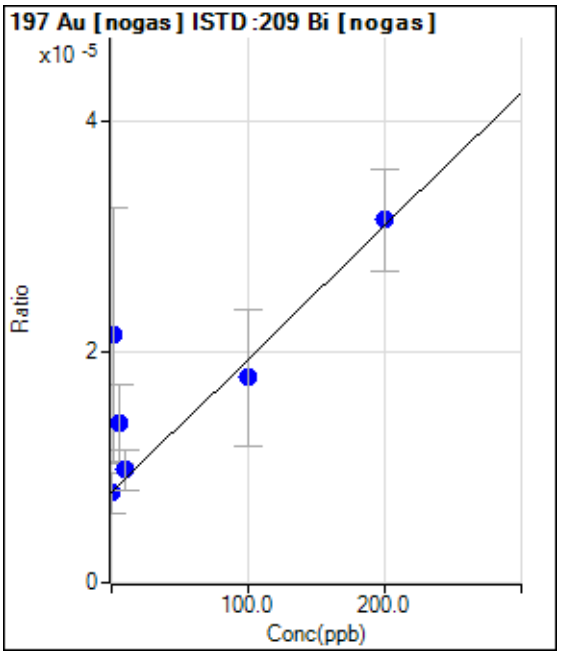
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	250.01	0.0001	P	26.7
2	☐	2.000	-0.630	253.34	0.0001	P	10.1
3	☐	5.000	-5.242	243.34	0.0001	P	21.4
4	☐	10.000	30.629	286.67	0.0002	P	33.5
5	☐	100.000	96.331	376.68	0.0002	P	14.8
6	☐	200.000	201.085	513.35	0.0003	P	17.1
7	☐	1.000					

y = 7.0674E-007 * x + 1.3587E-004
R = 0.9918
DL = 153.7
BEC = 192.3

Weight: <None>
Min Conc: <None>

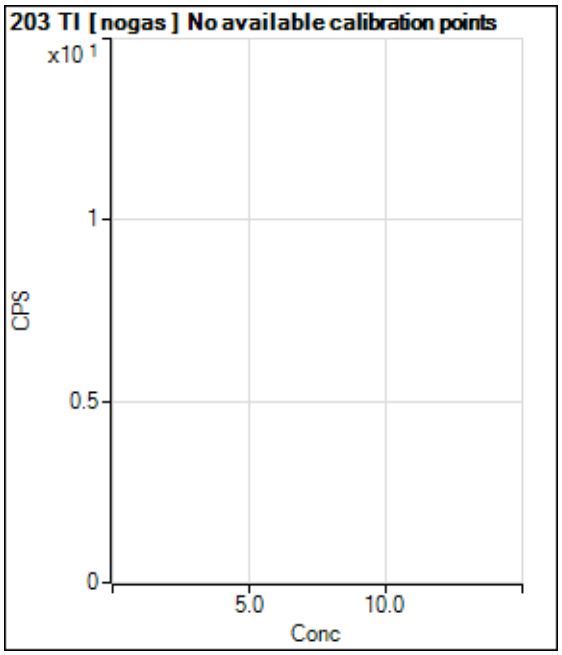


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0000	P	45.1
2	☐	2.000	117.774	36.67	0.0000	P	102.
3	☐	5.000	51.384	23.33	0.0000	P	49.3
4	☐	10.000	16.753	16.67	0.0000	P	35.5
5	☐	100.000	86.348	30.00	0.0000	P	66.5
6	☐	200.000	204.171	53.33	0.0000	P	28.2
7	☐	100.000					

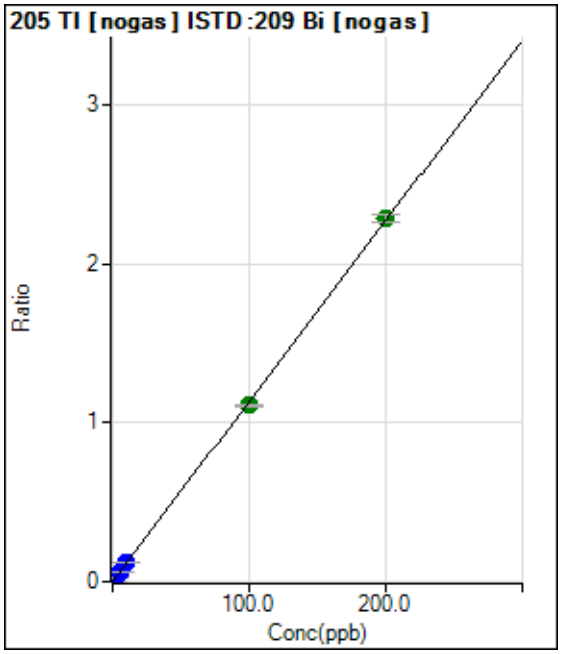
y = 1.1574E-007 * x + 7.8173E-006
R = 0.8149
DL = 91.46
BEC = 67.54

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			136.67		P	8.4
2	☐			16538.63		P	4.2
3	☐			41586.42		P	1.3
4	☐			84719.37		P	1.6
5	☐			781477.75		P	1.0
6	☐			1641909.20		A	4.0
7	☐						

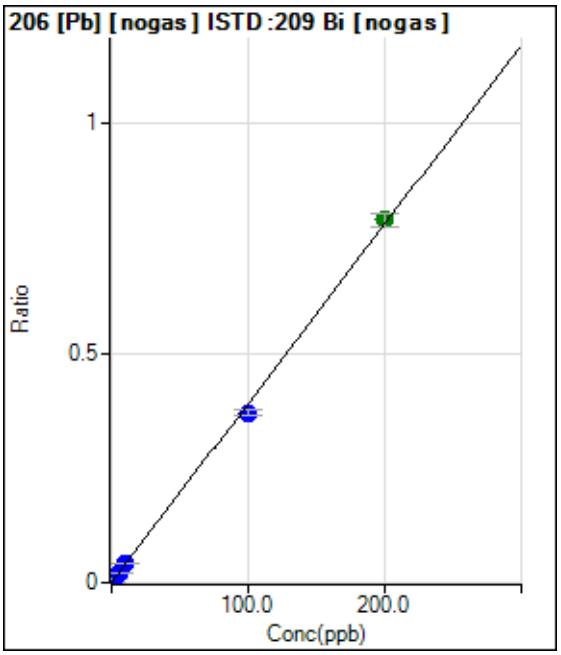


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	336.68	0.0002	P	8.0
2	☐	2.000	1.993	38639.37	0.0228	P	5.3
3	☐	5.000	5.029	97079.49	0.0573	P	0.5
4	☐	10.000	10.428	203270.19	0.1187	P	3.4
5	☐	100.000	97.764	1870902.89	1.1111	A	0.8
6	☐	200.000	201.096	3873621.08	2.2852	A	2.2
7	☐	1.000					

y = 0.0114 * x + 1.9646E-004
R = 0.9999
DL = 0.004145
BEC = 0.01729

Weight: <None>
Min Conc: <None>

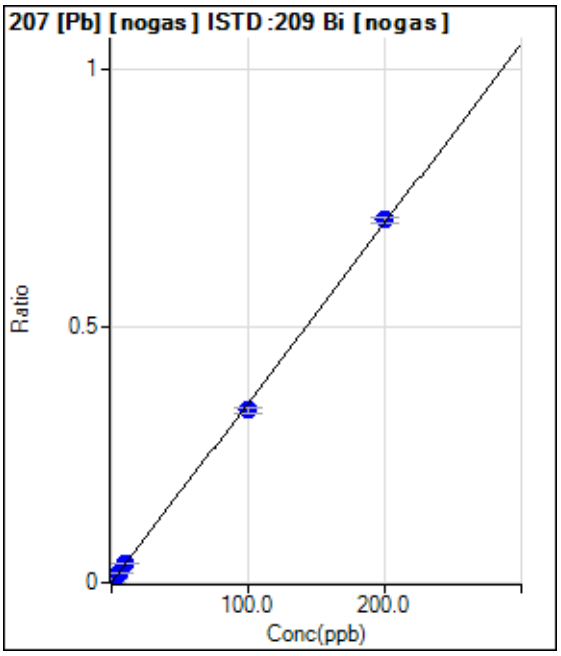
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	366.68	0.0002	P	31.3
2	☐	2.000	2.029	13776.03	0.0081	P	2.9
3	☐	5.000	5.181	34594.06	0.0204	P	3.8
4	☐	10.000	10.518	70697.07	0.0413	P	1.5
5	☐	100.000	94.892	624046.74	0.3706	P	2.6
6	☐	200.000	202.523	1340340.40	0.7907	A	3.7
7	☐	1.000					

y = 0.0039 * x + 2.1513E-004
R = 0.9995
DL = 0.05181
BEC = 0.05511

Weight: <None>
Min Conc: <None>

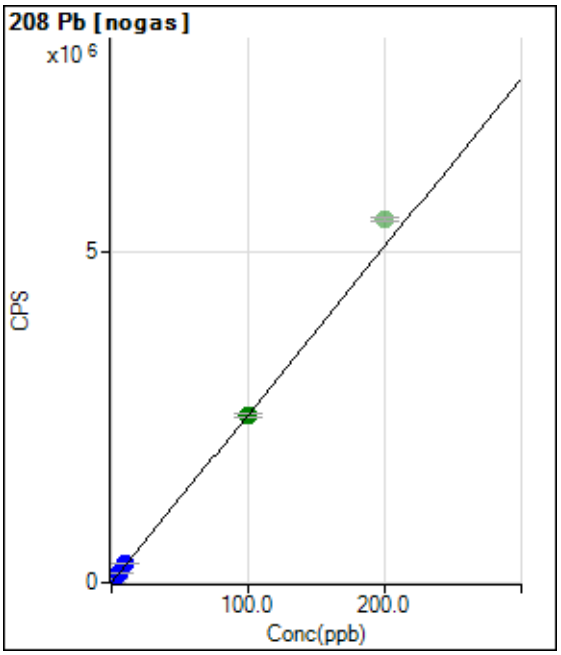


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	263.34	0.0002	P	6.4
2	☐	2.000	2.015	12204.77	0.0072	P	2.1
3	☐	5.000	5.296	31641.08	0.0187	P	3.1
4	☐	10.000	10.636	64043.23	0.0374	P	1.8
5	☐	100.000	95.958	565887.04	0.3361	P	3.2
6	☐	200.000	201.982	1198975.92	0.7072	P	1.4
7	☐	1.000					

y = 0.0035 * x + 1.5353E-004
R = 0.9997
DL = 0.00846
BEC = 0.04386

Weight: <None>
Min Conc: <None>

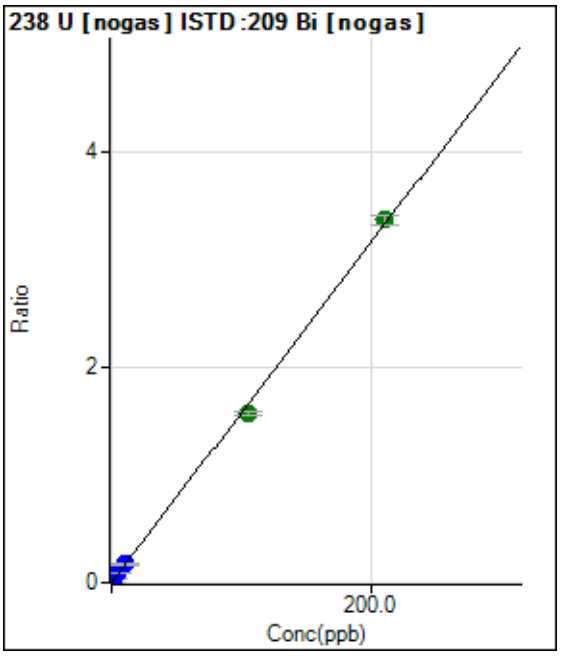
Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1260.05		P	6.0
2	☐	2.000	2.149	55985.32		P	2.5
3	☐	5.000	5.450	140076.41		P	2.5
4	☐	10.000	11.180	286017.64		P	1.0
5	☐	100.000	99.857	2544622.03		A	2.2
6	☑	200.000		5499129.92		A	1.0
7	☐	1.000					

y = 25470.1655 * x + 1260.0500
R = 0.9999
DL = 0.008893
BEC = 0.04947

Weight: <None>
Min Conc: <None>

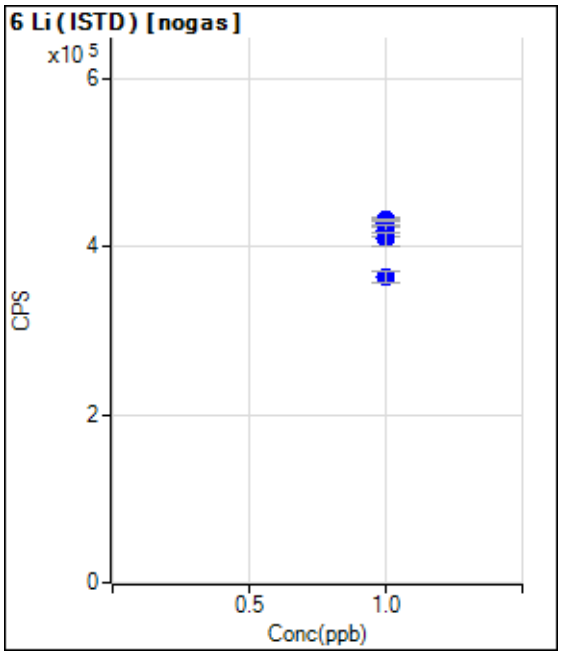


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	86.67	0.0001	P	40.4
2	☐	2.000	2.118	56842.10	0.0336	P	1.0
3	☐	5.000	5.304	142174.41	0.0840	P	2.5
4	☐	10.000	10.845	294015.22	0.1717	P	3.5
5	☐	105.000	99.237	2644507.15	1.5705	A	1.7
6	☐	210.000	212.833	5710875.75	3.3681	A	2.4
7	☐	1.000					

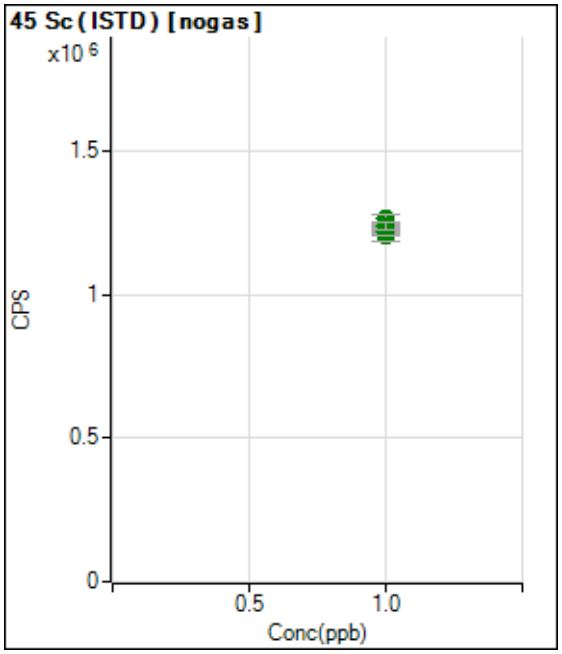
y = 0.0158 * x + 5.0144E-005
R = 0.9994
DL = 0.003839
BEC = 0.003169

Weight: <None>
Min Conc: <None>

Calibration for 027_ICV.d

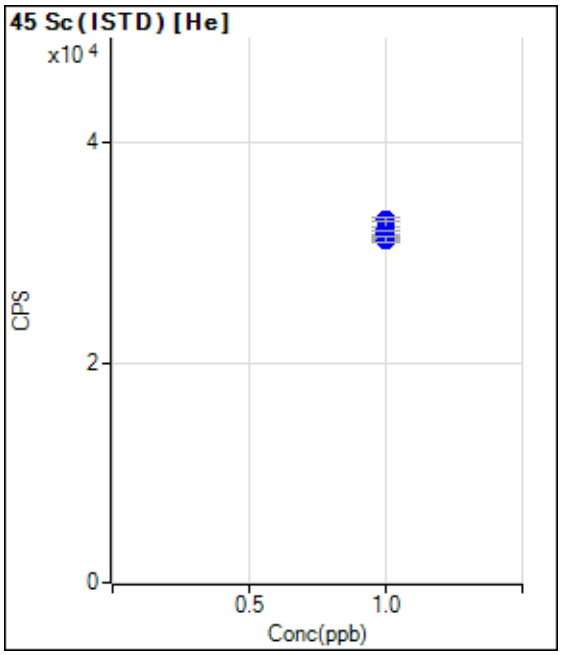


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		424595.35		P	4.0
2	☐	1.000		429307.55		P	2.9
3	☐	1.000		432280.17		P	0.2
4	☐	1.000		419151.45		P	2.9
5	☐	1.000		409608.19		P	3.7
6	☐	1.000		364162.60		P	3.5
7	☐	1.000					

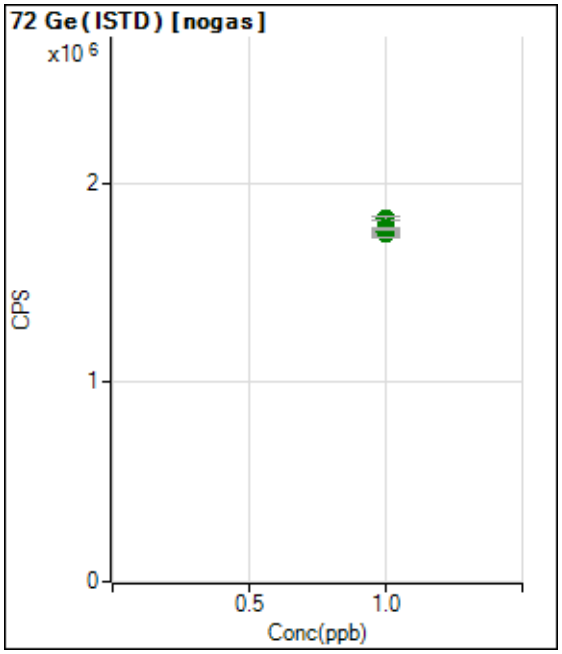


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1240671.23		A	0.7
2	☐	1.000		1204191.05		A	2.8
3	☐	1.000		1227555.71		A	1.8
4	☐	1.000		1218593.45		A	1.7
5	☐	1.000		1264890.95		A	2.4
6	☐	1.000		1241287.25		A	2.3
7	☐	1.000					

Calibration for 027_ICV.d

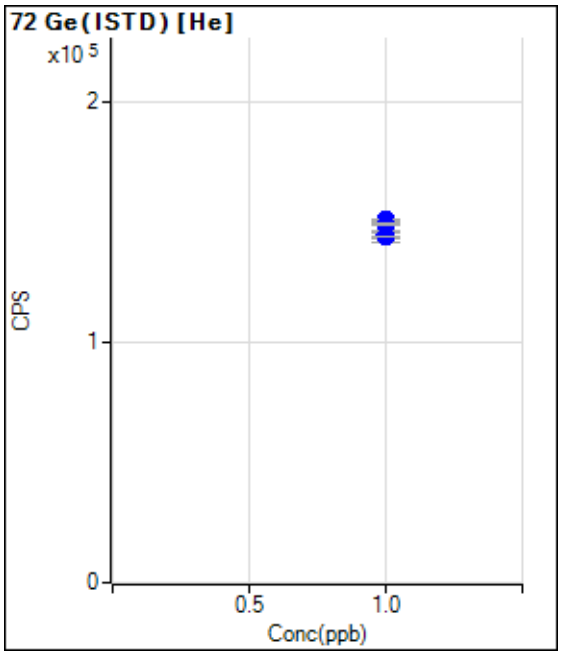


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		31907.86		P	3.0
2	☐	1.000		32989.58		P	0.9
3	☐	1.000		31851.18		P	0.9
4	☐	1.000		32128.22		P	4.8
5	☐	1.000		31600.60		P	2.6
6	☐	1.000		31166.54		P	1.8
7	☐	1.000					

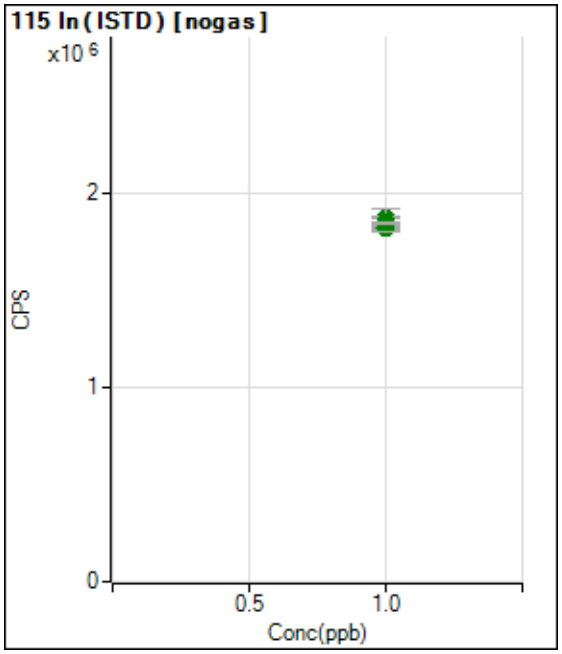


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1760484.97		A	1.9
2	☐	1.000		1746045.55		A	1.4
3	☐	1.000		1819539.45		A	1.1
4	☐	1.000		1741109.51		A	0.8
5	☐	1.000		1752179.50		A	2.4
6	☐	1.000		1770607.21		A	0.8
7	☐	1.000					

Calibration for 027_ICV.d

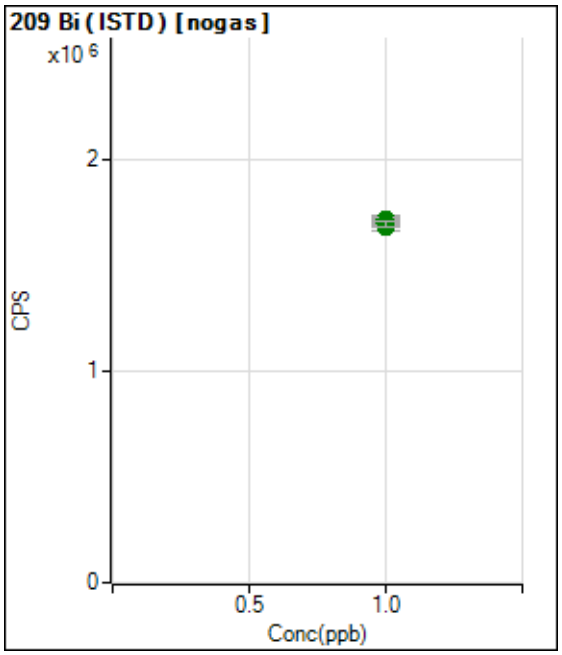


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		144533.93		P	2.2
2	☐	1.000		144315.56		P	3.2
3	☐	1.000		151091.52		P	0.7
4	☐	1.000		145136.01		P	1.7
5	☐	1.000		149086.60		P	0.7
6	☐	1.000		143936.35		P	0.3
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1841567.26		A	0.5
2	☐	1.000		1864100.62		A	6.1
3	☐	1.000		1844036.52		A	2.8
4	☐	1.000		1813998.23		A	1.5
5	☐	1.000		1850413.75		A	2.9
6	☐	1.000		1846738.48		A	0.6
7	☐	1.000					

Calibration for 027_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1714556.38		A	3.0
2	☐	1.000		1693793.93		A	3.3
3	☐	1.000		1692914.82		A	0.6
4	☐	1.000		1713069.92		A	1.2
5	☐	1.000		1683909.35		A	0.4
6	☐	1.000		1695597.26		A	2.0
7	☐	1.000					

Sub Contract Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17120912

Case Narrative

Method: 6850
Analysis: Perchlorate
Analysis SOP: LC-MS-CLO4
ALS WO ID(s): 1735429

Client: ALS Laboratories (Houston, TX)
Matrix: Water
ELMS Batch (HBN): 2016 (205659)

General Set Information: There were eleven field samples in this Work Order. The samples were analyzed for perchlorate.

Method Summary: Each sample was prepared as noted below and analyzed using an Agilent 1100 LC/MSD system in select ion monitoring (SIM) mode at m/z 83 and 85, which corresponds to the loss of one oxygen atom from the perchlorate molecule. ChemStation software was used for instrument control and data analysis. The ion ratio of m/z 83 to 85 was used to positively identify the response peak as perchlorate. Quantitation was performed using the m/z 83 peak area. An internal standard (ISTD) of ^{18}O labeled perchlorate was added to each sample to establish the perchlorate peak retention time and used in quantitation.

Sample Preparation: A 10.0mL aliquot of each sample was transferred into a 15-mL centrifuge tube. 50µL of an ^{18}O labeled perchlorate solution was added to each sample as an internal standard. The samples were then capped, vortexed, and filtered into autosampler vial using Phenex PES membrane 0.45µm Syringe filters.

Holding Times: Holding times were met for all analyses.

Dilutions: Samples 1735429002-05/07/09-11 were re-analyzed and reported at the following dilutions: 1 to 1,000/10,000/100/1,000/1,000/10,000/10,000/10. The reporting limits have been adjusted accordingly.

Method QC data: The method blank (LMB 580548) was less than 1/2 the CRDL. The recovery for the LCS (580549) was within acceptable parameters.

MS/MSD Analysis: The matrix spike and matrix spike duplicate (MS/MSD) was performed on sample 1735429001 (Client ID: MW9_121317). The MS/MSD percent recoveries and relative percent difference (RPD) were within the performance limits.

Instrument QC: Instrument initial and continuing calibrations were performed in accordance with published procedures.

NC/CAR(s): None were required for this set.

Sample Calculation: Samples were reported in µg/L. Results were calculated in µg/L by the equation (A)x(B),

where: A = Analyte concentration from the standard curve (µg/L)
B = Dilution performed at time of analysis

Miscellaneous Comments: These samples were analyzed in accordance with the requirements found in the DOD QSM Version 5.1. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01/02) along with datafiles 21DECP02/03/09/10/12/14/18/19/22.

Thomas Bosch December 28, 2017
Date

ANALYTICAL REPORT

Report Date: December 28, 2017

Sonia West
ALS Environmental
10450 Stancliff Rd.
Suite 210
Houston, TX 77099

Phone: (281) 530-5656

E-mail: Sonia.West@alsglobal.com

Workorder: **34-1735429**
Project ID: HS17120912 121317
Purchase Order: HS17120912
Project Manager Kevin W. Griffiths

Client Sample ID	Lab ID	Collect Date	Receive Date	Sampling Site
MW9_121317	1735429001	12/13/17	12/19/17	
MW7_121317	1735429002	12/13/17	12/19/17	
120_121417	1735429003	12/14/17	12/19/17	
123_121417	1735429004	12/14/17	12/19/17	
109_121417	1735429005	12/14/17	12/19/17	
18CPTMW22R_121417	1735429006	12/14/17	12/19/17	
18CPTMW22SW_121417	1735429007	12/14/17	12/19/17	
MW20_121417	1735429008	12/14/17	12/19/17	
MW23_121517	1735429009	12/15/17	12/19/17	
MW23_121517-a	1735429010	12/15/17	12/19/17	
18CPTMW03SW_121517	1735429011	12/15/17	12/19/17	

ANALYTICAL REPORT

Workorder: 34-1735429
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **MW9_121317** | Sampling Site: NA | Collected: 12/13/2017
Lab ID: 1735429001 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/21/2017 17:30 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**44**	1.0	2.0	4.0	1	

Sample ID: **MW7_121317** | Sampling Site: NA | Collected: 12/13/2017
Lab ID: 1735429002 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/22/2017 08:26 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**15000**	1000	2000	4000	1000	

Sample ID: **120_121417** | Sampling Site: NA | Collected: 12/14/2017
Lab ID: 1735429003 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/22/2017 08:45 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**65000**	10000	20000	40000	10000	

Sample ID: **123_121417** | Sampling Site: NA | Collected: 12/14/2017
Lab ID: 1735429004 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/22/2017 09:05 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**2200**	100	200	400	100	

ANALYTICAL REPORT

Workorder: 34-1735429
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **109_121417** | Sampling Site: NA | Collected: 12/14/2017
Lab ID: 1735429005 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/22/2017 09:24 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**19000**	1000	2000	4000	1000	

Sample ID: **18CPTMW22R_121417** | Sampling Site: NA | Collected: 12/14/2017
Lab ID: 1735429006 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/21/2017 19:44 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**8.3**	1.0	2.0	4.0	1	

Sample ID: **18CPTMW22SW_121417** | Sampling Site: NA | Collected: 12/14/2017
Lab ID: 1735429007 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/22/2017 09:43 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**6900**	1000	2000	4000	1000	

Sample ID: **MW20_121417** | Sampling Site: NA | Collected: 12/14/2017
Lab ID: 1735429008 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/21/2017 20:23 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	1.9	1.0	2.0	4.0	1	J

ANALYTICAL REPORT

Workorder: 34-1735429
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Analytical Results

Sample ID: **MW23_121517** | Sampling Site: NA | Collected: 12/15/2017
Lab ID: 1735429009 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/22/2017 10:02 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**73000**	10000	20000	40000	10000	

Sample ID: **MW23_121517-a** | Sampling Site: NA | Collected: 12/15/2017
Lab ID: 1735429010 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/22/2017 10:21 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**73000**	10000	20000	40000	10000	

Sample ID: **18CPTMW03SW_121517** | Sampling Site: NA | Collected: 12/15/2017
Lab ID: 1735429011 | Media: 125 mL Nalgene | Received: 12/19/2017
Matrix: Water | Sampling Parameter: NA

Analysis Method - EPA 6850, DoD QSM

Preparation: Not Applicable
Analysis: EPA 6850, DoD QSM Water | **Instrument ID:** LCMS04
Batch: ELMS/2016 (HBN: 205659) | **Percent Solid:** NA
Analyzed: 12/22/2017 10:40 | **Report Basis:** Wet

Analyte	Result (ug/L)	DL (ug/L)	LOD (ug/L)	LOQ (ug/L)	Dilution	Qual
Perchlorate	**120**	10	20	40	10	

Comments

Quality Control: **EPA 6850, DoD QSM - (HBN: 205659)**

Samples 1735429002-05/07/09-11 were re-analyzed and reported at the following dilutions: 1 to 1,000/10,000/100/1,000/1,000/10,000/10,000/10. The reporting limits have been adjusted accordingly.

Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Method	Analyst	Peer Review
EPA 6850, DoD QSM	/S/ Thomas Bosch 12/27/2017 15:40	/S/ Stephen Brose 12/28/2017 17:01

ANALYTICAL REPORT

Workorder: 34-1735429
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Laboratory Contact Information

ALS Environmental
960 W Levoy Drive
Salt Lake City, Utah 84123

Phone: (801) 266-7700
Email: alslt.lab@ALSGlobal.com
Web: www.alsslc.com

General Lab Comments

The results provided in this report relate only to the items tested.
Samples were received in acceptable condition unless otherwise noted.
Samples have not been blank corrected unless otherwise noted.
This test report shall not be reproduced, except in full, without written approval of ALS.

ALS provides professional analytical services for all samples submitted. ALS is not in a position to interpret the data and assumes no responsibility for the quality of the samples submitted.

All quality control samples processed with the samples in this report yielded acceptable results unless otherwise noted.

ALS is accredited for specific fields of testing (scopes) in the following testing sectors. The quality system implemented at ALS conforms to accreditation requirements and is applied to all analytical testing performed by ALS. The following table lists testing sector, accreditation body, accreditation number and website. Please contact these accrediting bodies or your ALS project manager for the current scope of accreditation that applies to your analytical testing.

Testing Sector	Accreditation Body (Standard)	Certificate Number	Website
Environmental	ANAB (DoD ELAP)	ADE-1420	http://www.anab.org/accredited-organizations/
	Utah (NELAC)	DATA1	http://health.utah.gov/lab/labimp/
	Nevada	UT00009	http://ndep.nv.gov/bsdw/labservice.htm
	Oklahoma	UT00009	http://www.deq.state.ok.us/CSDnew/
	Iowa	IA# 376	http://www.iowadnr.gov/InsideDNR/RegulatoryWater.aspx
	Texas (TNI)	T104704456-11-1	http://www.tceq.texas.gov/field/qa/lab_accred_certif.html
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
	Kansas	E-10416	http://www.kdheks.gov/lipo/index.html
Industrial Hygiene	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
	Washington	C596-16	http://www.ecy.wa.gov/programs/eap/labs/index.html
Lead Testing:			
CPSC	ANAB (ISO 17025, CPSC)	ADE-1420	http://www.anab.org/accredited-organizations/
Soil, Dust, Paint ,Air	AIHA LAP LLC (ISO 17025 & IHLAP/ELLAP)	101574	http://www.aihaaccreditedlabs.org
Dietary Supplements	ACLASS (ISO 17025)	ADE-1420	http://www.aclasscorp.com

ANALYTICAL REPORT

Workorder: 34-1735429
Client: ALS Environmental (Houston)
Project Manager: Kevin W. Griffiths

Result Symbol Definitions

MDL = Method Detection Limit, a statistical estimate of method/media/instrument sensitivity.
RL = Reporting Limit, a verified value of method/media/instrument sensitivity.
CRDL = Contract Required Detection Limit
Reg. Limit = Regulatory Limit.
ND = Not Detected, testing result not detected above the MDL or RL.
< This testing result is less than the numerical value.
** No result could be reported, see sample comments for details.

Qualifier Symbol Definitions

U = Qualifier indicates that the analyte was not detected above the MDL.
J = Qualifier Indicates that the analyte value is between the MDL and the RL. It is also used to indicate an estimated value for tentatively identified compounds in mass spectrometry where a 1:1 response is assumed.
B = Qualifier indicates that the analyte was detected in the blank.
E = Qualifier indicates that the analyte result exceeds calibration range.
P = Qualifier indicates that the RPD between the two columns is greater than 40%.

Quality Control Sample
Batch Report

Analysis Information

Workorder: 1735429

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850, DoD QSM
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2016 (HBN: 205659)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Blank

LMB: 580548
Analyzed: 12/21/2017 16:48
Units: ug/L

Analyte	Result	MDL	RL
Perchlorate	ND	1	2.00

Laboratory Control Sample

LCS: 580549
Analyzed: 12/21/2017 17:08
Dilution: 1
Units: ug/L

Analyte	Result	Target	% Rec	QC Limits	
Perchlorate	5.04	5.00	101	78.8	123.8

Matrix Spike - Matrix Spike Duplicate

Sample:	1735429001	**MS:**	580550					**MSD:**	580551		
Analyzed:	12/21/2017 17:30	**Analyzed:**	12/21/2017 17:49					**Analyzed:**	12/21/2017 18:09		
Dilution:	1	**Dilution:**	1					**Dilution:**	1		
Units:	ug/L	**Units:**	ug/L					**Units:**	ug/L		

Analyte	Result	Result	Target	% Rec	QC Limits		Result	% Rec	RPD	QC Limits	
Perchlorate	44.0	49.8	5	106	78.8	123.8	49.9	109	0.283	0.0	20.0

Continuing Calibration Verification

CCV:	580545			**CCV:**	580552			**CCV:**	580554		
Analyzed:	12/21/2017 15:50			**Analyzed:**	12/21/2017 20:42			**Analyzed:**	12/21/2017 22:18		
Units:	ug/L			**Units:**	ug/L			**Units:**	ug/L		
Criteria:	± 15%			**Criteria:**	± 15%			**Criteria:**	± 15%		

Analyte	Result	Target	% Rec.	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	27.1	25.0	108	26.3	25.0	105	27.5	25.0	110

CCV:	580612			**CCV:**	580613		
Analyzed:	12/22/2017 08:06			**Analyzed:**	12/22/2017 11:00		
Units:	ug/L			**Units:**	ug/L		
Criteria:	± 15%			**Criteria:**	± 15%		

Analyte	Result	Target	% Rec.	Result	Target	% Rec.
Perchlorate	26.7	25.0	107	27.2	25.0	109

Interference Check Sample

ICSA: 580547
Analyzed: 12/21/2017 16:28
Units: ug/L
Criteria: ± 30%

Analyte	Result	Target	% Rec.
Perchlorate	0.924	1.00	92.4

Quality Control Sample Batch Report

Analysis Information

Workorder: 1735429

Limits:	Client SOW/Contract Specified	**Preparation:**	NA	**Analysis:**	EPA 6850, DoD QSM
Basis:	DoD QSM	**Batch:**	NA	**Batch:**	ELMS/2016 (HBN: 205659)
		Prepared By:	NA	**Analyzed By:**	Thomas Bosch

Limit of Detection Verification

	LODV: 580546 Analyzed: 12/21/2017 16:09 Units: ug/L Criteria: ± 50%			LODV: 580553 Analyzed: 12/21/2017 21:01 Units: ug/L Criteria: ± 50%			LODV: 580555 Analyzed: 12/21/2017 22:37 Units: ug/L Criteria: ± 50%		
Analyte	**Result**	**Target**	**% Rec.**	**Result**	**Target**	**% Rec.**	**Result**	**Target**	**% Rec.**
Perchlorate	1.08	1.00	108	1.22	1.00	122	1.29	1.00	129

Comments

Samples 1735429002-05/07/09-11 were re-analyzed and reported at the following dilutions: 1 to 1,000/10,000/100/1,000/1,000/10,000/10,000/10. The reporting limits have been adjusted accordingly.

QC Report Authorization (/S/ is an electronic signature that complies with 21 CFR Part 11)

Analyst	Peer Review
/S/ Thomas Bosch 12/27/2017 15:40	/S/ Stephen Brose 12/28/2017 17:01

Symbols and Definitions

* - Analyte above reporting limit or outside of control limits
▲ - Sample result is greater than 4 times the spike added
◓ - Sample and Matrix Duplicate less than 5 times the reporting limit
● - Result is above the calibration range
- The Matrix Spike, Matrix Spike duplicate or Matrix Duplicate is reported for your information only. The sample matrix may be inappropriate for the method selected.

RPD - Relative % Difference (Spike / Spike Duplicate)
ND - Not Detected (U - Qualifier also flags analyte as not detected)
NA - Not Applicable
QC results are not adjusted for moisture correction, where applicable

18698/2

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

1735429

Subcontract Chain of Custody

W 1735429

COC ID: 8256

SUBCONTRACT TO:

ALS Laboratory Group
960 LeVoy Dr
Salt Lake City, UT 84123

Phone: +1 801 266 7700

CUSTOMER INFORMATION:

Company:	ALS Houston
Contact:	Sonia West
Address:	10450 Stancliff Rd, Ste 210
Phone:	+1 281 530 5656
Email:	Sonia.West@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:	HS17120912
TSR:	Houston House Acct

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
1.	**HS17120912-01**	**MW9_121317**	**Groundwater**	**13 Dec 2017 08:35**
	SUB_Perch-6850			04 Jan 2018
2.	**HS17120912-02**	**MW7_121317**	**Groundwater**	**13 Dec 2017 09:30**
	SUB_Perch-6850			04 Jan 2018
3.	**HS17120912-03**	**120_121417**	**Groundwater**	**14 Dec 2017 07:55**
	SUB_Perch-6850			04 Jan 2018
4.	**HS17120912-04**	**123_121417**	**Groundwater**	**14 Dec 2017 08:10**
	SUB_Perch-6850			04 Jan 2018
5.	**HS17120912-05**	**109_121417**	**Groundwater**	**14 Dec 2017 08:30**
	SUB_Perch-6850			04 Jan 2018
6.	**HS17120912-06**	**18CPTMW22R_121417**	**Groundwater**	**14 Dec 2017 09:45**
	SUB_Perch-6850			04 Jan 2018
7.	**HS17120912-07**	**18CPTMW22SW_121417**	**Groundwater**	**14 Dec 2017 10:40**
	SUB_Perch-6850			04 Jan 2018
8.	**HS17120912-08**	**MW20_121417**	**Groundwater**	**14 Dec 2017 11:40**
	SUB_Perch-6850			04 Jan 2018
9.	**HS17120912-09**	**MW23_121517**	**Groundwater**	**15 Dec 2017 09:10**

Bhate DOD 4

Subcontract Chain of Custody

COC ID: 8256

	LAB SAMPLE ID	CLIENT SAMPLE ID	MATRIX	COLLECT DATE
	ANALYSIS REQUESTED			DUE DATE
		SUB_Perch-6850		04 Jan 2018
10.	**HS17120912-10**	**MW23_121517-a**	**Groundwater**	**15 Dec 2017 09:10**
		SUB_Perch-6850		04 Jan 2018
11.	**HS17120912-11**	**18CPTMW03SW_121517**	**Groundwater**	**15 Dec 2017 10:10**
		SUB_Perch-6850		04 Jan 2018

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: Dec 18, 2017 1800

Received By: _____ Date/Time: 12/19/2017 11:40

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

ALS - Salt Lake City-Related Information Report (CRIR)

Cooler or Container Information Checklist (Fill In or Circle)

Client Name: ALS Houston — Project/Task/Site: 1735429

Date/Time of Receipt: 12/19/2017 11:40 — Number of Coolers Received: 1

Condition of Coolers:	Acceptable/Unacceptable	Temperature Control:	Present/Not Included
Cooler Custody Seals:	Present/Absent/NA Intact/Broken/NA	Location Temp Taken:	Control/Between Samples
Container Custody Seals:	Present/Absent/NA Intact/Broken/NA	Are all temperatures within project specific guidelines?	Yes/No/NA
Ice Present:	Yes/No/NA Frozen/Melted/NA	VOA Headspace Present?	Yes/No/NA

pH Check Performed:								
	Metals	Yes/No/NA	Total Phenolics	Yes/No/NA	NO3/NO2	Yes/No/NA
	Cyanide	Yes/No/NA	TPH – 418.1	Yes/No/NA	Oil & Grease	Yes/No/NA
	Sulfide	Yes/No/NA	COD	Yes/No/NA	Total Phosphorous	Yes/No/NA
	Ammonia	Yes/No/NA	TKN	Yes/No/NA	TOC Preserved	Yes/No/NA

Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALS Cooler No.	Temp.	Cooler Received	ALSL Cooler No.	Temp.
1	C17- 8119	3 °C	4	C17-	°C	7	C17-	°C
2	C17-	°C	5	C17-	°C	8	C17-	°C
3	C17-	°C	6	C17-	°C	9	C17-	°C

Taken By: M Schmidt (Signature) Marianne Schmidt (Printed Name) 12/19/2017 (Date)

Client-Related Information

☐ Missing Cooler	☐ Missing Samples/Bottles	☐ Incorrect Preservation	☐ Insufficient Sample Volume
☐ Cooler Conditions	☐ Broken/Leaking Samples	☐ pH Criteria Not Met	☐ Chain of Custody Problems
☐ Missing Paperwork	☐ Incorrect Bottle Type	☐ Residual Chlorine Present	☐ Other:
☐ Missing/Incorrect Bottle Labels	☐ Cooler Temperatures Out of Range	☐ Head Space in Bottles	

Briefly Describe the Problem and the Action Taken:

E-mailed to Client? Yes ☐ No ☐

Response Required Within 24 Hours

Project Management

Project Manager Comments:

ALS Project Manager: _____ (Printed Name) Returned to Sample Receipt by: _____ (Signature) Date: _____

CRIR.dot — Revised 1/1/15

Part # 159469-434 RIT2 EXP 11/18

ORIGIN ID:SGRA (281) 530-5656
SHIPPING DEPT
ALS LABORATORY GROUP
10450 STANCLIFF RD
SUITE 210
HOUSTON, TX 77099
UNITED STATES US

SHIP DATE: 18DEC17
ACTWGT: 29.90 LB
CAD: 300130/CAFE3108
DIMS: 14x11x10 IN

BILL SENDER

TO KEVIN GRIFFITHS
ALS ENVIRONMENTAL
960 W. LEVOY DRIVE

SALT LAKE CITY UT 84123
(801) 266-7700
REF: HS1712089 1/868/912-SW/DW

546C1/5724C/53C1

FedEx Express

J17101610200 1uv

TUE - 19 DEC 3:00P
STANDARD OVERNIGHT

TRK# 7376 9751 2323
0201

XH BTFA

84123
UT-US SLC

ALS Environmental

CHAIN-OF-CUSTODY

Project / Job / Task: HS17120912	*Split:*	**Workorder ID:** 1735429	Level: ENV_LVL4
Client: ALS Environmental (Houston)		**Account:** 8101	Type: 125Poly
Comments:			Preservatives: COOL

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	Containers ID(s)	Containers Count	Requested Analysis: EPA 6850, DoD QSM
1	12/13/2017 08:35	MW9_121317	1735429001		Water	A	1	A
2	12/13/2017 09:30	MW7_121317	1735429002		Water	A	1	A
3	12/14/2017 07:55	120_121417	1735429003		Water	A	1	A
4	12/14/2017 08:10	123_121417	1735429004		Water	A	1	A
5	12/14/2017 08:30	109_121417	1735429005		Water	A	1	A
6	12/14/2017 09:45	18CPTMW22R_121417	1735429006		Water	A	1	A
7	12/14/2017 10:40	18CPTMW22SW_121417	1735429007		Water	A	1	A
8	12/14/2017 11:40	MW20_121417	1735429008		Water	A	1	A
9	12/15/2017 09:10	MW23_121517	1735429009		Water	A	1	A
10	12/15/2017 09:10	MW23_121517-a	1735429010		Water	A	1	A

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ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Werath, Julie	12/19/2017 11:40	ALS Sample Receiving	Sample Login
Julie Werath 12/20/17 R.33.1	12.21.17/13:00	4°C 3C T.Bond	Storage 6850

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep / Analysis for: _____ Lab Notebook No.: _____

Prepared / Analyzed by: _____ Date / Time: _____

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location

00873132

ALS Environmental
CHAIN-OF-CUSTODY

Project / Job / Task: HS17120912	*Split:*	**Workorder ID:** 1735429	Level: ENV_LVL4
Client: ALS Environmental (Houston)		**Account:** 8101	Type: 125Poly
Comments:			Preservatives

Item	Collect Date/Time	Sample ID	Lab ID	QC	Matrix	Containers ID(s)	Containers Count	Requested Analysis: EPA 6850, DoD QSM
11	12/15/2017 10:10	18CPTMW03SW_121517	1735429011		Water	A	1	A
12								
13								
14								
15								
16								
17								
18								
19								
20								

552 of 684

ORIGINAL FIELD SAMPLE CHAIN-OF-CUSTODY

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location
Warath, Julie	12/19/2017 11:40	ALS Sample Receiving	Sample Login
Julie Warath 12/20/17 1500		2.6 C	Storage
R.33.1	12.21.17/13:00	T. Bush	6850

SAMPLE PREPARATION / ANALYSIS CHAIN-OF-CUSTODY

Sample Prep / Analysis for: _____ Lab Notebook No.: _____

Prepared / Analyzed by: _____ Date / Time: _____

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Reason for Transfer / Storage Location

00873133

atch Worklist

Batch: ELMS/ 2016 **Created:** 12/21/2017 15:40 **Instrument:** LCMS04 **HBN:** 205659

Rule: EPA 6850, DoD QSM Water **Analyst:** T. Bosch **Status:** RE

Workorder: 1735429 [ENV_LVL4]

Pos	Lab ID	Sample ID	Prep Initial	Prep Final	Dust Weight	Type	Mx	Container	Procedure	Mgr	Expire Date	Due Date	Run Date
1	580545	CCV for HBN 205659 [ELMS/2016]				CCV	3		E685041C3Q	5311		1/5/2018	12/21/2017
2	580546	LODV for HBN 205659 [ELMS/2016				LODV	3		E6850..D3Q	5311		1/5/2018	12/21/2017
3	580547	ICS for HBN 205659 [ELMS/2016]				ICS	3		E6850..D3Q	5311		1/5/2018	12/21/2017
4	580548	LMB for HBN 205659 [ELMS/2016]				LMB	3		E6850Q413Q	5311		1/5/2018	12/21/2017
5	580549	LCS for HBN 205659 [ELMS/2016]				LCS	3		E6850Q413Q	5311		1/5/2018	12/21/2017
6	1735429001	MW9_121317				SAMPLE	3	1735429001-A	E6850Q41.3	5480	1/10/2018	1/5/2018	12/21/2017
7	580550	MW9_121317(1735429001MS)				MS	3		E6850Q413Q	5311		1/5/2018	12/21/2017
8	580551	MW9_121317(1735429001MSD)				MSD	3		E6850Q413Q	5311		1/5/2018	12/21/2017
9	1735429002	MW7_121317				SAMPLE	3	1735429002-A	E6850Q41.3	5480	1/10/2018	1/5/2018	12/22/2017
10	1735429003	120_121417				SAMPLE	3	1735429003-A	E6850Q41.3	5480	1/11/2018	1/5/2018	12/22/2017
11	1735429004	123_121417				SAMPLE	3	1735429004-A	E6850Q41.3	5480	1/11/2018	1/5/2018	12/22/2017
12	1735429005	109_121417				SAMPLE	3	1735429005-A	E6850Q41.3	5480	1/11/2018	1/5/2018	12/22/2017
13	1735429006	18CPTMW22R_121417				SAMPLE	3	1735429006-A	E6850Q41.3	5480	1/11/2018	1/5/2018	12/21/2017
14	1735429007	18CPTMW22SW_121417				SAMPLE	3	1735429007-A	E6850Q41.3	5480	1/11/2018	1/5/2018	12/22/2017
15	1735429008	MW20_121417				SAMPLE	3	1735429008-A	E6850Q41.3	5480	1/11/2018	1/5/2018	12/21/2017
16	580552	CCV for HBN 205659 [ELMS/2016]				CCV	3		E685041C3Q	5311		1/5/2018	12/21/2017
17	580553	LODV for HBN 205659 [ELMS/2016				LODV	3		E6850..D3Q	5311		1/5/2018	12/21/2017
18	1735429009	MW23_121517				SAMPLE	3	1735429009-A	E6850Q41.3	5480	1/12/2018	1/5/2018	12/22/2017
19	1735429010	MW23_121517-a				SAMPLE	3	1735429010-A	E6850Q41.3	5480	1/12/2018	1/5/2018	12/22/2017
20	1735429011	18CPTMW03SW_121517				SAMPLE	3	1735429011-A	E6850Q41.3	5480	1/12/2018	1/5/2018	12/22/2017
21	580554	CCV for HBN 205659 [ELMS/2016]				CCV	3		E685041C3Q	5311		1/5/2018	12/21/2017
22	580555	LODV for HBN 205659 [ELMS/2016				LODV	3		E6850..D3Q	5311		1/5/2018	12/21/2017
23	580612	CCV for HBN 205659 [ELMS/2016]				CCV	3		E685041C3Q	5311		1/5/2018	12/22/2017
24	580613	CCV for HBN 205659 [ELMS/2016]				CCV	3		E685041C3Q	5311		1/5/2018	12/22/2017

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Analytical Documentation

ALS Work Order #'s & Sample #( )'s: 1735429 (001-11)
ELMS Batch/HBN ID: 2016 (205659)
Prep Date: 12/21/2017 Analysis Date: 12/21/2017 Analyst: T. Bosch
Analyte: **Perchlorate** Matrix: **Water** Method: **6850**
Sequence:\\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\21DEC17P.s & 21DEC17B.s
Reported DL: **1.0µg/L** Reported LOD: **2.0µg/L** Reported LOQ: **4.0µg/L**

SAMPLE PREPARATION/ANALYSIS:

Water: Samples were prepared by TNB. 10.0mL of each sample was pipetted into a 15-mL centrifuge tube, and 50µL of an oxygen-18 labeled perchlorate solution was added as an internal standard. The samples were capped, vortexed, and filtered with Phenex PES membrane 0.45µm Syringe filters prior to analysis.

REAGENTS: Eluent A1: 95% ASTM Type II water (ALS)/ 5% ACN (B&J Lot DI735)/0.1% glacial acetic acid (JT-Baker Lot 04802).
Eluent B1: 95% ACN (B&J Lot DI735)/ 5% ASTM Type II water (ALS)/0.1% glacial acetic acid (JT-Baker Lot 04802).

STANDARDS: Internal Standard Spiking Solution Horizon# 38780. Dilutions of Working Standard Solution ID 32373 used for CCV's, LODV's, RLVS and IPC.

CALIBRATION CURVE: Used curve from 11/28/2017, sequence 28NOV17P.s Offline Quantitation Method: CLO4-DPR.M

INSTRUMENT CONDITIONS: Samples were analyzed with an Agilent 1100 LC/MSD system, in negative SIM mode, monitoring m/z 83, 85, and 89.
Instrument ID: **LCMS04** Online Acquisition Method: CLO4-AQN.M Fragmentor: 160 Output Gain: 3 Injection Volume: 25µL
Column: KP-RPPX C8 separator, 250mm Mobile Phase: 70% Eluent A1; 30% Eluent B1

FLOW GRADIENT:

Time (min.)	Flow (mL/min)
0	0.65
4.0	0.65
5.0	0.25
14.5	0.25
15.0	0.65
17.5	0.65

QC DATA: 5.0µL of QC Solution Horizon ID 36749 was used for LCS 580549; Target = 5.0µg/L. ASTM type II water was used for LMB 580548.

MS/MSD: MS/MSD was performed on sample 1735429001 (Client ID: MW9_121317). 5.0µl of Working Standard Solution Horizon ID 36735 was added to 10.0mL of sample preparation. Spike target = 5.0µg/L.

COMMENTS:
1) Results reported in µg/L. Samples 1735429002-05/07/09-11 were re-analyzed and reported at the following dilutions: 1:1,000/10,000/100/1,000/1,000/10,000/10,000/10. The reporting limits have been adjusted accordingly.
2) All QC, Blank, CCV, and MS/MSD results were within method parameters.
3) Sample data can be viewed at two directories within the ALS system: \\ALSLTWS013\LCMS\LCMS04\2017\DEC\HBN# or through NuGenesis\Tree\PrintData\LCMS\DefaultView.
4) Due to limitations of the Chemstation Software, many of the chromatographic peaks require manual integration. Manual Integrations were performed for some of the Initial Calibration analyses (datafiles: 28NOVP01,02) along with datafiles 21DECP02/03/09/10/12/14/18/19/22.
5) Notebook: \\alsltws013\ORGANIC\BOSCH\LCMS\Perchlorates\Waters\2017\CLO4-205659-DOD-ALS-HSTN-LCMS4 or through \\ALSLTWS013\DATAREVIEW\HBN#

STANDARD REPORT

Working Standard - CLO4 WRK

CLO4 WRK — Description - 6850 WKG Std 100.ug/L

Standard: 36735
MFG: ALS/SLC
MFG Lot: TNB: 05/10/17
Part ID:

Created By: T. Bosch
Create Date: 05/10/2017
Lab Lot: CLO4 WRK

Amount: 10 mL
Expires: 05/10/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	0.1 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36734	CLO4 INT	6850 Intermdt AccStd 10.ug/mL	CLO4 INT	0.1 mL	05/10/2018

STANDARD REPORT

Constituent

Stock Standard - CLO4 STOCK

CLO4 STOCK — Description - 6850 Stock AccStd 1,000ug/mL

Standard: 36733
MFG: AccuStandard
MFG Lot: 216095148
Part ID: IC-PER-10X-1

Created By: T. Bosch
Create Date: 5/10/2017
Lab Lot: CLO4 STOCK

Amount: 100 mL
Expires: 10/4/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Working Standard - CLO4 INT

CLO4 INT Description - 6850 Intermdt AccStd 10.ug/mL

Standard: 36734
MFG: ALS/SLC
MFG Lot: TNB: 05/10/17
Part ID:

Created By: T. Bosch
Create Date: 05/10/2017
Lab Lot: CLO4 INT

Amount: 10 mL
Expires: 05/10/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36733	CLO4 STOCK	6850 Stock AccStd 1,000ug/mL	CLO4 STOCK	0.1 mL	10/04/2018

STANDARD REPORT

Working Standard - CLO4 QC WRK

CLO4 QC WRK — Description - 6850 QC WKG STD 100ug/L

Standard: 36750
MFG: ALS/SLC
MFG Lot: TNB: 05/11/17
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC WRK 100.ug/L

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	100 ug/L

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36749	CLO4 QC INT	6850 QC Intrmdt Std-QC 10ug/mL	CLO4 QC INT 10.ug/mL	0.1 mL	05/11/2018

STANDARD REPORT

Constituent

Working Standard - CLO4 QC INT

CLO4 QC INT — Description - 6850 QC Intrmdt Std-QC 10ug/mL

Standard: 36749
MFG: ALS/SLC
MFG Lot: TNB: 05/11/2017
Part ID:

Created By: T. Bosch
Create Date: 05/11/2017
Lab Lot: CLO4 QC INT 10.ug/mL

Amount: 10 mL
Expires: 05/11/2018
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	10 ug/mL

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
109	ASTM H2O	ASTM Type II Water	LAB 109	9.9 mL	11/07/2025
36748	CLO4 QCSTOCK	6850 QC Stock STD 1,000ug/mL	CLO4 QC STOCK	0.1 mL	03/31/2020

STANDARD REPORT

Constituent

Solvent Standard - ASTM H2O

ASTM H2O		Description - ASTM Type II Water
Standard: 109	Created By: ALS Support (Lims)	Amount: 1000 L
MFG: DCL In House	Create Date: 10/6/2005	Expires: 11/7/2025
MFG Lot:	Lab Lot: LAB 109	Usable: Yes
Part ID:		

Pos.	Analyte	Name	Concentration
Solvent - Analyte(s) not applicable			

STANDARD REPORT

Constituent

Stock Standard - CLO4 QCSTOCK

CLO4 QCSTOCK Description - 6850 QC Stock STD 1,000ug/mL

Standard: 36748
MFG: Ultra Scientific
MFG Lot: CP-0860
Part ID: ICC-013

Created By: T. Bosch
Create Date: 5/11/2017
Lab Lot: CLO4 QC STOCK

Amount: 100 mL
Expires: 3/31/2020
Usable: Yes

Pos.	Analyte	Name	Concentration
1	14797-73-0	Perchlorate	1000 ug/mL

STANDARD REPORT

Working Standard - CLO4ISTDWRK

CLO4ISTDWRK — **Description - Perchlorate ISTD Wrk 1,000ug/L**

Standard: 38780
MFG: ALS/SLC
MFG Lot: TNB: 10/09/17
Pipette ID: Not Provided

Created By: Thomas Bosch
Create Date: 10/09/2017 01:10PM
Verified By: Thomas Bosch
Verify Date:

Amount: 10 mL
Expires: 10/09/2018
Usable: Yes
Lab Lot: CLO4ISTDWRK

Pos.	Analyte	Name	Concentration
1	14797-73-0-8385	Perchlorate 83:85 Ratio	1000 ug/L
2	14797-73-0-89	Perchlorate 89	1000 ug/L

Composition

Standard	Standard ID	Description	Lab Lot ID	Volume	Expires
23118	CLO4ISTDSTK	Perchlorate ISTD Stock	CLO4ISTDSTK	0.1 mL	02/27/2024

STANDARD REPORT

Constituent

Stock Standard - CLO4ISTDSTK

CLO4ISTDSTK		Description - Perchlorate ISTD Stock
Standard: 23118	Created By: Thomas Bosch	Amount: 1 mL
MFG: Cambridge Isotope	Create Date: 04/04/2014 03:04PM	Expires: 02/27/2024
MFG Lot: SDDG-013	Verified By: Thomas Bosch	Usable: Yes
Part ID: OLM-7310-S	Verify Date: 02/05/2009 12:02AM	Lab Lot: CLO4ISTDSTK

Pos.	Analyte	Name	Concentration
1	14797-73-0-8385	Perchlorate 83:85 Ratio	100 ug/mL
2	14797-73-0-89	Perchlorate 89	100 ug/mL

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

TRIPLE ISO CERTIFICATION ULTRA ISO 9001 ISO GUIDE 34 ISO 17025

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Product Name: Perchlorate IC Standard

Description:
This Reference Material (RM) was gravimetrically prepared in accordance with ISO Guide 34 and under ULTRA Scientific's ISO 9001 registered quality system. The neat materials used for this product have been verified by ULTRA's ISO 17025 laboratory and under ULTRA's ISO Guide 34 accreditation. The analyte concentrations were verified by ULTRA's ISO 17025 accredited laboratory. For each analyte, the true value, with its uncertainty value calculated at the 95% confidence level, is reported below.

Analyte	Starting Material	Lot Number	Purity (%)	Calculated Value	True Value	Traceability & Method
perchlorate	potassium perchlorate	RM07987	100	1001 ± 5 µg/mL	976 ± 6 µg/mL	NIST SRM 3141A; ICP-OES

Solvent: water (low TOC, < 50 ppb)

Storage: Store at Room Temperature (15° to 30°C).

Traceability:
Traceability has been established through an unbroken chain of comparisons, each having stated uncertainties. Comparisons are based on appropriate physical or chemical measurements, including gravimetric or volumetric dilution, where the mass or volume of a solution before and after dilution is measured. The balances used for these measurements are calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1, ISO 9001, ISO 17025, and ISO Guide 34. Calibrated Class A glassware is used for volumetric measurements. Thermometers are calibrated against a NIST traceable thermometer in accordance with NIST Special Publication 819.

Estimation of Uncertainties:
The true value is reported, with its uncertainty value calculated at the 95% confidence level.

Homogeneity:
This RM was formulated and unitized according to an in-house procedure and is guaranteed to be homogeneous. There is no minimum sub-sample size required.

Intended Use:
This RM is intended for the preparation of working reference samples for use in routine laboratory analyses, calibration of instruments, validation of analytical methods, assessments of measurement methods and continuing calibration verification.

Instructions for Use:
Sample aliquots for analysis should be withdrawn at 20°C to 25°C immediately after opening and should be processed without delay for the true value to be valid within the stated uncertainties. Do not pipet from the bottle. Do not return any material removed for pipetting to the bottle. Tightly cap the bottle after removing any material and store according to the instructions noted above.

Hazards:
Refer to the Safety Data Sheet for information regarding this RM.

Expiration of Certification:
The certification of this RM is valid, within the measurement uncertainty specified, until the expiration date specified above, provided the RM is handled and stored in accordance with the instructions given in this certificate. This certification is nullified if the RM is damaged, contaminated, or otherwise modified.

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER
ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY

ALS

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

ISO Guide 34 Reference Material

Product Number: ICC-013
Lot Number: CP-0860

Lot Issue Date: 29-Feb 2016
Expiration Date: 31-Mar 2020

Maintenance of Certification:
The real-time, long term stability of the RM may be monitored over the lifetime of the certification. If substantive changes occur that affect the certification before the expiration of this certificate, ULTRA Scientific will notify the purchaser.

Peter A. King, Ph.D.
VP, Technical Operations

Daniel J. Lamendola
Director of QA/RA

125 Market Street
New Haven, CT 06513
USA

AccuStandard® Inc.

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

AccuTrace™ Reference Standard

Catalog No: IC-PER-10X-1
Description: Perchlorate Standard
Element: Perchlorate (ClO_4)
SRM: Ind. Std.
Lot: 216095148
Matrix: Water
Hazards: *Refer to SDS for complete safety information*

Signal Word: Warning

Date Certified: Oct 4, 2016
Expiration: Oct 4, 2018
Sample Size: 100 mL
Components: 1
Storage Condition: Ambient (>5 °C)
Included on ISO/IEC 17025 Scope of Accreditation: Yes
Included on ISO Guide 34 Scope of Accreditation: Yes

Component		SRM #	Prepared Concentration (µg/mL)
ClO_4	Perchlorate	Ind. Std.	1000

The gravimetric uncertainty for this product is ±0.2%. See reverse side for details.
The final solution was checked against an independent standard to verify its concentration.
We use the highest purity raw materials available to minimize impurity levels in the final solution. Typically 99.999%+ pure starting materials are used as well as ASTM Type I 18 megohm deionized water.
All solutions are filtered through a 0.2 µm filter prior to being bottled.
All glassware used in preparation is Class A and calibrated regularly.
All weights are traceable through NIST, Test No. 822-275872-11
All bottles are triple rinsed with deionized water prior to use.
Shake bottle prior to use and do not pipette directly out of the bottle. Use only cleaned Class A volumetric glassware.
We certify the accuracy of this standard to be ±0.5% of the stated value until its expiration date provided it is kept tightly capped and stored under the conditions stated above.

Certified By: Meigan O'Leary
Meigan O'Leary, Inorganic QC Manager

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/NO-001
Rev. 5/16

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

23118

Product Name: (Isotopic Label & Enrichment Specification)	PERCHLORIC ACID, SODIUM SALT (18O4, 90%+) 100 UG/ML IN WATER
Lot Number:	SDDG-013
Catalog Number:	OLM-7310-S

Product Information

Chemical Purity Specification:	≥98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	7601-89-0
MW*:	130.4
Chemical Formula:	NaCl*O4
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number. Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

* *For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Assurance

Quality Control Tests and Results

QC Release Date	2/27/2014
Expiration Date	2/27/2024
Concentration Based on Gravimetry	102 µg/mL
Chemical Purity of Neat Material(s)	98%
LC/MS for Concentration	109.4 ± 2.8 µg/mL (k=2)

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Batch Report: C:\HPCHEM\1\DATA\21DEC17P\21DEC17P.B

Batch Review Method:
C:\HPCHEM\1\METHODS\CLO4-DPR.M

['#' ==> Run has not been reprocessed with Batch Review Method
'*' ==> Run has been saved with batch file]

#*	Sample	Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	580545	CCV@25	Vial 71	1	Control	1	1.07197e6	12.614	27.08946
*	580546	LODV@1.	Vial 72	1	Control	2	4.33015e4	12.820	1.07967
*	580547	ICS@1.	Vial 73	1	Control	3	2.71412e4	12.531	9.23600e-1
*	580548	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	580549	LCS@5.	Vial 75	1	Control	5	1.86351e5	12.548	5.04301
*	1735429001		Vial 76	1	Sample	6	1.87587e6	12.530	44.49603
*	580550	354291S	Vial 77	1	Sample	7	2.05505e6	12.535	49.79551
*	580551	354291D	Vial 78	1	Sample	8	2.22330e6	12.551	49.93737
*	1735429002		Vial 79	1	Sample	9	4.64994e8	10.150	1976.38264
*	1735429003		Vial 80	1	Sample	10	0.00000	0.000	0.00000
*	1735429004		Vial 81	1	Sample	11	4.89873e7	11.505	480.82982
*	1735429005		Vial 82	1	Sample	12	0.00000	0.000	0.00000
*	1735429006		Vial 83	1	Sample	13	2.04257e5	12.562	8.30452
*	1735429007		Vial 84	1	Sample	14	2.22955e8	10.842	1304.09462
*	1735429008		Vial 85	1	Sample	15	4.74700e4	12.506	1.85622
*	580552	CCV@25	Vial 71	1	Control	16	9.57273e5	12.616	26.27088
*	580553	LODV@1.	Vial 72	1	Control	17	4.45299e4	12.822	1.22403
*	1735429009		Vial 86	1	Sample	18	0.00000	0.000	0.00000
*	1735429010		Vial 87	1	Sample	19	0.00000	0.000	0.00000
*	1735429011		Vial 88	1	Sample	20	4.30250e6	12.308	104.95998
*	580554	CCV@25	Vial 71	1	Control	21	8.94067e5	12.609	27.46862
*	580555	LODV@1.	Vial 72	1	Control	22	4.17483e4	12.778	1.29054

#*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	580545	CCV@25	Vial 71	1	Control	1	3.36087e5	12.624	26.97347
*	580546	LODV@1.	Vial 72	1	Control	2	1.65773e4	12.820	1.05204
*	580547	ICS@1.	Vial 73	1	Control	3	9945.68262	12.534	8.20274e-1
*	580548	LMB	Vial 74	1	Control	4	0.00000	0.000	0.00000
*	580549	LCS@5.	Vial 75	1	Control	5	6.53035e4	12.551	5.28909
*	1735429001		Vial 76	1	Sample	6	5.76331e5	12.544	44.26512
*	580550	354291S	Vial 77	1	Sample	7	6.38658e5	12.552	50.24070
*	580551	354291D	Vial 78	1	Sample	8	6.83350e5	12.566	49.91385
*	1735429002		Vial 79	1	Sample	9	1.68302e8	10.164	2380.80974
*	1735429003		Vial 80	1	Sample	10	0.00000	12.350	0.00000
*	1735429004		Vial 81	1	Sample	11	1.74524e7	11.518	568.76170
*	1735429005		Vial 82	1	Sample	12	0.00000	12.249	0.00000
*	1735429006		Vial 83	1	Sample	13	6.87180e4	12.566	8.53132
*	1735429007		Vial 84	1	Sample	14	7.56600e7	10.857	1515.05601
*	1735429008		Vial 85	1	Sample	15	1.77258e4	12.538	1.92493
*	580552	CCV@25	Vial 71	1	Control	16	3.03395e5	12.637	26.39370
*	580553	LODV@1.	Vial 72	1	Control	17	1.68366e4	12.827	1.20658
*	1735429009		Vial 86	1	Sample	18	0.00000	12.299	0.00000
*	1735429010		Vial 87	1	Sample	19	0.00000	11.651	0.00000
*	1735429011		Vial 88	1	Sample	20	1.30416e6	12.325	106.95825
*	580554	CCV@25	Vial 71	1	Control	21	2.75792e5	12.620	26.95934
*	580555	LODV@1.	Vial 72	1	Control	22	1.59867e4	12.777	1.30386

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	580545	CCV@25	Vial 71	1	Control	1	1.60592e5	12.640	5.00000
*	580546	LODV@1.	Vial 72	1	Control	2	1.89346e5	12.846	5.00000
*	580547	ICS@1.	Vial 73	1	Control	3	1.39393e5	12.543	5.00000
*	580548	LMB	Vial 74	1	Control	4	1.88858e5	12.788	5.00000
*	580549	LCS@5.	Vial 75	1	Control	5	1.67821e5	12.565	5.00000
*	1735429001		Vial 76	1	Sample	6	1.58181e5	12.543	5.00000
*	580550	354291S	Vial 77	1	Sample	7	1.51376e5	12.553	5.00000
*	580551	354291D	Vial 78	1	Sample	8	1.63207e5	12.570	5.00000

Batch Report: C:\HPCHEM\1\DATA\21DEC17P\21DEC17P.B

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	1735429002	Vial 79	1	Sample	9	9.44826e4	10.115	5.00000
*	1735429003	Vial 80	1	Sample	10	0.00000	0.000	0.00000
*	1735429004	Vial 81	1	Sample	11	1.32515e5	11.520	5.00000
*	1735429005	Vial 82	1	Sample	12	0.00000	0.000	0.00000
*	1735429006	Vial 83	1	Sample	13	1.09631e5	12.587	5.00000
*	1735429007	Vial 84	1	Sample	14	9.96085e4	10.888	5.00000
*	1735429008	Vial 85	1	Sample	15	1.19091e5	12.523	5.00000
*	580552 CCV@25	Vial 71	1	Control	16	1.48450e5	12.634	5.00000
*	580553 LODV@1.	Vial 72	1	Control	17	1.71155e5	12.831	5.00000
*	1735429009	Vial 86	1	Sample	18	0.00000	0.000	0.00000
*	1735429010	Vial 87	1	Sample	19	0.00000	0.000	0.00000
*	1735429011	Vial 88	1	Sample	20	1.21935e5	12.318	5.00000
*	580554 CCV@25	Vial 71	1	Control	21	1.31857e5	12.627	5.00000
*	580555 LODV@1.	Vial 72	1	Control	22	1.51982e5	12.796	5.00000

*** End of Report ***

Batch Report: C:\HPCHEM\1\DATA\21DEC17B\21DEC17B.B

Batch Review Method:
C:\HPCHEM\1\METHODS\CLO4-DPR.M

['#' ==> Run has not been reprocessed with Batch Review Method
'*' ==> Run has been saved with batch file]

#*	Sample	Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	580612	CCV@25	Vial 71	1	Control	1	1.00323e6	12.577	26.68368
*	1735429002	1K	Vial 81	1	Sample	2	5.21420e5	12.772	1.46703e4
*	1735429003	10K	Vial 82	1	Sample	3	2.48028e5	12.758	6.48788e4
*	1735429004	100	Vial 83	1	Sample	4	8.28019e5	12.730	2156.10959
*	1735429005	1K	Vial 84	1	Sample	5	7.33247e5	12.763	1.85401e4
*	1735429007	1K	Vial 85	1	Sample	6	2.52508e5	12.766	6921.54297
*	1735429009	10K	Vial 86	1	Sample	7	2.70373e5	12.776	7.30569e4
*	1735429010	10K	Vial 87	1	Sample	8	2.76749e5	12.778	7.34546e4
*	1735429011	10X	Vial 88	1	Sample	9	4.29191e5	12.636	115.77447
*	580613	CCV@25	Vial 71	1	Control	10	1.01617e6	12.607	27.19627

#*	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	580612	CCV@25	Vial 71	1	Control	1	3.19557e5	12.592	26.94459
*	1735429002	1K	Vial 81	1	Sample	2	1.69917e5	12.781	1.48711e4
*	1735429003	10K	Vial 82	1	Sample	3	8.53641e4	12.781	6.75572e4
*	1735429004	100	Vial 83	1	Sample	4	2.60529e5	12.746	2138.57085
*	1735429005	1K	Vial 84	1	Sample	5	2.33036e5	12.779	1.84783e4
*	1735429007	1K	Vial 85	1	Sample	6	8.53410e4	12.779	7095.42437
*	1735429009	10K	Vial 86	1	Sample	7	9.29868e4	12.791	7.63626e4
*	1735429010	10K	Vial 87	1	Sample	8	9.42459e4	12.791	7.60432e4
*	1735429011	10X	Vial 88	1	Sample	9	1.40490e5	12.656	117.03778
*	580613	CCV@25	Vial 71	1	Control	10	3.22729e5	12.624	27.40456

#*	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	580612	CCV@25	Vial 71	1	Control	1	1.52872e5	12.590	5.00000
*	1735429002	1K	Vial 81	1	Sample	2	1.53232e5	12.791	5000.00000
*	1735429003	10K	Vial 82	1	Sample	3	1.72140e5	12.782	5.00000e4
*	1735429004	100	Vial 83	1	Sample	4	1.60016e5	12.751	500.00000
*	1735429005	1K	Vial 84	1	Sample	5	1.67241e5	12.787	5000.00000
*	1735429007	1K	Vial 85	1	Sample	6	1.63863e5	12.783	5000.00000
*	1735429009	10K	Vial 86	1	Sample	7	1.65872e5	12.792	5.00000e4
*	1735429010	10K	Vial 87	1	Sample	8	1.68827e5	12.798	5.00000e4
*	1735429011	10X	Vial 88	1	Sample	9	1.62382e5	12.659	50.00000
*	580613	CCV@25	Vial 71	1	Control	10	1.51560e5	12.627	5.00000

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\21DEC17P.S

Sequence Table:

Method and Injection Info Part:

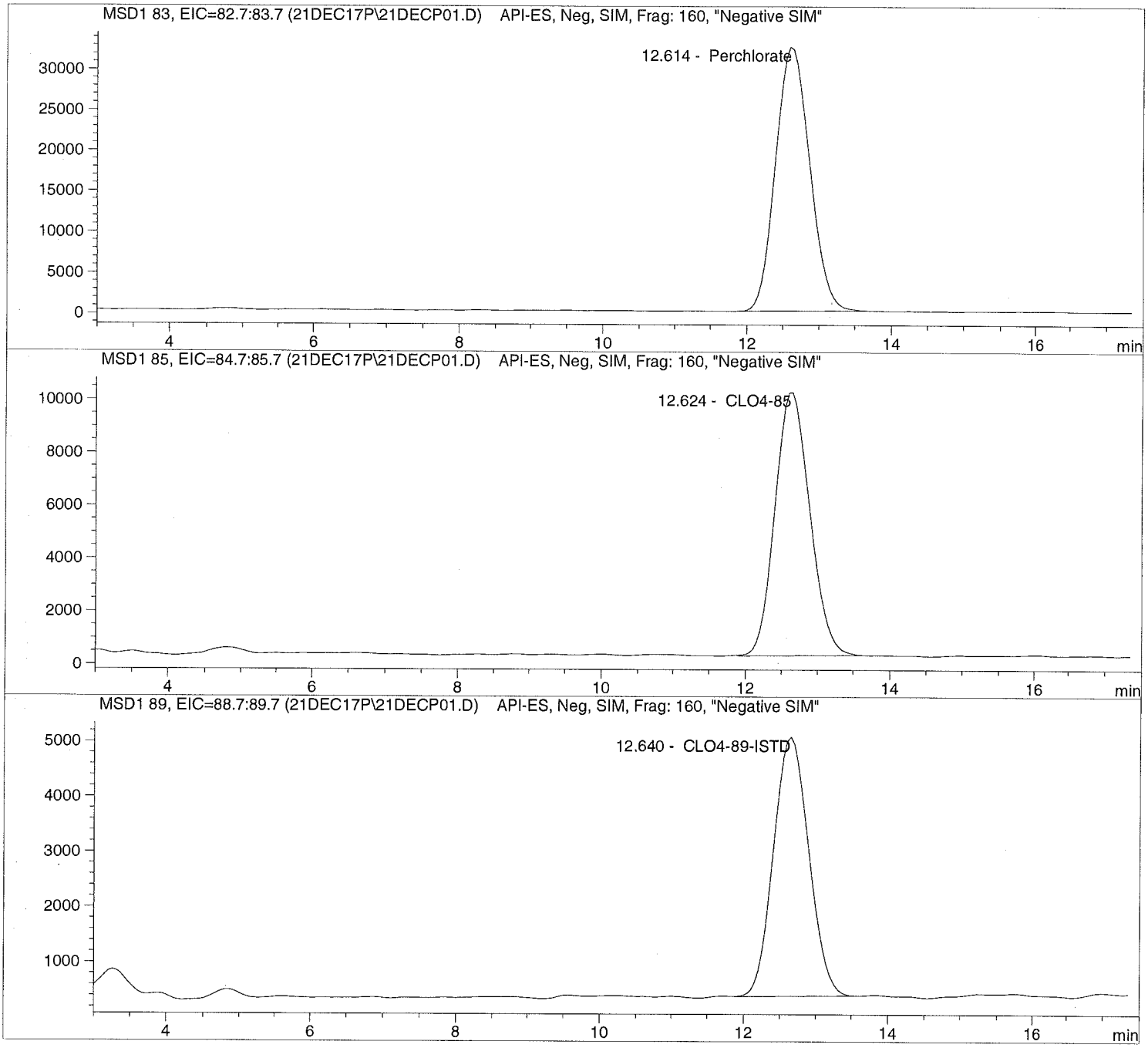
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	580545 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	580546 LODV@1.	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	580547 ICS@1.	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	580548 LMB	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	580549 LCS@5.	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	1735429001	CLO4-DOD	1	Sample		
7	Vial 77	580550 354291S	CLO4-DOD	1	Sample		
8	Vial 78	580551 354291D	CLO4-DOD	1	Sample		
9	Vial 79	1735429002	CLO4-DOD	1	Sample		
10	Vial 80	1735429003	CLO4-DOD	1	Sample		
11	Vial 81	1735429004	CLO4-DOD	1	Sample		
12	Vial 82	1735429005	CLO4-DOD	1	Sample		
13	Vial 83	1735429006	CLO4-DOD	1	Sample		
14	Vial 84	1735429007	CLO4-DOD	1	Sample		
15	Vial 85	1735429008	CLO4-DOD	1	Sample		
16	Vial 71	580552 CCV@25	CLO4-DOD	1	Ctrl Samp		
17	Vial 72	580553 LODV@1.	CLO4-DOD	1	Ctrl Samp		
18	Vial 86	1735429009	CLO4-DOD	1	Sample		
19	Vial 87	1735429010	CLO4-DOD	1	Sample		
20	Vial 88	1735429011	CLO4-DOD	1	Sample		
21	Vial 71	580554 CCV@25	CLO4-DOD	1	Ctrl Samp		
22	Vial 72	580555 LODV@1.	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP01.D Sample Name: 580545 CCV@25

Injection Date:	12/21/2017 15:50:06	Seq Line:	1
Sample Name:	580545 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP01.D Sample Name: 580545 CCV@25

Injection Date:	12/21/2017 15:50:06	Seq Line:	1
Sample Name:	580545 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.614	PBA	1071967.4	27.0895	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.624	BBA	336086.6	26.9735	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.640	BBA	160592.2	5.0000	CLO4-89-ISTD

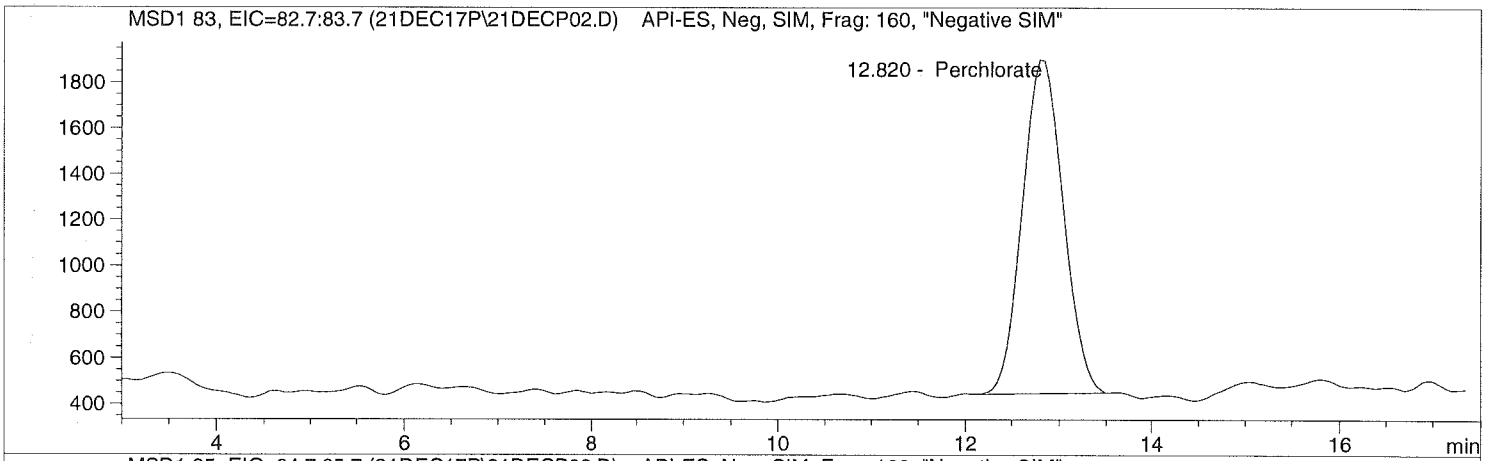
*** End of Report ***

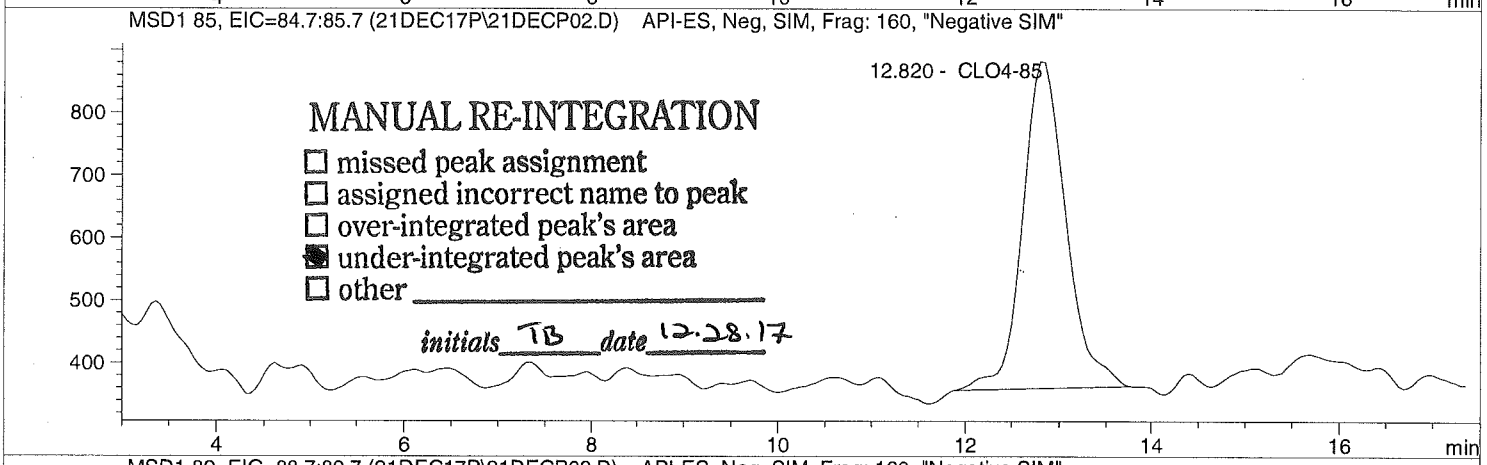
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP02.D Sample Name: 580546 LODV@1.

Injection Date:	12/21/2017 16:09:14	Seq Line:	2
Sample Name:	580546 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

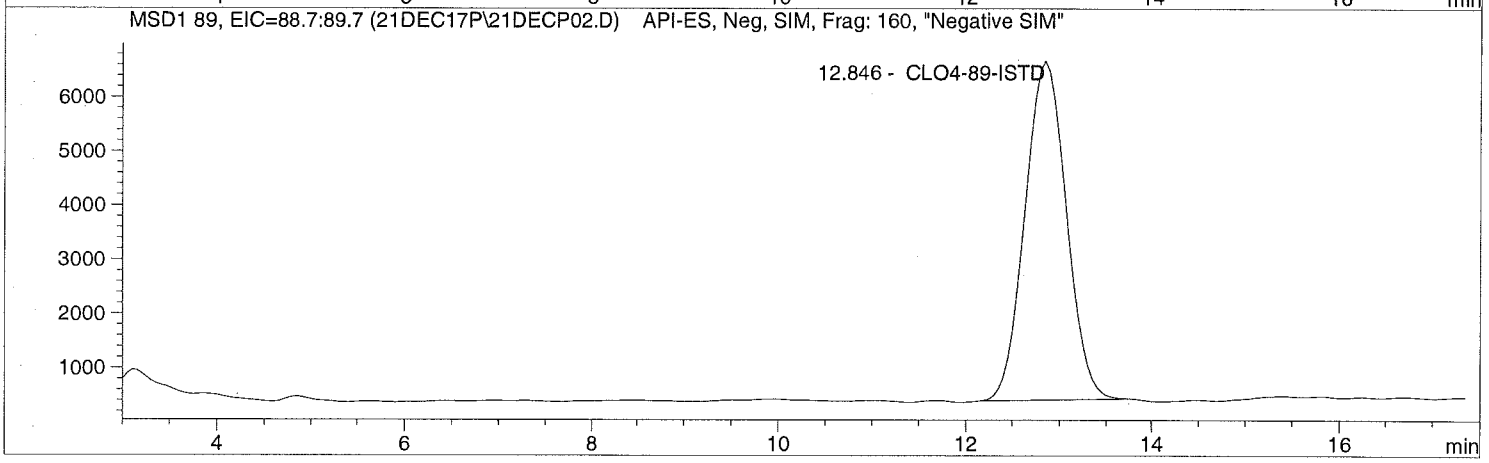




MANUAL RE-INTEGRATION

- ☐ missed peak assignment
- ☐ assigned incorrect name to peak
- ☐ over-integrated peak's area
- ☒ under-integrated peak's area
- ☐ other _____

initials TB *date* 12.28.17



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP02.D Sample Name: 580546 LODV@1.

Injection Date:	12/21/2017 16:09:14	Seq Line:	2
Sample Name:	580546 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Wed, 20. Dec. 2017,08:01:52 am
Multiplier: 1.000000
Dilution: 1.000000
Sample Amount: 1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.820	BBA	43301.5	1.0797	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.820	MM	16577.3	1.0520	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.846	PBA	189345.5	5.0000	CLO4-89-ISTD

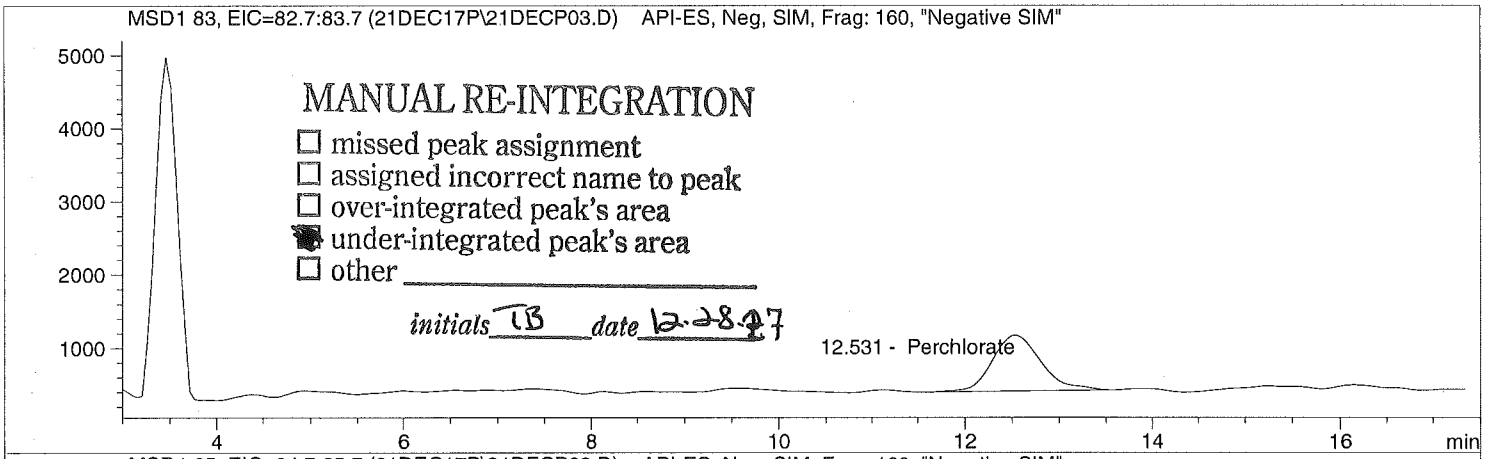
*** End of Report ***

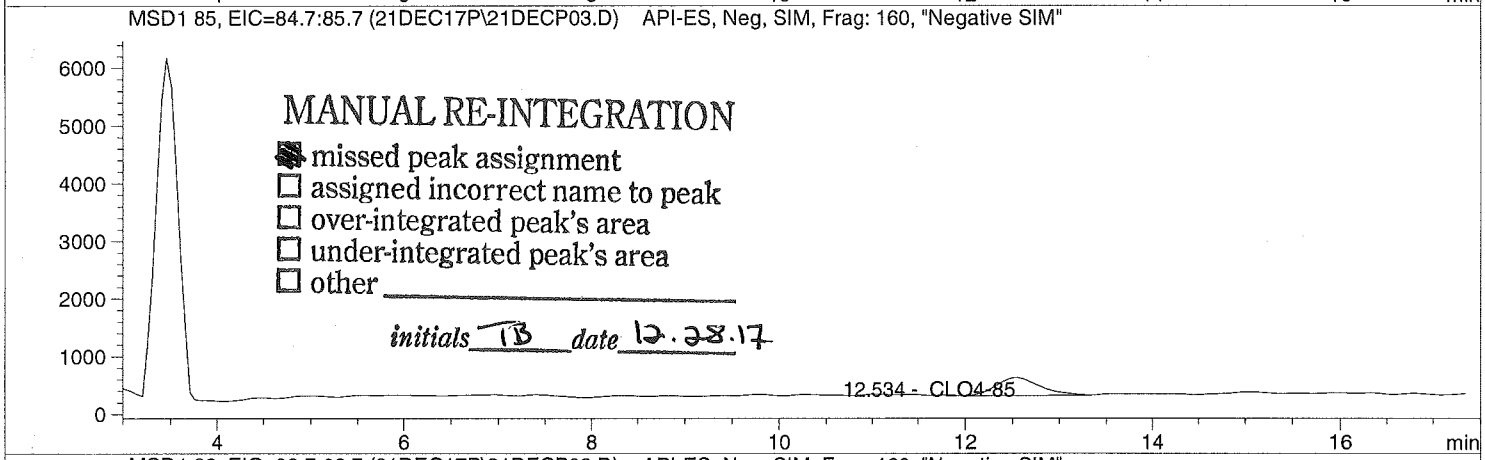
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP03.D Sample Name: 580547 ICS@1.

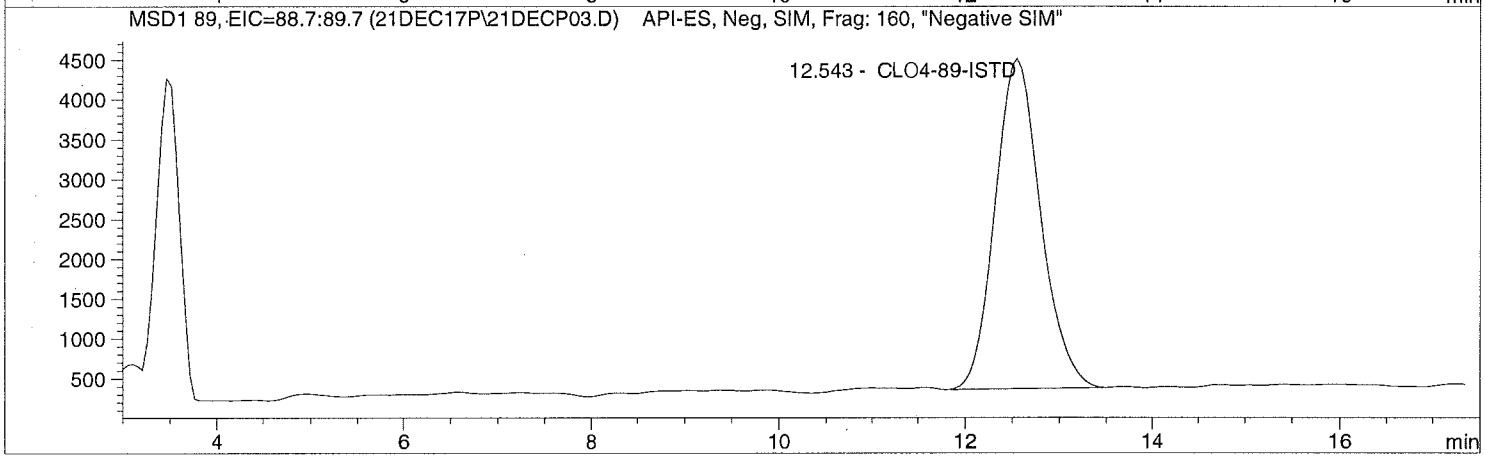
Injection Date:	12/21/2017 16:28:22	Seq Line:	3
Sample Name:	580547 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP03.D Sample Name: 580547 ICS@1.

Injection Date:	12/21/2017 16:28:22	Seq Line:	3
Sample Name:	580547 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.531	MM	27141.2	0.9236	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.534	MM	9945.7	0.8203	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.543	PBA	139393.2	5.0000	CLO4-89-ISTD

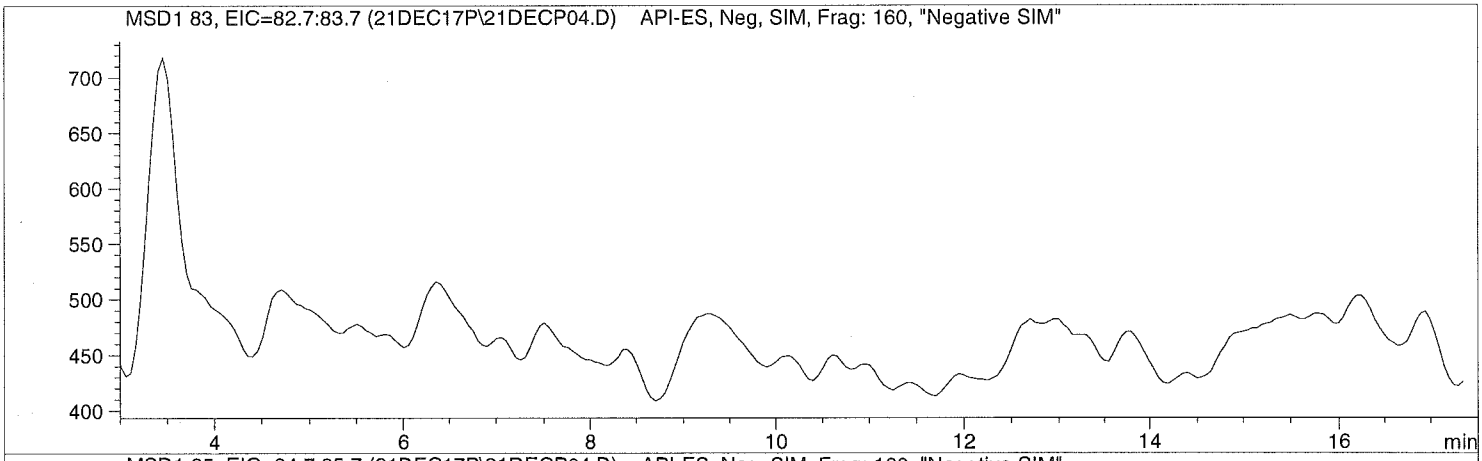
*** End of Report ***

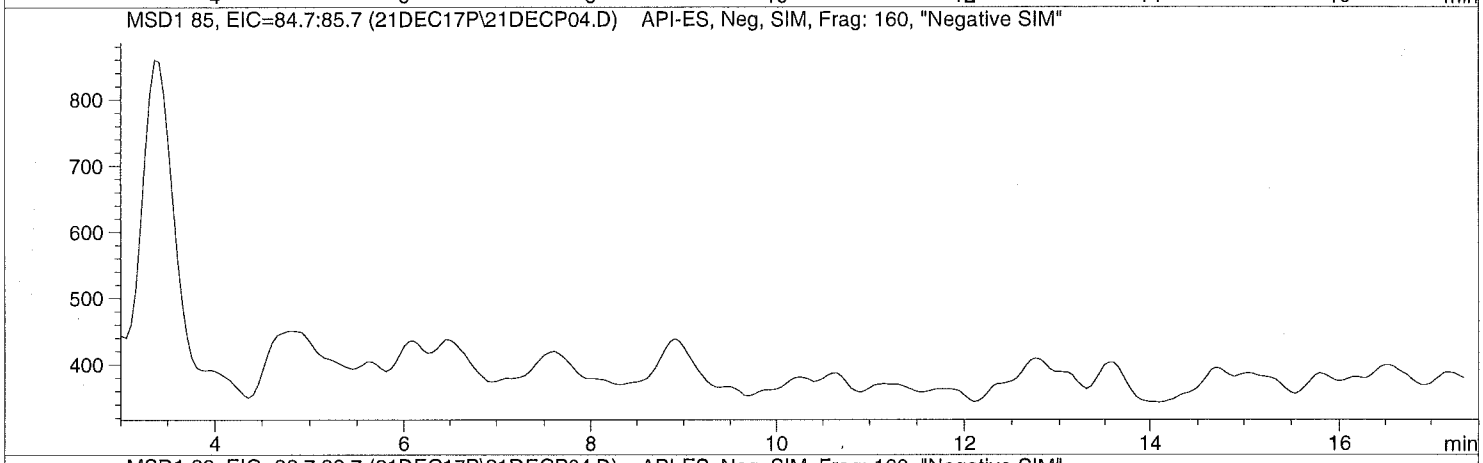
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP04.D Sample Name: 580548 LMB

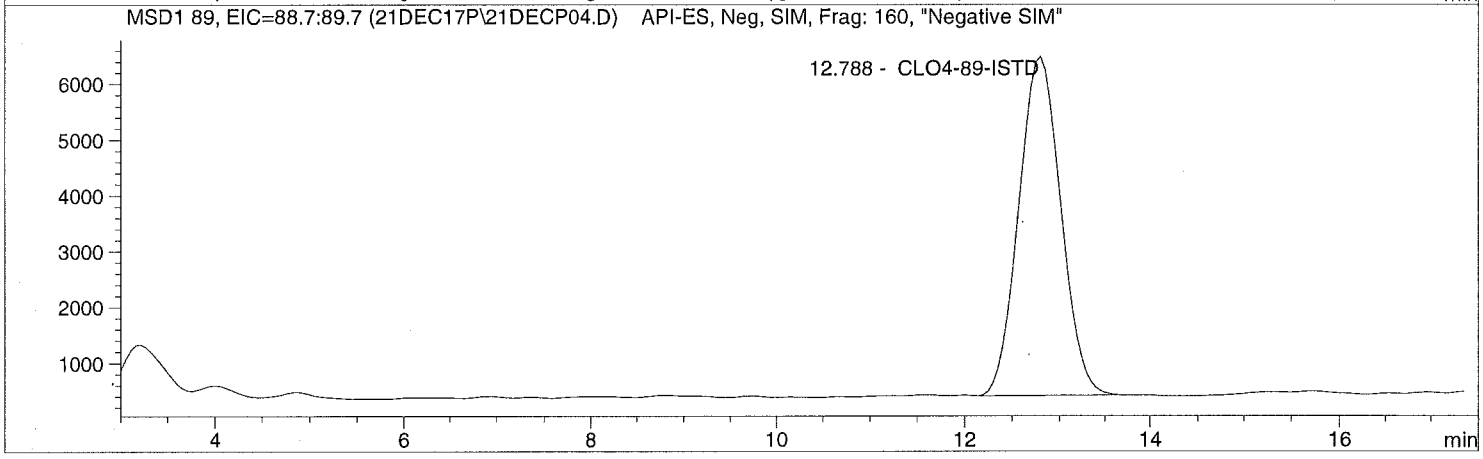
Injection Date:	12/21/2017 16:48:54	Seq Line:	4
Sample Name:	580548 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP04.D Sample Name: 580548 LMB

Injection Date:	12/21/2017 16:48:54	Seq Line:	4
Sample Name:	580548 LMB	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.788	PBA	188858.0	5.0000	CLO4-89-ISTD

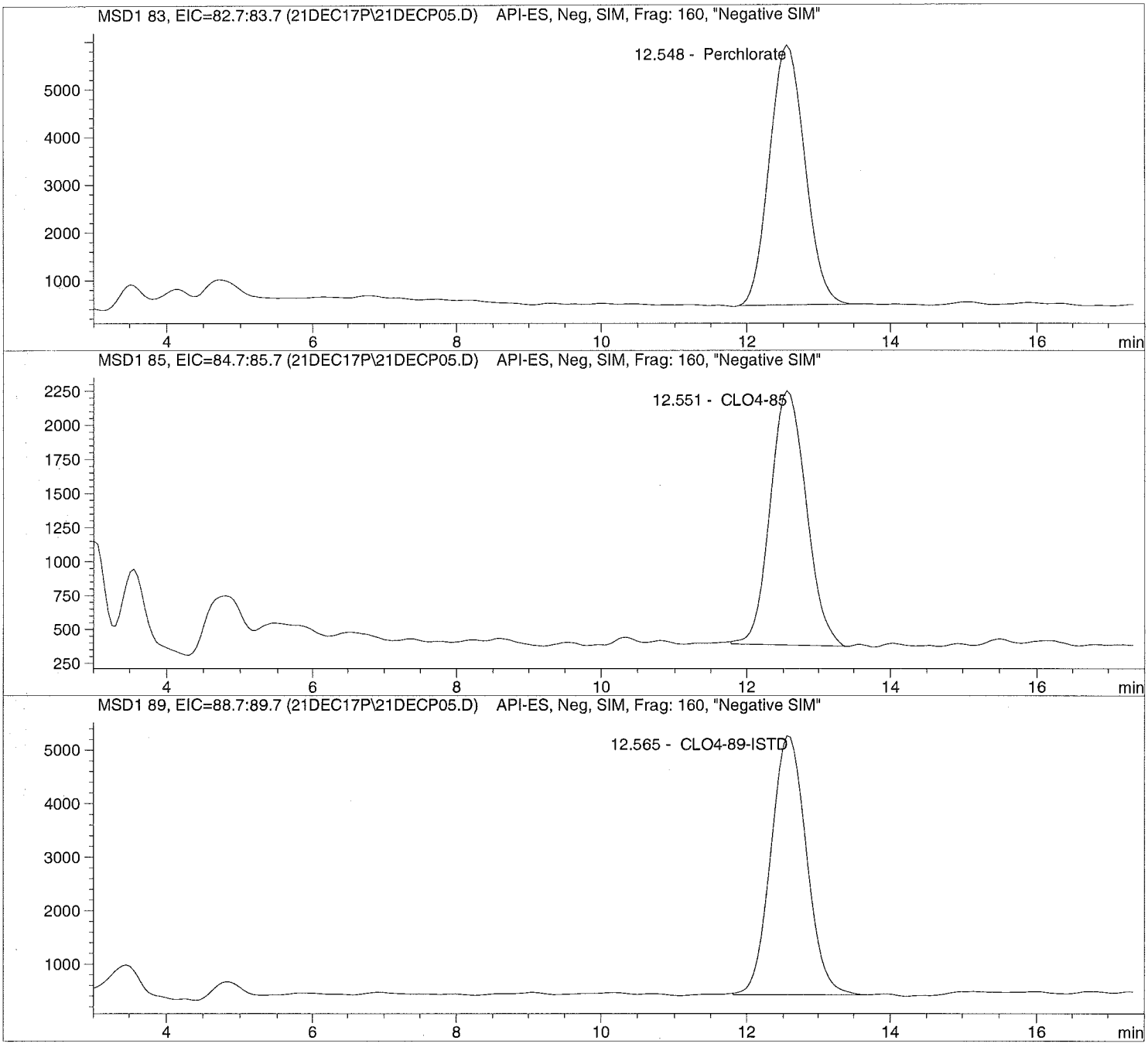
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP05.D Sample Name: 580549 LCS@5.

Injection Date:	12/21/2017 17:08:03	Seq Line:	5
Sample Name:	580549 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP05.D Sample Name: 580549 LCS@5.

Injection Date:	12/21/2017 17:08:03	Seq Line:	5
Sample Name:	580549 LCS@5.	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Wed, 20. Dec. 2017,08:01:52 am
Multiplier: 1.000000
Dilution: 1.000000
Sample Amount: 5.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.548	PBA	186350.9	5.0430	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.551	BBA	65303.5	5.2891	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.565	BBA	167820.7	5.0000	CLO4-89-ISTD

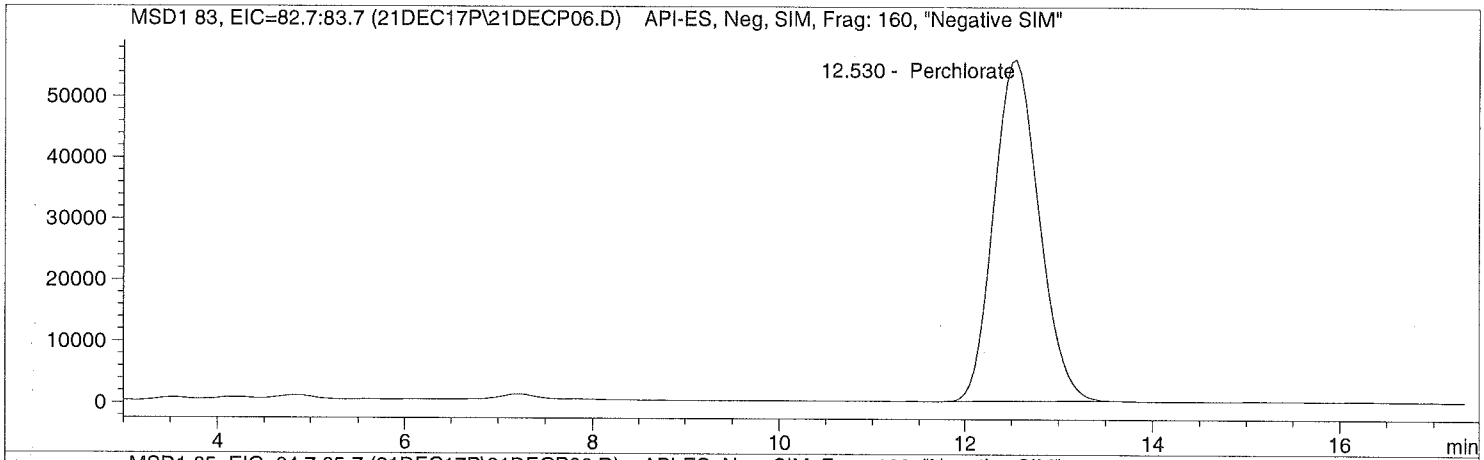
*** End of Report ***

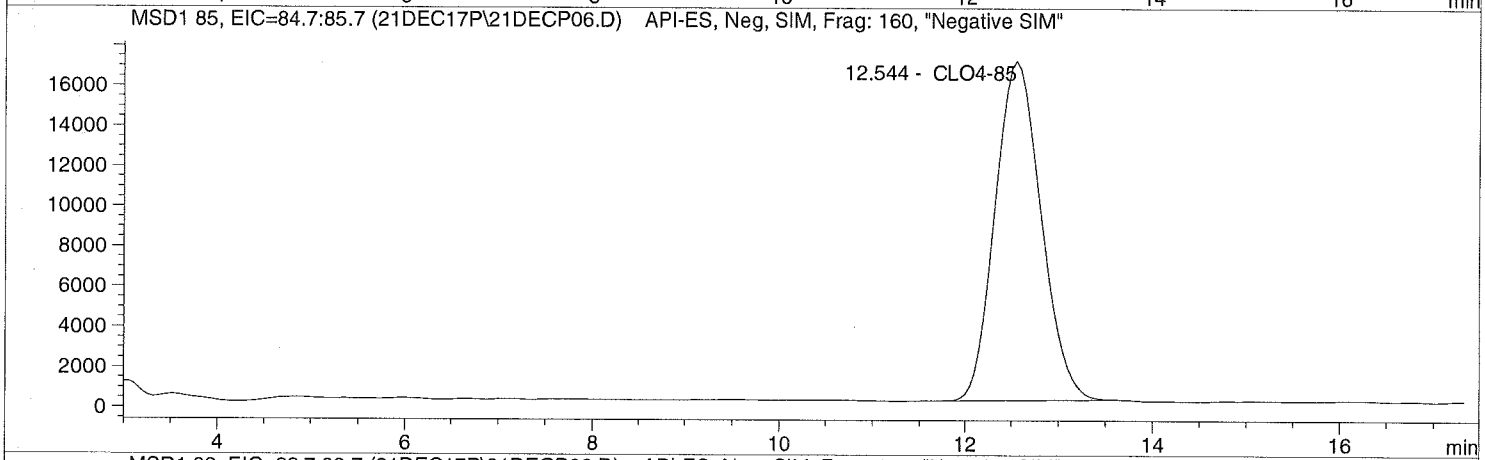
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP06.D Sample Name: 1735429001

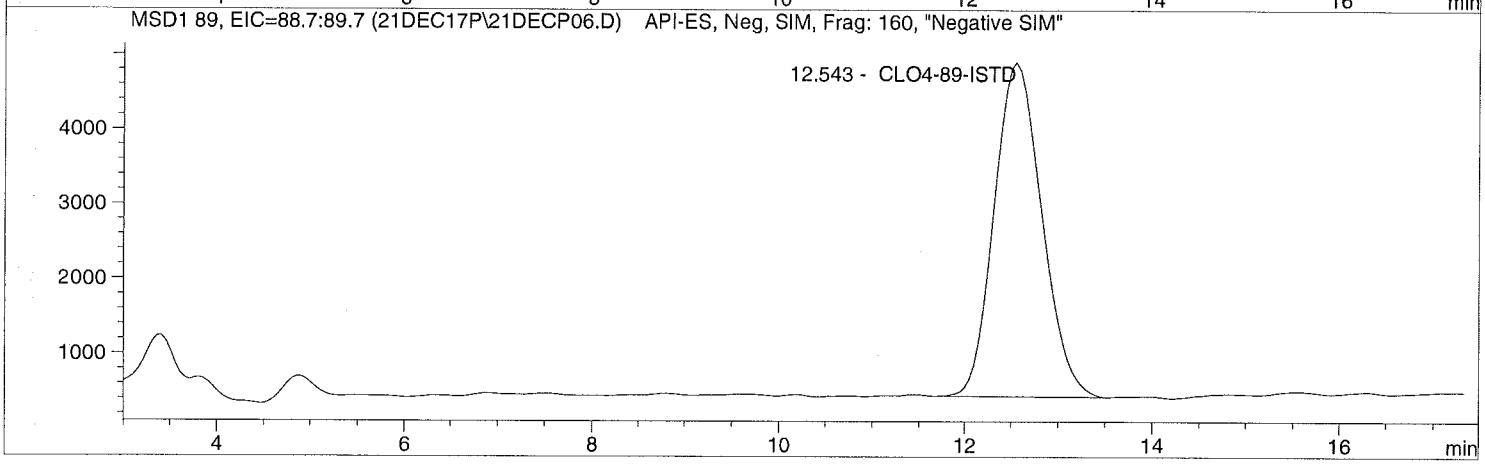
Injection Date:	12/21/2017 17:30:43	Seq Line:	6
Sample Name:	1735429001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP06.D Sample Name: 1735429001

Injection Date:	12/21/2017 17:30:43	Seq Line:	6
Sample Name:	1735429001	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.530	PBA	1875869.0	44.4960	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.544	BBA	576331.3	44.2651	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.543	BBA	158180.7	5.0000	CLO4-89-ISTD

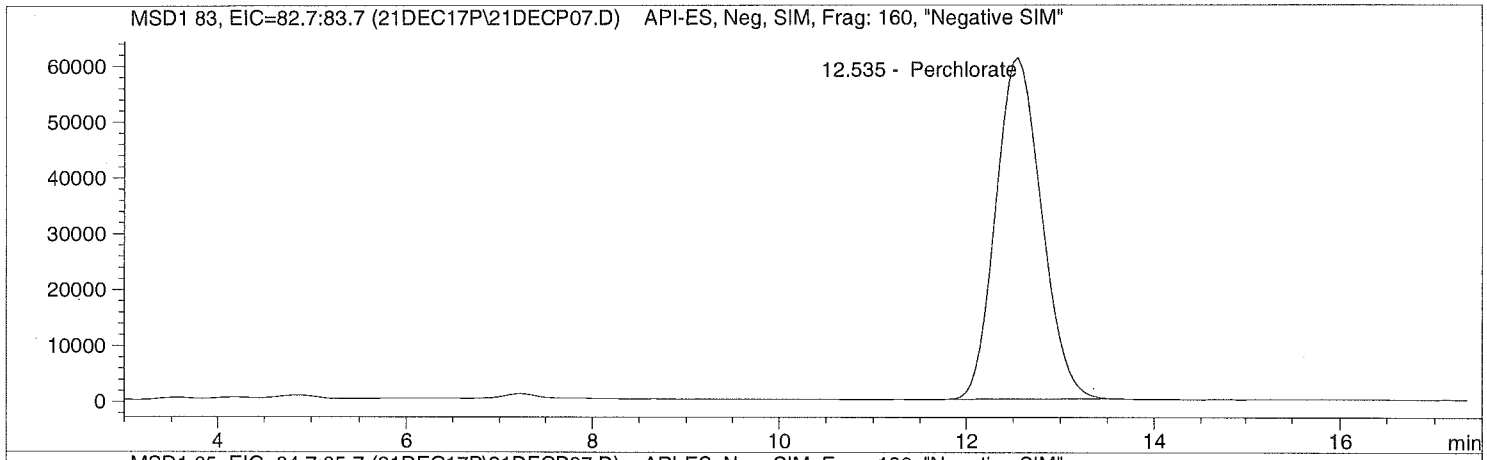
*** End of Report ***

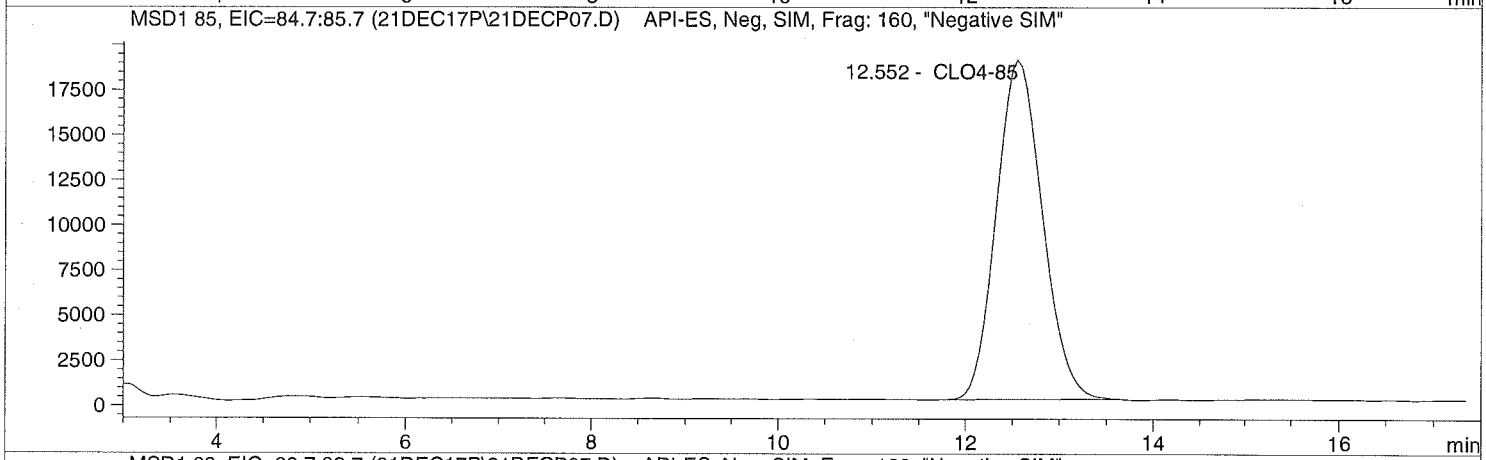
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP07.D Sample Name: 580550 354291S

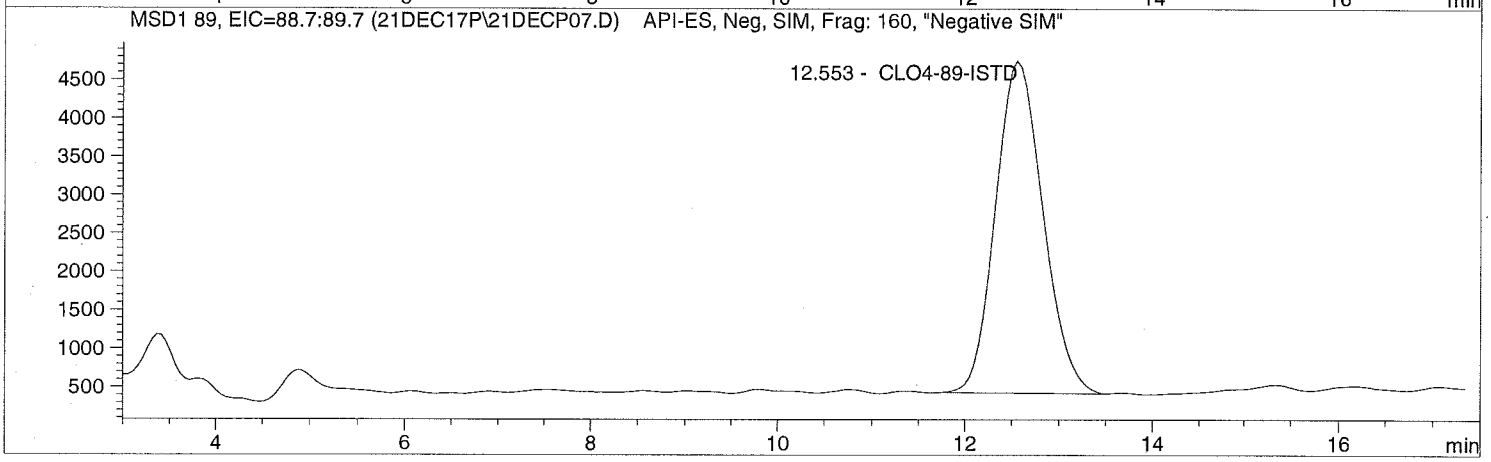
Injection Date:	12/21/2017 17:49:53	Seq Line:	7
Sample Name:	580550 354291S	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP07.D Sample Name: 580550 354291S

Injection Date:	12/21/2017 17:49:53	Seq Line:	7
Sample Name:	580550 354291S	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.535	PBA	2055045.0	49.7955	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.552	PBA	638658.5	50.2407	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.553	PBA	151375.7	5.0000	CLO4-89-ISTD

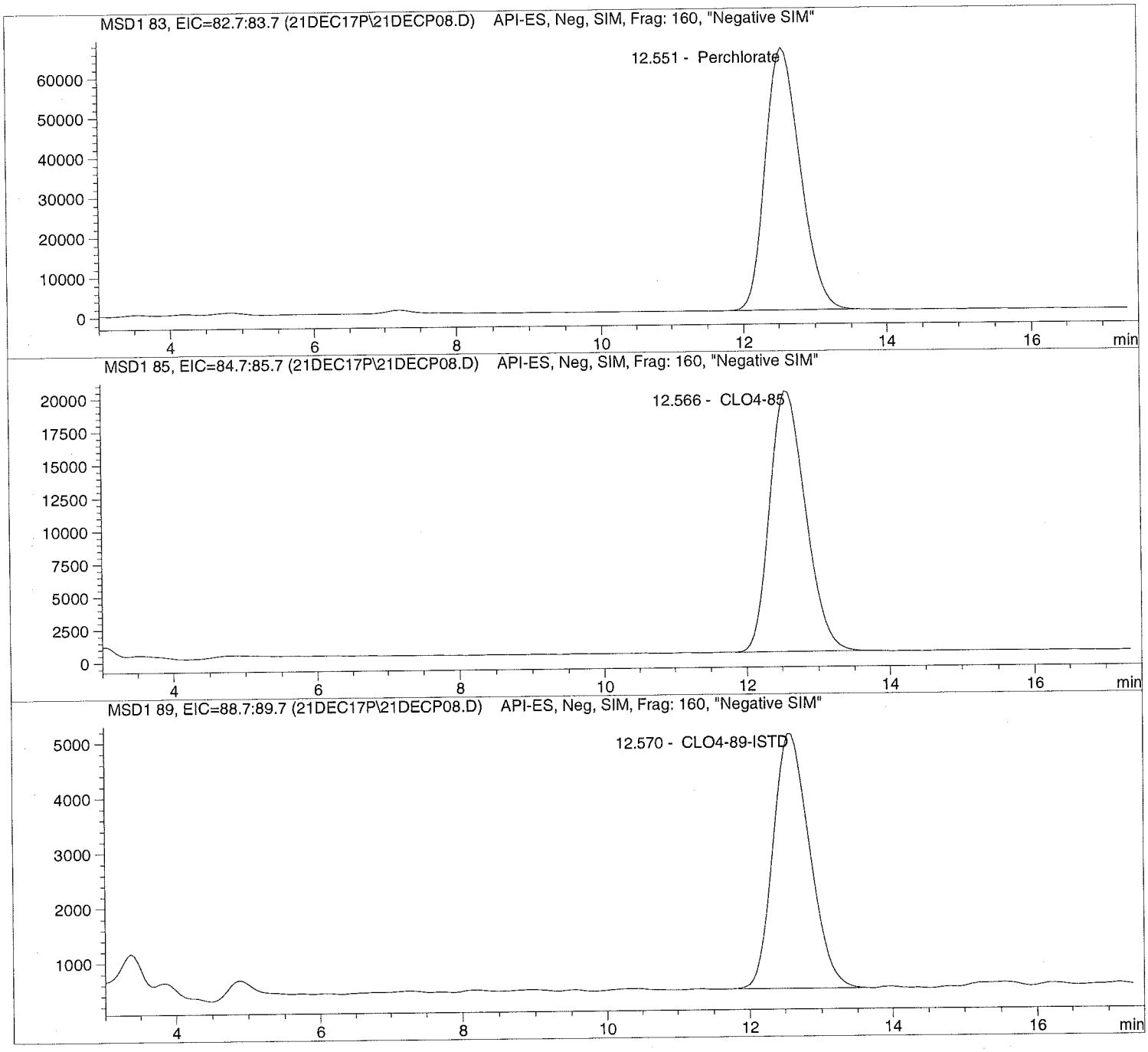
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP08.D Sample Name: 580551 354291D

Injection Date:	12/21/2017 18:09:04	Seq Line:	8
Sample Name:	580551 354291D	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP08.D Sample Name: 580551 354291D

Injection Date:	12/21/2017 18:09:04	Seq Line:	8
Sample Name:	580551 354291D	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.551	PBA	2223303.8	49.9374	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.566	BBA	683349.8	49.9139	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.570	BBA	163206.6	5.0000	CLO4-89-ISTD

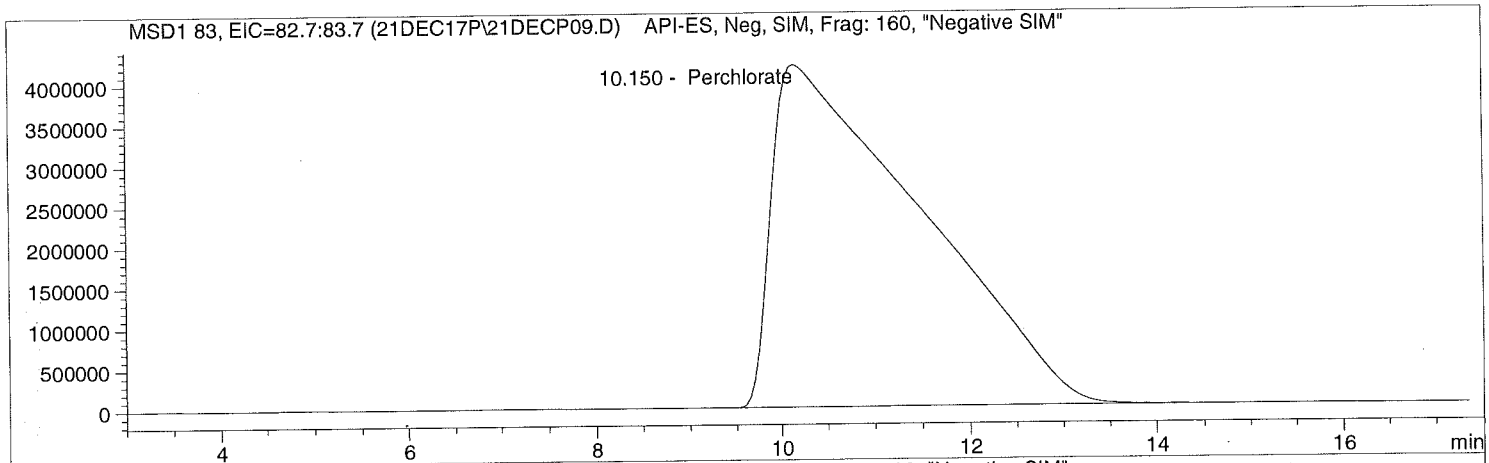
*** End of Report ***

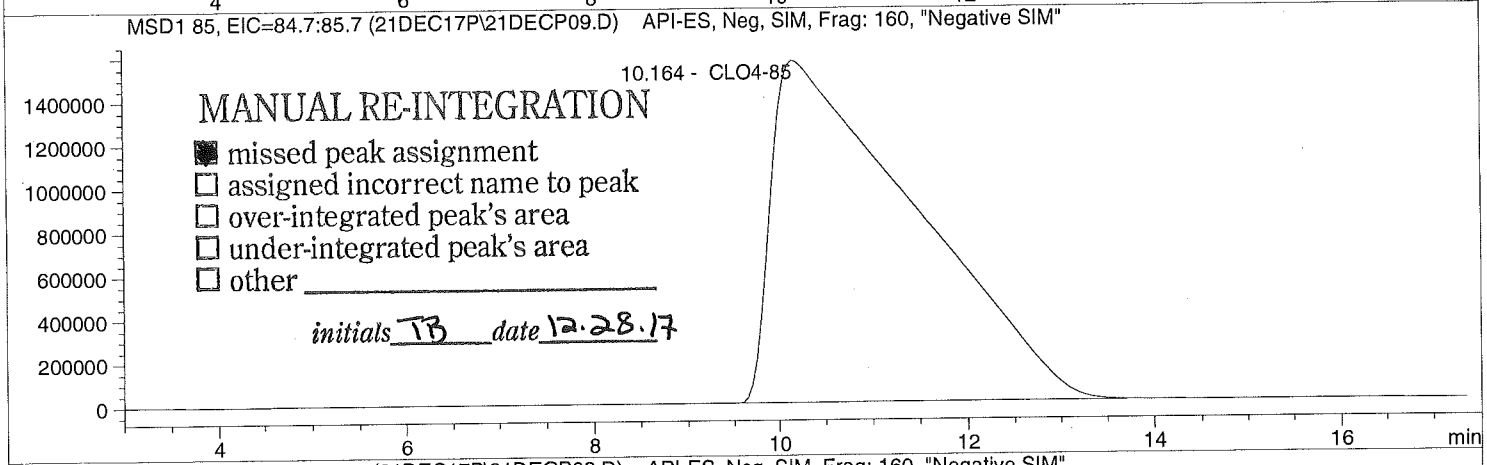
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP09.D Sample Name: 1735429002

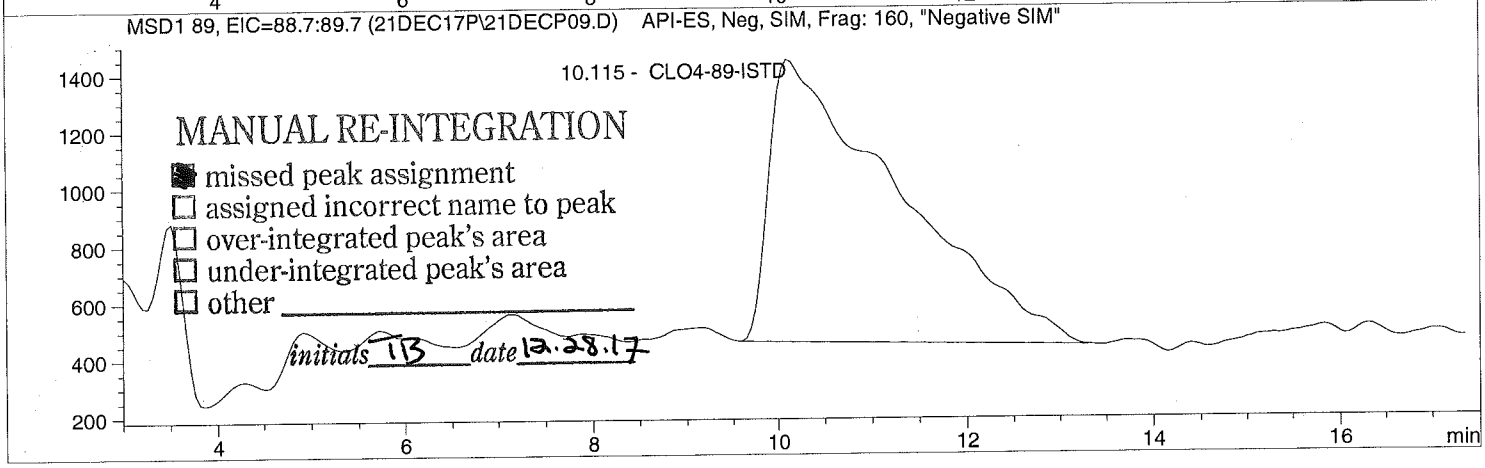
Injection Date:	12/21/2017 18:28:15	Seq Line:	9
Sample Name:	1735429002	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP09.D Sample Name: 1735429002

Injection Date:	12/21/2017 18:28:15	Seq Line:	9
Sample Name:	1735429002	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.150	PBA	464994400.0	1976.3826	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.164	MM	168301776.0	2380.8097	CLO4-85
10.752	Rsho	0.0	0.0000	
11.289	Rsho	0.0	0.0000	
11.651	Rsho	0.0	0.0000	
12.156	Rsho	0.0	0.0000	

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.115	MM	94482.6	5.0000	CLO4-89-ISTD

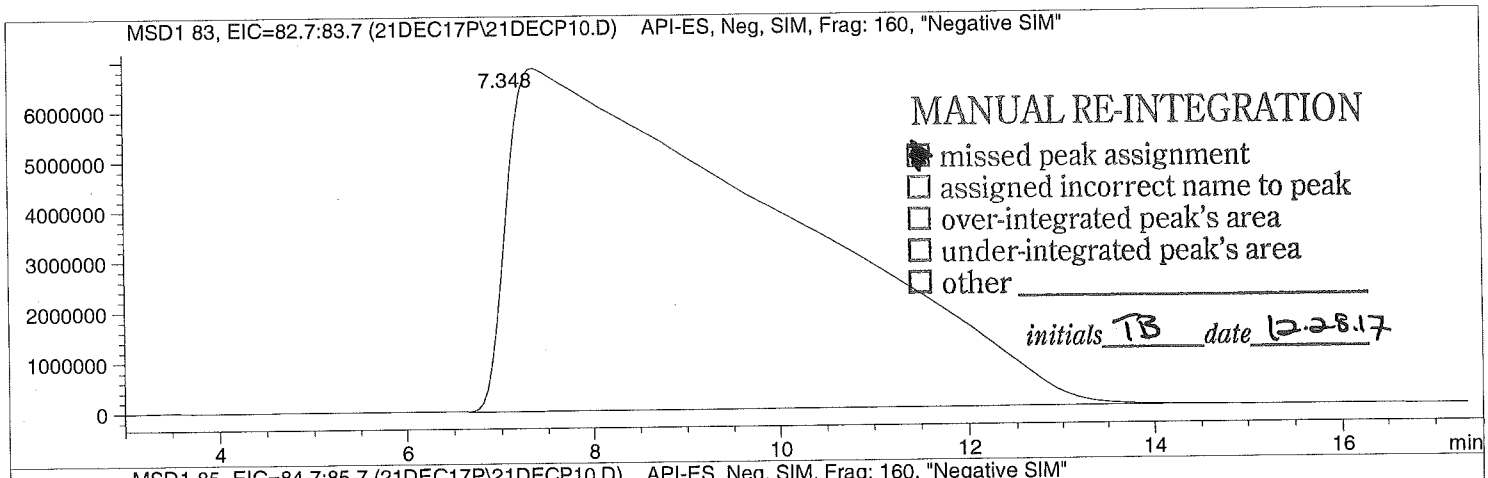
*** End of Report ***

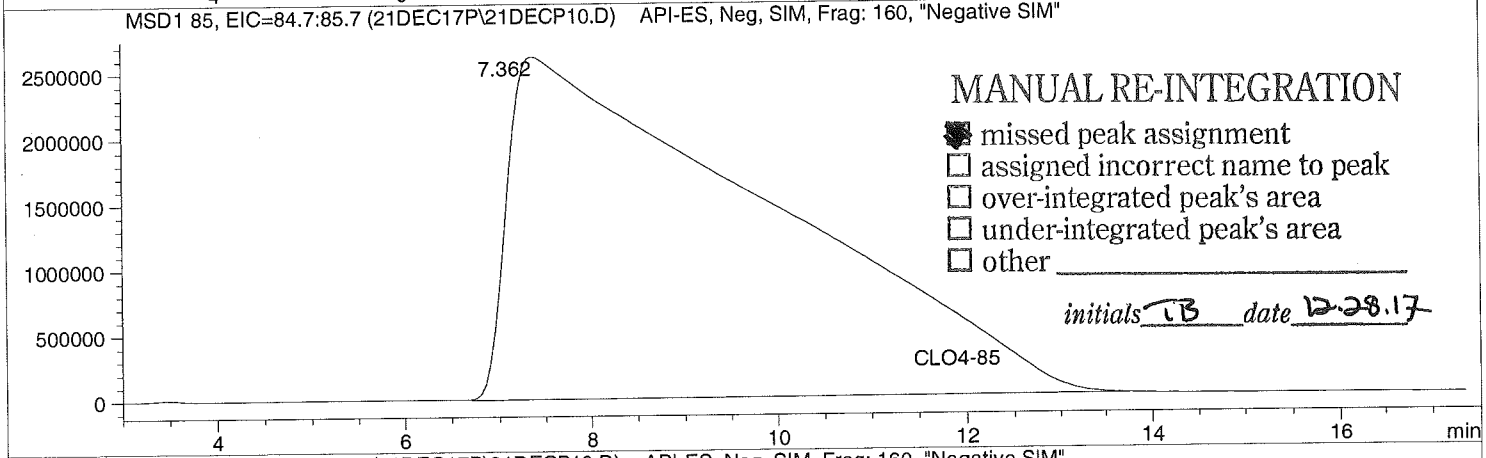
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP10.D Sample Name: 1735429003

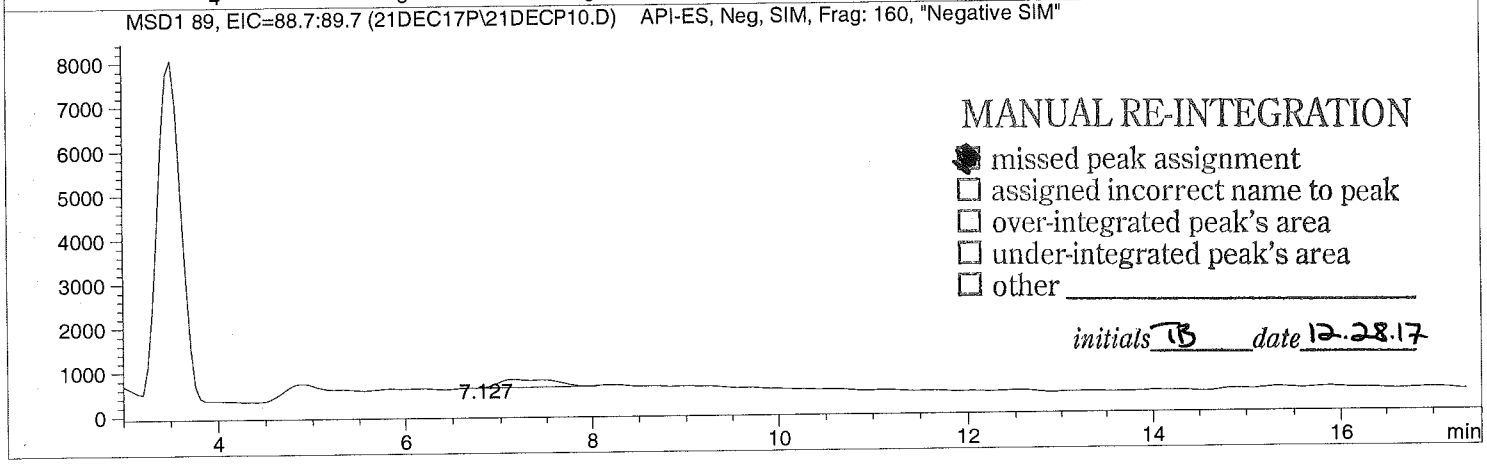
Injection Date:	12/21/2017 18:47:26	Seq Line:	10
Sample Name:	1735429003	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP10.D Sample Name: 1735429003

Injection Date:	12/21/2017 18:47:26	Seq Line:	10
Sample Name:	1735429003	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
7.348	MM	1382306432.0	0.0000	
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
7.362	MM	510174592.0	0.0000	
8.205	Rsho	0.0	0.0000	
8.755	Rsho	0.0	0.0000	
9.354	Rsho	0.0	0.0000	
9.679	Rsho	0.0	0.0000	
10.186	Rsho	0.0	0.0000	
11.102	Rsho	0.0	0.0000	
11.668	Rsho	0.0	0.0000	
12.350	Rsho	0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
7.127	MM	7607.4	0.0000	
0.000		0.0	0.0000	CLO4-89-ISTD

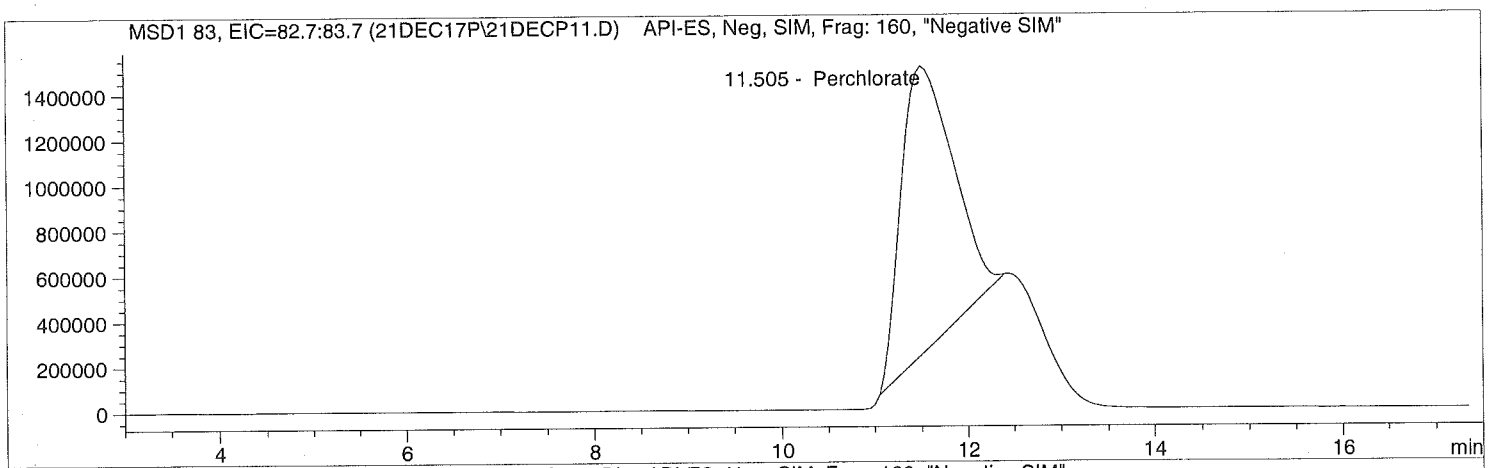
*** End of Report ***

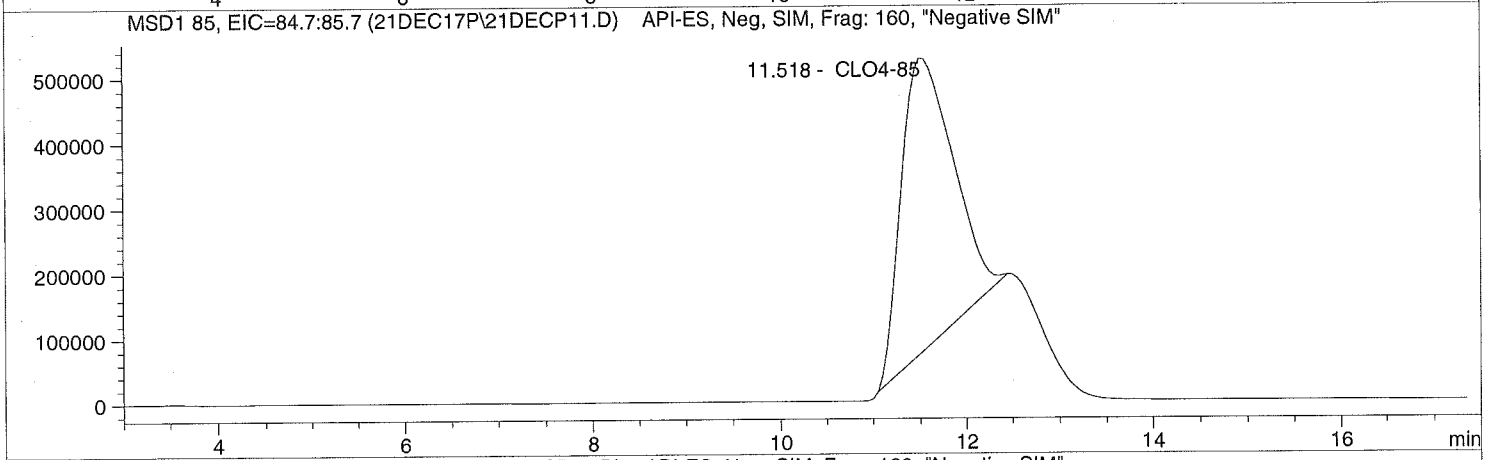
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP11.D Sample Name: 1735429004

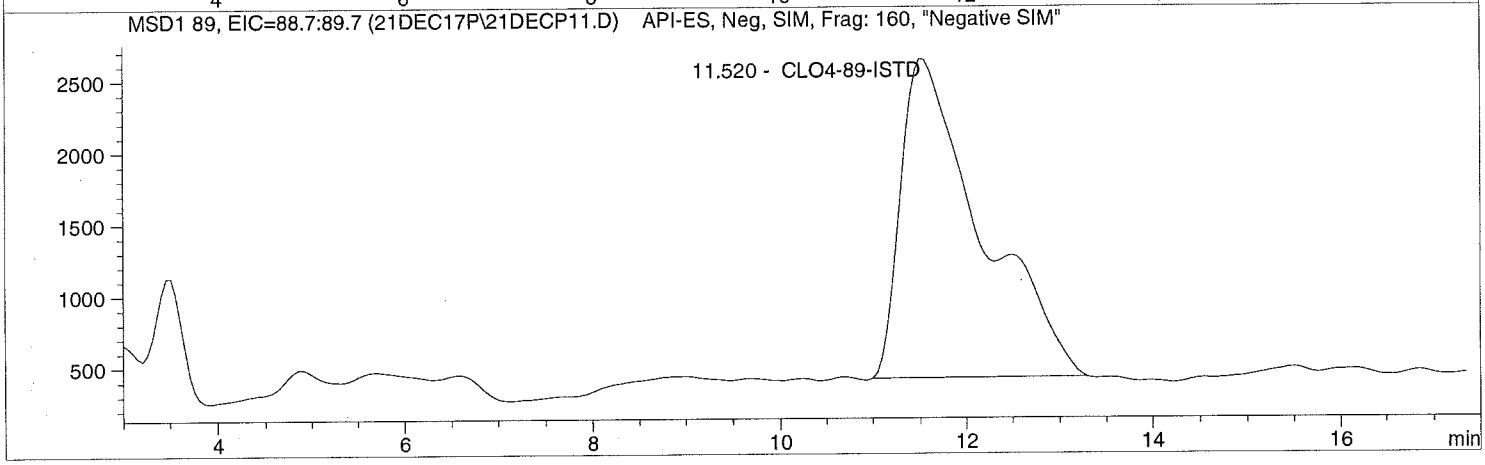
Injection Date:	12/21/2017 19:06:35	Seq Line:	11
Sample Name:	1735429004	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP11.D Sample Name: 1735429004

Injection Date:	12/21/2017 19:06:35	Seq Line:	11
Sample Name:	1735429004	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.505	PB	48987316.0	480.8298	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.518	PB	17452398.0	568.7617	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
11.520	BBA	132514.7	5.0000	CLO4-89-ISTD

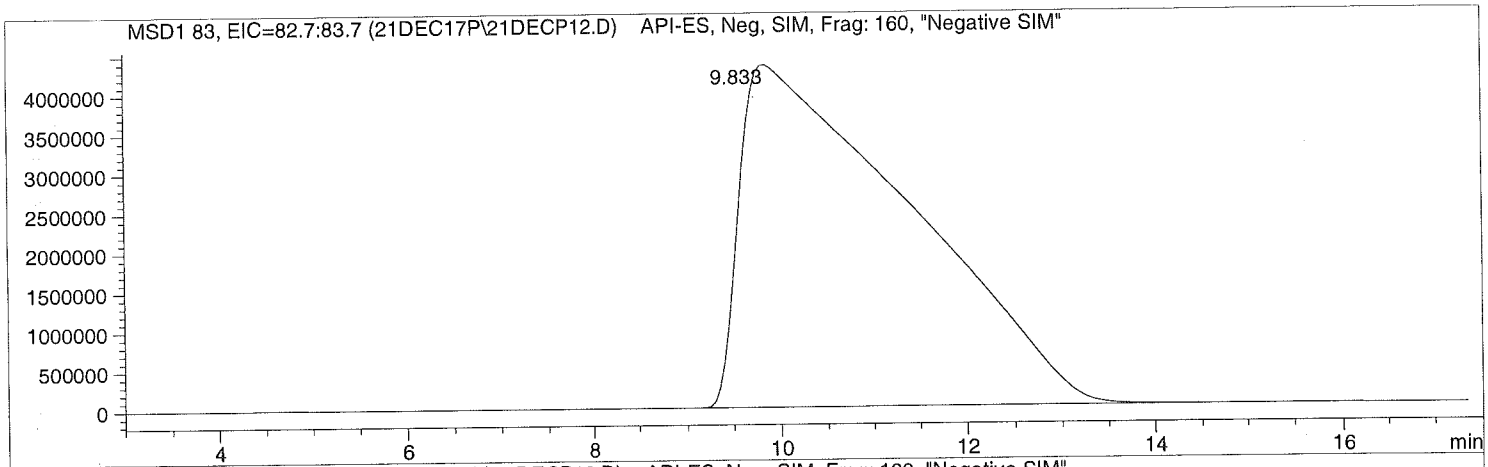
*** End of Report ***

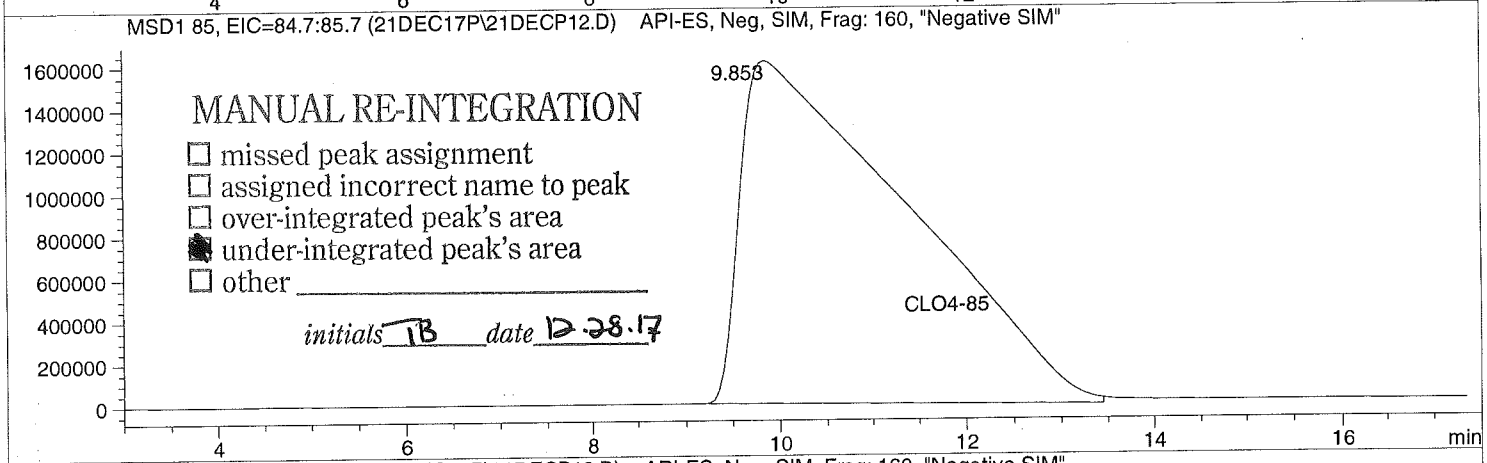
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP12.D Sample Name: 1735429005

Injection Date:	12/21/2017 19:25:45	Seq Line:	12
Sample Name:	1735429005	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

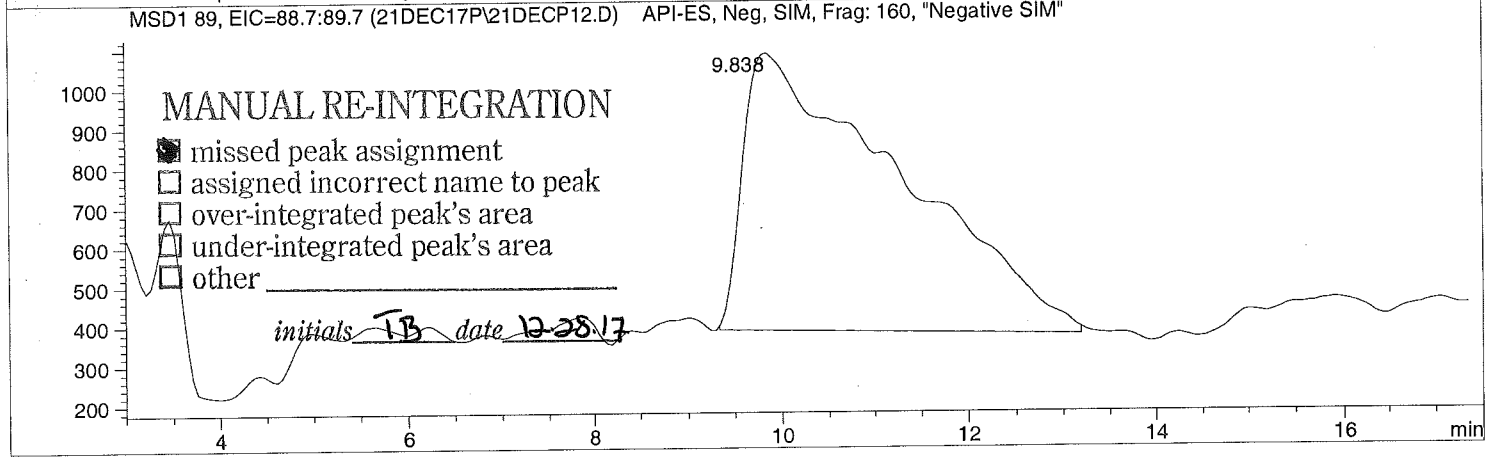
Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis





MANUAL RE-INTEGRATION
☐ missed peak assignment
☐ assigned incorrect name to peak
☐ over-integrated peak's area
☒ under-integrated peak's area
☐ other _____
initials TB *date* 12.28.17



MANUAL RE-INTEGRATION
☒ missed peak assignment
☐ assigned incorrect name to peak
☐ over-integrated peak's area
☐ under-integrated peak's area
☐ other _____
initials TB *date* 12-28-17

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP12.D Sample Name: 1735429005

Injection Date:	12/21/2017 19:25:45	Seq Line:	12
Sample Name:	1735429005	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
9.833	PBA	549724864.0	0.0000	
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
9.853	MM	200636336.0	0.0000	
10.751	Rsho	0.0	0.0000	
11.130	Rsho	0.0	0.0000	
11.550	Rsho	0.0	0.0000	
12.249	Rsho	0.0	0.0000	CLO4-85
12.616	Rsho	0.0	0.0000	

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
9.838	MM	81485.8	0.0000	
0.000		0.0	0.0000	CLO4-89-ISTD

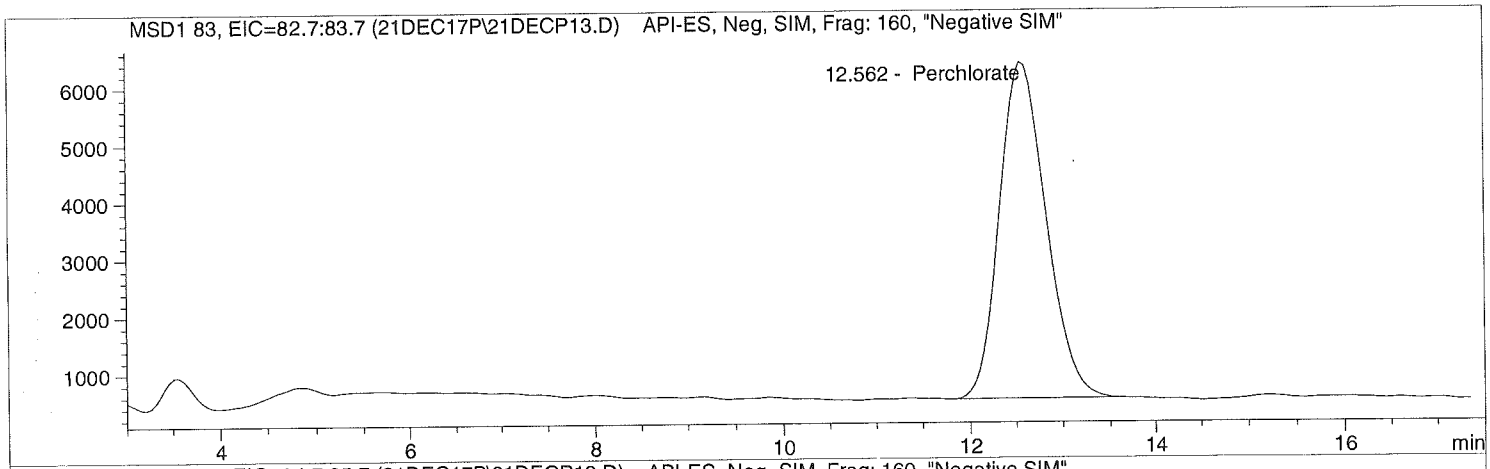
*** End of Report ***

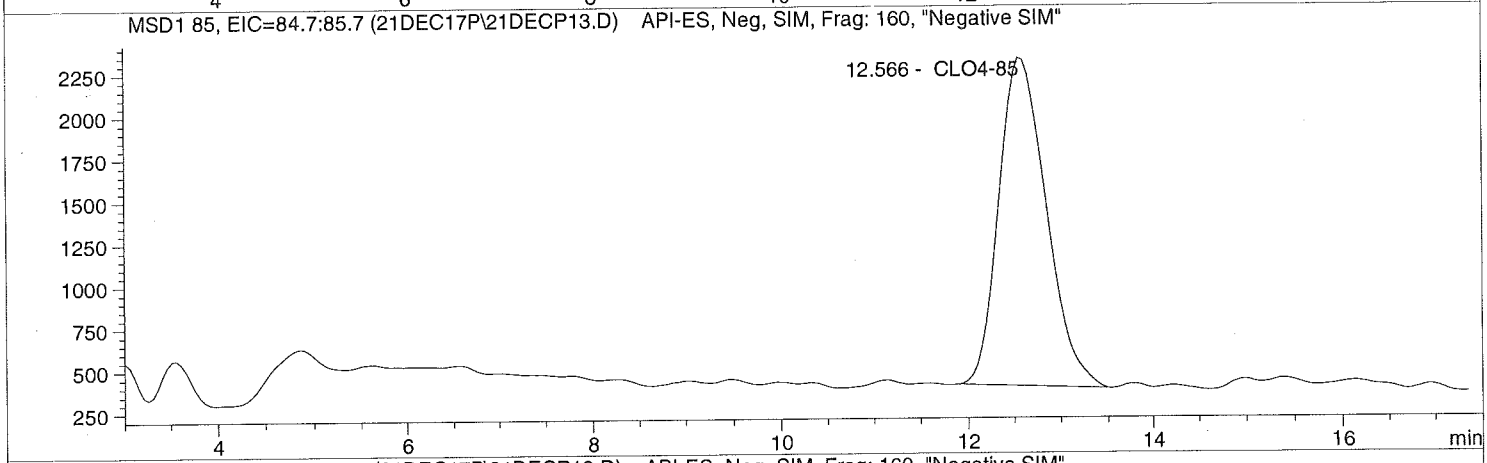
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP13.D Sample Name: 1735429006

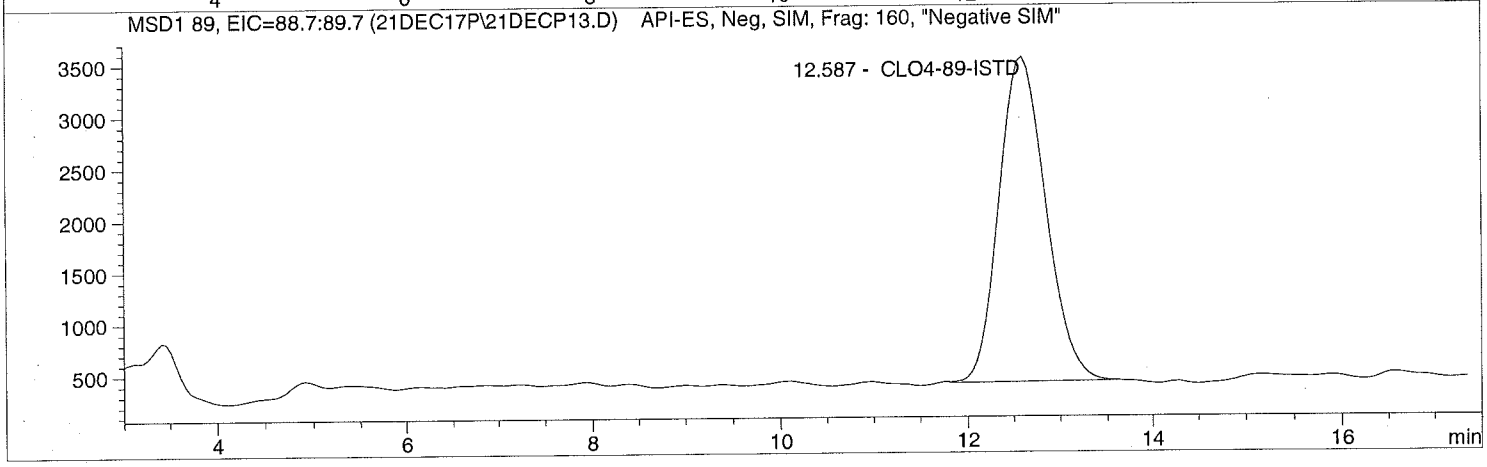
Injection Date:	12/21/2017 19:44:54	Seq Line:	13
Sample Name:	1735429006	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP13.D Sample Name: 1735429006

Injection Date:	12/21/2017 19:44:54	Seq Line:	13
Sample Name:	1735429006	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.562	PBA	204257.4	8.3045	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.566	PBA	68718.0	8.5313	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.587	BBA	109631.4	5.0000	CLO4-89-ISTD

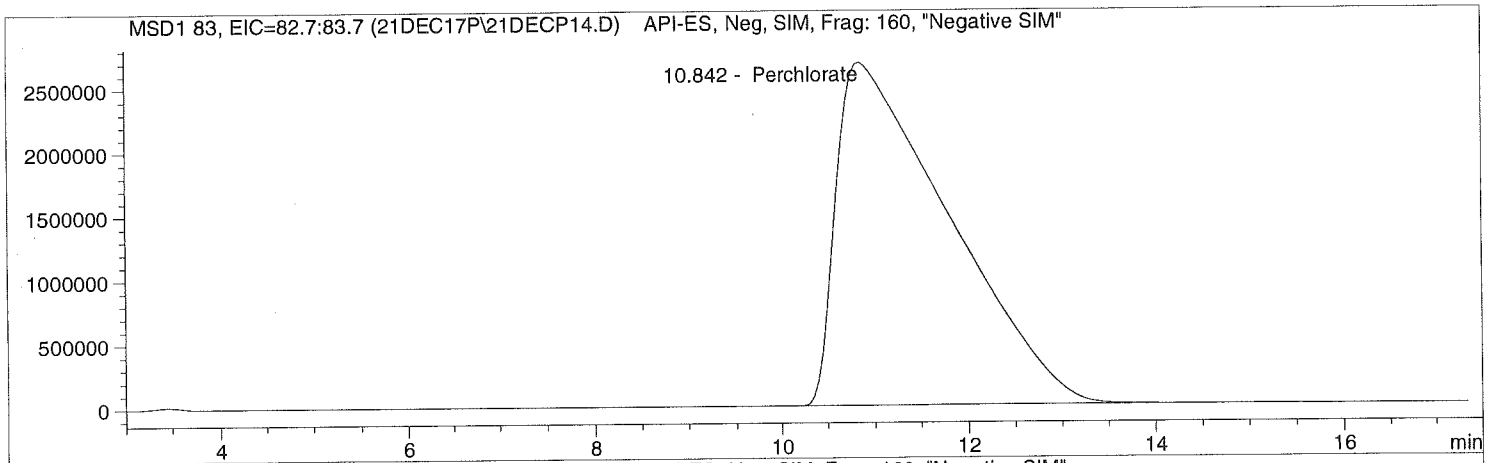
*** End of Report ***

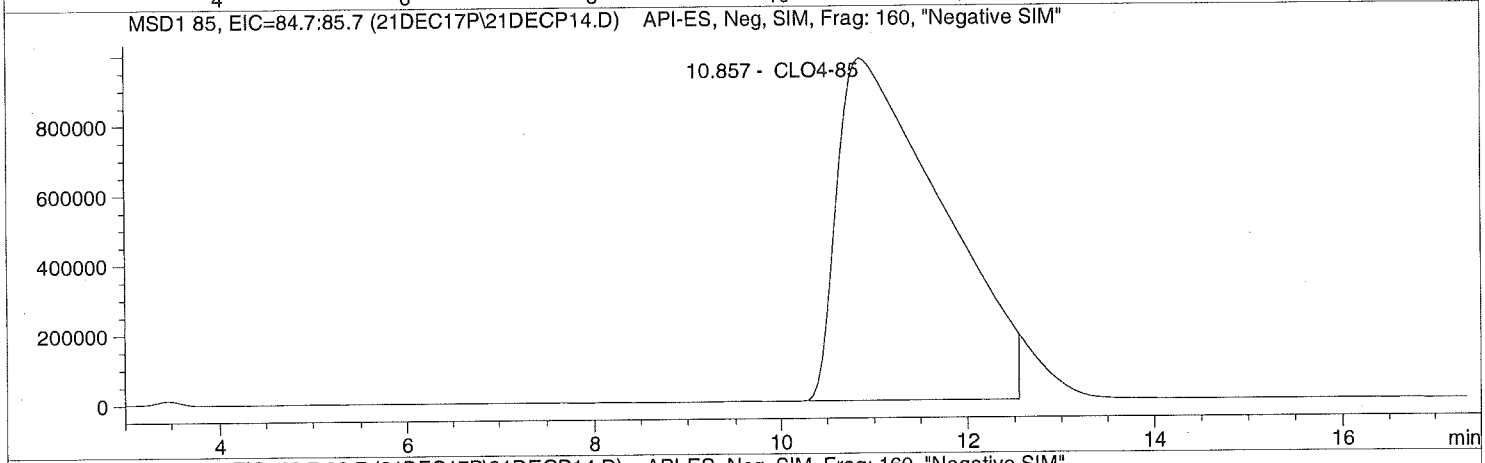
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP14.D Sample Name: 1735429007

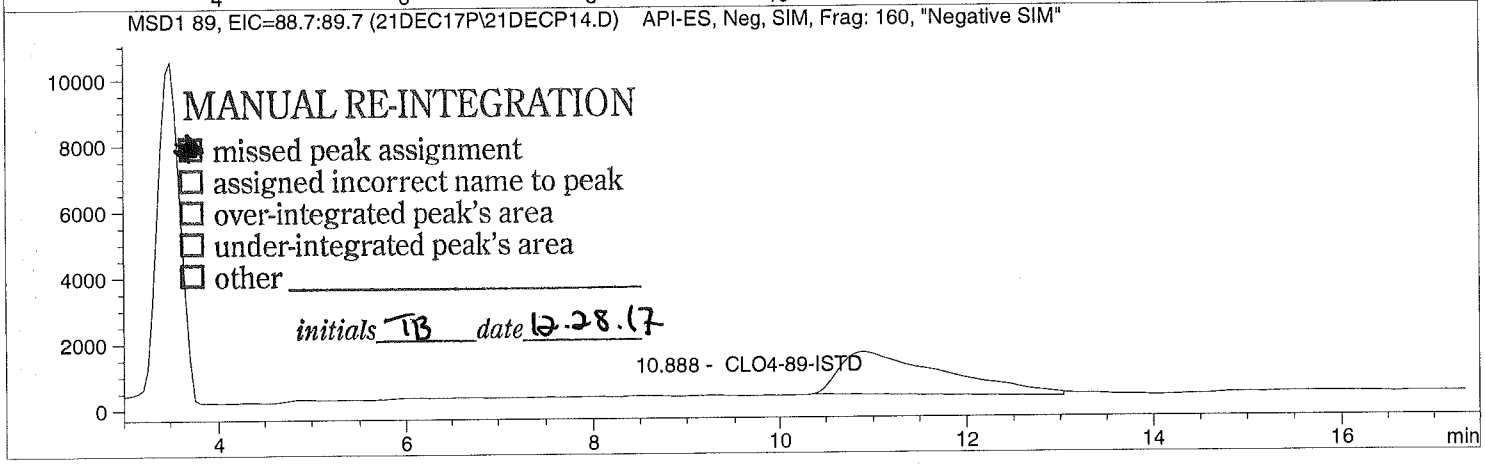
Injection Date:	12/21/2017 20:04:04	Seq Line:	14
Sample Name:	1735429007	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP14.D Sample Name: 1735429007

Injection Date:	12/21/2017 20:04:04	Seq Line:	14
Sample Name:	1735429007	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.842	PBA	222954880.0	1304.0946	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.857	PBA	75659976.0	1515.0560	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.888	MM	99608.5	5.0000	CLO4-89-ISTD

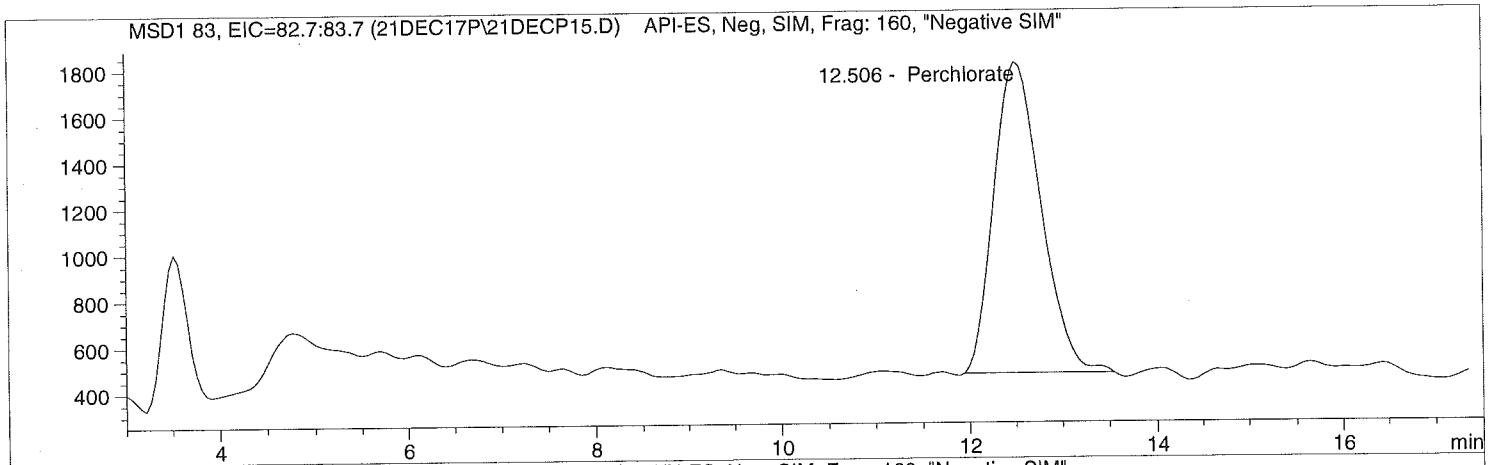
*** End of Report ***

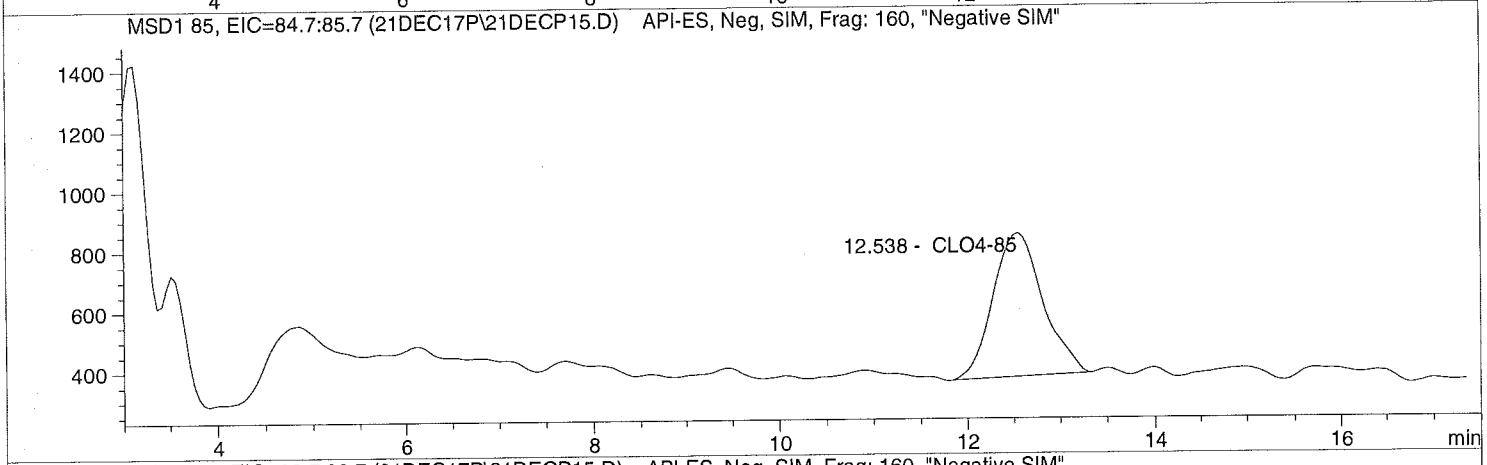
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP15.D Sample Name: 1735429008

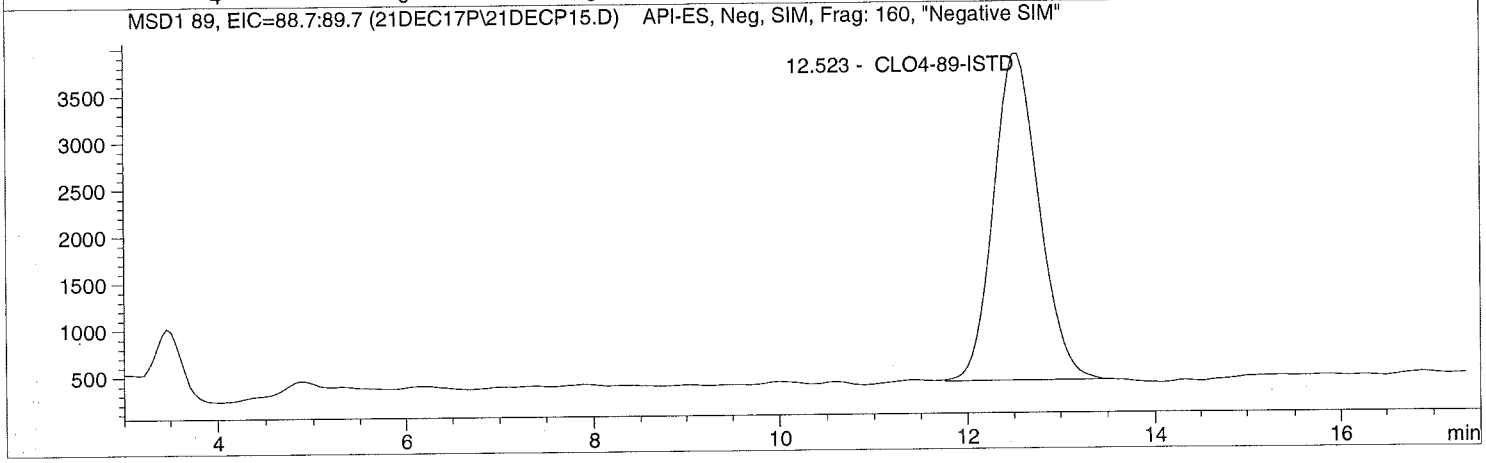
Injection Date:	12/21/2017 20:23:15	Seq Line:	15
Sample Name:	1735429008	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP15.D Sample Name: 1735429008

Injection Date:	12/21/2017 20:23:15	Seq Line:	15
Sample Name:	1735429008	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.506	BBA	47470.0	1.8562	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.538	PBA	17725.8	1.9249	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.523	BBA	119091.3	5.0000	CLO4-89-ISTD

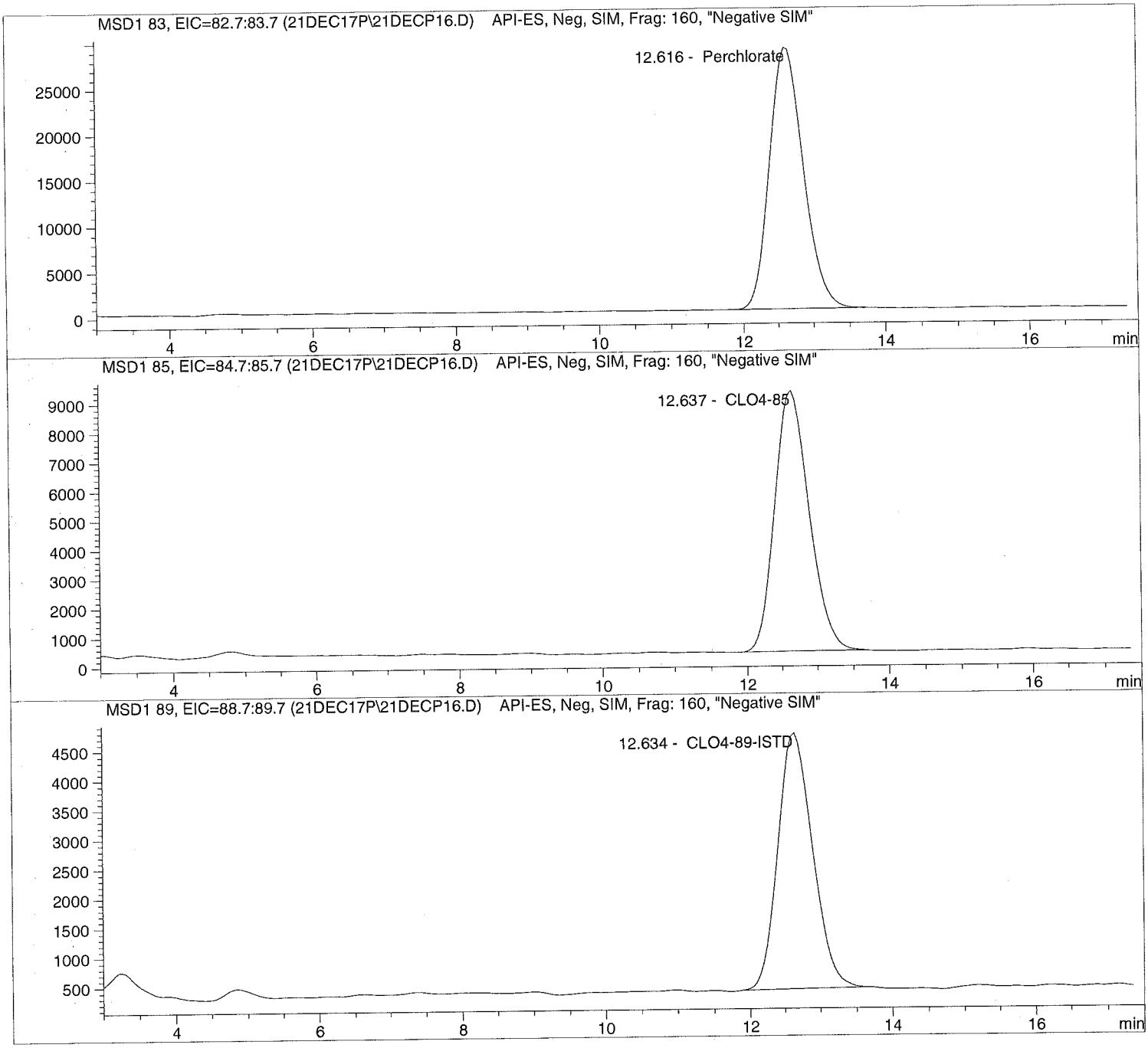
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP16.D Sample Name: 580552 CCV@25

Injection Date:	12/21/2017 20:42:24	Seq Line:	16
Sample Name:	580552 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP16.D Sample Name: 580552 CCV@25

Injection Date:	12/21/2017 20:42:24	Seq Line:	16
Sample Name:	580552 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.616	PBA	957273.3	26.2709	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.637	PBA	303394.7	26.3937	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.634	PBA	148449.6	5.0000	CLO4-89-ISTD

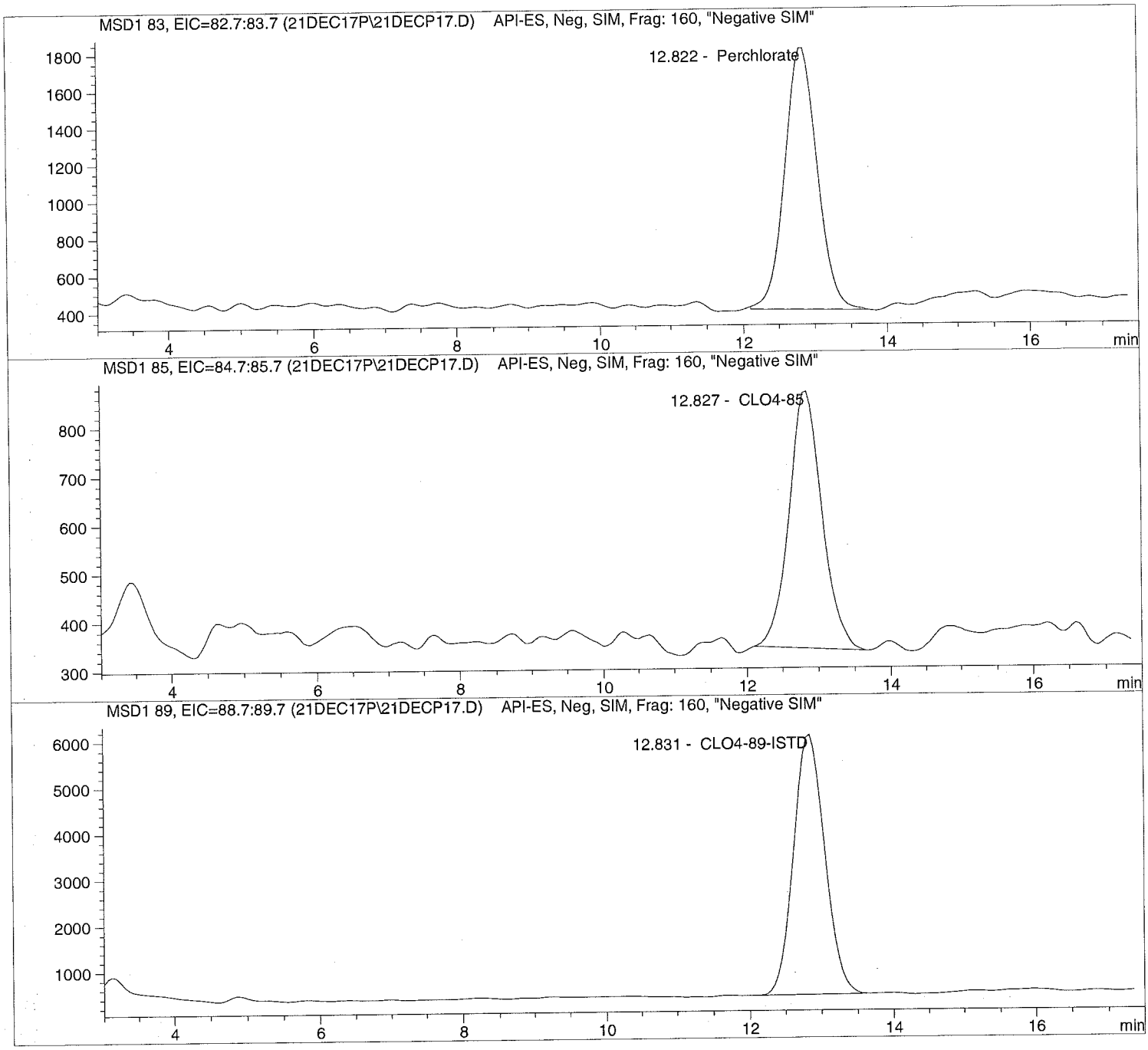
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP17.D Sample Name: 580553 LODV@1.

Injection Date:	12/21/2017 21:01:33	Seq Line:	17
Sample Name:	580553 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP17.D Sample Name: 580553 LODV@1.

Injection Date:	12/21/2017 21:01:33	Seq Line:	17
Sample Name:	580553 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.822	BBA	44529.9	1.2240	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.827	PBA	16836.6	1.2066	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.831	BBA	171154.8	5.0000	CLO4-89-ISTD

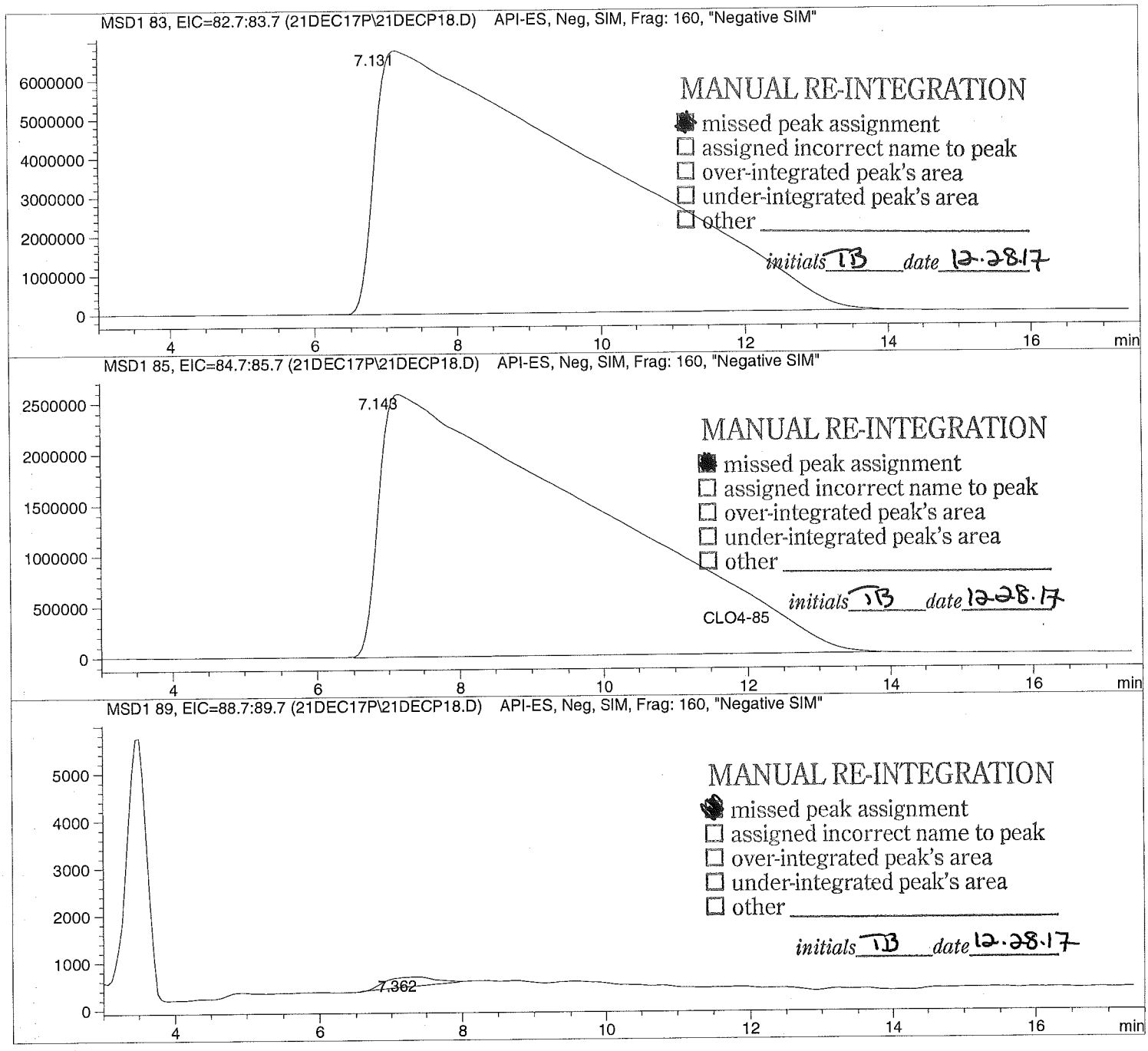
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP18.D Sample Name: 1735429009

Injection Date:	12/21/2017 21:20:43	Seq Line:	18
Sample Name:	1735429009	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP18.D Sample Name: 1735429009

Injection Date:	12/21/2017 21:20:43	Seq Line:	18
Sample Name:	1735429009	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
7.131	MM	1.4e9	0.0000	
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
7.143	MM	534866912.0	0.0000	
7.689	Rsho	0.0	0.0000	
8.330	Rsho	0.0	0.0000	
9.104	Rsho	0.0	0.0000	
9.628	Rsho	0.0	0.0000	
10.602	Rsho	0.0	0.0000	
11.051	Rsho	0.0	0.0000	
11.600	Rsho	0.0	0.0000	
12.299	Rsho	0.0	0.0000	CLO4-85
12.599	Rsho	0.0	0.0000	

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
7.362	MM	10068.3	0.0000	
0.000		0.0	0.0000	CLO4-89-ISTD

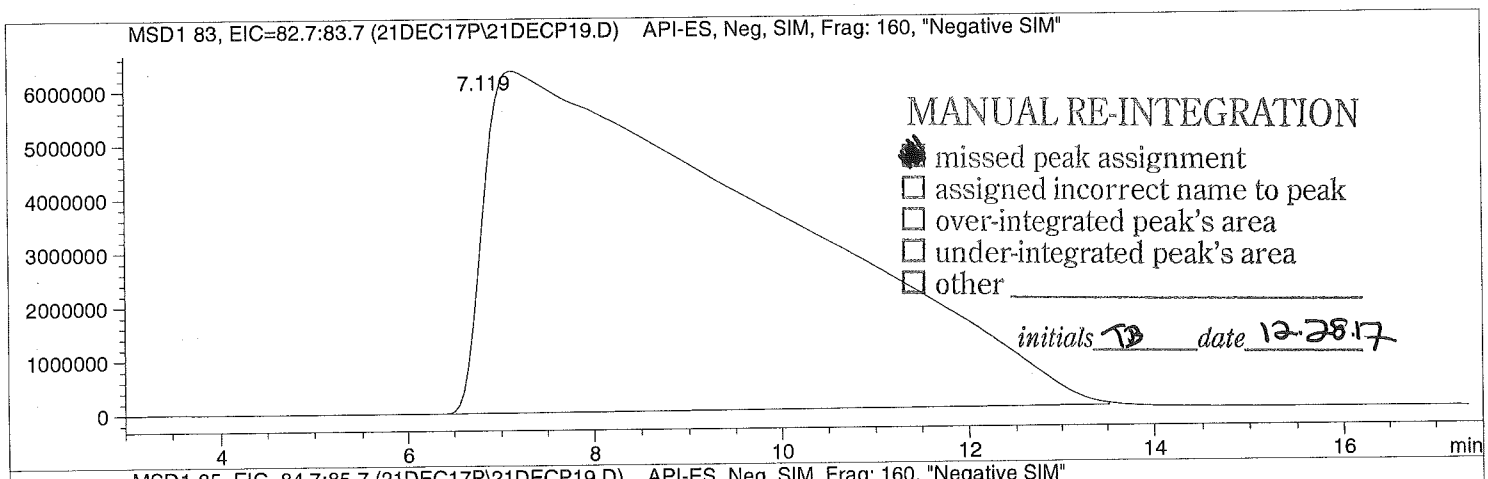
*** End of Report ***

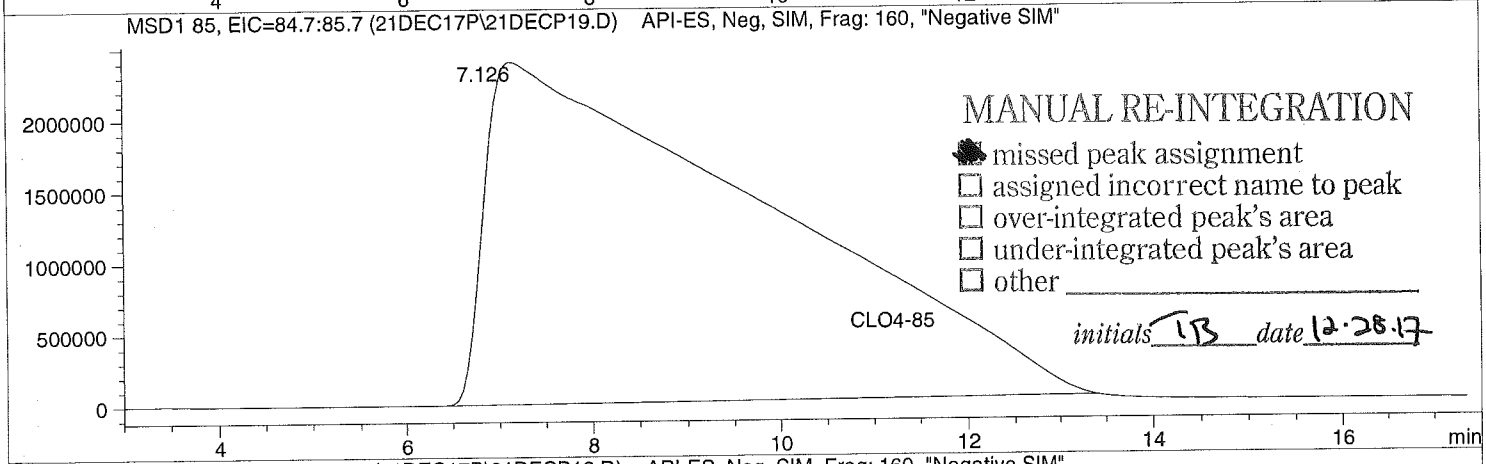
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP19.D Sample Name: 1735429010

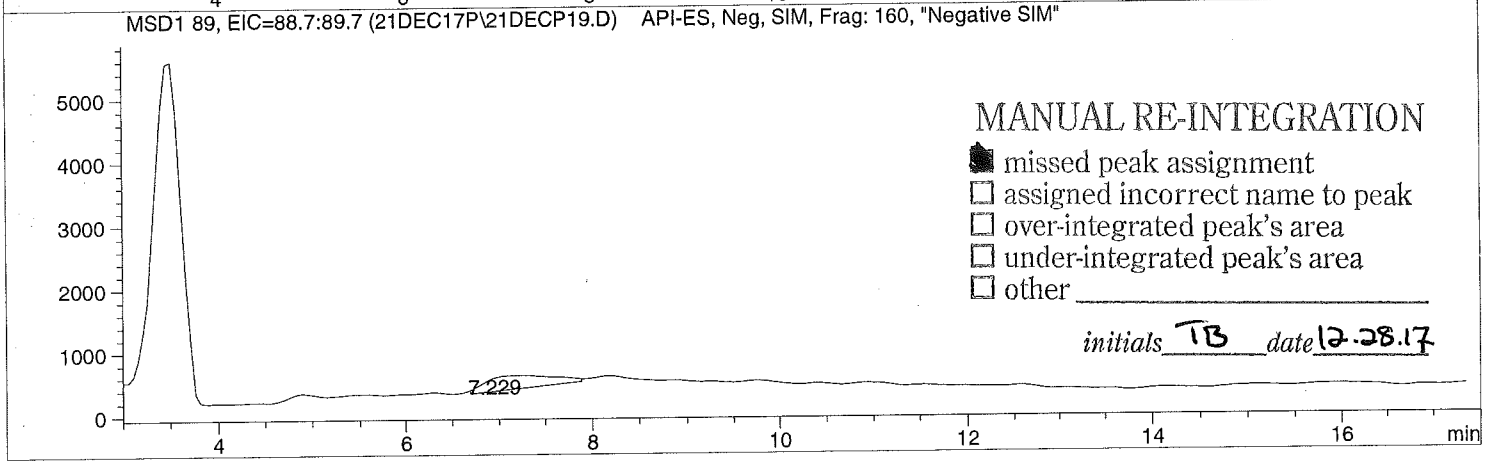
Injection Date:	12/21/2017 21:39:54	Seq Line:	19
Sample Name:	1735429010	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP19.D Sample Name: 1735429010

Injection Date:	12/21/2017 21:39:54	Seq Line:	19
Sample Name:	1735429010	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
7.119	MM	1368818432.0	0.0000	
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
7.126	MM	498678048.0	0.0000	
7.856	Rsho	0.0	0.0000	
8.239	Rsho	0.0	0.0000	
8.705	Rsho	0.0	0.0000	
9.504	Rsho	0.0	0.0000	
9.878	Rsho	0.0	0.0000	
10.169	Rsho	0.0	0.0000	
10.771	Rsho	0.0	0.0000	
11.201	Rsho	0.0	0.0000	
11.651	Rsho	0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
7.229	MM	10589.2	0.0000	
0.000		0.0	0.0000	CLO4-89-ISTD

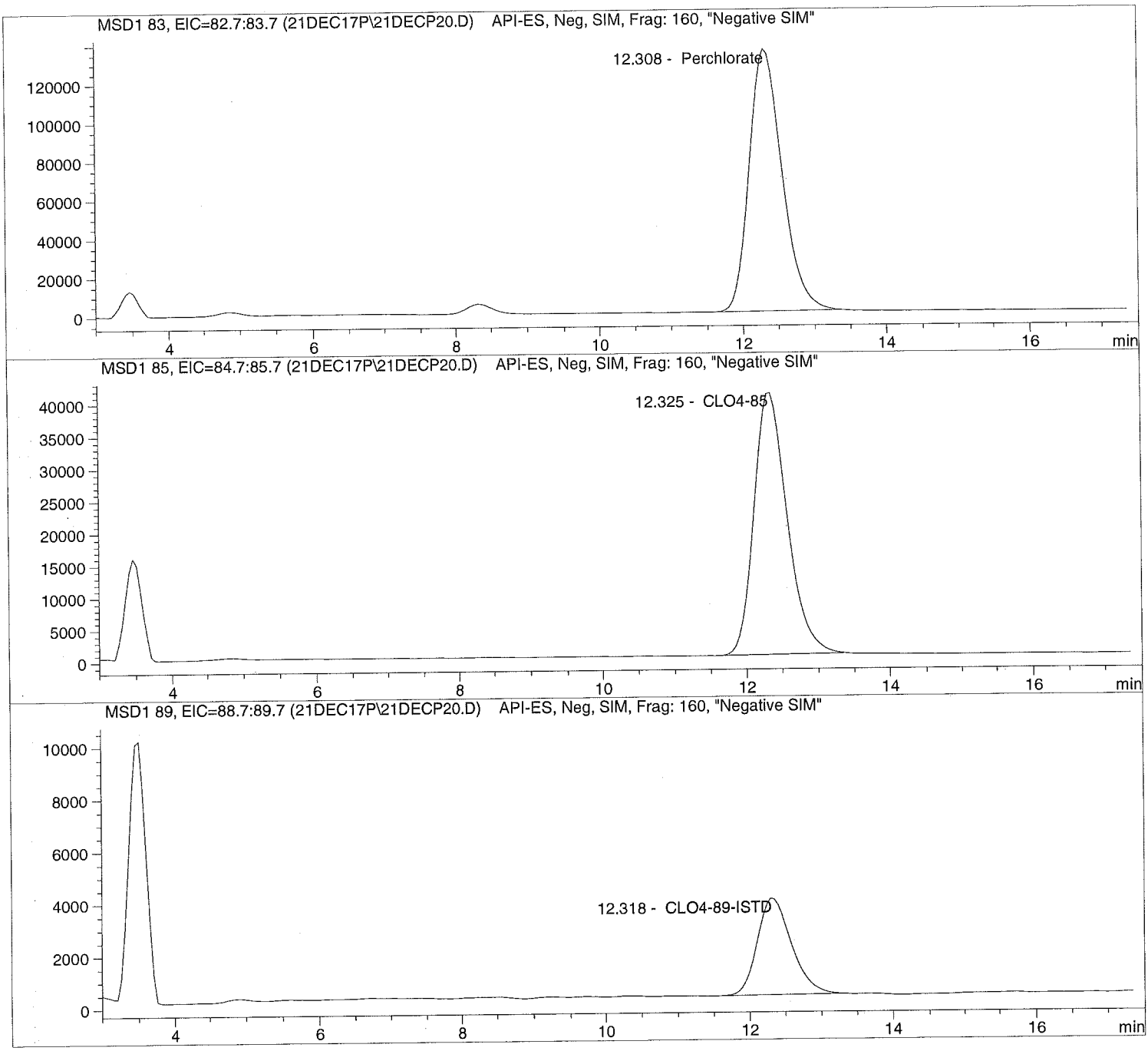
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP20.D Sample Name: 1735429011

Injection Date:	12/21/2017 21:59:03	Seq Line:	20
Sample Name:	1735429011	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP20.D Sample Name: 1735429011

Injection Date:	12/21/2017 21:59:03	Seq Line:	20
Sample Name:	1735429011	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.308	PBA	4302502.5	104.9600	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.325	PBA	1304157.7	106.9582	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.318	PBA	121935.0	5.0000	CLO4-89-ISTD

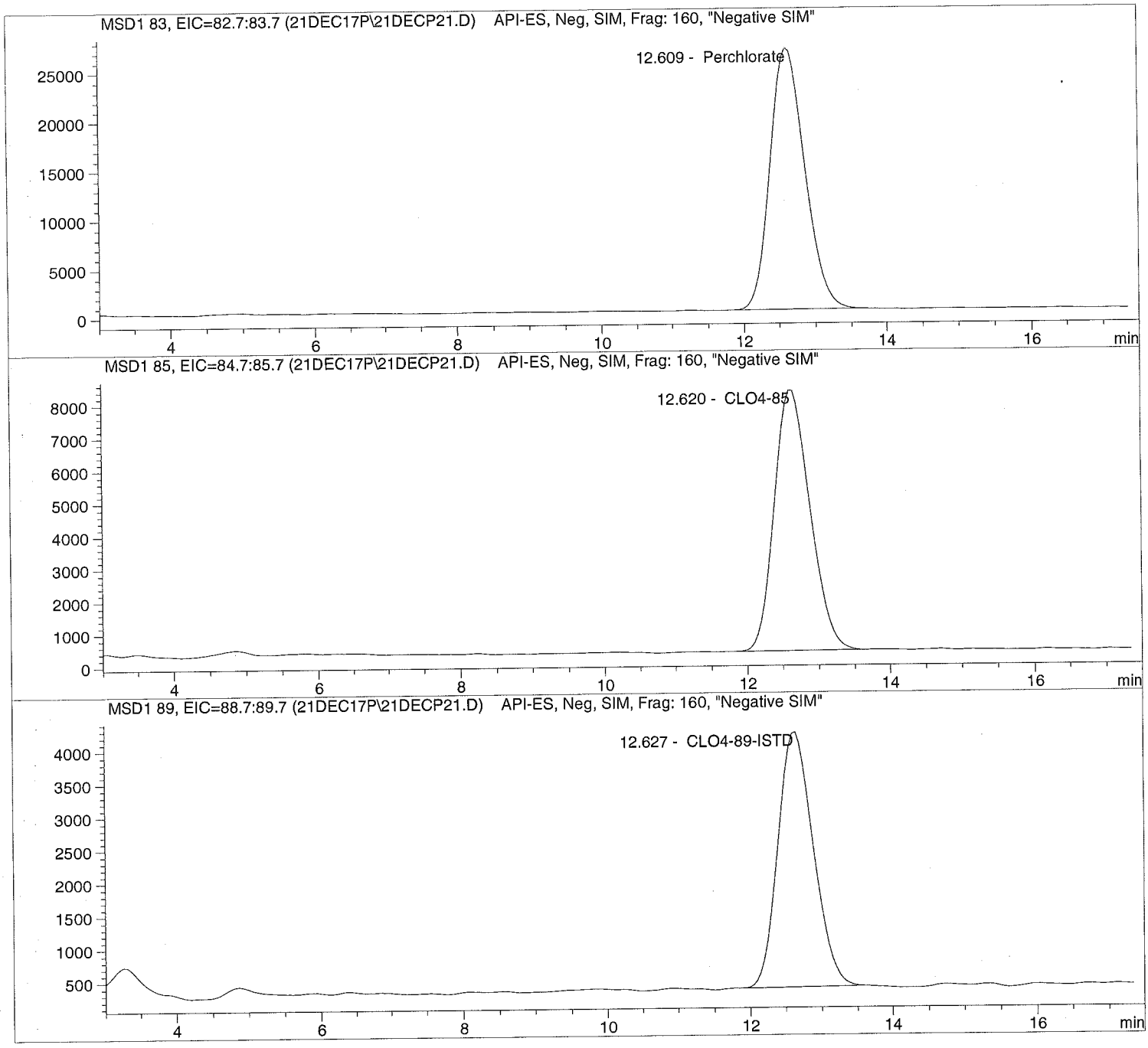
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP21.D Sample Name: 580554 CCV@25

Injection Date:	12/21/2017 22:18:14	Seq Line:	21
Sample Name:	580554 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP21.D Sample Name: 580554 CCV@25

Injection Date:	12/21/2017 22:18:14	Seq Line:	21
Sample Name:	580554 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.609	PBA	894067.5	27.4686	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.620	BBA	275792.1	26.9593	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.627	BBA	131857.2	5.0000	CLO4-89-ISTD

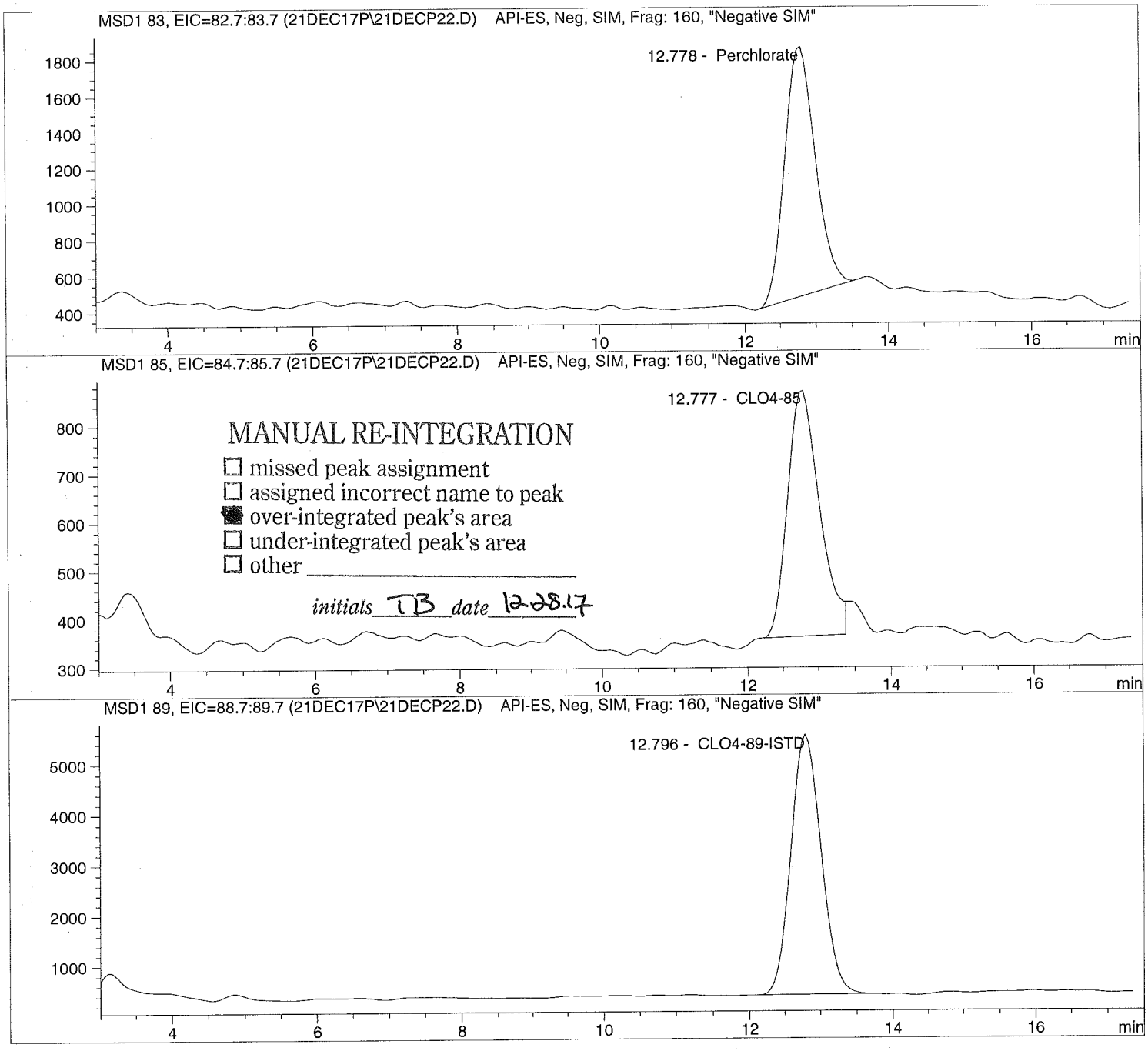
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP22.D Sample Name: 580555 LODV@1.

Injection Date:	12/21/2017 22:37:23	Seq Line:	22
Sample Name:	580555 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP22.D Sample Name: 580555 LODV@1.

Injection Date:	12/21/2017 22:37:23	Seq Line:	22
Sample Name:	580555 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.778	PBA	41748.3	1.2905	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.777	MF	15986.7	1.3039	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.796	PBA	151981.7	5.0000	CLO4-89-ISTD

*** End of Report ***

Sequence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\DEC\21DEC17B.S

Sequence Table:

Method and Injection Info Part:

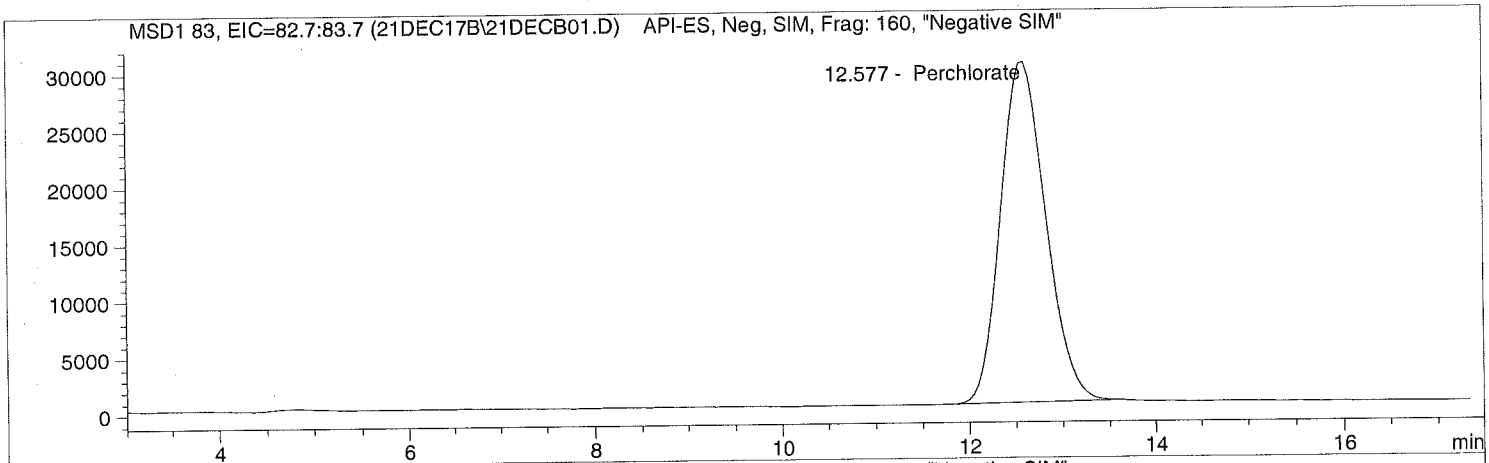
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	580612 CCV@25	CLO4-DOD	1	Ctrl Samp		
2	Vial 81	1735429002 1K	CLO4-DOD	1	Sample		
3	Vial 82	1735429003 10K	CLO4-DOD	1	Sample		
4	Vial 83	1735429004 100	CLO4-DOD	1	Sample		
5	Vial 84	1735429005 1K	CLO4-DOD	1	Sample		
6	Vial 85	1735429007 1K	CLO4-DOD	1	Sample		
7	Vial 86	1735429009 10K	CLO4-DOD	1	Sample		
8	Vial 87	1735429010 10K	CLO4-DOD	1	Sample		
9	Vial 88	1735429011 10X	CLO4-DOD	1	Sample		
10	Vial 71	580613 CCV@25	CLO4-DOD	1	Ctrl Samp		

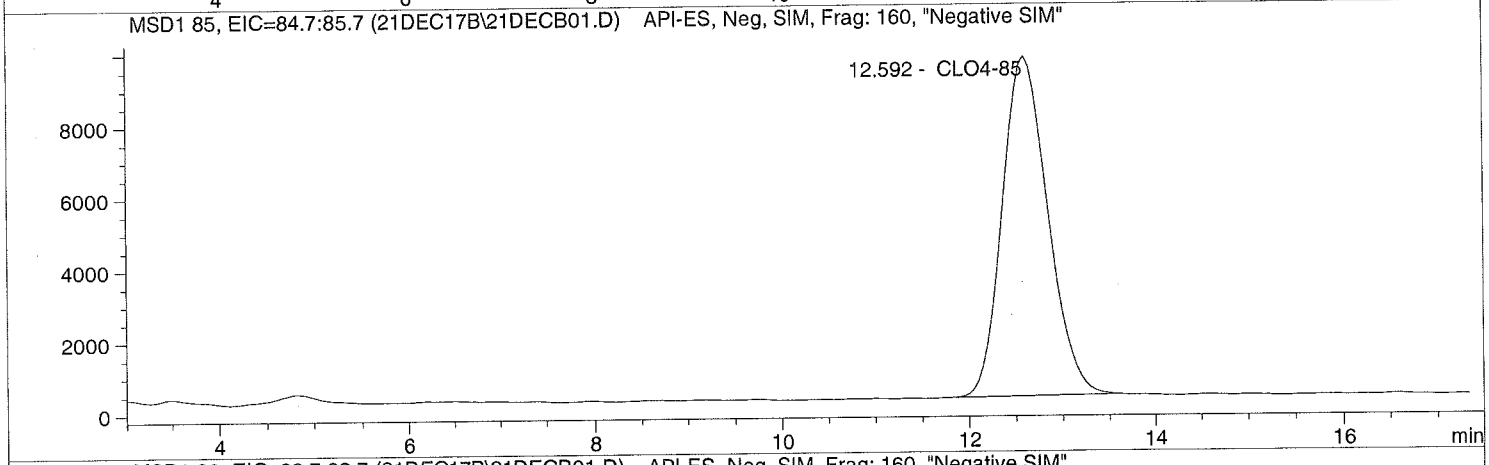
Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB01.D Sample Name: 580612 CCV@25

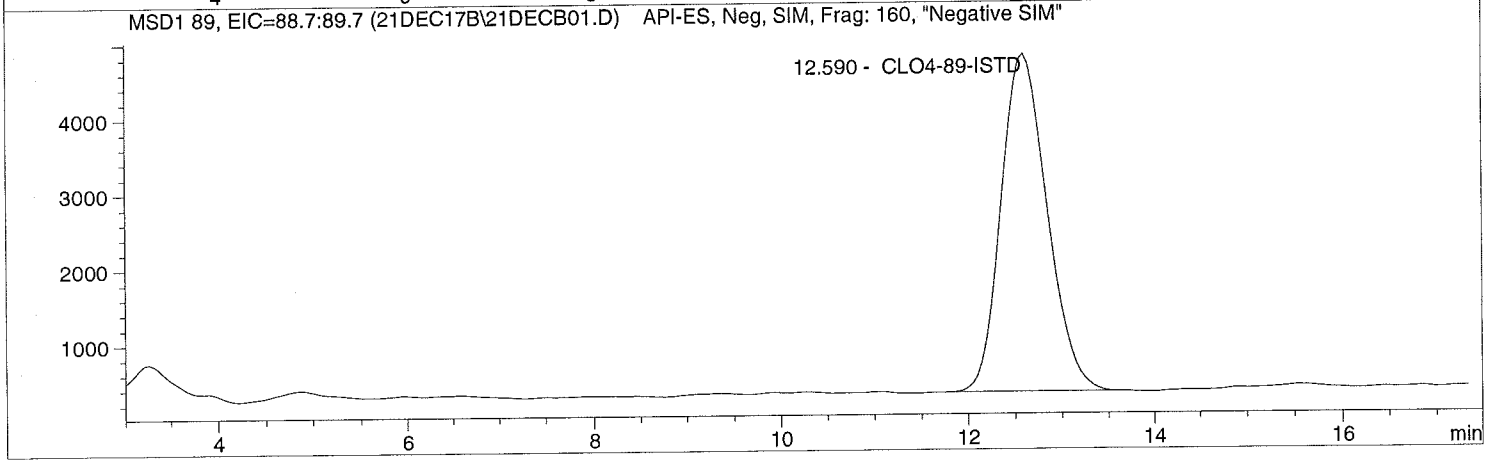
Injection Date:	12/22/2017 08:06:38	Seq Line:	1
Sample Name:	580612 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB01.D Sample Name: 580612 CCV@25

Injection Date:	12/22/2017 08:06:38	Seq Line:	1
Sample Name:	580612 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.577	PBA	1003234.6	26.6837	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.592	BBA	319556.5	26.9446	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.590	BBA	152872.4	5.0000	CLO4-89-ISTD

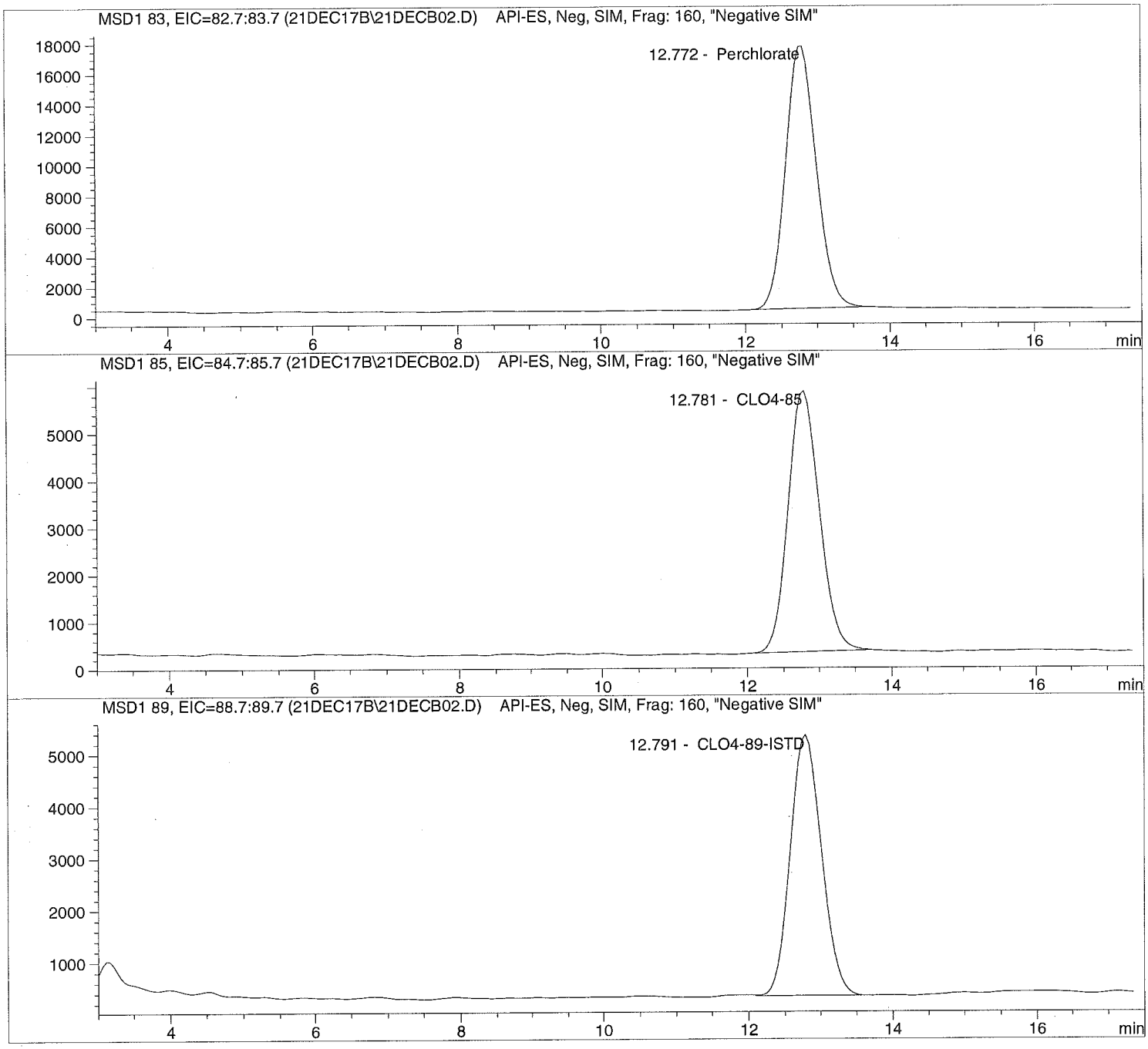
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB02.D Sample Name: 1735429002 1K

Injection Date:	12/22/2017 08:26:44	Seq Line:	2
Sample Name:	1735429002 1K	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB02.D Sample Name: 1735429002 1K

Injection Date:	12/22/2017 08:26:44	Seq Line:	2
Sample Name:	1735429002 1K	Location:	Vial 81
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1000.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.772	PBA	521419.9	14670.3403	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.781	BBA	169917.3	14871.0804	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.791	BBA	153232.2	5000.0000	CLO4-89-ISTD

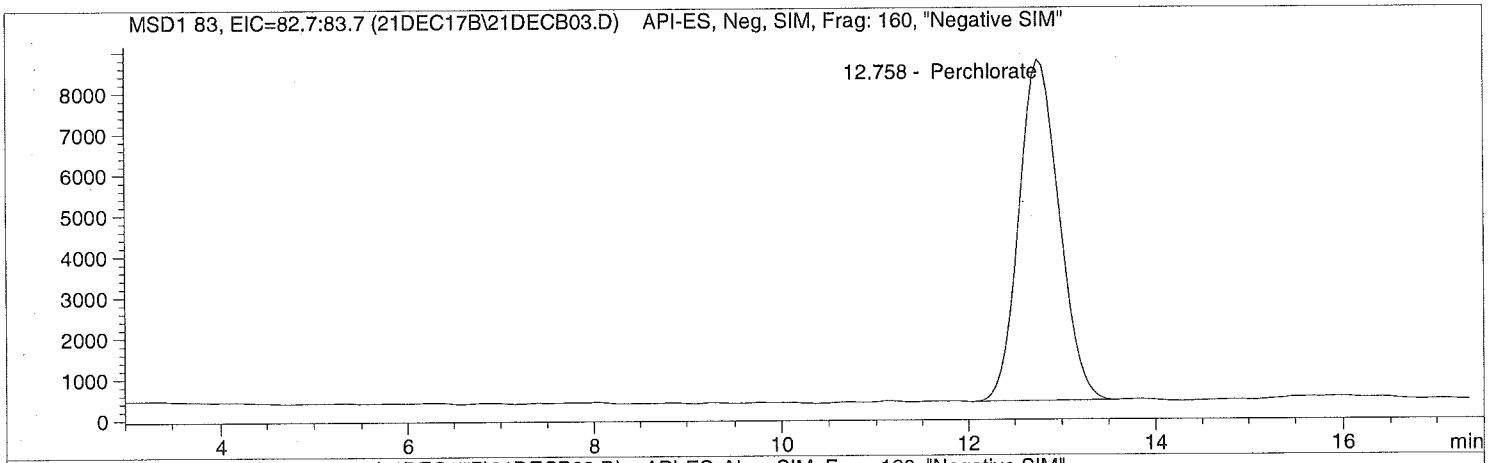
*** End of Report ***

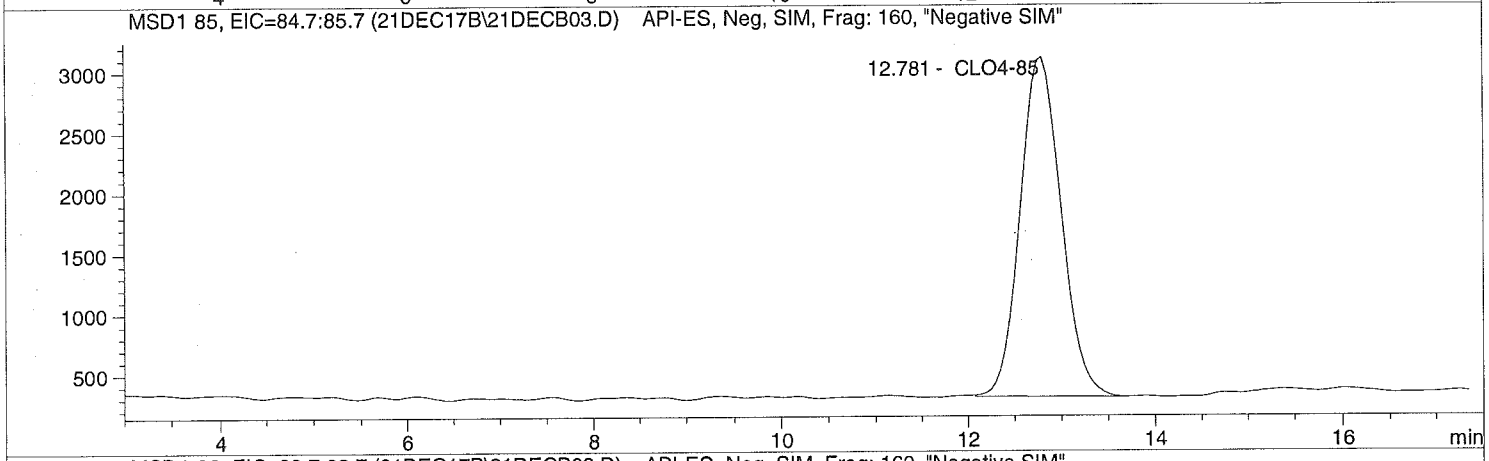
Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB03.D Sample Name: 1735429003 10K

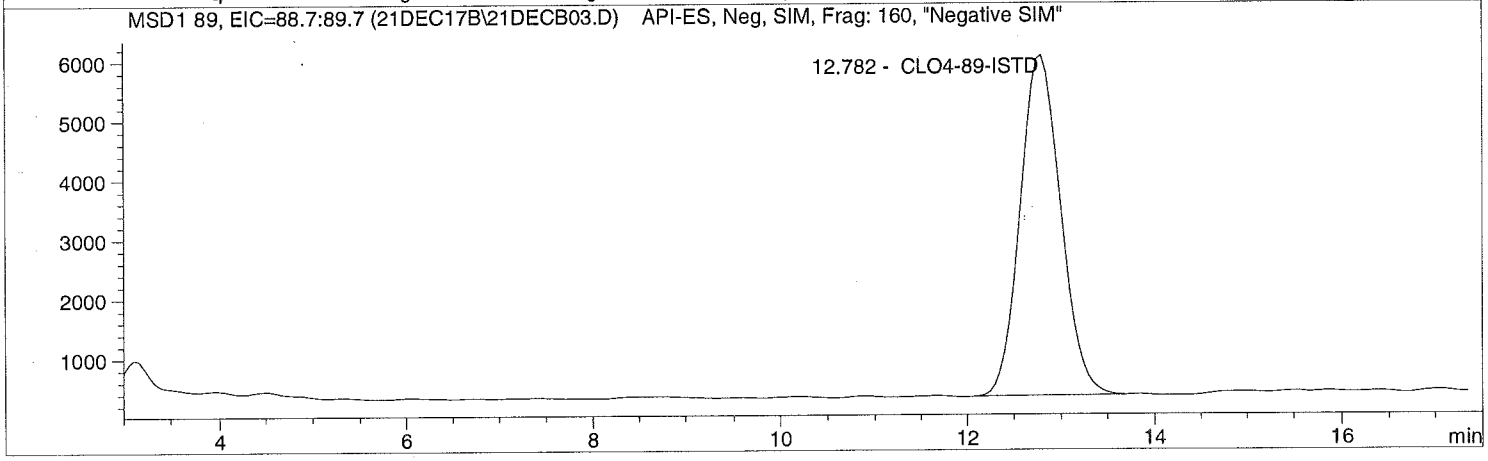
Injection Date:	12/22/2017 08:45:53	Seq Line:	3
Sample Name:	1735429003 10K	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB03.D Sample Name: 1735429003 10K

Injection Date:	12/22/2017 08:45:53	Seq Line:	3
Sample Name:	1735429003 10K	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	10000.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.758	PBA	248028.1	64878.8316	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.781	BBA	85364.1	67557.1770	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.782	PBA	172139.8	50000.0000	CLO4-89-ISTD

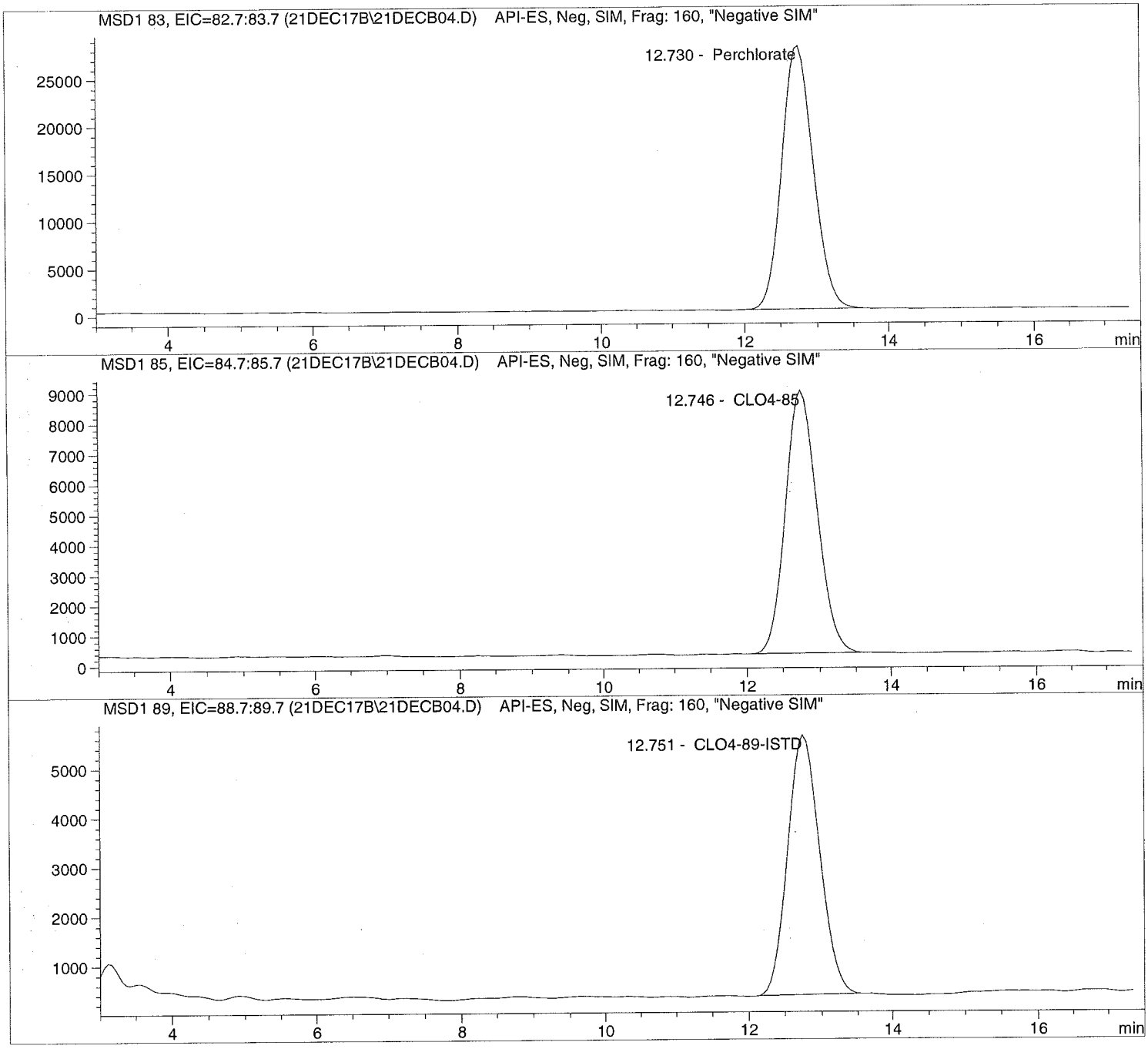
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB04.D Sample Name: 1735429004 100

Injection Date:	12/22/2017 09:05:02	Seq Line:	4
Sample Name:	1735429004 100	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB04.D Sample Name: 1735429004 100

Injection Date:	12/22/2017 09:05:02	Seq Line:	4
Sample Name:	1735429004 100	Location:	Vial 83
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	100.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.730	BBA	828018.9	2156.1096	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.746	PBA	260528.8	2138.5708	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.751	PBA	160016.4	500.0000	CLO4-89-ISTD

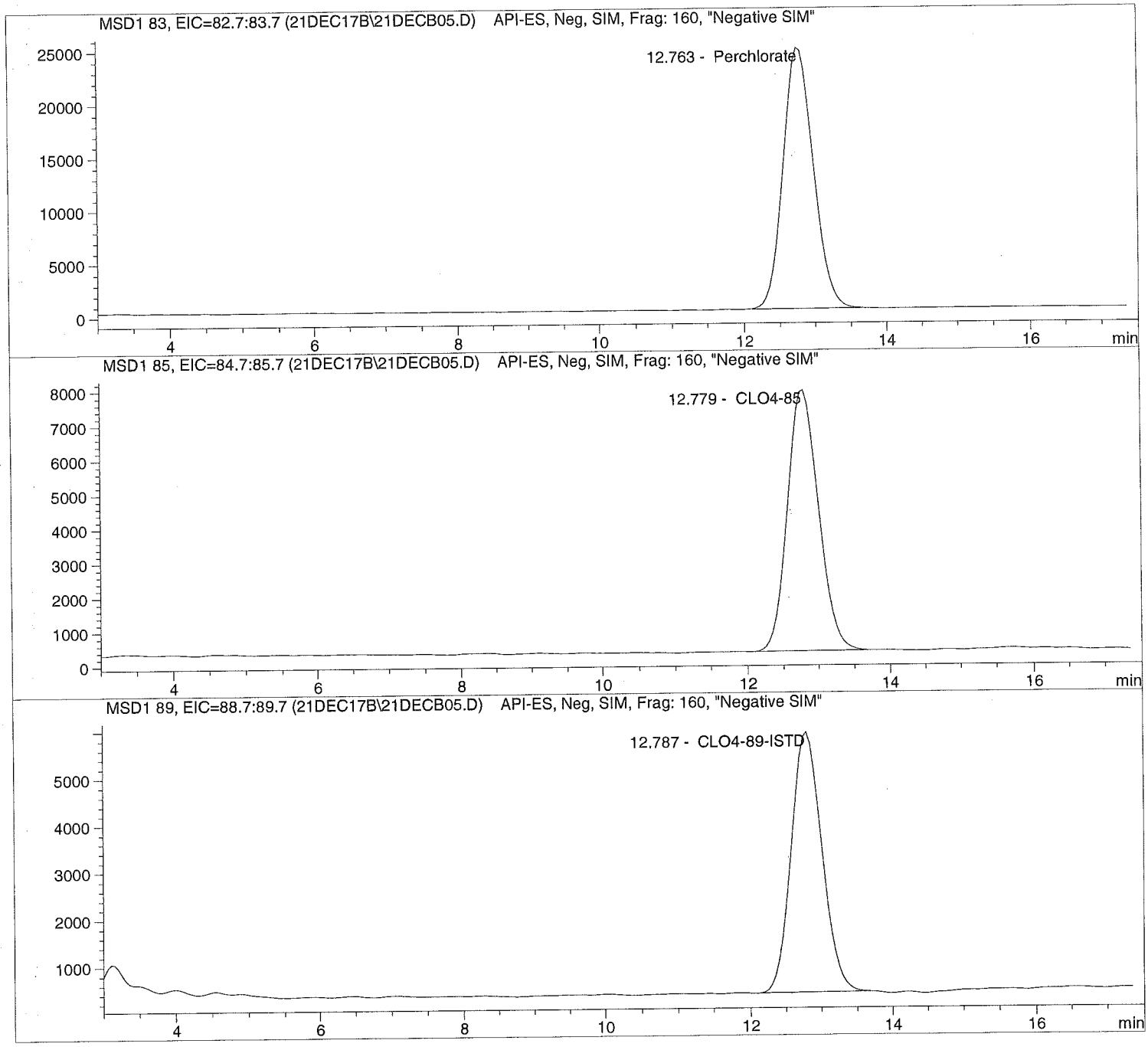
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB05.D Sample Name: 1735429005 1K

Injection Date:	12/22/2017 09:24:12	Seq Line:	5
Sample Name:	1735429005 1K	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB05.D Sample Name: 1735429005 1K

Injection Date:	12/22/2017 09:24:12	Seq Line:	5
Sample Name:	1735429005 1K	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1000.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.763	BBA	733247.3	18540.1234	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.779	PBA	233036.2	18478.3169	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.787	PBA	167241.2	5000.0000	CLO4-89-ISTD

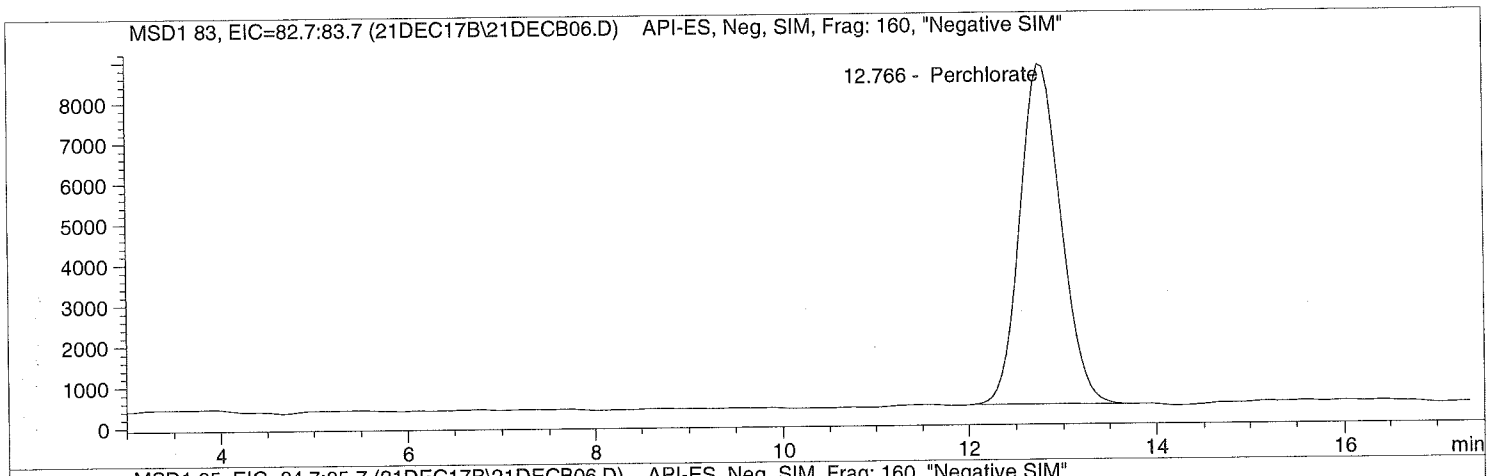
*** End of Report ***

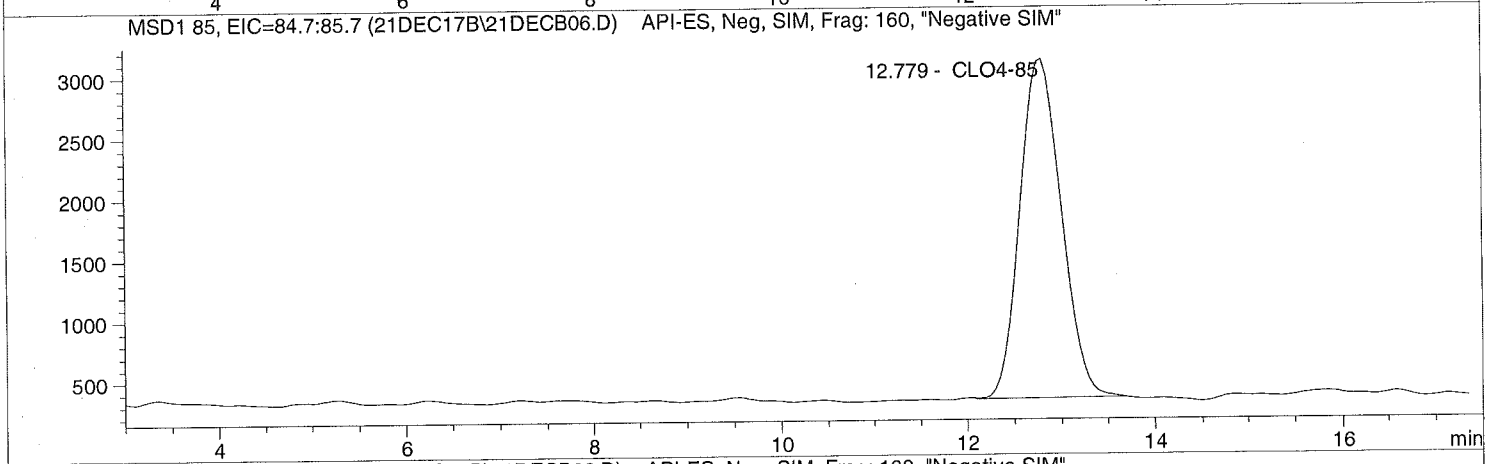
Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB06.D Sample Name: 1735429007 1K

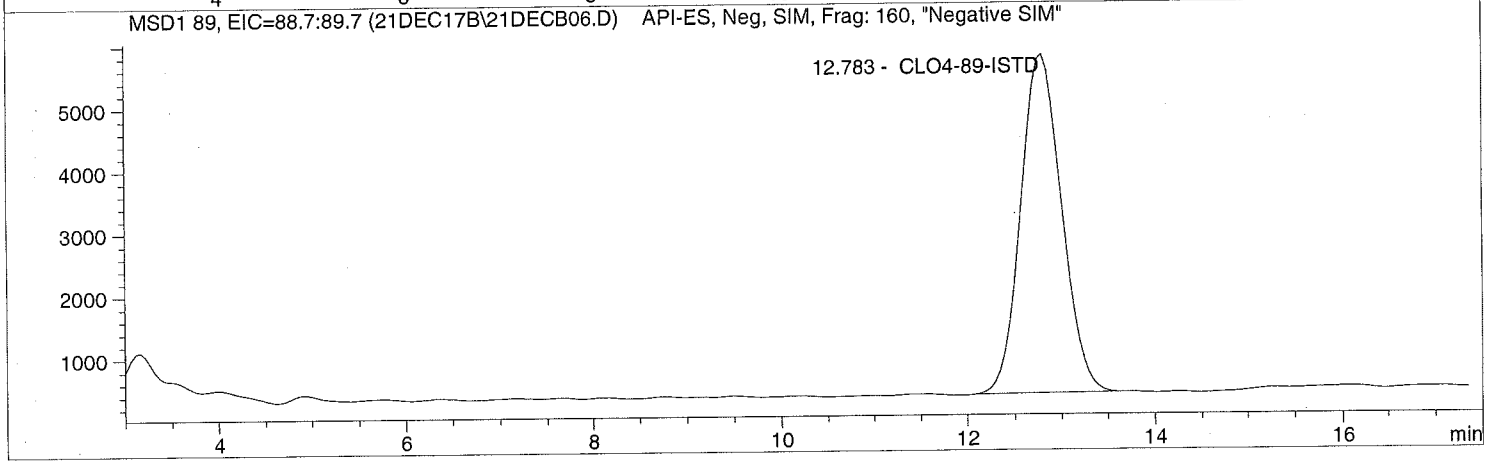
Injection Date:	12/22/2017 09:43:21	Seq Line:	6
Sample Name:	1735429007 1K	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB06.D Sample Name: 1735429007 1K

Injection Date:	12/22/2017 09:43:21	Seq Line:	6
Sample Name:	1735429007 1K	Location:	Vial 85
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1000.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.766	BBA	252507.8	6921.5430	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.779	BBA	85341.0	7095.4244	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.783	PBA	163863.3	5000.0000	CLO4-89-ISTD

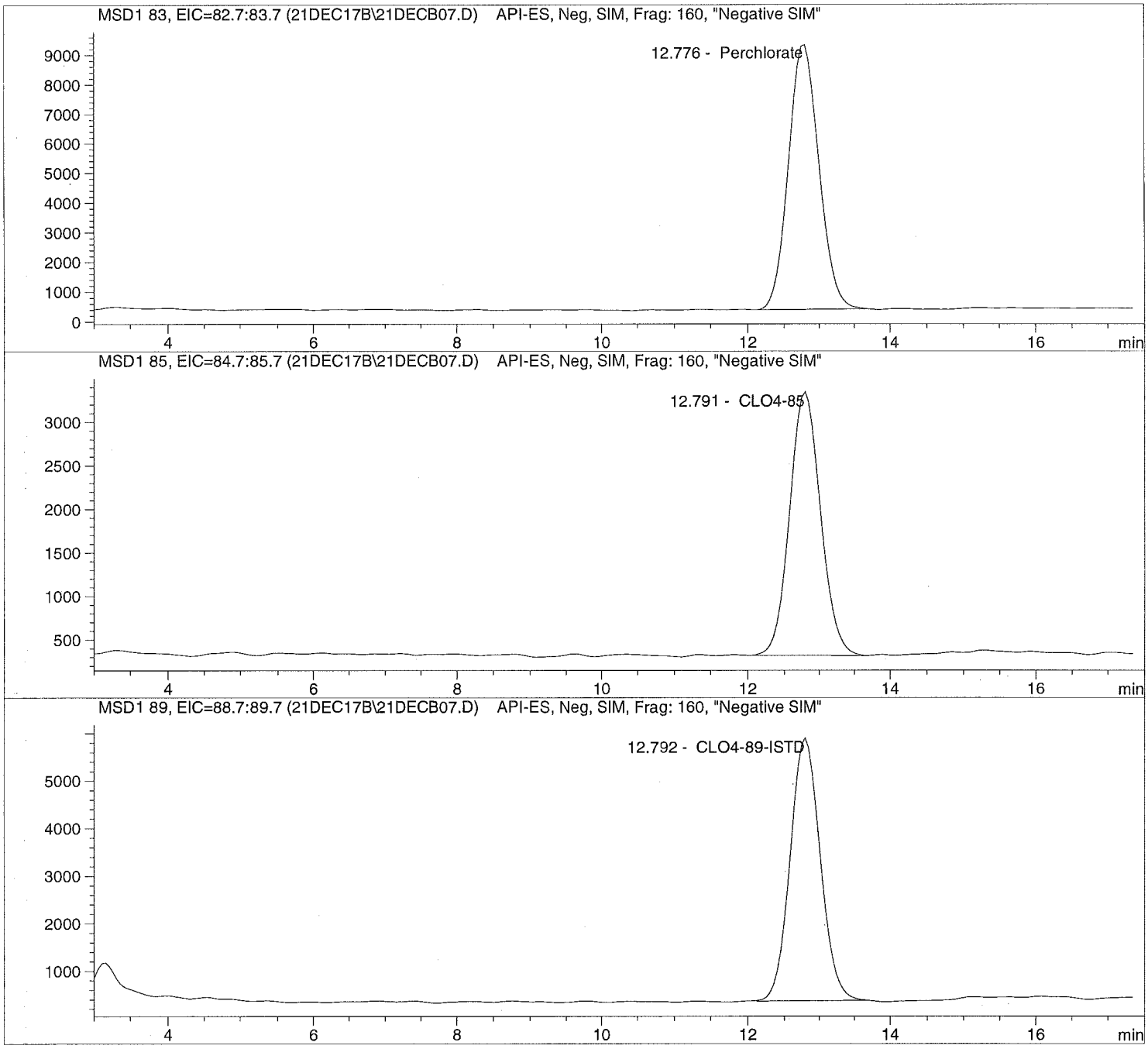
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB07.D Sample Name: 1735429009 10K

Injection Date:	12/22/2017 10:02:31	Seq Line:	7
Sample Name:	1735429009 10K	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB07.D Sample Name: 1735429009 10K

Injection Date:	12/22/2017 10:02:31	Seq Line:	7
Sample Name:	1735429009 10K	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	10000.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.776	PBA	270372.9	73056.9338	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.791	PBA	92986.8	76362.5504	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.792	BBA	165871.7	50000.0000	CLO4-89-ISTD

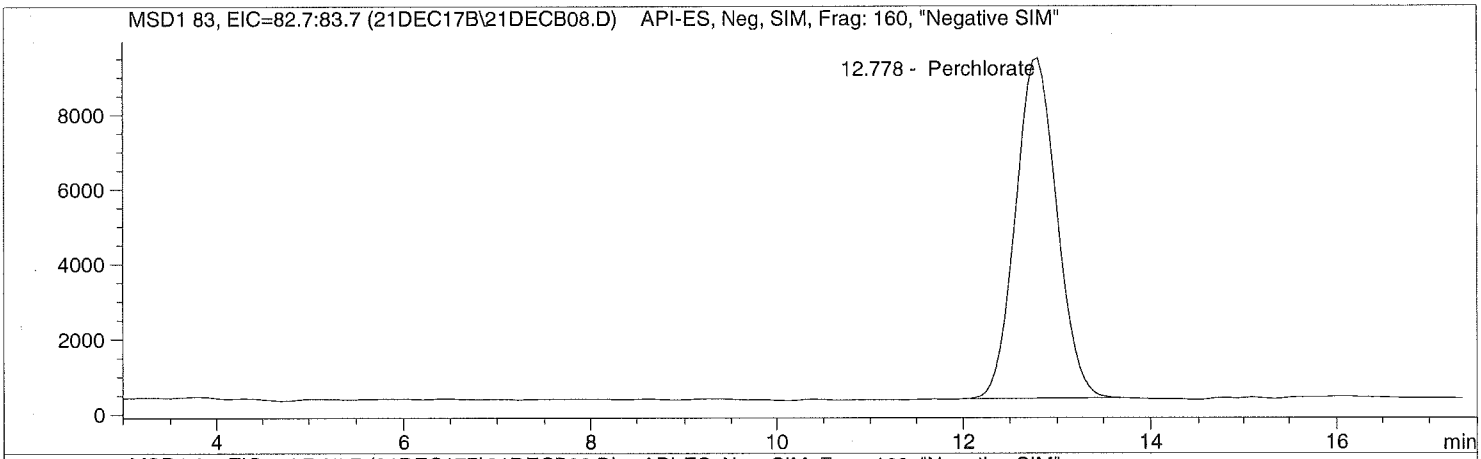
*** End of Report ***

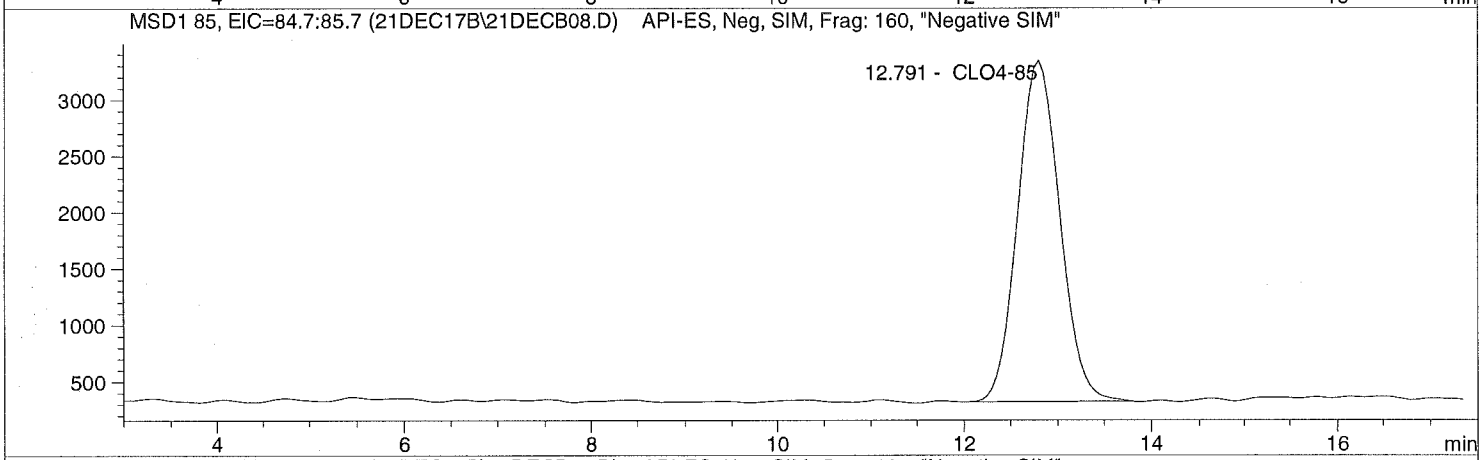
Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB08.D Sample Name: 1735429010 10K

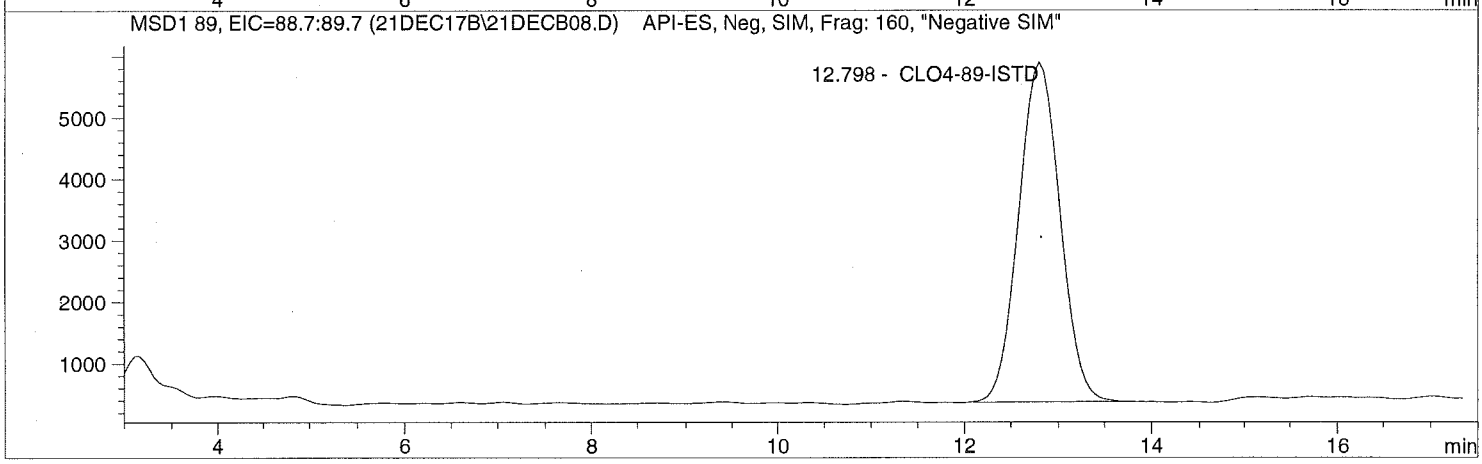
Injection Date:	12/22/2017 10:21:42	Seq Line:	8
Sample Name:	1735429010 10K	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB08.D Sample Name: 1735429010 10K

Injection Date:	12/22/2017 10:21:42	Seq Line:	8
Sample Name:	1735429010 10K	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	10000.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.778	BBA	276749.1	73454.5730	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.791	BBA	94245.9	76043.1616	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.798	PBA	168826.8	50000.0000	CLO4-89-ISTD

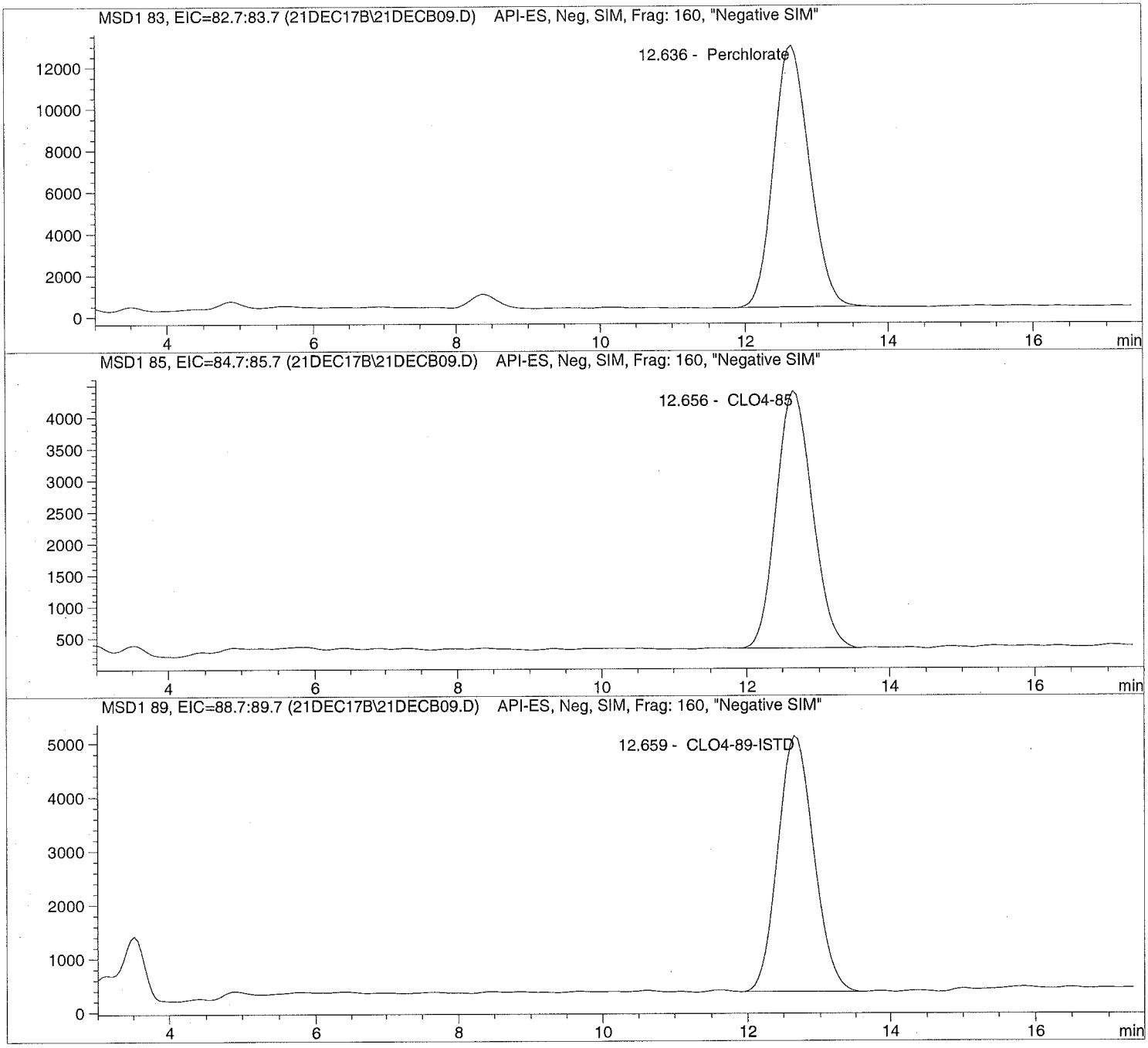
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB09.D Sample Name: 1735429011 10X

Injection Date:	12/22/2017 10:40:53	Seq Line:	9
Sample Name:	1735429011 10X	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB09.D Sample Name: 1735429011 10X

Injection Date:	12/22/2017 10:40:53	Seq Line:	9
Sample Name:	1735429011 10X	Location:	Vial 88
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	10.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.636	PBA	429190.9	115.7745	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.656	PBA	140489.8	117.0378	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.659	PBA	162382.3	50.0000	CLO4-89-ISTD

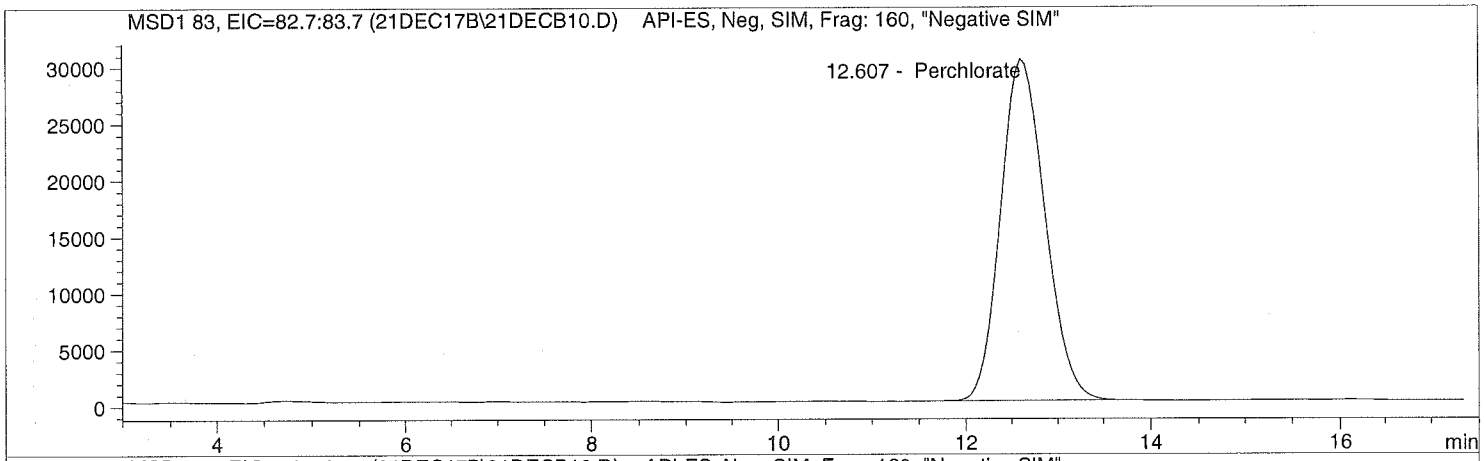
*** End of Report ***

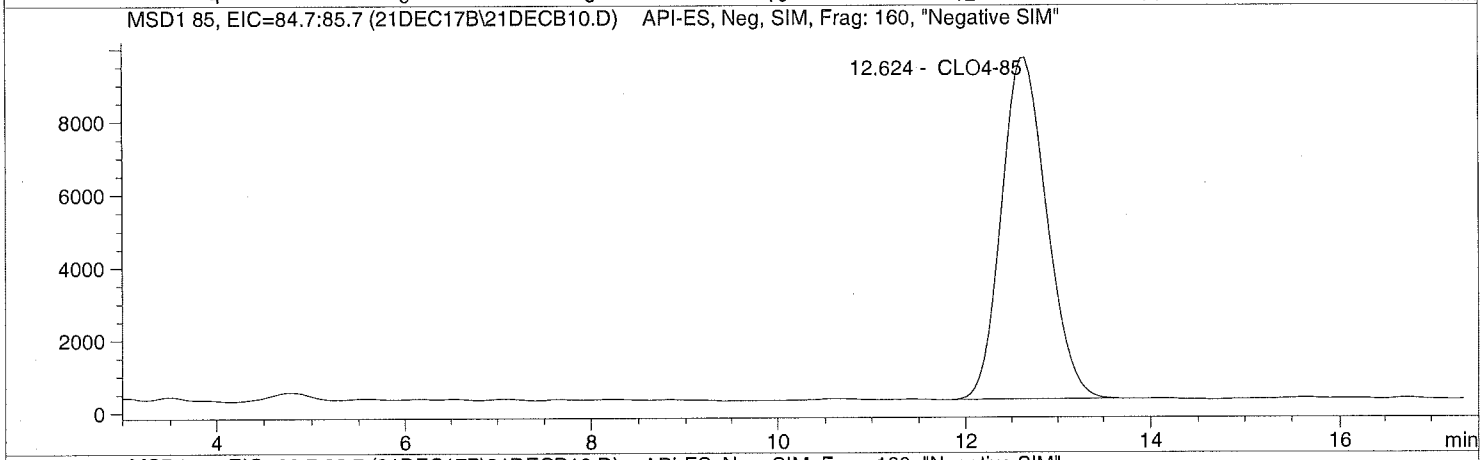
Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB10.D Sample Name: 580613 CCV@25

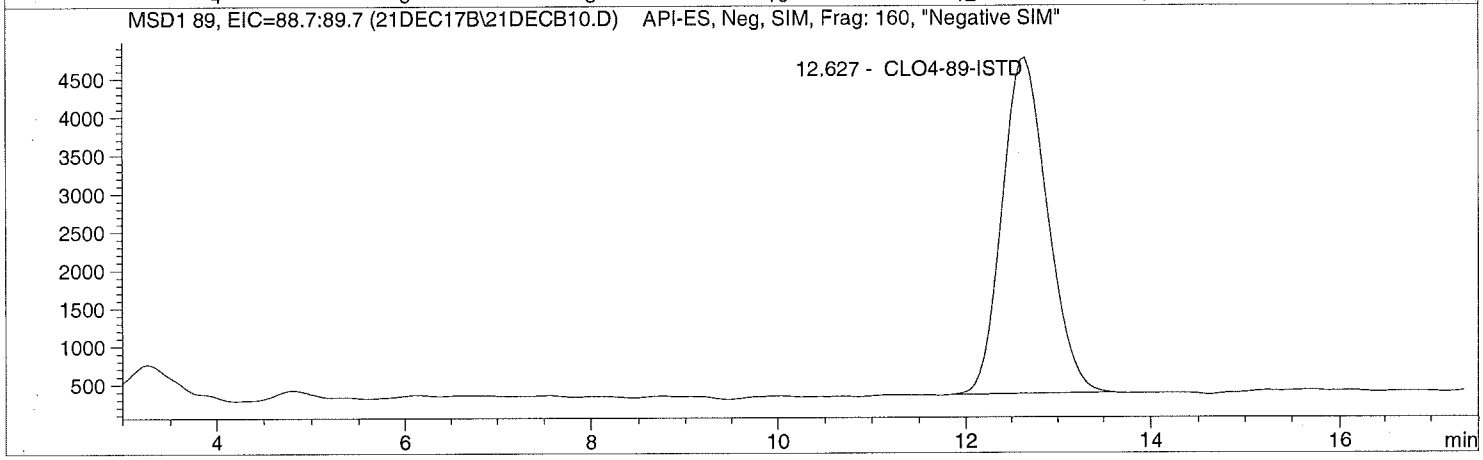
Injection Date:	12/22/2017 11:00:03	Seq Line:	10
Sample Name:	580613 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17B\21DECB10.D Sample Name: 580613 CCV@25

Injection Date:	12/22/2017 11:00:03	Seq Line:	10
Sample Name:	580613 CCV@25	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.607	BBA	1016174.4	27.1963	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.624	PBA	322729.0	27.4046	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.627	PBA	151559.9	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

Initial Calibration

ethod C:\HPCHEM\1\METHODS\CLO4-DPR.M

Calibration Table

Perchlorate

Calib. Data Modified : 11/29/2017 8:02:06 AM

Calculate : Internal Standard
Based on : Peak Area

Rel. Reference Window : 20.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 20.000 %
Abs. Non-ref. Window : 0.000 min
Use Multiplier & Dilution Factor with ISTDs
Uncalibrated Peaks : not reported
Partial Calibration : No recalibration if peaks missing

Curve Type : Quadratic (some peaks differ, see below)
Origin : Ignored (some peaks differ, see below)
Weight : Linear (Amnt) (some peaks differ, see below)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Default Sample ISTD Information (if not set in sample table):

ISTD #	ISTD Amount	Name
1	5.00000	CLO4-89-ISTD

Signal 1: MSD1 83, EIC=82.7:83.7
Signal 2: MSD1 85, EIC=84.7:85.7
Signal 3: MSD1 89, EIC=88.7:89.7

RetTime [min]	Sig	Lvl	Amount	Area	Amt/Area	Ref	Grp	Name
12.090	1	1	1.00000	4.10942e4	2.43343e-5		1	Perchlorate
		2	2.00000	7.74077e4	2.58372e-5			
		3	5.00000	1.92985e5	2.59088e-5			
		4	10.00000	3.91583e5	2.55374e-5			
		5	25.00000	1.09763e6	2.27764e-5			
		6	50.00000	2.29834e6	2.17549e-5			
		7	75.00000	3.73021e6	2.01061e-5			
12.106	2	1	1.00000	1.56787e4	6.37808e-5		1	CLO4-85
		2	2.00000	2.80487e4	7.13046e-5			
		3	5.00000	6.51323e4	7.67668e-5			
		4	10.00000	1.31325e5	7.61471e-5			
		5	25.00000	3.46913e5	7.20642e-5			
		6	50.00000	6.96156e5	7.18230e-5			
		7	75.00000	1.13077e6	6.63264e-5			
12.107	3	1	5.00000	1.88880e5	2.64718e-5	+I1		CLO4-89-ISTD
		2	5.00000	1.81109e5	2.76076e-5			
		3	5.00000	1.75128e5	2.85505e-5			
		4	5.00000	1.80962e5	2.76301e-5			
		5	5.00000	1.75597e5	2.84743e-5			
		6	5.00000	1.69148e5	2.95599e-5			
		7	5.00000	1.64867e5	3.03275e-5			

ethod C:\HPCHEM\1\METHODS\CLO4-DPR.M

More compound-specific settings:

Compound: Perchlorate
- Time Window : From 8.390 min To 13.052 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.2
  - Level 4 : 0.1
  - Level 5 : 0.04
  - Level 6 : 0.02
  - Level 7 : 0.013333

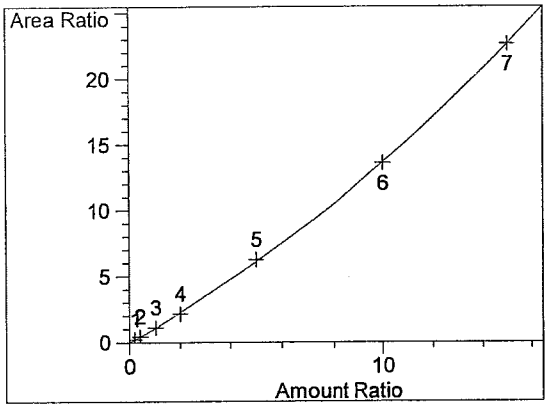
Compound: CLO4-85
- Time Window : From 8.366 min To 13.046 min
- Curve Type : Quadratic
- Origin : Ignored
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 0.5
  - Level 3 : 0.2
  - Level 4 : 0.1
  - Level 5 : 0.04
  - Level 6 : 0.02
  - Level 7 : 0.013333

Compound: CLO4-89-ISTD
- Time Window : From 8.457 min To 13.107 min
- Curve Type : Linear
- Origin : Included
- Calibration Level Weights:/
  - Level 1 : 1
  - Level 2 : 1
  - Level 3 : 1
  - Level 4 : 1
  - Level 5 : 1
  - Level 6 : 1
  - Level 7 : 1

Peak Sum Table

No Entries in table

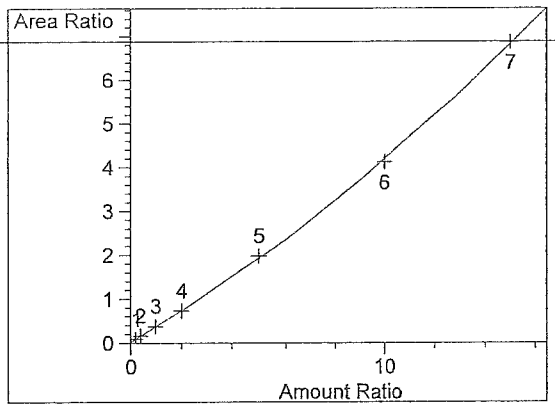
Calibration Curves



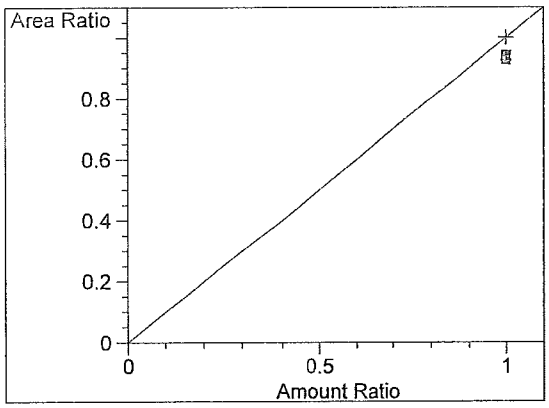
Perchlorate at exp. RT: 12.090
MSD1 83, EIC=82.7:83.7
Correlation: 0.99991
Residual Std. Dev.: 0.08487
Formula: $y = ax^2 + bx + c$
- a: 2.87739e-2
- b: 1.07712
- c: -5.23718e-3
- x: Amount Ratio
- y: Area Ratio

Calibration Level Weights:
- Level 1 : 1
- Level 2 : 0.5
- Level 3 : 0.2
- Level 4 : 0.1
- Level 5 : 0.04
- Level 6 : 0.02
- Level 7 : 0.013333

ethod C:\HPCHEM\1\METHODS\CLO4-DPR.M



CLO4-85 at exp. RT: 12.106
MSD1 85, EIC=84.7:85.7
Correlation: 0.99988
Residual Std. Dev.: 0.04548
Formula: $y = ax^2 + bx + c$
a: 7.12800e-3
b: 3.46840e-1
c: 1.42573e-2
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.5
Level 3 : 0.2
Level 4 : 0.1
Level 5 : 0.04
Level 6 : 0.02
Level 7 : 0.013333



CLO4-89-ISTD at exp. RT: 12.107
MSD1 89, EIC=88.7:89.7
Correlation: 1.00000
Residual Std. Dev.: 0.00000
Formula: $y = mx + b$
m: 1.00000
b: 0.00000
x: Amount Ratio
y: Area Ratio
Calibration Level Weights:
Level 1 : 1
Level 2 : 1
Level 3 : 1
Level 4 : 1
Level 5 : 1
Level 6 : 1
Level 7 : 1

Batch Report: C:\HPCHEM\1\DATA\28NOV17P\28NOV17P.B

Batch Review Method:
C:\HPCHEM\1\METHODS\CLO4-DPR.M

['#' ==> Run has not been reprocessed with Batch Review Method
'*' ==> Run has been saved with batch file]

#	Sample	Location	Inj	SampleType	Run	Perchlorate Area	Perchlorate RT	Perchlorate Amount
*	ICAL1@ 1.0ug/L	Vial 71	1	Control	1	4.10942e4	12.029	1.02861
*	ICAL2@ 2.0ug/L	Vial 72	1	Control	2	7.74077e4	12.054	1.98725
*	ICAL3@ 5.0ug/L	Vial 73	1	Control	3	1.92985e5	12.090	5.00575
*	ICAL4@ 10.ug/L	Vial 74	1	Control	4	3.91583e5	12.084	9.57892
*	ICAL5@ 25.ug/L	Vial 75	1	Control	5	1.09763e6	12.065	25.55231
*	ICAL6@ 50.ug/L	Vial 76	1	Control	6	2.29834e6	12.065	49.83164
*	ICAL7@ 75.ug/L	Vial 77	1	Control	7	3.73021e6	12.090	74.99992
*	ICAL Verf@10ug/L	Vial 78	1	Control	8	3.83615e5	12.163	9.59533

#	Sample	Location	Inj	SampleType	Run	CLO4-85 Area	CLO4-85 RT	CLO4-85 Amount
*	ICAL1@ 1.0ug/L	Vial 71	1	Control	1	1.56787e4	12.053	9.87106e-1
*	ICAL2@ 2.0ug/L	Vial 72	1	Control	2	2.80487e4	12.066	2.01046
*	ICAL3@ 5.0ug/L	Vial 73	1	Control	3	6.51323e4	12.106	5.05104
*	ICAL4@ 10.ug/L	Vial 74	1	Control	4	1.31325e5	12.101	9.85678
*	ICAL5@ 25.ug/L	Vial 75	1	Control	5	3.46913e5	12.084	25.58435
*	ICAL6@ 50.ug/L	Vial 76	1	Control	6	6.96156e5	12.080	49.18282
*	ICAL7@ 75.ug/L	Vial 77	1	Control	7	1.13077e6	12.106	75.33907
*	ICAL Verf@10ug/L	Vial 78	1	Control	8	1.31460e5	12.177	10.08554

#	Sample	Location	Inj	SampleType	Run	CLO4-89-ISTD Area	CLO4-89-ISTD RT	CLO4-89-ISTD Amount
*	ICAL1@ 1.0ug/L	Vial 71	1	Control	1	1.88880e5	12.050	5.00000
*	ICAL2@ 2.0ug/L	Vial 72	1	Control	2	1.81109e5	12.078	5.00000
*	ICAL3@ 5.0ug/L	Vial 73	1	Control	3	1.75128e5	12.110	5.00000
*	ICAL4@ 10.ug/L	Vial 74	1	Control	4	1.80962e5	12.109	5.00000
*	ICAL5@ 25.ug/L	Vial 75	1	Control	5	1.75597e5	12.084	5.00000
*	ICAL6@ 50.ug/L	Vial 76	1	Control	6	1.69148e5	12.086	5.00000
*	ICAL7@ 75.ug/L	Vial 77	1	Control	7	1.64867e5	12.107	5.00000
*	ICAL Verf@10ug/L	Vial 78	1	Control	8	1.76961e5	12.181	5.00000

*** End of Report ***

equence: C:\HPCHEM\1\SEQUENCE\CLO4\2017\NOV\28NOV17P.S

Sequence Table:

Method and Injection Info Part:

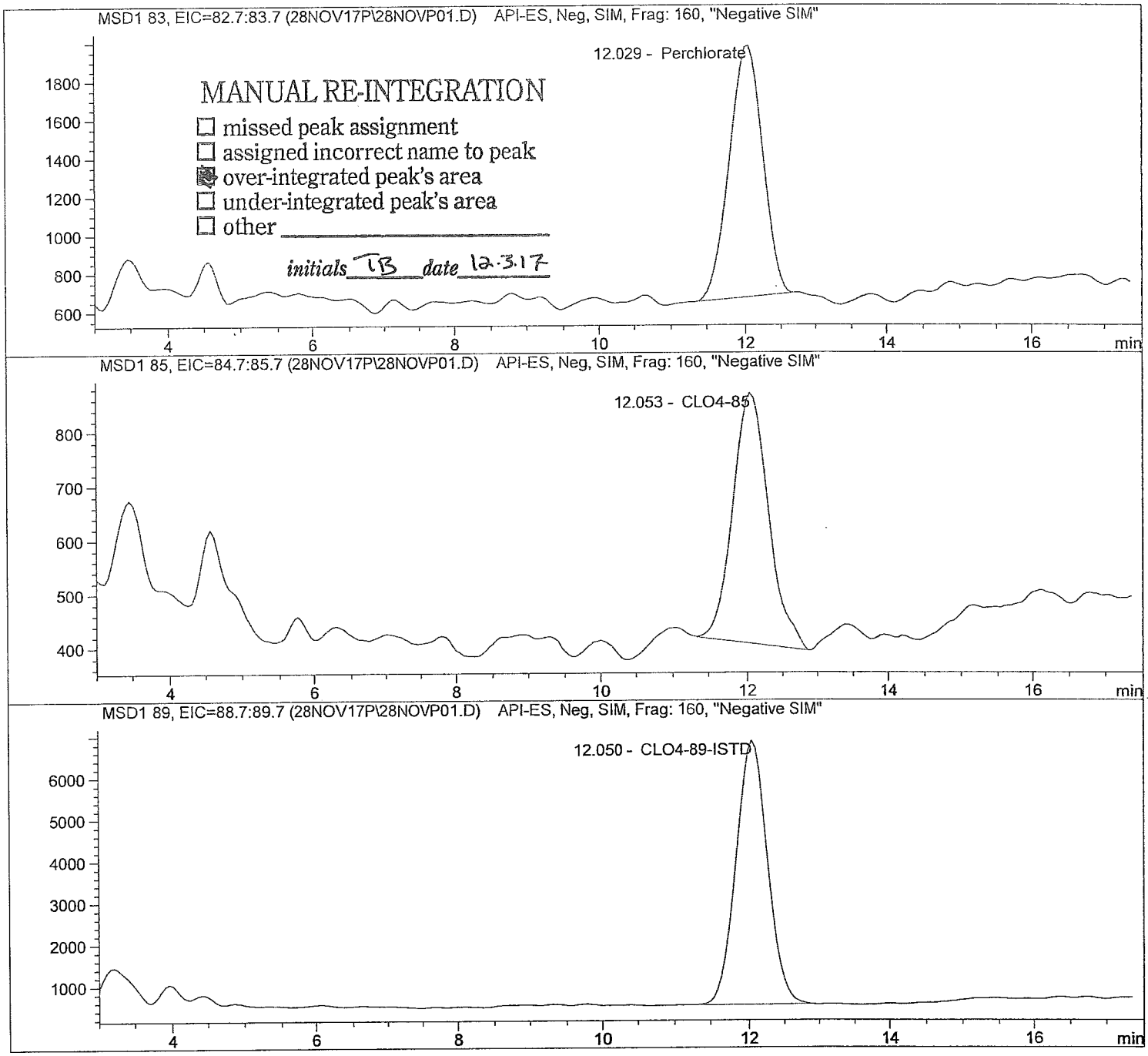
Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
1	Vial 71	ICAL1@ 1.0ug/L	CLO4-DOD	1	Ctrl Samp		
2	Vial 72	ICAL2@ 2.0ug/L	CLO4-DOD	1	Ctrl Samp		
3	Vial 73	ICAL3@ 5.0ug/L	CLO4-DOD	1	Ctrl Samp		
4	Vial 74	ICAL4@ 10.ug/L	CLO4-DOD	1	Ctrl Samp		
5	Vial 75	ICAL5@ 25.ug/L	CLO4-DOD	1	Ctrl Samp		
6	Vial 76	ICAL6@ 50.ug/L	CLO4-DOD	1	Ctrl Samp		
7	Vial 77	ICAL7@ 75.ug/L	CLO4-DOD	1	Ctrl Samp		
8	Vial 78	ICAL Verf@10ug/L	CLO4-DOD	1	Ctrl Samp		

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.029	MM	41094.2	1.0286	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.053	BBA	15678.7	0.9871	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.050	BBA	188880.3	5.0000	CLO4-89-ISTD

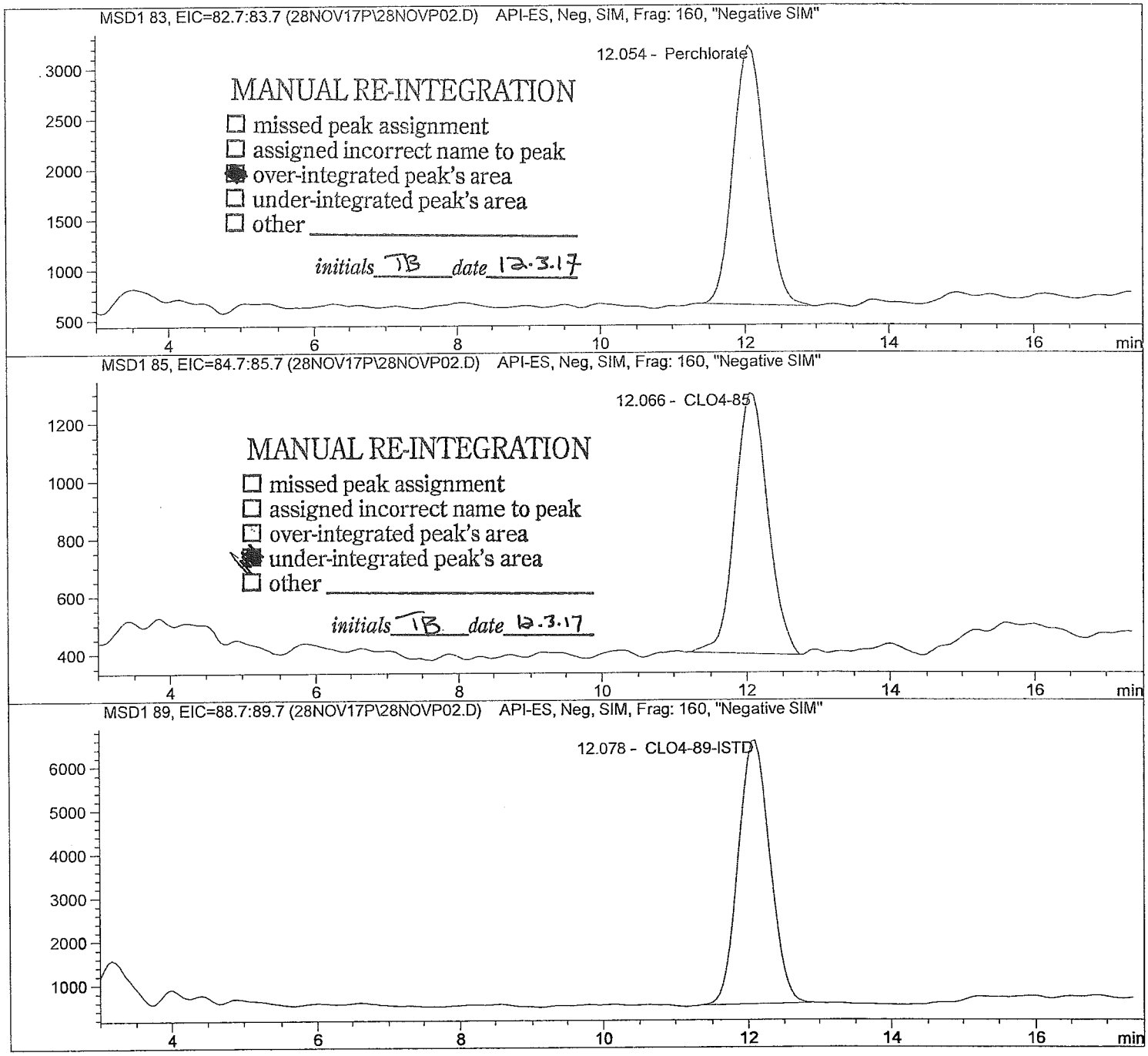
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	2.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.054	MM	77407.7	1.9872	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.066	MM	28048.7	2.0105	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.078	PBA	181109.4	5.0000	CLO4-89-ISTD

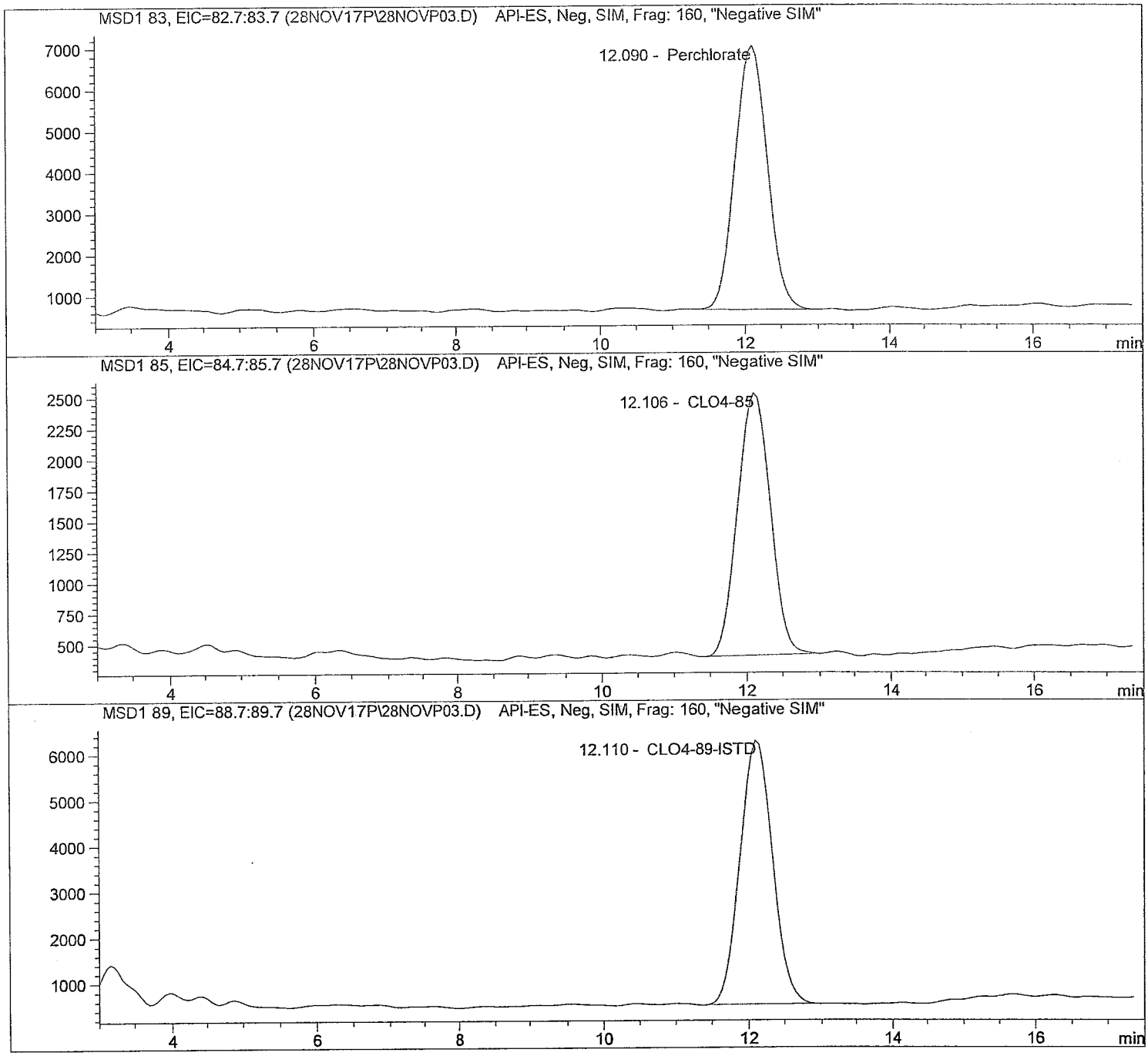
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP03.D Sample Name: ICAL3@ 5.0ug/L

Injection Date:	11/28/2017 09:53:00	Seq Line:	3
Sample Name:	ICAL3@ 5.0ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP03.D Sample Name: ICAL3@ 5.0ug/L

Injection Date:	11/28/2017 09:53:00	Seq Line:	3
Sample Name:	ICAL3@ 5.0ug/L	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	5.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.090	BBA	192984.6	5.0058	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.106	PBA	65132.3	5.0510	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.110	PBA	175128.5	5.0000	CLO4-89-ISTD

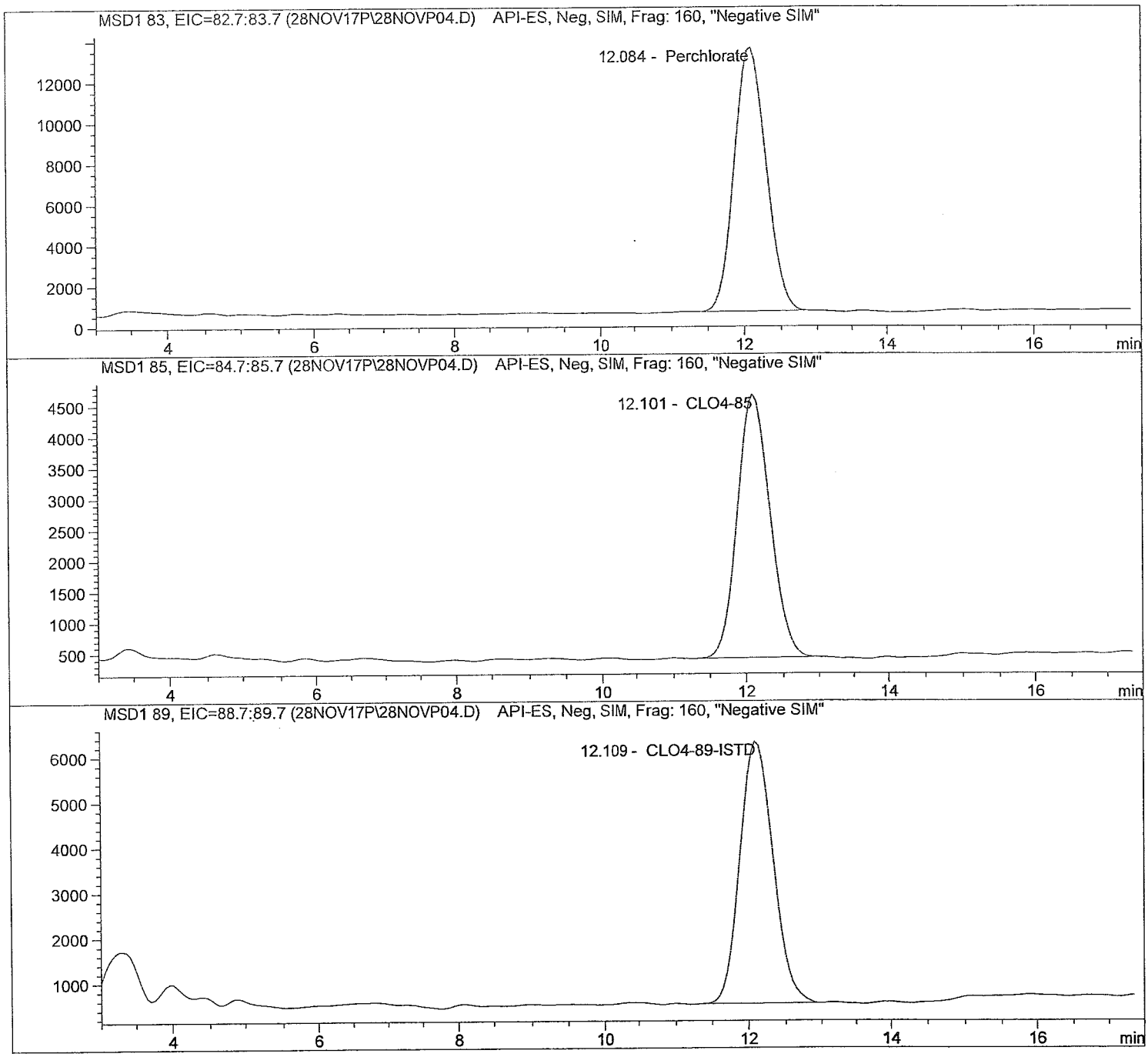
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP04.D Sample Name: ICAL4@ 10.ug/L

Injection Date:	11/28/2017 10:12:13	Seq Line:	4
Sample Name:	ICAL4@ 10.ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP04.D Sample Name: ICAL4@ 10.ug/L

Injection Date:	11/28/2017 10:12:13	Seq Line:	4
Sample Name:	ICAL4@ 10.ug/L	Location:	Vial 74
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	10.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	BBA	391582.9	9.5789	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.101	PBA	131324.7	9.8568	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.109	PBA	180962.1	5.0000	CLO4-89-ISTD

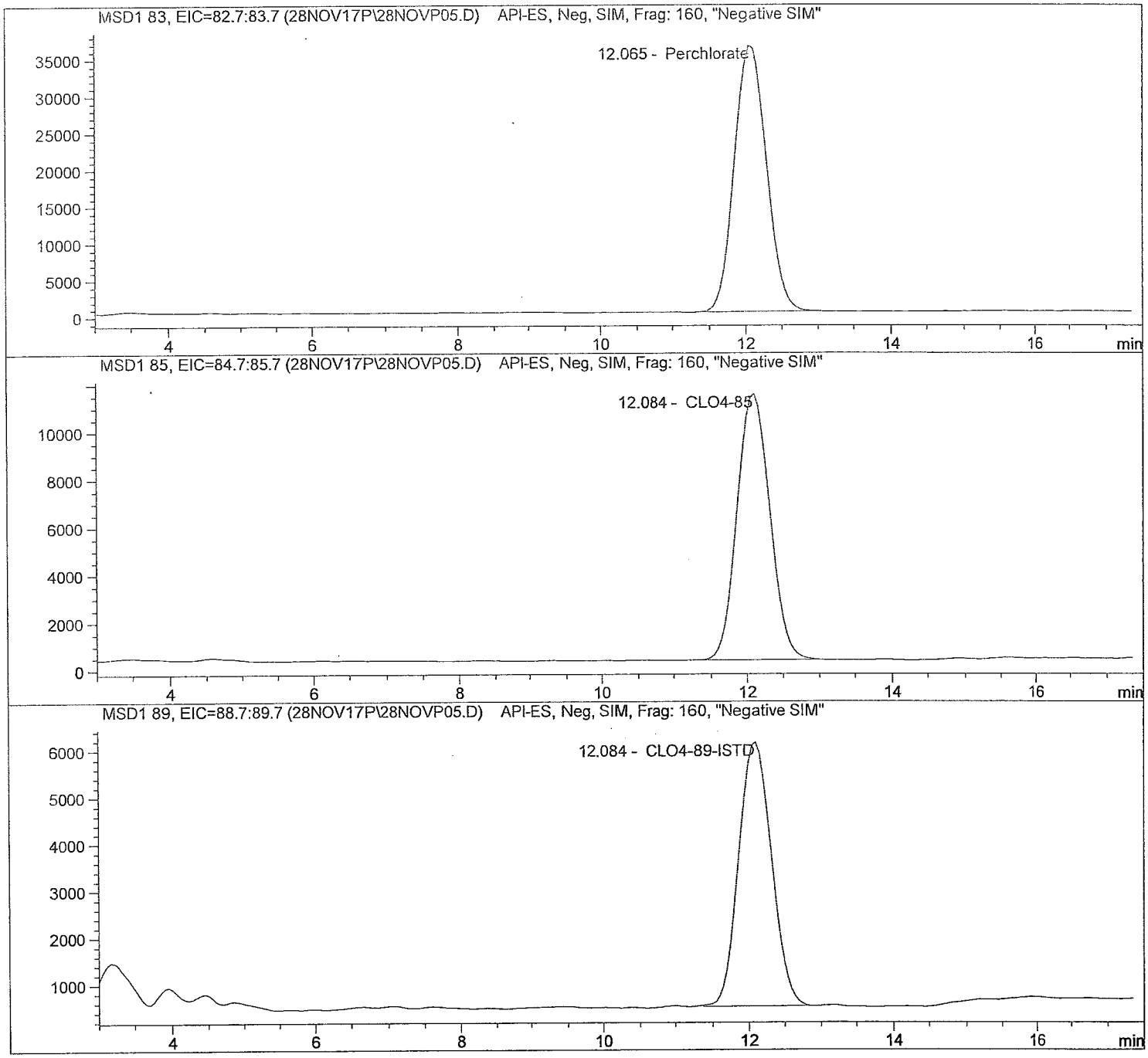
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP05.D Sample Name: ICAL5@ 25.ug/L

Injection Date:	11/28/2017 10:31:23	Seq Line:	5
Sample Name:	ICAL5@ 25.ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP05.D Sample Name: ICAL5@ 25.ug/L

Injection Date:	11/28/2017 10:31:23	Seq Line:	5
Sample Name:	ICAL5@ 25.ug/L	Location:	Vial 75
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	25.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.065	PBA	1097625.1	25.5523	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	PBA	346912.7	25.5843	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.084	BBA	175597.1	5.0000	CLO4-89-ISTD

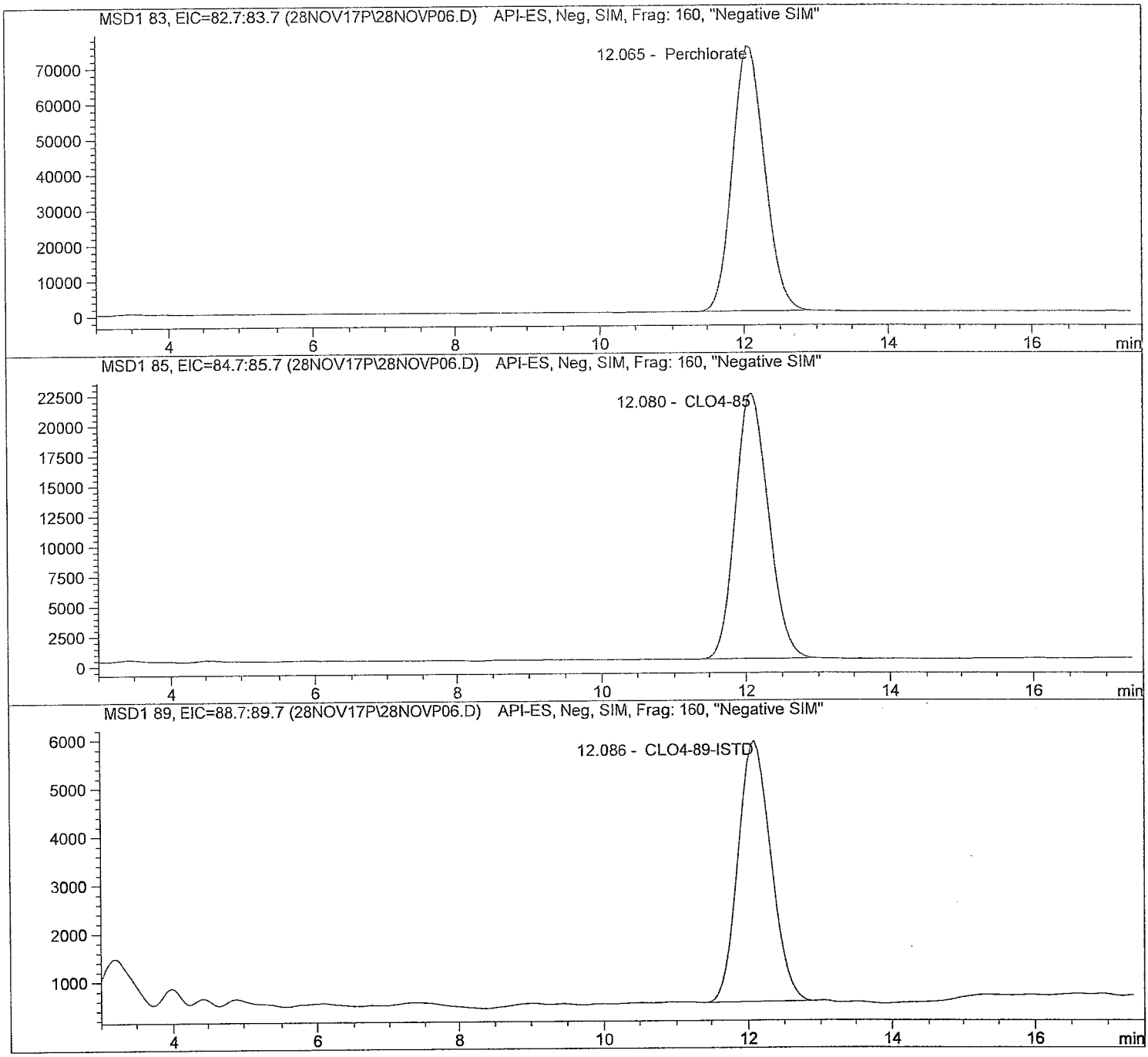
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP06.D Sample Name: ICAL6@ 50.ug/L

Injection Date:	11/28/2017 10:50:33	Seq Line:	6
Sample Name:	ICAL6@ 50.ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP06.D Sample Name: ICAL6@ 50.ug/L

Injection Date:	11/28/2017 10:50:33	Seq Line:	6
Sample Name:	ICAL6@ 50.ug/L	Location:	Vial 76
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	50.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.065	BBA	2298336.2	49.8316	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.080	PBA	696155.7	49.1828	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.086	PBA	169148.1	5.0000	CLO4-89-ISTD

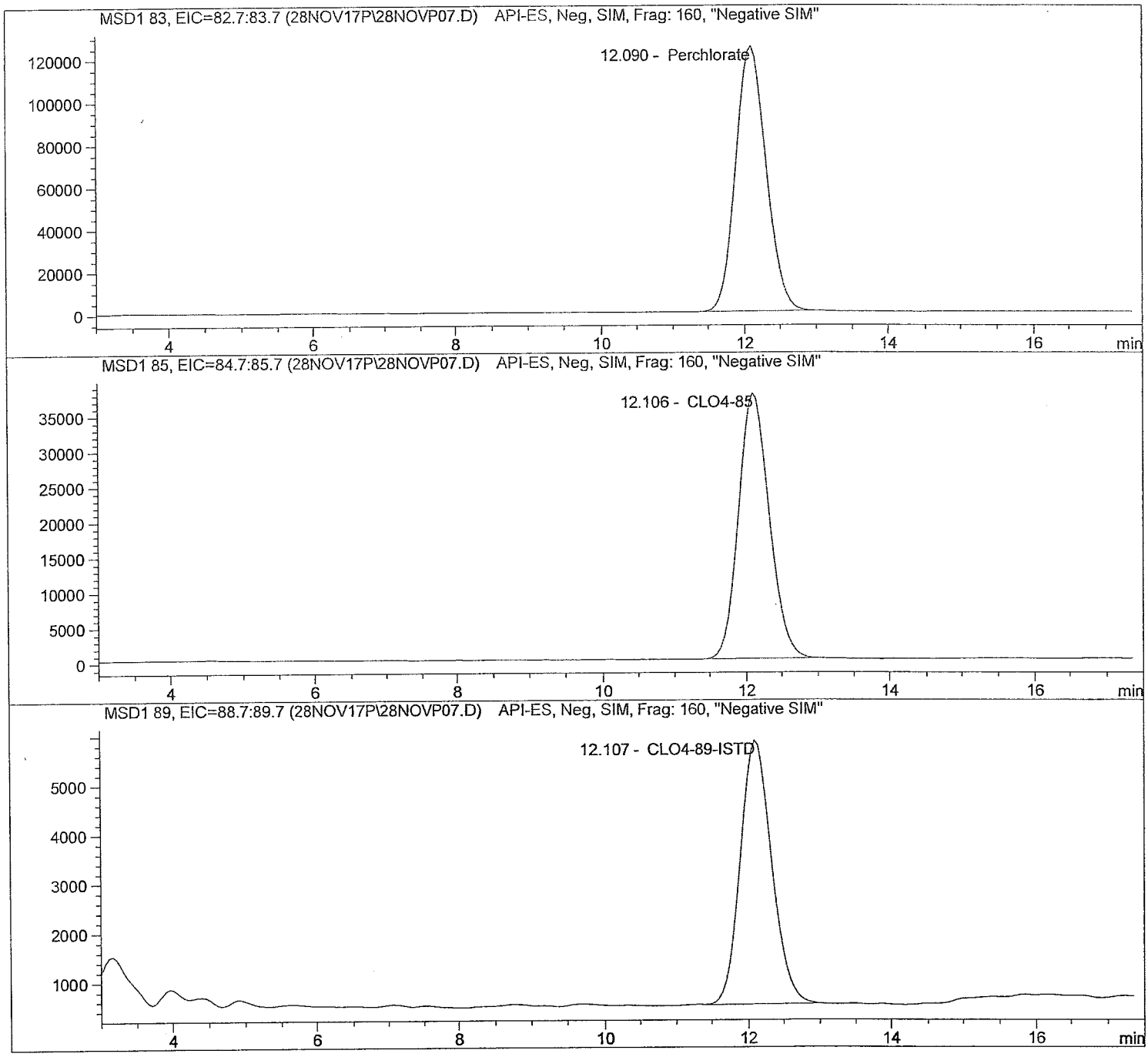
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP07.D Sample Name: ICAL7@ 75.ug/L

Injection Date:	11/28/2017 11:09:43	Seq Line:	7
Sample Name:	ICAL7@ 75.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP07.D Sample Name: ICAL7@ 75.ug/L

Injection Date:	11/28/2017 11:09:43	Seq Line:	7
Sample Name:	ICAL7@ 75.ug/L	Location:	Vial 77
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	75.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.090	PBA	3730211.3	74.9999	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.106	PBA	1130772.0	75.3391	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.107	BBA	164866.7	5.0000	CLO4-89-ISTD

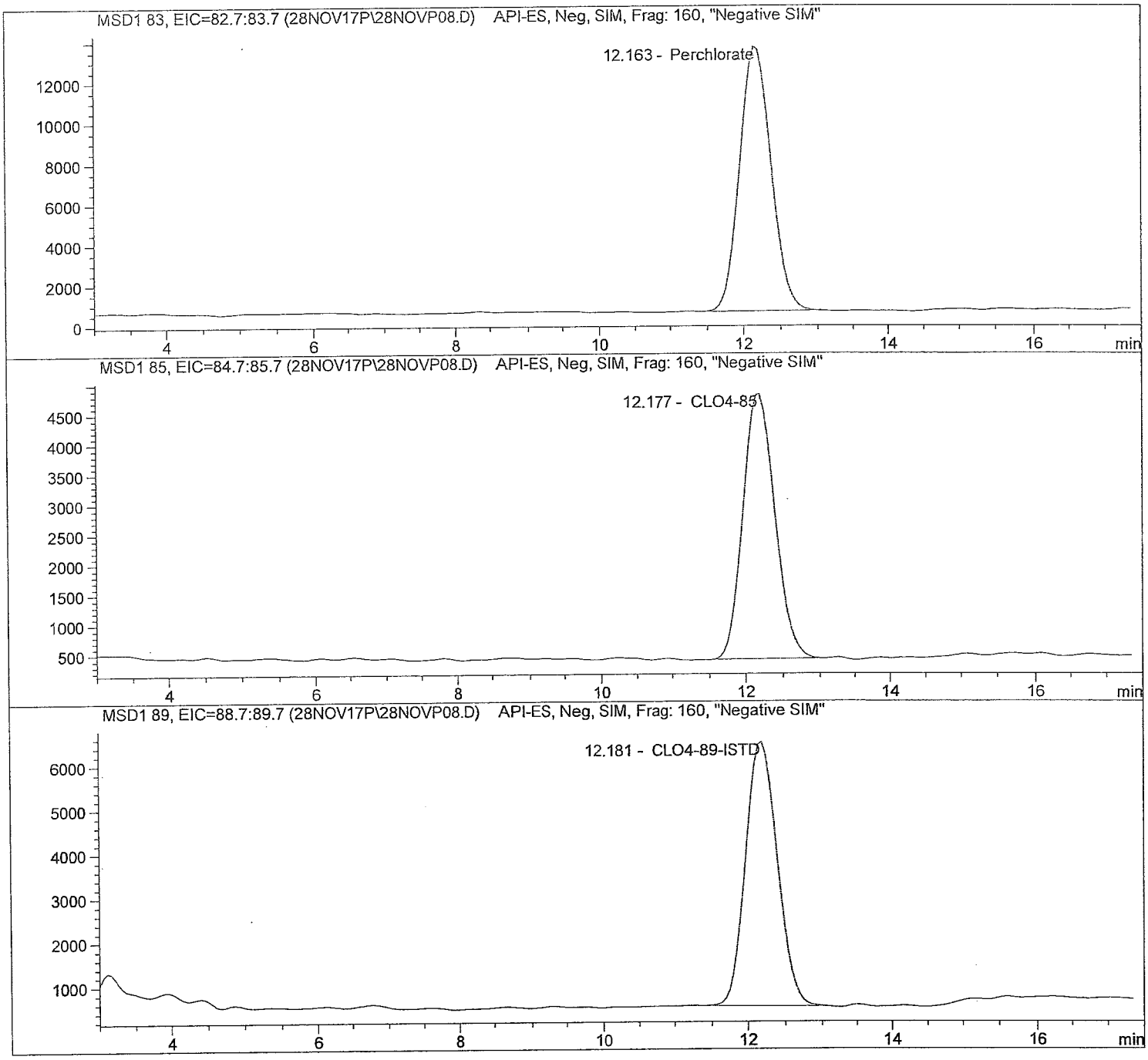
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP08.D Sample Name: ICAL Verf@10ug/L

Injection Date:	11/28/2017 11:28:53	Seq Line:	8
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP08.D Sample Name: ICAL Verf@10ug/L

Injection Date:	11/28/2017 11:28:53	Seq Line:	8
Sample Name:	ICAL Verf@10ug/L	Location:	Vial 78
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	10.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.163	PBA	383615.2	9.5953	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.177	PBA	131459.5	10.0855	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.181	BBA	176961.2	5.0000	CLO4-89-ISTD

*** End of Report ***

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

Raw Data

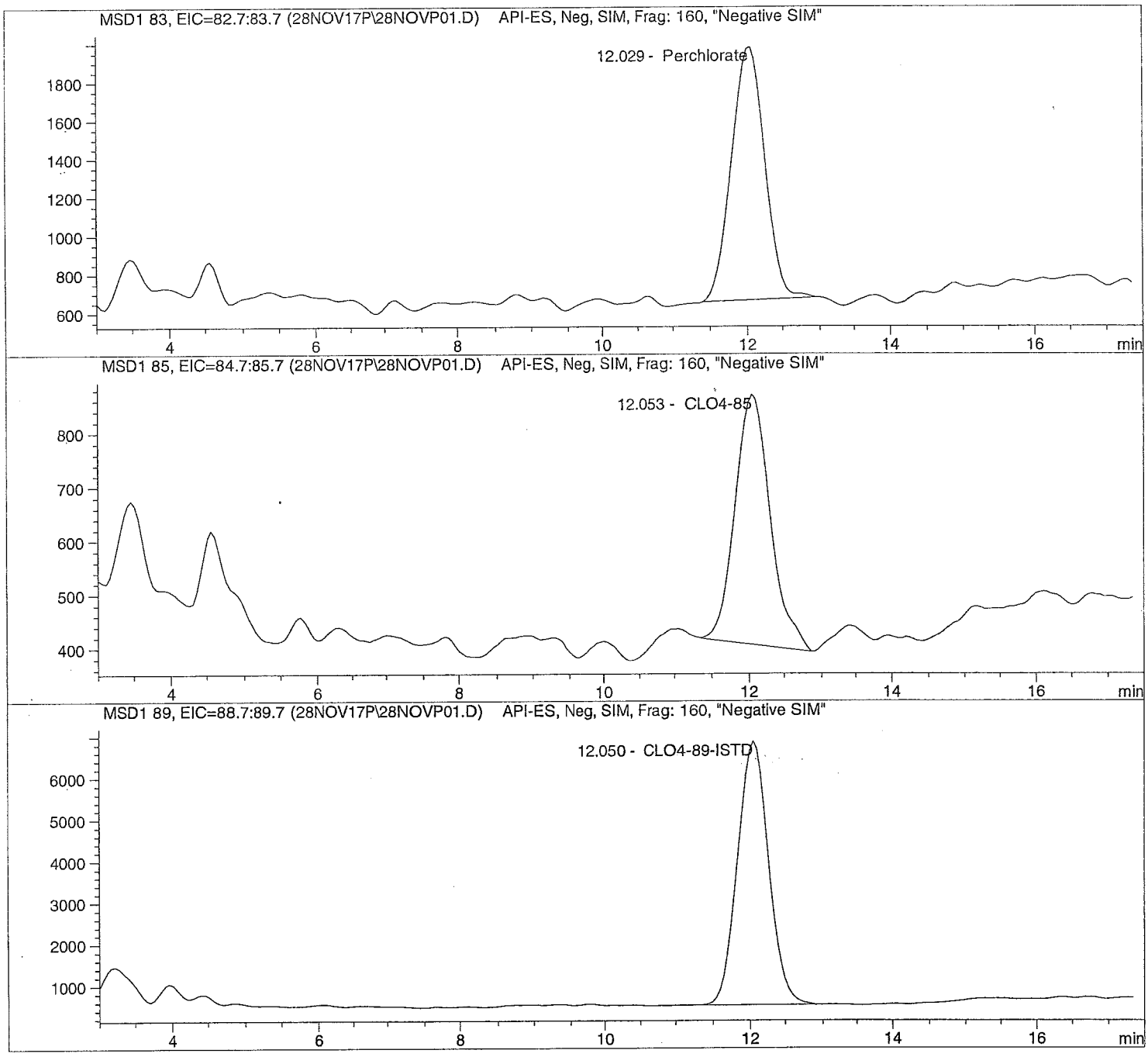
Unmodified

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP01.D Sample Name: ICAL1@ 1.0ug/L

Injection Date:	11/28/2017 09:08:10	Seq Line:	1
Sample Name:	ICAL1@ 1.0ug/L	Location:	Vial 71
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.029	BBA	42017.4	1.0510	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.053	BBA	15678.7	0.9871	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.050	BBA	188880.3	5.0000	CLO4-89-ISTD

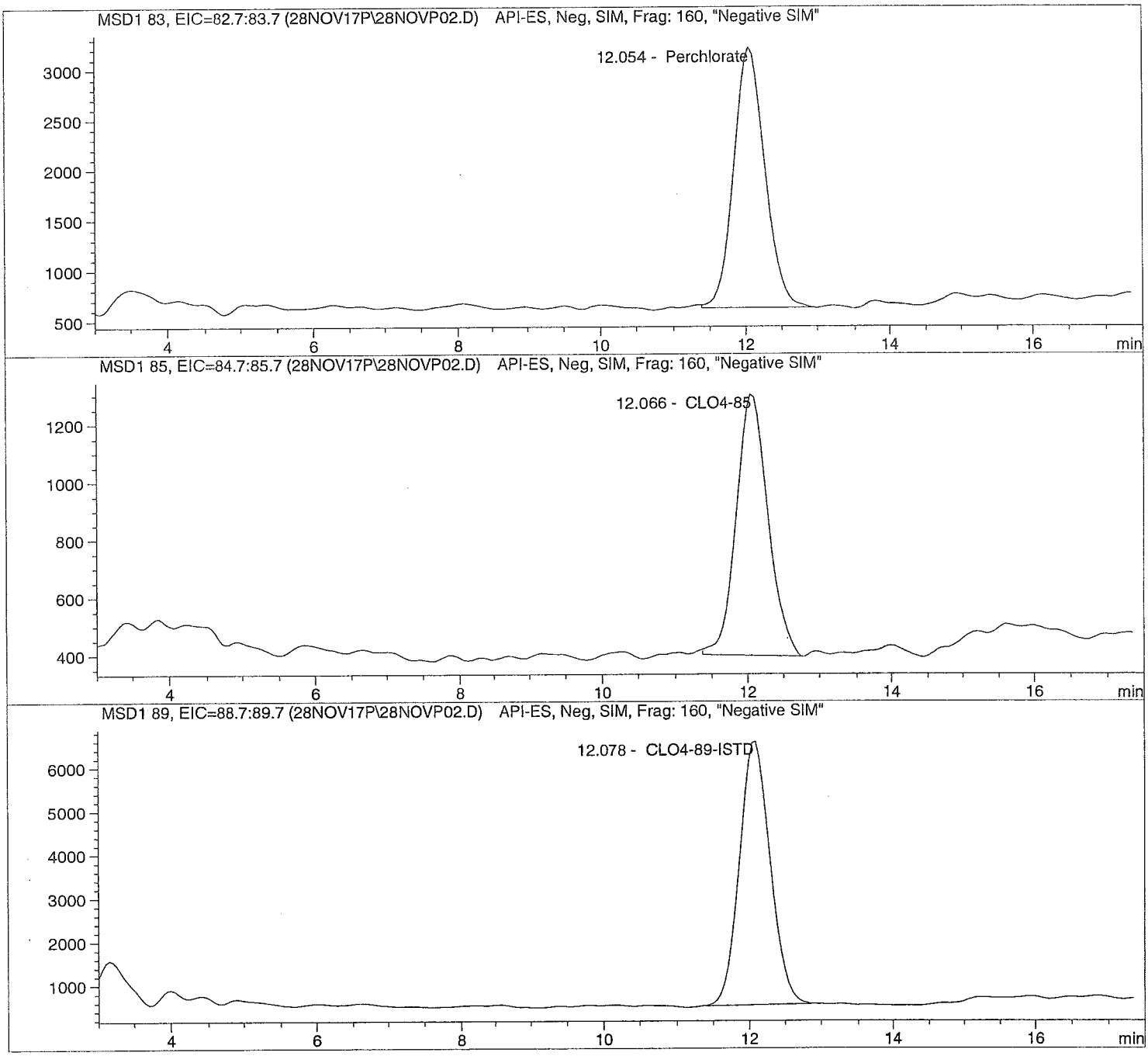
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\28NOV17P\28NOVP02.D Sample Name: ICAL2@ 2.0ug/L

Injection Date:	11/28/2017 09:33:49	Seq Line:	2
Sample Name:	ICAL2@ 2.0ug/L	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/3/2017 11:06:36

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 29. Nov. 2017,08:02:06 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	2.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.054	BBA	78519.1	2.0151	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.066	BBA	28009.6	2.0074	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.078	PBA	181109.4	5.0000	CLO4-89-ISTD

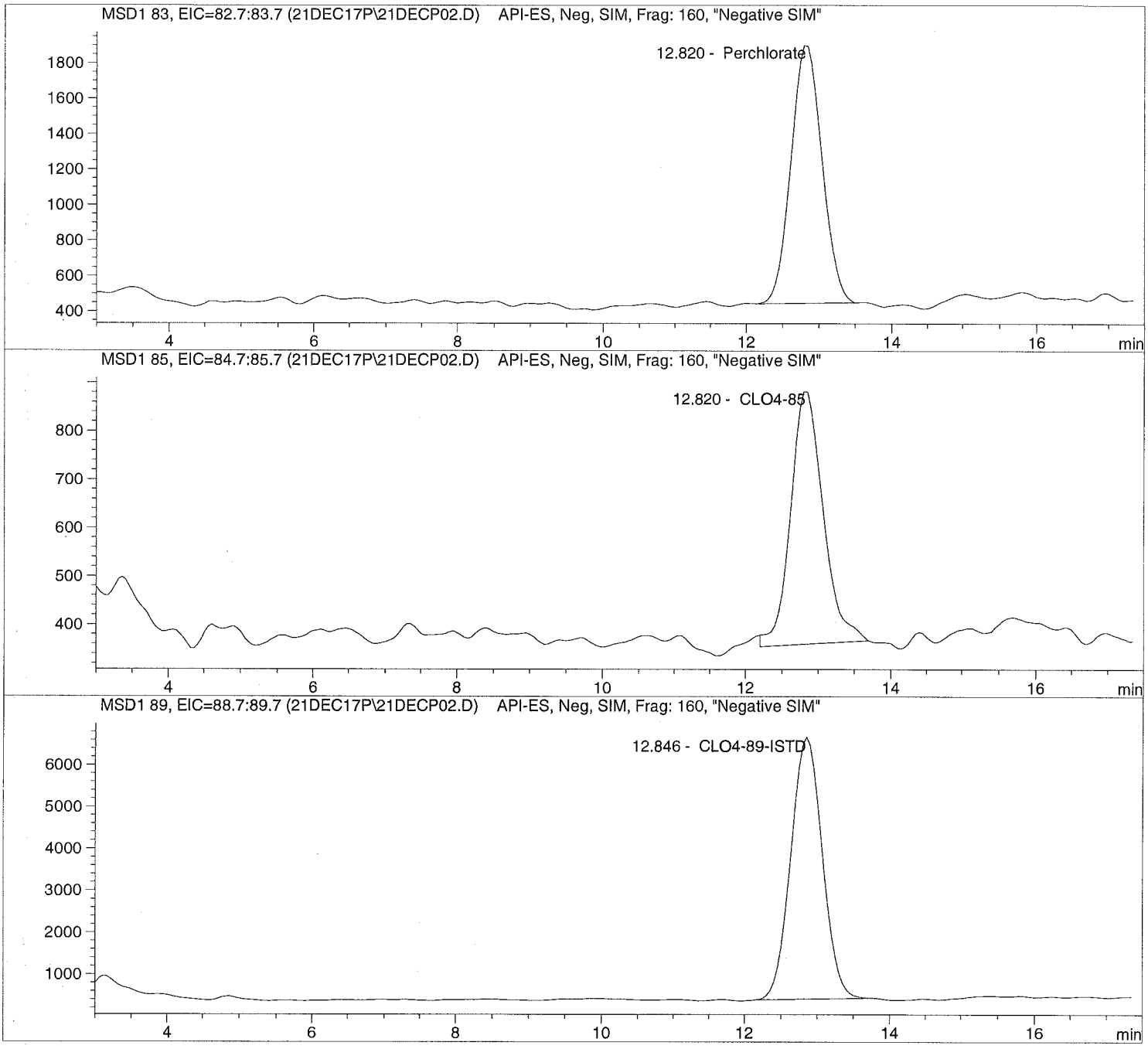
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP02.D Sample Name: 580546 LODV@1.

Injection Date:	12/21/2017 16:09:14	Seq Line:	2
Sample Name:	580546 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP02.D Sample Name: 580546 LODV@1.

Injection Date:	12/21/2017 16:09:14	Seq Line:	2
Sample Name:	580546 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.820	BBA	43301.5	1.0797	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.820	BBA	16381.0	1.0372	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.846	PBA	189345.5	5.0000	CLO4-89-ISTD

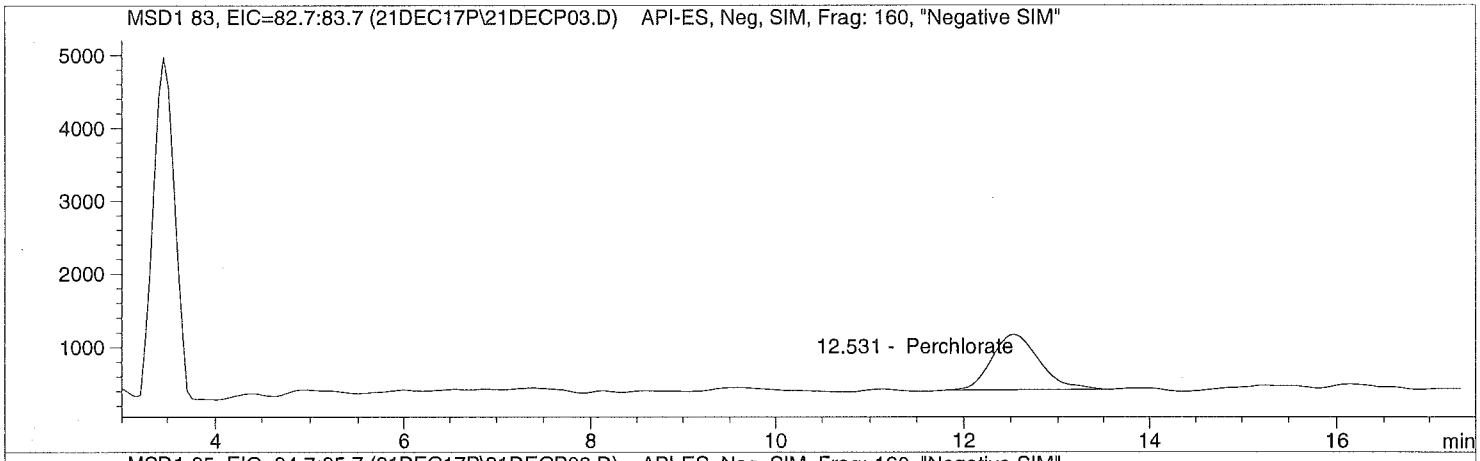
*** End of Report ***

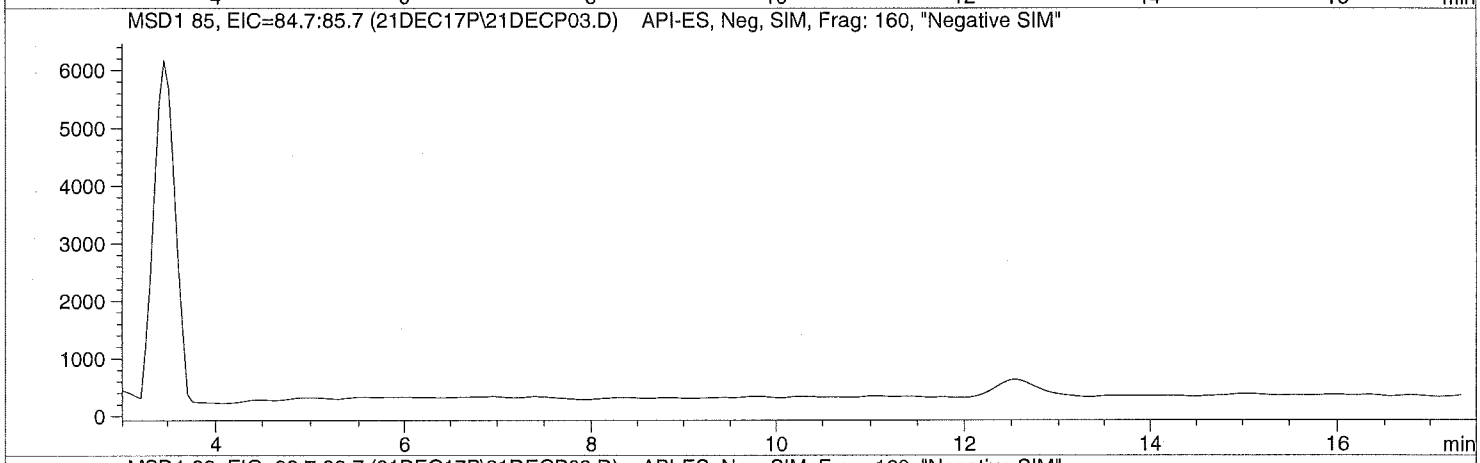
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP03.D Sample Name: 580547 ICS@1.

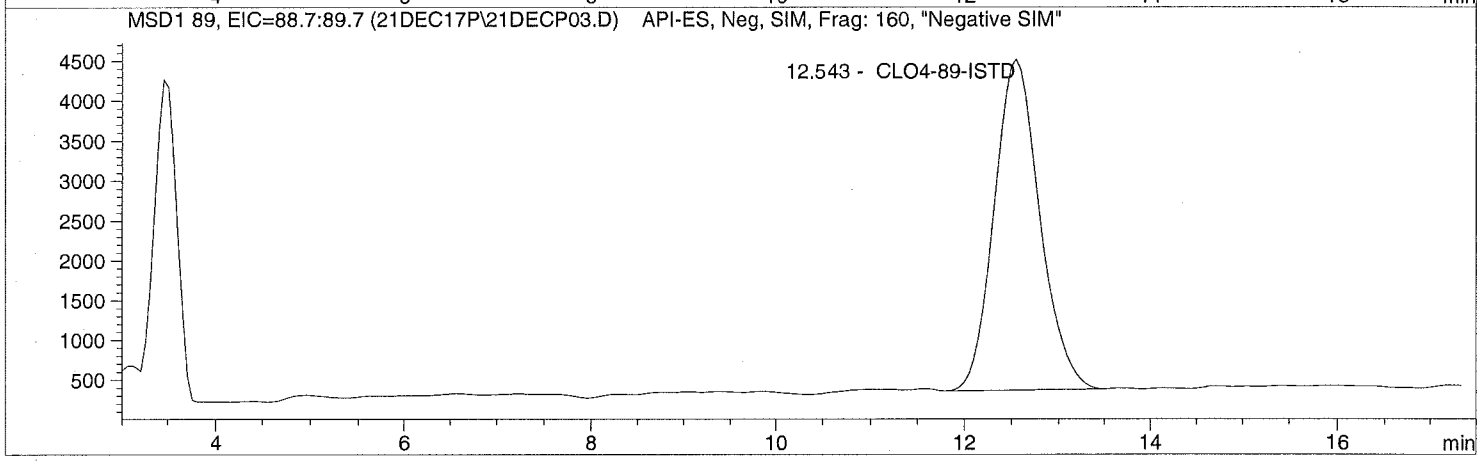
Injection Date:	12/21/2017 16:28:22	Seq Line:	3
Sample Name:	580547 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP03.D Sample Name: 580547 ICS@1.

Injection Date:	12/21/2017 16:28:22	Seq Line:	3
Sample Name:	580547 ICS@1.	Location:	Vial 73
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.531	BBA	26481.3	0.9018	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.543	PBA	139393.2	5.0000	CLO4-89-ISTD

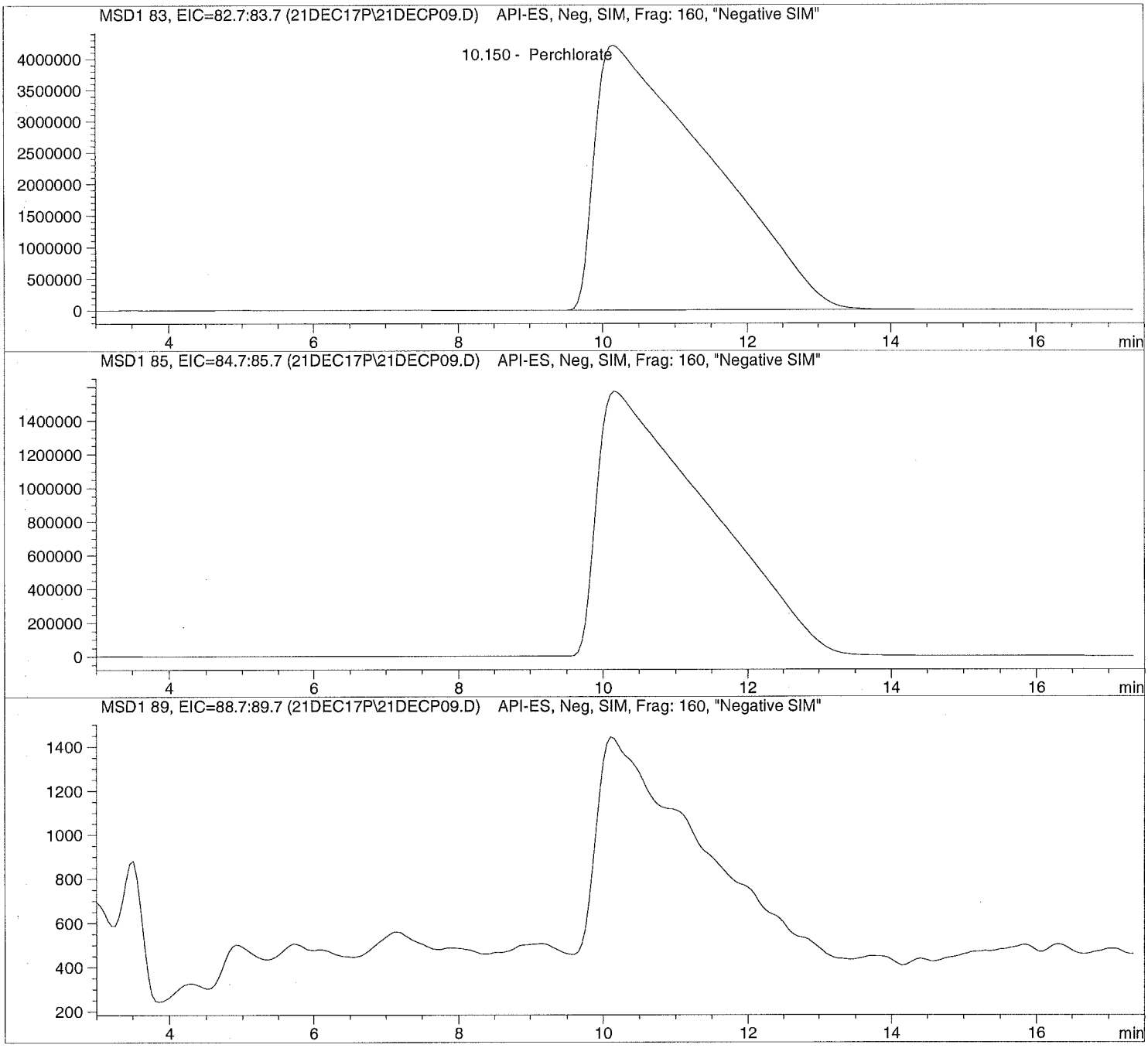
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP09.D Sample Name: 1735429002

Injection Date:	12/21/2017 18:28:15	Seq Line:	9
Sample Name:	1735429002	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP09.D Sample Name: 1735429002

Injection Date:	12/21/2017 18:28:15	Seq Line:	9
Sample Name:	1735429002	Location:	Vial 79
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.150	PBA	464994400.0	0.0243	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

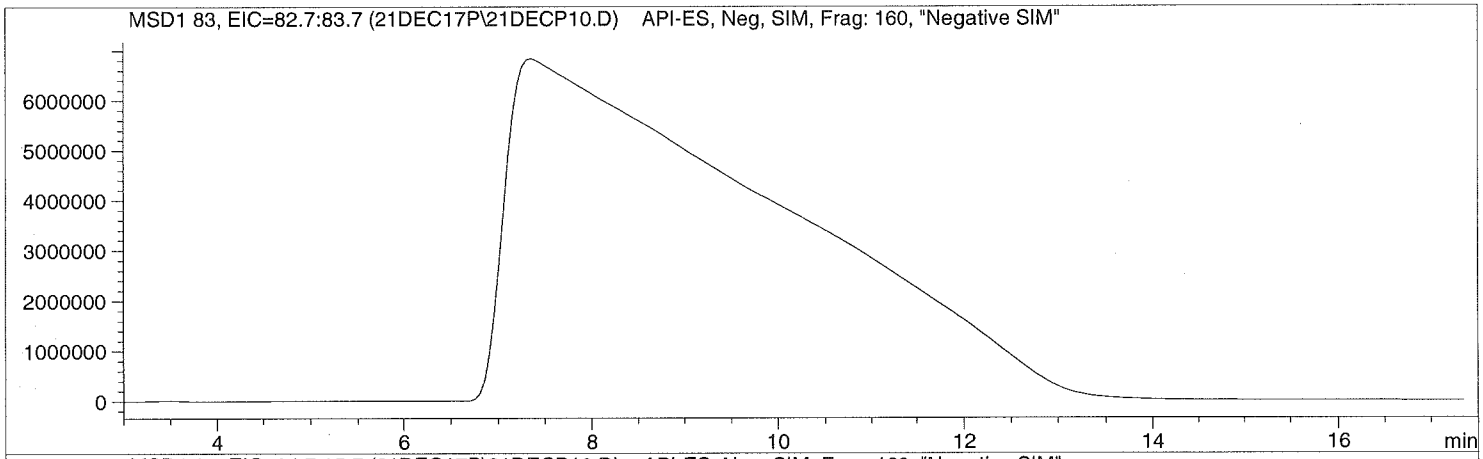
*** End of Report ***

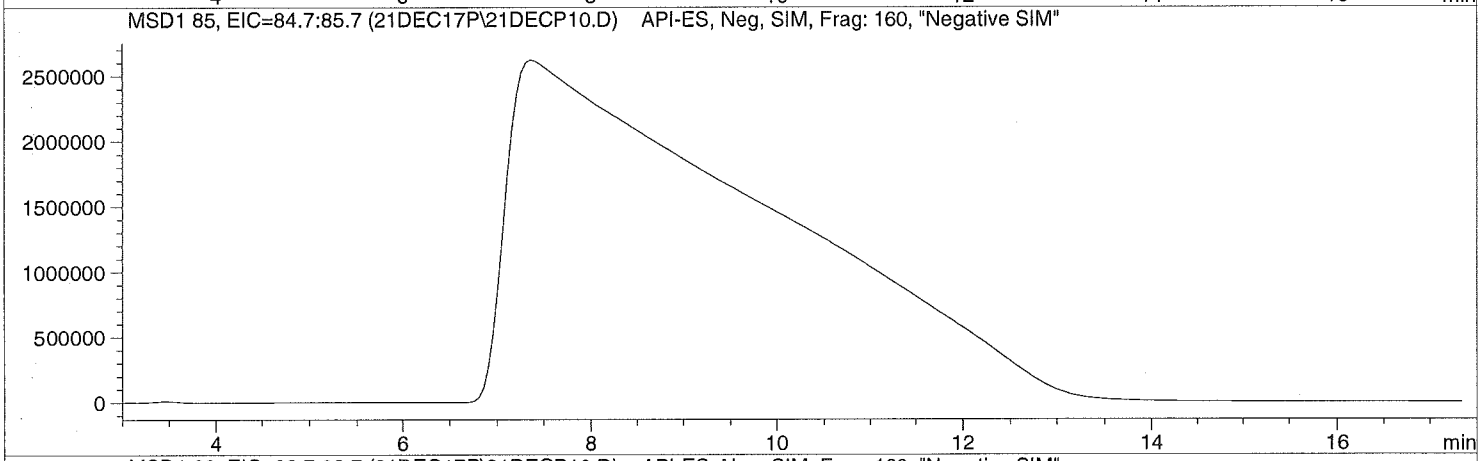
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP10.D Sample Name: 1735429003

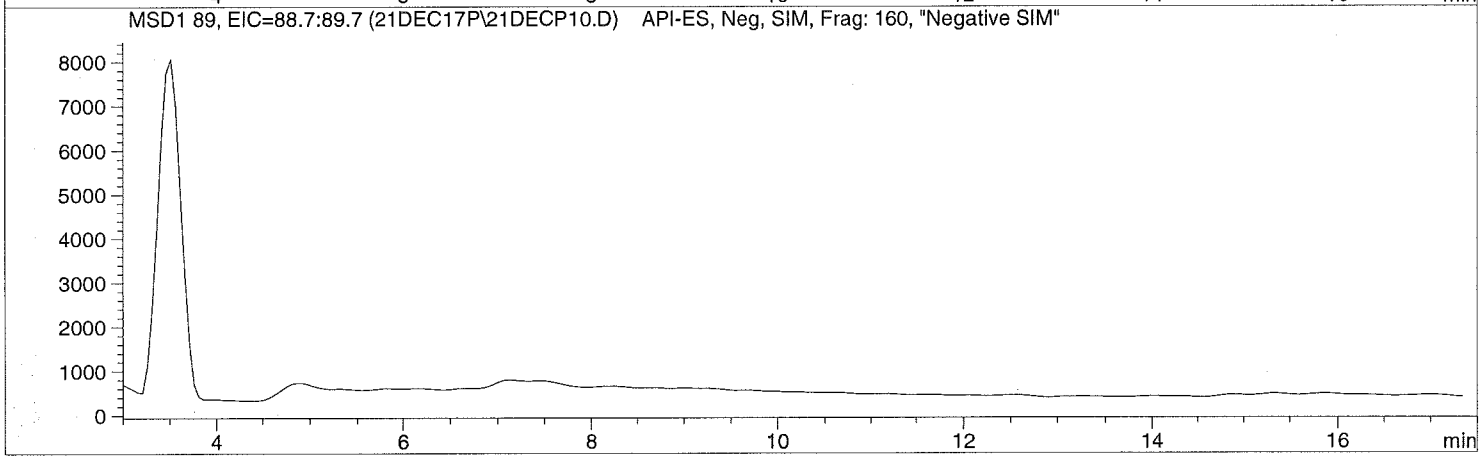
Injection Date:	12/21/2017 18:47:26	Seq Line:	10
Sample Name:	1735429003	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP10.D Sample Name: 1735429003

Injection Date:	12/21/2017 18:47:26	Seq Line:	10
Sample Name:	1735429003	Location:	Vial 80
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Wed, 20. Dec. 2017,08:01:52 am
Multiplier: 1.000000
Dilution: 1.000000
Sample Amount: 0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

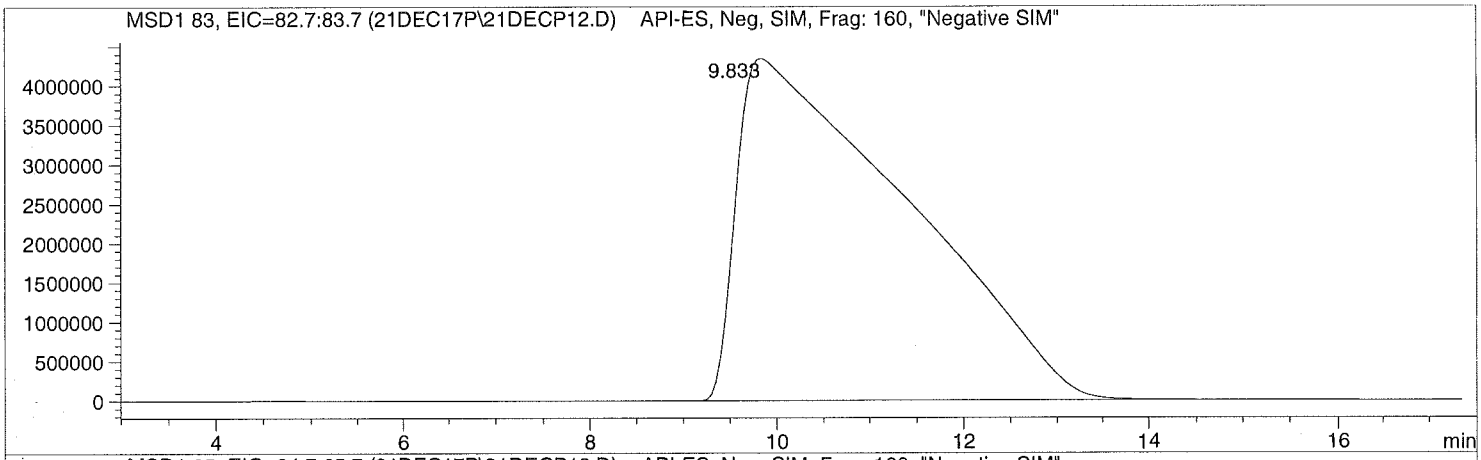
*** End of Report ***

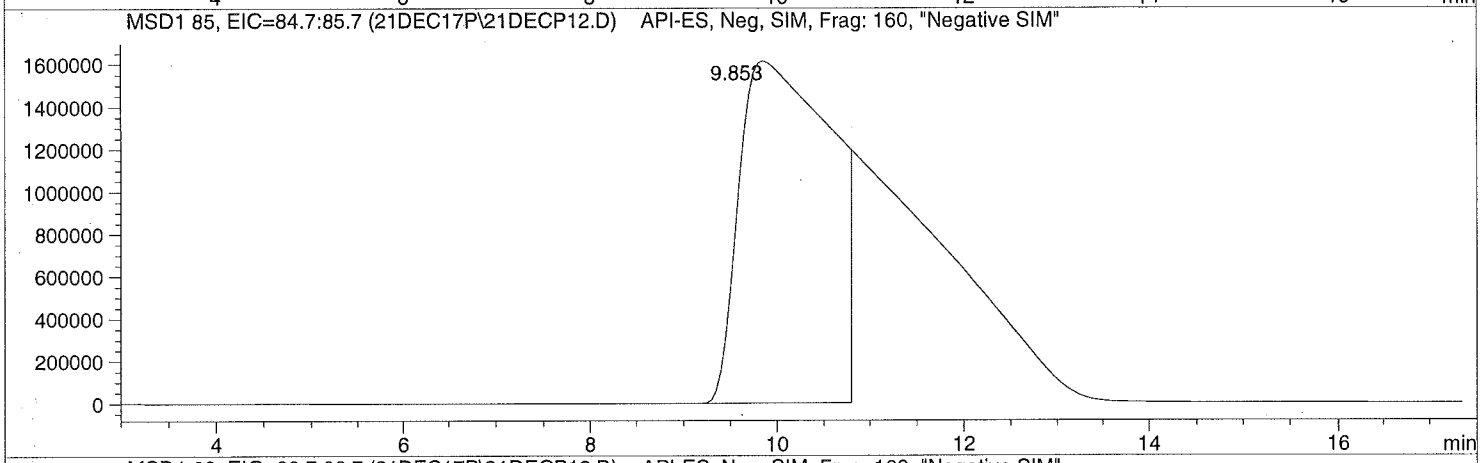
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP12.D Sample Name: 1735429005

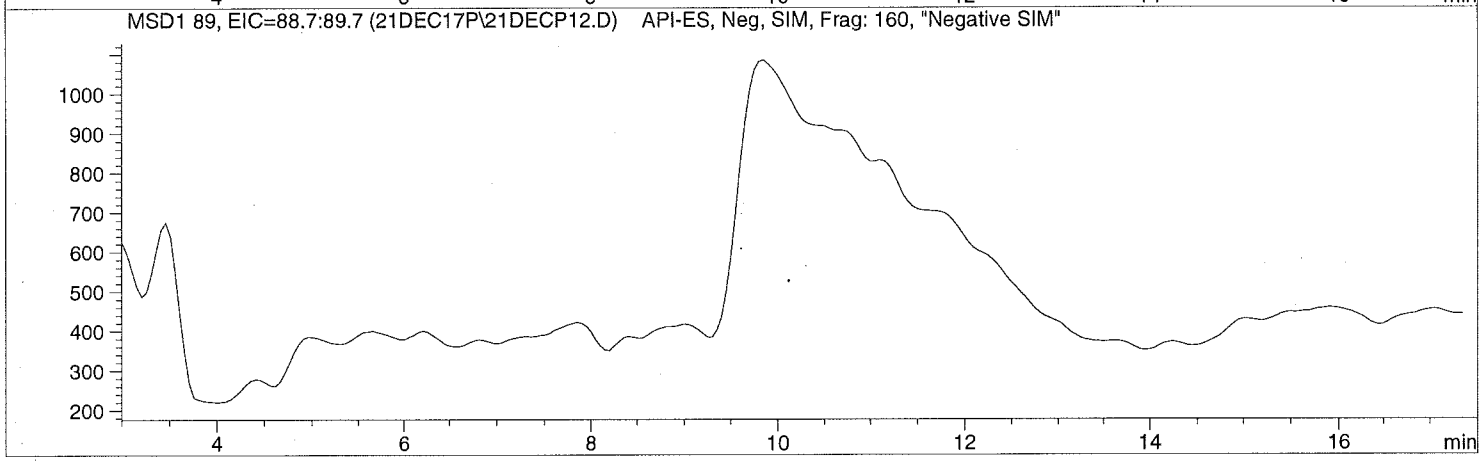
Injection Date:	12/21/2017 19:25:45	Seq Line:	12
Sample Name:	1735429005	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR,M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP12.D Sample Name: 1735429005

Injection Date:	12/21/2017 19:25:45	Seq Line:	12
Sample Name:	1735429005	Location:	Vial 82
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
9.833	PBA	549724864.0	0.0000	
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
9.853	PBA	109359856.0	0.0000	
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

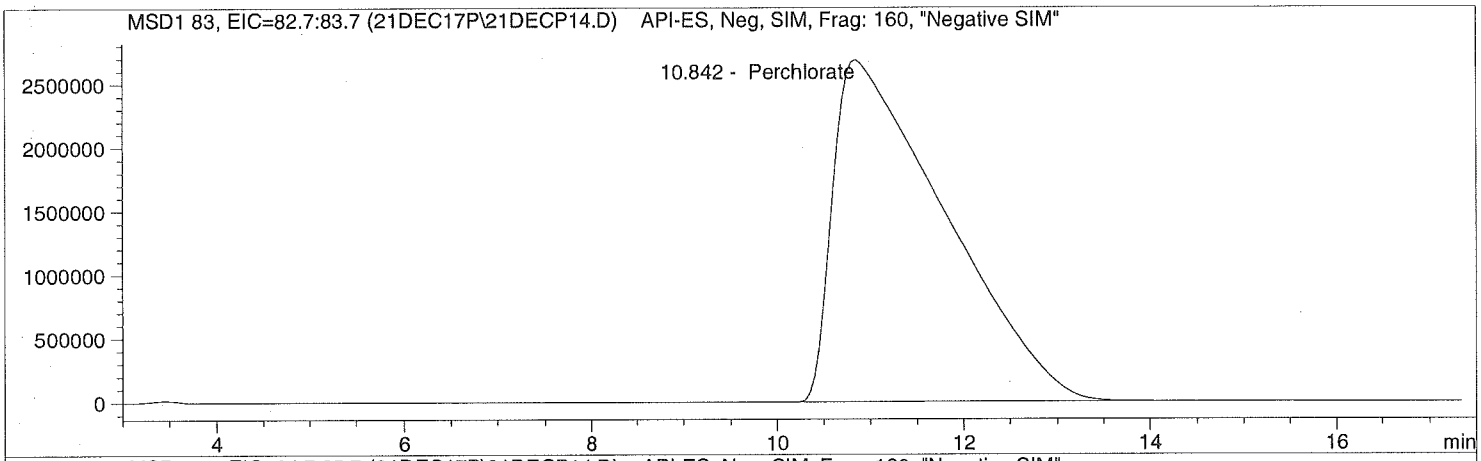
*** End of Report ***

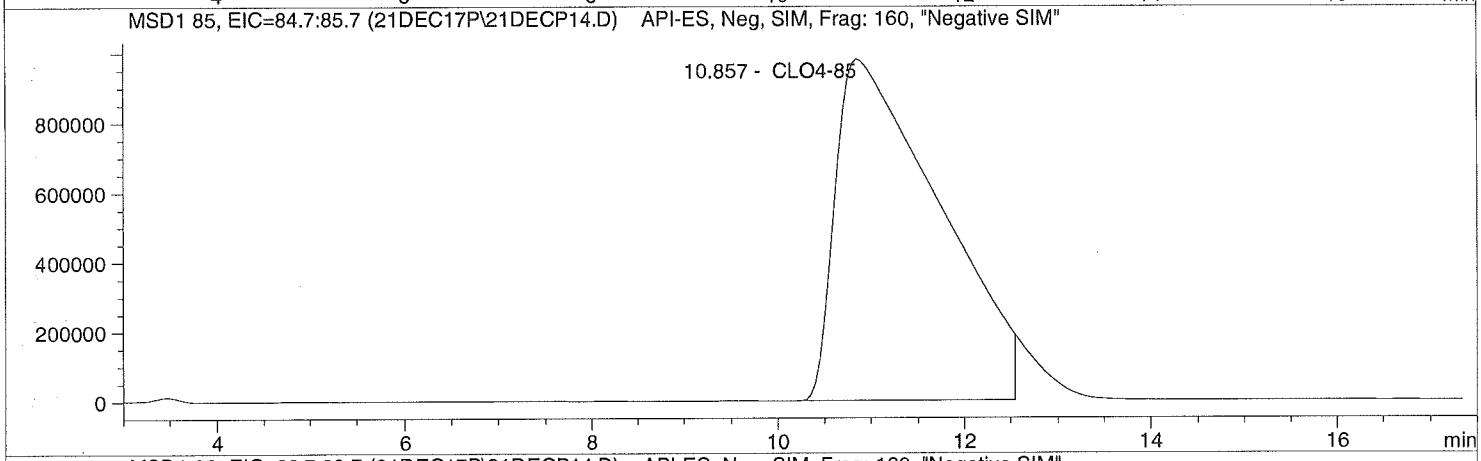
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP14.D Sample Name: 1735429007

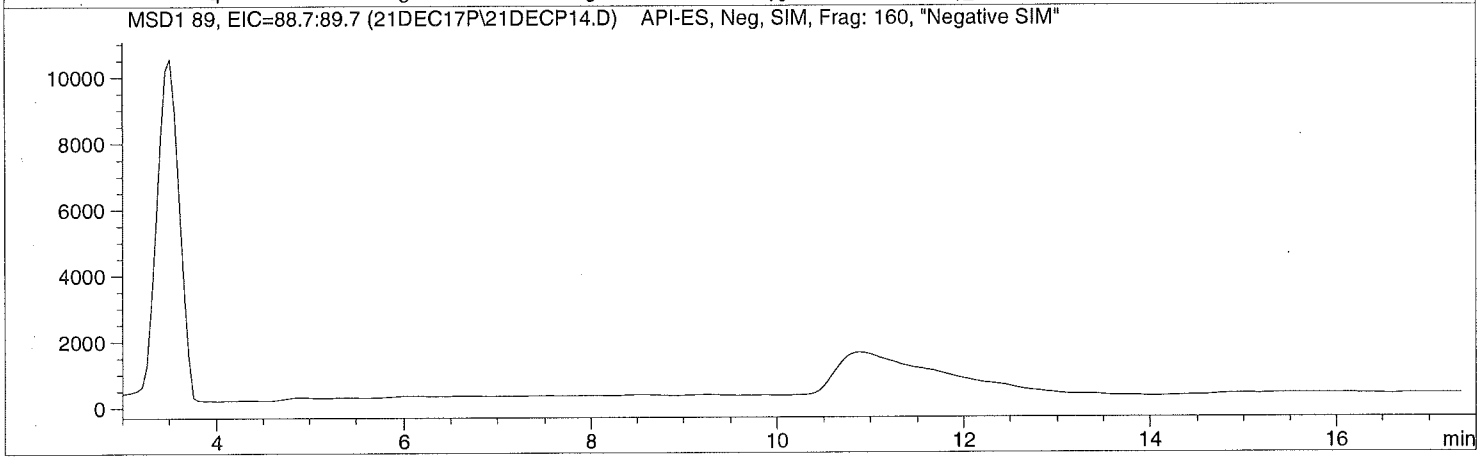
Injection Date:	12/21/2017 20:04:04	Seq Line:	14
Sample Name:	1735429007	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP14.D Sample Name: 1735429007

Injection Date:	12/21/2017 20:04:04	Seq Line:	14
Sample Name:	1735429007	Location:	Vial 84
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By: Signal
Calib. Data Modified: Wed, 20. Dec. 2017,08:01:52 am
Multiplier: 1.000000
Dilution: 1.000000
Sample Amount: 0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.842	PBA	222954880.0	0.0243	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
10.857	PBA	75659976.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

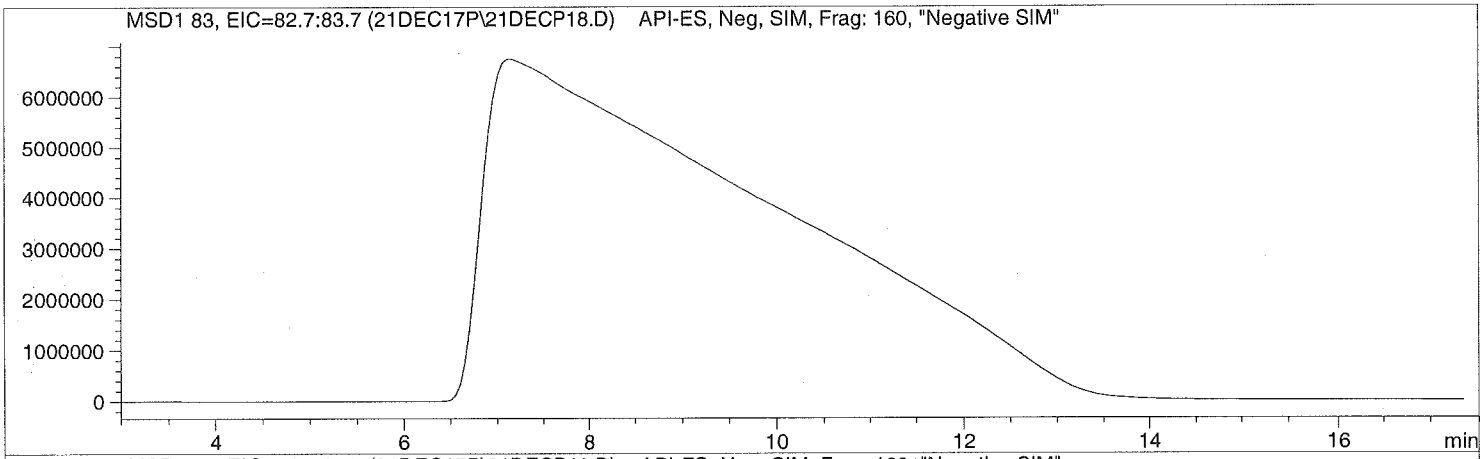
*** End of Report ***

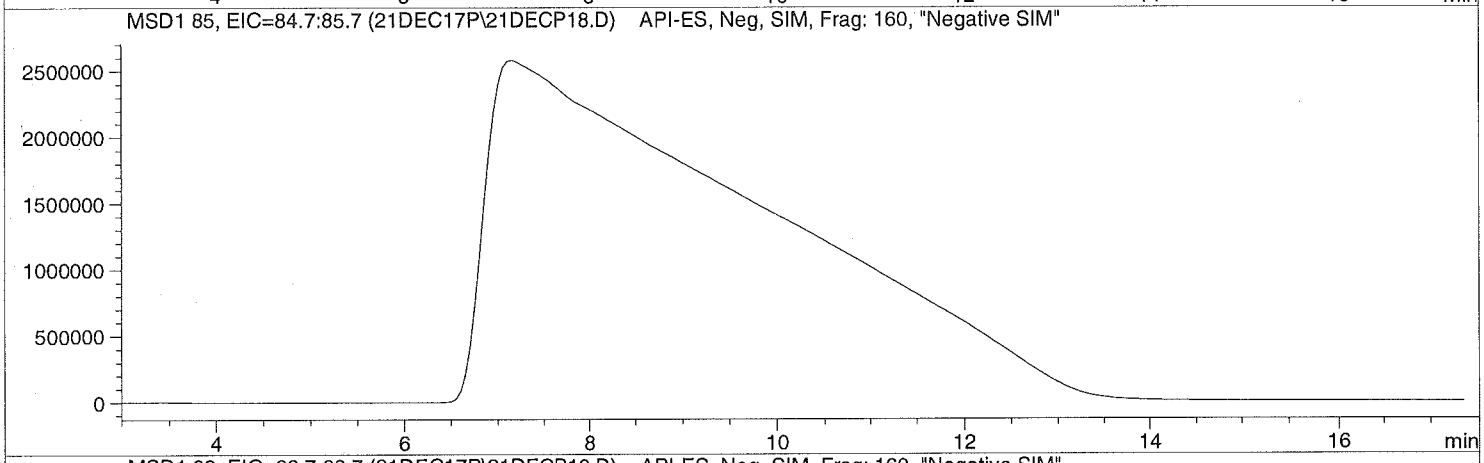
Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP18.D Sample Name: 1735429009

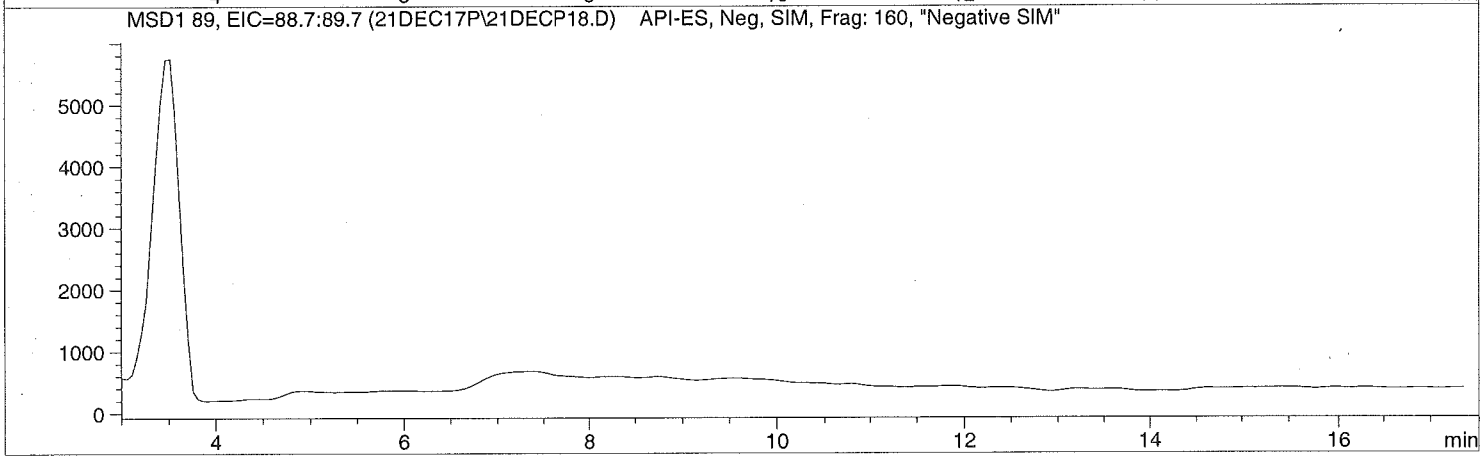
Injection Date:	12/21/2017 21:20:43	Seq Line:	18
Sample Name:	1735429009	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis







Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP18.D Sample Name: 1735429009

Injection Date:	12/21/2017 21:20:43	Seq Line:	18
Sample Name:	1735429009	Location:	Vial 86
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method:	CLO4-DOD.M
Analysis Method:	C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed:	12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

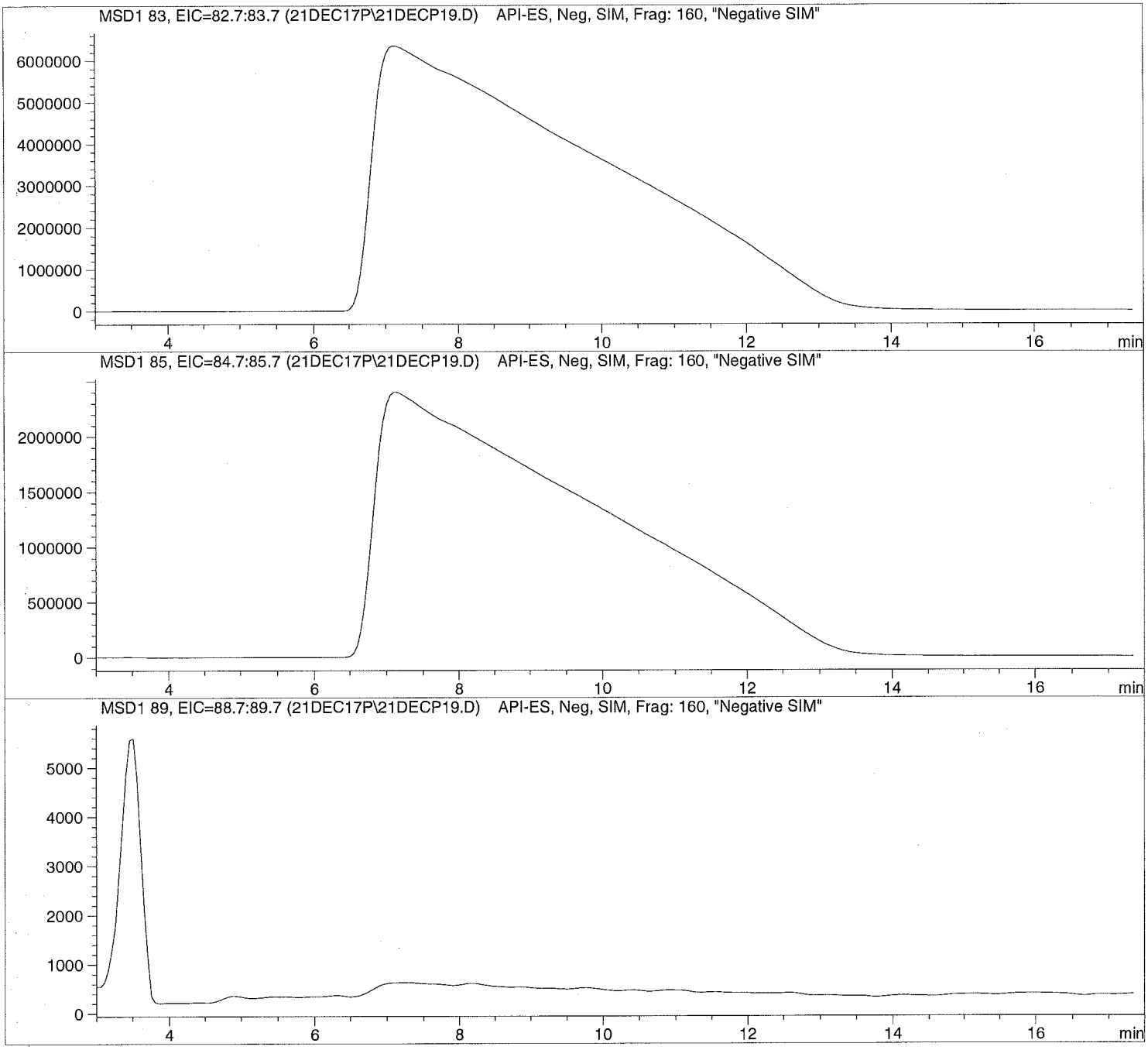
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP19.D Sample Name: 1735429010

Injection Date:	12/21/2017 21:39:54	Seq Line:	19
Sample Name:	1735429010	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP19.D Sample Name: 1735429010

Injection Date:	12/21/2017 21:39:54	Seq Line:	19
Sample Name:	1735429010	Location:	Vial 87
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	0.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
0.000		0.0	0.0000	CLO4-89-ISTD

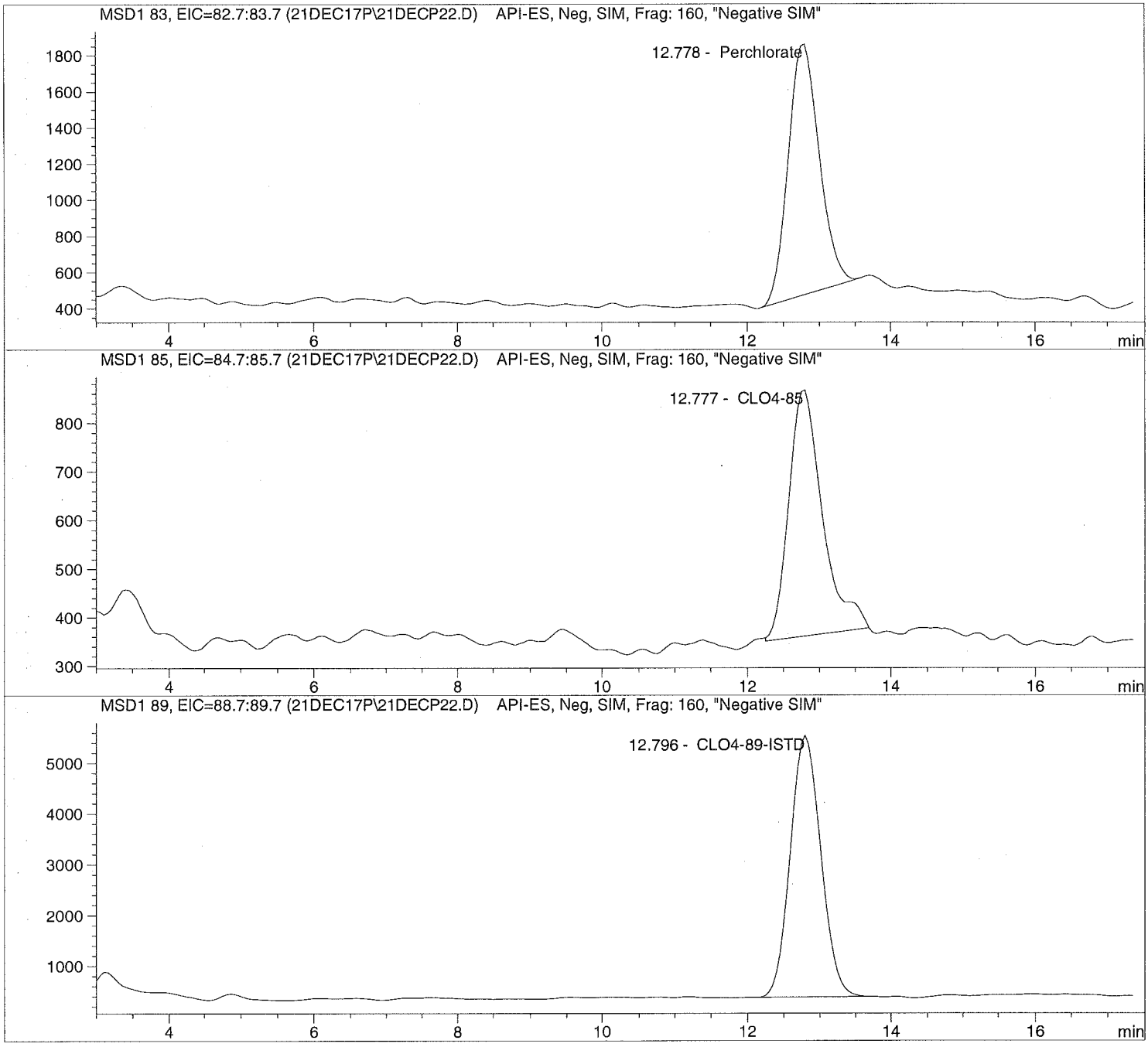
*** End of Report ***

Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP22.D Sample Name: 580555 LODV@1.

Injection Date:	12/21/2017 22:37:23	Seq Line:	22
Sample Name:	580555 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis



Data file: C:\HPCHEM\1\DATA\21DEC17P\21DECP22.D Sample Name: 580555 LODV@1.

Injection Date:	12/21/2017 22:37:23	Seq Line:	22
Sample Name:	580555 LODV@1.	Location:	Vial 72
Acq Operator:	TNB	Inj. No.:	1
		Inj. Vol.:	25 µl

Acq. Method: CLO4-DOD.M
Analysis Method: C:\HPCHEM\1\METHODS\CLO4-DPR.M
Last Changed: 12/20/2017 08:11:26

Perchlorate analysis

Sample Information

Sorted By:	Signal
Calib. Data Modified:	Wed, 20. Dec. 2017,08:01:52 am
Multiplier:	1.000000
Dilution:	1.000000
Sample Amount:	1.000

LCMS Results

Signal1: MSD1 83, EIC=82.7:83.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.778	PBA	41748.3	1.2905	Perchlorate

Signal2: MSD1 85, EIC=84.7:85.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.777	BBA	16536.5	1.3554	CLO4-85

Signal3: MSD1 89, EIC=88.7:89.7

RT [min]	Type	Area	Amount [ug/sample]	Compound Name
12.796	PBA	151981.7	5.0000	CLO4-89-ISTD

*** End of Report ***

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WorkOrder: HS17121113

LHAAP 18/24

Bhate Environmental Associates, Inc.

Marcia Olive
445 Union Blvd Ste 129
Lakewood CO 80228

14-Feb-2018

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
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January 11, 2018

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

Work Order: **HS17121113**

Laboratory Results for: **LHAAP 18/24**

Dear Marcia,

ALS Environmental received 9 sample(s) on Dec 20, 2017 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,

Sonia West

Generated By: Jumoke.Lawal
Sonia West
Project Manager

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Work Order: HS17121113

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS17121113-01	MW14_121817	Water		18-Dec-2017 08:25	20-Dec-2017 10:15	☐
HS17121113-02	MW14_121817_a	Water		18-Dec-2017 08:25	20-Dec-2017 10:15	☐
HS17121113-03	MW21_121817	Water		18-Dec-2017 09:35	20-Dec-2017 10:15	☐
HS17121113-04	MW22_121817	Water		18-Dec-2017 10:40	20-Dec-2017 10:15	☐
HS17121113-05	18CPTMW06_121817	Water		18-Dec-2017 11:40	20-Dec-2017 10:15	☐
HS17121113-06	18CPTMW06_121817_a	Water		18-Dec-2017 11:40	20-Dec-2017 10:15	☐
HS17121113-07	18CPTMW16_121817	Water		18-Dec-2017 13:40	20-Dec-2017 10:15	☐
HS17121113-08	AWD3_121817	Water		18-Dec-2017 14:50	20-Dec-2017 10:15	☐
HS17121113-09	Trip Blank	Water	ALS-120617-90	18-Dec-2017 00:00	20-Dec-2017 10:15	☑

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc. **CASE NARRATIVE**
Project: LHAAP 18/24
Work Order: HS17121113

Work Order Comments

• The analyses for Perchlorate were subcontracted to ALS Environmental in Salt Lake City, UT.

GCMS Volatiles by Method SW8260

Batch ID: R308199

Sample ID: HS17121171-02MS

• MS and MSD are for an unrelated sample

Batch ID: R308218

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

Metals by Method SW7470

Batch ID: 123822

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

Metals by Method SW6020

Batch ID: 123692

Sample ID: HS17121008-07MS

• MS and MSD are for an unrelated sample

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW14_121817
Collection Date: 18-Dec-2017 08:25

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,1,2-Trichloroethane	**3.3**		**0.30**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:09
1,1-Dichloroethane	**28**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:09
1,1-Dichloroethene	**140**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:09
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,2-Dichloroethane	**90**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:09
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:09
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	29-Dec-2017 18:09
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	29-Dec-2017 18:09
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:09
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	29-Dec-2017 18:09
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	29-Dec-2017 18:09
Benzene	**4.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:09
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	29-Dec-2017 18:09
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW14_121817
Collection Date: 18-Dec-2017 08:25

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
Chloroform	**5.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:09
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
cis-1,2-Dichloroethene	**2,000**		**20**	**50**	**100**	**ug/L**	100	31-Dec-2017 07:44
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Dec-2017 18:09
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Dec-2017 18:09
Methylene chloride	**11**		**0.40**	**0.50**	**2.0**	**ug/L**	1	29-Dec-2017 18:09
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:09
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
trans-1,2-Dichloroethene	**22**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:09
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Trichloroethene	**13,000**		**20**	**50**	**100**	**ug/L**	100	31-Dec-2017 07:44
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:09
Vinyl chloride	**5.6**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:09
Surr: 1,2-Dichloroethane-d4	*91.3*			**0**	*81-118*	*%REC*	*1*	*29-Dec-2017 18:09*
Surr: 1,2-Dichloroethane-d4	*90.8*			**0**	*81-118*	*%REC*	*100*	*31-Dec-2017 07:44*
Surr: 4-Bromofluorobenzene	*97.6*			**0**	*85-114*	*%REC*	*1*	*29-Dec-2017 18:09*
Surr: 4-Bromofluorobenzene	*94.8*			**0**	*85-114*	*%REC*	*100*	*31-Dec-2017 07:44*
Surr: Dibromofluoromethane	*97.2*			**0**	*80-119*	*%REC*	*1*	*29-Dec-2017 18:09*
Surr: Dibromofluoromethane	*95.4*			**0**	*80-119*	*%REC*	*100*	*31-Dec-2017 07:44*
Surr: Toluene-d8	*94.7*			**0**	*89-112*	*%REC*	*1*	*29-Dec-2017 18:09*
Surr: Toluene-d8	*98.1*			**0**	*89-112*	*%REC*	*100*	*31-Dec-2017 07:44*

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW14_121817
Collection Date: 18-Dec-2017 08:25

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-01
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 21-Dec-2017		Analyst: JDE
Aluminum	**0.0172**		**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	02-Jan-2018 18:49
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	02-Jan-2018 14:04
Arsenic	**0.00139**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 14:04
Barium	**0.257**		**0.00190**	**0.00250**	**0.00400**	**mg/L**	1	02-Jan-2018 14:04
Beryllium	**0.000241**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 18:49
Cadmium	**0.000814**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 14:04
Calcium	**88.5**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	02-Jan-2018 14:04
Chromium	**0.0384**		**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	02-Jan-2018 14:04
Cobalt	**0.0331**		**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	02-Jan-2018 14:04
Copper	**0.00280**		**0.00100**	**0.00200**	**0.00200**	**mg/L**	1	02-Jan-2018 14:04
Iron	**77.3**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:04
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	02-Jan-2018 14:04
Magnesium	**43.2**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:04
Manganese	**3.82**		**0.00350**	**0.00500**	**0.0250**	**mg/L**	5	02-Jan-2018 18:19
Nickel	**0.304**		**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	02-Jan-2018 14:04
Potassium	**17.4**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:04
Selenium	**0.00156**	J	**0.00110**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 14:04
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:04
Sodium	**411**		**0.0700**	**0.500**	**1.00**	**mg/L**	5	02-Jan-2018 18:19
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:04
Vanadium	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	02-Jan-2018 14:04
Zinc	**0.666**		**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	02-Jan-2018 14:04
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 27-Dec-2017		Analyst: JBA
Mercury	**0.0000760**	J	**0.0000300**	**0.000100**	**0.000200**	**mg/L**	1	28-Dec-2017 19:45
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	11-Jan-2018 09:13

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW14_121817_a
Collection Date: 18-Dec-2017 08:25

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-02
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,1,2-Trichloroethane	**3.1**		**0.30**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:33
1,1-Dichloroethane	**29**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:33
1,1-Dichloroethene	**140**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:33
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,2-Dichloroethane	**91**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:33
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:33
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:33
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	29-Dec-2017 18:33
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	29-Dec-2017 18:33
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:33
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	29-Dec-2017 18:33
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	29-Dec-2017 18:33
Benzene	**4.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:33
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	29-Dec-2017 18:33
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW14_121817_a
Collection Date: 18-Dec-2017 08:25

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-02
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
Chloroform	**5.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:33
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:33
cis-1,2-Dichloroethene	**2,000**		**20**	**50**	**100**	**ug/L**	100	31-Dec-2017 08:11
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Dec-2017 18:33
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Dec-2017 18:33
Methylene chloride	**12**		**0.40**	**0.50**	**2.0**	**ug/L**	1	29-Dec-2017 18:33
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:33
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Toluene	**0.37**	J	**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:33
trans-1,2-Dichloroethene	**21**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:33
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Trichloroethene	**13,000**		**20**	**50**	**100**	**ug/L**	100	31-Dec-2017 08:11
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:33
Vinyl chloride	**5.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:33
Surr: 1,2-Dichloroethane-d4	*92.3*			**0**	*81-118*	*%REC*	*1*	*29-Dec-2017 18:33*
Surr: 1,2-Dichloroethane-d4	*91.4*			**0**	*81-118*	*%REC*	*100*	*31-Dec-2017 08:11*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*1*	*29-Dec-2017 18:33*
Surr: 4-Bromofluorobenzene	*95.1*			**0**	*85-114*	*%REC*	*100*	*31-Dec-2017 08:11*
Surr: Dibromofluoromethane	*96.2*			**0**	*80-119*	*%REC*	*1*	*29-Dec-2017 18:33*
Surr: Dibromofluoromethane	*98.4*			**0**	*80-119*	*%REC*	*100*	*31-Dec-2017 08:11*
Surr: Toluene-d8	*94.3*			**0**	*89-112*	*%REC*	*1*	*29-Dec-2017 18:33*
Surr: Toluene-d8	*99.0*			**0**	*89-112*	*%REC*	*100*	*31-Dec-2017 08:11*

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW14_121817_a
Collection Date: 18-Dec-2017 08:25

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-02
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 21-Dec-2017		Analyst: JDE
Aluminum	**0.0162**		**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	02-Jan-2018 18:51
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	02-Jan-2018 14:10
Arsenic	**0.00171**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 14:10
Barium	**0.276**		**0.00190**	**0.00250**	**0.00400**	**mg/L**	1	02-Jan-2018 14:10
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 18:51
Cadmium	**0.000927**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 14:10
Calcium	**92.2**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	02-Jan-2018 14:10
Chromium	**0.0431**		**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	02-Jan-2018 14:10
Cobalt	**0.0361**		**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	02-Jan-2018 14:10
Copper	**0.00334**		**0.00100**	**0.00200**	**0.00200**	**mg/L**	1	02-Jan-2018 18:51
Iron	**89.8**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 18:51
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	02-Jan-2018 14:10
Magnesium	**45.1**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:10
Manganese	**3.81**		**0.00350**	**0.00500**	**0.0250**	**mg/L**	5	02-Jan-2018 18:21
Nickel	**0.344**		**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	02-Jan-2018 18:51
Potassium	**17.6**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:10
Selenium	0.00200	U	0.00110	0.00200	0.00200	mg/L	1	02-Jan-2018 14:10
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:10
Sodium	**397**		**0.0700**	**0.500**	**1.00**	**mg/L**	5	02-Jan-2018 18:21
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:10
Vanadium	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	02-Jan-2018 14:10
Zinc	**0.688**		**0.00200**	**0.00250**	**0.00400**	**mg/L**	1	02-Jan-2018 14:10
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 27-Dec-2017		Analyst: JBA
Mercury	**0.0000840**	J	**0.0000300**	**0.000100**	**0.000200**	**mg/L**	1	28-Dec-2017 19:47
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	11-Jan-2018 09:13

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW21_121817
Collection Date: 18-Dec-2017 09:35

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-03
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,1,2-Trichloroethane	**11**		**0.30**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:58
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,2-Dichloroethane	**41**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:58
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:58
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	29-Dec-2017 18:58
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	29-Dec-2017 18:58
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:58
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	29-Dec-2017 18:58
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	29-Dec-2017 18:58
Benzene	**3.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:58
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	29-Dec-2017 18:58
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW21_121817
Collection Date: 18-Dec-2017 09:35

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-03
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
Chloroform	**12**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:58
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
cis-1,2-Dichloroethene	**74**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:58
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Dec-2017 18:58
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Dec-2017 18:58
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	29-Dec-2017 18:58
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 18:58
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
trans-1,2-Dichloroethene	**7.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:58
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Trichloroethene	**8,500**		**20**	**50**	**100**	**ug/L**	100	31-Dec-2017 08:38
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 18:58
Vinyl chloride	**37**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 18:58
Surr: 1,2-Dichloroethane-d4	*91.7*			**0**	*81-118*	*%REC*	*1*	*29-Dec-2017 18:58*
Surr: 1,2-Dichloroethane-d4	*90.9*			**0**	*81-118*	*%REC*	*100*	*31-Dec-2017 08:38*
Surr: 4-Bromofluorobenzene	*98.2*			**0**	*85-114*	*%REC*	*1*	*29-Dec-2017 18:58*
Surr: 4-Bromofluorobenzene	*95.3*			**0**	*85-114*	*%REC*	*100*	*31-Dec-2017 08:38*
Surr: Dibromofluoromethane	*99.7*			**0**	*80-119*	*%REC*	*1*	*29-Dec-2017 18:58*
Surr: Dibromofluoromethane	*98.4*			**0**	*80-119*	*%REC*	*100*	*31-Dec-2017 08:38*
Surr: Toluene-d8	*94.6*			**0**	*89-112*	*%REC*	*1*	*29-Dec-2017 18:58*
Surr: Toluene-d8	*98.3*			**0**	*89-112*	*%REC*	*100*	*31-Dec-2017 08:38*

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW21_121817
Collection Date: 18-Dec-2017 09:35

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-03
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 21-Dec-2017		Analyst: JDE
Aluminum	**0.00900**	J	**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	02-Jan-2018 18:53
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	02-Jan-2018 14:12
Arsenic	**0.000400**	J	**0.000400**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 14:12
Barium	**7.40**		**0.0190**	**0.0250**	**0.0400**	**mg/L**	10	02-Jan-2018 18:23
Beryllium	**0.000211**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 18:53
Cadmium	**0.00102**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 14:12
Calcium	**206**		**0.340**	**1.00**	**5.00**	**mg/L**	10	02-Jan-2018 18:23
Chromium	**1.69**		**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	02-Jan-2018 14:12
Cobalt	**0.129**		**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	02-Jan-2018 14:12
Copper	**0.0714**		**0.00100**	**0.00200**	**0.00200**	**mg/L**	1	02-Jan-2018 18:53
Iron	**21.0**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 18:53
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	02-Jan-2018 14:12
Magnesium	**138**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:12
Manganese	**3.15**		**0.00700**	**0.0100**	**0.0500**	**mg/L**	10	02-Jan-2018 18:23
Nickel	**2.48**		**0.00600**	**0.0200**	**0.0200**	**mg/L**	10	02-Jan-2018 18:23
Potassium	**2.28**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:12
Selenium	**0.00452**		**0.00110**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 14:12
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:12
Sodium	**542**		**0.140**	**1.00**	**2.00**	**mg/L**	10	02-Jan-2018 18:23
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:12
Vanadium	**0.00108**	J	**0.000600**	**0.00100**	**0.00500**	**mg/L**	1	02-Jan-2018 14:12
Zinc	**0.0269**		**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	02-Jan-2018 14:12
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 27-Dec-2017		Analyst: JBA
Mercury	**0.000121**	J	**0.0000300**	**0.000100**	**0.000200**	**mg/L**	1	28-Dec-2017 19:48
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	11-Jan-2018 09:13

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW22_121817
Collection Date: 18-Dec-2017 10:40

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-04
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,2-Dichloroethane	**5.4**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 19:22
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:22
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	29-Dec-2017 19:22
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	29-Dec-2017 19:22
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:22
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	29-Dec-2017 19:22
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	29-Dec-2017 19:22
Benzene	**3.3**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 19:22
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	29-Dec-2017 19:22
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW22_121817
Collection Date: 18-Dec-2017 10:40

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-04
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
Chloroform	**4.0**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 19:22
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
cis-1,2-Dichloroethene	**6.1**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 19:22
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Dec-2017 19:22
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Dec-2017 19:22
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	29-Dec-2017 19:22
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:22
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Trichloroethene	**550**		**2.0**	**5.0**	**10**	**ug/L**	10	31-Dec-2017 06:50
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:22
Vinyl chloride	**1.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 19:22
Surr: 1,2-Dichloroethane-d4	*91.9*			**0**	*81-118*	*%REC*	*1*	*29-Dec-2017 19:22*
Surr: 1,2-Dichloroethane-d4	*94.5*			**0**	*81-118*	*%REC*	*10*	*31-Dec-2017 06:50*
Surr: 4-Bromofluorobenzene	*97.8*			**0**	*85-114*	*%REC*	*1*	*29-Dec-2017 19:22*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*10*	*31-Dec-2017 06:50*
Surr: Dibromofluoromethane	*98.6*			**0**	*80-119*	*%REC*	*1*	*29-Dec-2017 19:22*
Surr: Dibromofluoromethane	*96.7*			**0**	*80-119*	*%REC*	*10*	*31-Dec-2017 06:50*
Surr: Toluene-d8	*96.4*			**0**	*89-112*	*%REC*	*1*	*29-Dec-2017 19:22*
Surr: Toluene-d8	*97.3*			**0**	*89-112*	*%REC*	*10*	*31-Dec-2017 06:50*

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: MW22_121817
Collection Date: 18-Dec-2017 10:40

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-04
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 21-Dec-2017		Analyst: JDE
Aluminum	**0.00917**	J	**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	02-Jan-2018 18:55
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	02-Jan-2018 14:14
Arsenic	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	02-Jan-2018 14:14
Barium	**1.08**		**0.00190**	**0.00250**	**0.00400**	**mg/L**	1	02-Jan-2018 14:14
Beryllium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 18:55
Cadmium	**0.00138**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 14:14
Calcium	**91.9**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	02-Jan-2018 14:14
Chromium	**0.0174**		**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	02-Jan-2018 14:14
Cobalt	**0.0561**		**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	02-Jan-2018 14:14
Copper	**0.00485**		**0.00100**	**0.00200**	**0.00200**	**mg/L**	1	02-Jan-2018 18:55
Iron	**0.591**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 18:55
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	02-Jan-2018 14:14
Magnesium	**26.8**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:14
Manganese	**0.688**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	02-Jan-2018 18:55
Nickel	**0.660**		**0.000600**	**0.00200**	**0.00200**	**mg/L**	1	02-Jan-2018 18:55
Potassium	**1.83**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:14
Selenium	0.00100	U	0.00110	0.00100	0.00200	mg/L	1	02-Jan-2018 14:14
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:14
Sodium	**371**		**0.0700**	**0.500**	**1.00**	**mg/L**	5	02-Jan-2018 18:25
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:14
Vanadium	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	02-Jan-2018 14:14
Zinc	**0.00294**	J	**0.00200**	**0.00100**	**0.00400**	**mg/L**	1	02-Jan-2018 14:14
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 27-Dec-2017		Analyst: JBA
Mercury	**0.0000860**	J	**0.0000300**	**0.000100**	**0.000200**	**mg/L**	1	28-Dec-2017 19:58
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	11-Jan-2018 09:13

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW06_121817
Collection Date: 18-Dec-2017 11:40

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-05
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:47
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	29-Dec-2017 19:47
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	29-Dec-2017 19:47
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:47
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	29-Dec-2017 19:47
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	29-Dec-2017 19:47
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	29-Dec-2017 19:47
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW06_121817
Collection Date: 18-Dec-2017 11:40

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-05
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Dec-2017 19:47
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Dec-2017 19:47
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	29-Dec-2017 19:47
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 19:47
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Trichloroethene	**2.2**		**0.20**	**0.50**	**1.0**	**ug/L**	1	31-Dec-2017 05:58
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 19:47
Surr: 1,2-Dichloroethane-d4	*91.5*			**0**	*81-118*	*%REC*	*1*	*29-Dec-2017 19:47*
Surr: 1,2-Dichloroethane-d4	*92.7*			**0**	*81-118*	*%REC*	*1*	*31-Dec-2017 05:58*
Surr: 4-Bromofluorobenzene	*95.8*			**0**	*85-114*	*%REC*	*1*	*29-Dec-2017 19:47*
Surr: 4-Bromofluorobenzene	*98.6*			**0**	*85-114*	*%REC*	*1*	*31-Dec-2017 05:58*
Surr: Dibromofluoromethane	*100.0*			**0**	*80-119*	*%REC*	*1*	*29-Dec-2017 19:47*
Surr: Dibromofluoromethane	*98.7*			**0**	*80-119*	*%REC*	*1*	*31-Dec-2017 05:58*
Surr: Toluene-d8	*96.1*			**0**	*89-112*	*%REC*	*1*	*29-Dec-2017 19:47*
Surr: Toluene-d8	*95.6*			**0**	*89-112*	*%REC*	*1*	*31-Dec-2017 05:58*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	11-Jan-2018 09:13

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW06_121817_a
Collection Date: 18-Dec-2017 11:40

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-06
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,2-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:12
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	29-Dec-2017 20:12
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	29-Dec-2017 20:12
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:12
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	29-Dec-2017 20:12
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	29-Dec-2017 20:12
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	29-Dec-2017 20:12
Carbon tetrachloride	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW06_121817_a
Collection Date: 18-Dec-2017 11:40

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-06
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C		**Method:SW8260**						Analyst: AKP
Chloroform	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
cis-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Dec-2017 20:12
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Dec-2017 20:12
Methylene chloride	**2.5**		**0.40**	**0.50**	**2.0**	**ug/L**	1	29-Dec-2017 20:12
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:12
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Trichloroethene	**1.7**		**0.20**	**0.50**	**1.0**	**ug/L**	1	31-Dec-2017 06:22
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:12
Surr: 1,2-Dichloroethane-d4	*91.5*			**0**	*81-118*	*%REC*	*1*	*29-Dec-2017 20:12*
Surr: 1,2-Dichloroethane-d4	*91.6*			**0**	*81-118*	*%REC*	*1*	*31-Dec-2017 06:22*
Surr: 4-Bromofluorobenzene	*95.6*			**0**	*85-114*	*%REC*	*1*	*29-Dec-2017 20:12*
Surr: 4-Bromofluorobenzene	*96.7*			**0**	*85-114*	*%REC*	*1*	*31-Dec-2017 06:22*
Surr: Dibromofluoromethane	*98.5*			**0**	*80-119*	*%REC*	*1*	*29-Dec-2017 20:12*
Surr: Dibromofluoromethane	*98.0*			**0**	*80-119*	*%REC*	*1*	*31-Dec-2017 06:22*
Surr: Toluene-d8	*96.5*			**0**	*89-112*	*%REC*	*1*	*29-Dec-2017 20:12*
Surr: Toluene-d8	*96.0*			**0**	*89-112*	*%REC*	*1*	*31-Dec-2017 06:22*
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	11-Jan-2018 09:13

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: 18CPTMW16_121817
Collection Date: 18-Dec-2017 13:40

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-07
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	11-Jan-2018 09:13

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: AWD3_121817
Collection Date: 18-Dec-2017 14:50

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
1,1,1,2-Tetrachloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,1,1-Trichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,1,2,2-Tetrachloroethane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,1,2-Trichloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,1-Dichloroethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,1-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,1-Dichloropropene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,2,3-Trichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,2,3-Trichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,2,4-Trichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,2,4-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,2-Dibromo-3-chloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,2-Dibromoethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,2-Dichlorobenzene	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,2-Dichloroethane	**12**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 20:36
1,2-Dichloropropane	0.50	U	0.50	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,3,5-Trimethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,3-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,3-Dichloropropane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
1,4-Dichlorobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:36
2,2-Dichloropropane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
2-Butanone	0.50	U	0.50	0.50	2.0	ug/L	1	29-Dec-2017 20:36
2-Chlorotoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
2-Hexanone	1.0	U	1.0	1.0	2.0	ug/L	1	29-Dec-2017 20:36
4-Chlorotoluene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:36
4-Isopropyltoluene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
4-Methyl-2-pentanone	1.0	U	0.70	1.0	2.0	ug/L	1	29-Dec-2017 20:36
Acetone	1.0	U	0.40	1.0	2.0	ug/L	1	29-Dec-2017 20:36
Benzene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Bromobenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Bromochloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Bromodichloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Bromoform	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Bromomethane	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Carbon disulfide	1.0	U	0.60	1.0	2.0	ug/L	1	29-Dec-2017 20:36
Carbon tetrachloride	**6.1**		**0.50**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 20:36
Chlorobenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Chloroethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: AWD3_121817
Collection Date: 18-Dec-2017 14:50

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
VOLATILES ORGANICS BY METHOD 8260C	**Method:SW8260**							Analyst: AKP
Chloroform	**1.5**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 20:36
Chloromethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
cis-1,2-Dichloroethene	**68**		**0.20**	**0.50**	**1.0**	**ug/L**	1	29-Dec-2017 20:36
cis-1,3-Dichloropropene	0.50	U	0.10	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Dibromochloromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Dibromomethane	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Dichlorodifluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Ethylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Hexachlorobutadiene	1.0	U	1.0	1.0	1.0	ug/L	1	29-Dec-2017 20:36
Isopropylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
m,p-Xylene	1.0	U	0.50	1.0	2.0	ug/L	1	29-Dec-2017 20:36
Methylene chloride	0.50	U	0.40	0.50	2.0	ug/L	1	29-Dec-2017 20:36
n-Butylbenzene	0.50	U	0.40	0.50	1.0	ug/L	1	29-Dec-2017 20:36
n-Propylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Naphthalene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
o-Xylene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
sec-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Styrene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
tert-Butylbenzene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Tetrachloroethene	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Toluene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
trans-1,2-Dichloroethene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
trans-1,3-Dichloropropene	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Trichloroethene	**470**		**2.0**	**5.0**	**10**	**ug/L**	10	31-Dec-2017 07:17
Trichlorofluoromethane	0.50	U	0.30	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Vinyl chloride	0.50	U	0.20	0.50	1.0	ug/L	1	29-Dec-2017 20:36
Surr: 1,2-Dichloroethane-d4	*95.0*			**0**	*81-118*	*%REC*	*1*	*29-Dec-2017 20:36*
Surr: 1,2-Dichloroethane-d4	*90.2*			**0**	*81-118*	*%REC*	*10*	*31-Dec-2017 07:17*
Surr: 4-Bromofluorobenzene	*97.0*			**0**	*85-114*	*%REC*	*1*	*29-Dec-2017 20:36*
Surr: 4-Bromofluorobenzene	*96.6*			**0**	*85-114*	*%REC*	*10*	*31-Dec-2017 07:17*
Surr: Dibromofluoromethane	*99.2*			**0**	*80-119*	*%REC*	*1*	*29-Dec-2017 20:36*
Surr: Dibromofluoromethane	*94.4*			**0**	*80-119*	*%REC*	*10*	*31-Dec-2017 07:17*
Surr: Toluene-d8	*95.1*			**0**	*89-112*	*%REC*	*1*	*29-Dec-2017 20:36*
Surr: Toluene-d8	*98.3*			**0**	*89-112*	*%REC*	*10*	*31-Dec-2017 07:17*

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
Sample ID: AWD3_121817
Collection Date: 18-Dec-2017 14:50

ANALYTICAL REPORT
WorkOrder:HS17121113
Lab ID:HS17121113-08
Matrix:Water

ANALYSES	RESULT	QUAL	DL	LOD	LOQ	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**				Prep:SW3010A / 21-Dec-2017		Analyst: JDE
Aluminum	**0.0335**		**0.00180**	**0.00400**	**0.0100**	**mg/L**	1	02-Jan-2018 18:27
Antimony	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	02-Jan-2018 14:16
Arsenic	0.00100	U	0.000400	0.00100	0.00200	mg/L	1	02-Jan-2018 14:16
Barium	**0.216**		**0.00190**	**0.00250**	**0.00400**	**mg/L**	1	02-Jan-2018 14:16
Beryllium	**0.000315**	J	**0.000200**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 18:27
Cadmium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:16
Calcium	**4.90**		**0.0340**	**0.100**	**0.500**	**mg/L**	1	02-Jan-2018 14:16
Chromium	**0.279**		**0.000400**	**0.00100**	**0.00400**	**mg/L**	1	02-Jan-2018 14:16
Cobalt	**0.0309**		**0.000200**	**0.00100**	**0.00500**	**mg/L**	1	02-Jan-2018 14:16
Copper	**0.0298**		**0.00100**	**0.00100**	**0.00200**	**mg/L**	1	02-Jan-2018 18:27
Iron	**1.95**		**0.0120**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 18:27
Lead	0.00100	U	0.000600	0.00100	0.00200	mg/L	1	02-Jan-2018 14:16
Magnesium	**3.39**		**0.0100**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:16
Manganese	**0.255**		**0.000700**	**0.00100**	**0.00500**	**mg/L**	1	02-Jan-2018 18:27
Nickel	**1.98**		**0.00300**	**0.0100**	**0.0100**	**mg/L**	5	03-Jan-2018 11:24
Potassium	**0.924**		**0.0180**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:16
Selenium	**0.00152**	J	**0.00110**	**0.00200**	**0.00200**	**mg/L**	1	02-Jan-2018 14:16
Silver	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:16
Sodium	**48.0**		**0.0140**	**0.100**	**0.200**	**mg/L**	1	02-Jan-2018 14:16
Thallium	0.00100	U	0.000200	0.00100	0.00200	mg/L	1	02-Jan-2018 14:16
Vanadium	0.00100	U	0.000600	0.00100	0.00500	mg/L	1	02-Jan-2018 14:16
Zinc	**0.00506**		**0.00200**	**0.00250**	**0.00400**	**mg/L**	1	02-Jan-2018 14:16
MERCURY BY SW7470A		**Method:SW7470**				Prep:SW7470 / 27-Dec-2017		Analyst: JBA
Mercury	**0.000113**	J	**0.0000300**	**0.000100**	**0.000200**	**mg/L**	1	28-Dec-2017 20:06
SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)		**Method:NA**						Analyst: SUB
Subcontract Analysis	See Attached		0	0		NA	1	11-Jan-2018 09:13

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

ALS Group USA, Corp Date: 11-Jan-18

WEIGHT LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Batch ID: 123692 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17121113-01	1	10	10 (mL)	1
HS17121113-02	1	10	10 (mL)	1
HS17121113-03	1	10	10 (mL)	1
HS17121113-04	1	10	10 (mL)	1
HS17121113-08	1	10	10 (mL)	1

Batch ID: 123822 **Method:** MERCURY BY SW7470A **Prep:** HG_WPR

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS17121113-01	1	10	10 (mL)	1
HS17121113-02	1	10	10 (mL)	1
HS17121113-03	1	10	10 (mL)	1
HS17121113-04	1	10	10 (mL)	1
HS17121113-08	1	10	10 (mL)	1

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 123692	**Test Name :** ICP-MS METALS BY SW6020A			**Matrix:** Water		
HS17121113-01	MW14_121817	18 Dec 2017 08:25		21 Dec 2017 12:50	02 Jan 2018 18:49	1
HS17121113-01	MW14_121817	18 Dec 2017 08:25		21 Dec 2017 12:50	02 Jan 2018 18:19	5
HS17121113-01	MW14_121817	18 Dec 2017 08:25		21 Dec 2017 12:50	02 Jan 2018 14:04	1
HS17121113-02	MW14_121817_a	18 Dec 2017 08:25		21 Dec 2017 12:50	02 Jan 2018 18:51	1
HS17121113-02	MW14_121817_a	18 Dec 2017 08:25		21 Dec 2017 12:50	02 Jan 2018 18:21	5
HS17121113-02	MW14_121817_a	18 Dec 2017 08:25		21 Dec 2017 12:50	02 Jan 2018 14:10	1
HS17121113-03	MW21_121817	18 Dec 2017 09:35		21 Dec 2017 12:50	02 Jan 2018 18:53	1
HS17121113-03	MW21_121817	18 Dec 2017 09:35		21 Dec 2017 12:50	02 Jan 2018 18:23	10
HS17121113-03	MW21_121817	18 Dec 2017 09:35		21 Dec 2017 12:50	02 Jan 2018 14:12	1
HS17121113-04	MW22_121817	18 Dec 2017 10:40		21 Dec 2017 12:50	02 Jan 2018 18:55	1
HS17121113-04	MW22_121817	18 Dec 2017 10:40		21 Dec 2017 12:50	02 Jan 2018 18:25	5
HS17121113-04	MW22_121817	18 Dec 2017 10:40		21 Dec 2017 12:50	02 Jan 2018 14:14	1
HS17121113-08	AWD3_121817	18 Dec 2017 14:50		21 Dec 2017 12:50	03 Jan 2018 11:24	5
HS17121113-08	AWD3_121817	18 Dec 2017 14:50		21 Dec 2017 12:50	02 Jan 2018 18:27	1
HS17121113-08	AWD3_121817	18 Dec 2017 14:50		21 Dec 2017 12:50	02 Jan 2018 14:16	1
Batch ID 123822	**Test Name :** MERCURY BY SW7470A			**Matrix:** Water		
HS17121113-01	MW14_121817	18 Dec 2017 08:25		27 Dec 2017 11:56	28 Dec 2017 19:45	1
HS17121113-02	MW14_121817_a	18 Dec 2017 08:25		27 Dec 2017 11:56	28 Dec 2017 19:47	1
HS17121113-03	MW21_121817	18 Dec 2017 09:35		27 Dec 2017 11:56	28 Dec 2017 19:48	1
HS17121113-04	MW22_121817	18 Dec 2017 10:40		27 Dec 2017 11:56	28 Dec 2017 19:58	1
HS17121113-08	AWD3_121817	18 Dec 2017 14:50		27 Dec 2017 11:56	28 Dec 2017 20:06	1
Batch ID R308199	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17121113-01	MW14_121817	18 Dec 2017 08:25			29 Dec 2017 18:09	1
HS17121113-02	MW14_121817_a	18 Dec 2017 08:25			29 Dec 2017 18:33	1
HS17121113-03	MW21_121817	18 Dec 2017 09:35			29 Dec 2017 18:58	1
HS17121113-04	MW22_121817	18 Dec 2017 10:40			29 Dec 2017 19:22	1
HS17121113-05	18CPTMW06_121817	18 Dec 2017 11:40			29 Dec 2017 19:47	1
HS17121113-06	18CPTMW06_121817_a	18 Dec 2017 11:40			29 Dec 2017 20:12	1
HS17121113-08	AWD3_121817	18 Dec 2017 14:50			29 Dec 2017 20:36	1
Batch ID R308218	**Test Name :** VOLATILES ORGANICS BY METHOD 8260C			**Matrix:** Water		
HS17121113-01	MW14_121817	18 Dec 2017 08:25			31 Dec 2017 07:44	100
HS17121113-02	MW14_121817_a	18 Dec 2017 08:25			31 Dec 2017 08:11	100
HS17121113-03	MW21_121817	18 Dec 2017 09:35			31 Dec 2017 08:38	100
HS17121113-04	MW22_121817	18 Dec 2017 10:40			31 Dec 2017 06:50	10
HS17121113-05	18CPTMW06_121817	18 Dec 2017 11:40			31 Dec 2017 05:58	1
HS17121113-06	18CPTMW06_121817_a	18 Dec 2017 11:40			31 Dec 2017 06:22	1
HS17121113-08	AWD3_121817	18 Dec 2017 14:50			31 Dec 2017 07:17	10

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R308777	**Test Name :** SUBCONTRACT ANALYSIS - PERCHLORATE (EPA 6850)	**Matrix:** Water				
HS17121113-01	MW14_121817	18 Dec 2017 08:25			11 Jan 2018 09:13	1
HS17121113-02	MW14_121817_a	18 Dec 2017 08:25			11 Jan 2018 09:13	1
HS17121113-03	MW21_121817	18 Dec 2017 09:35			11 Jan 2018 09:13	1
HS17121113-04	MW22_121817	18 Dec 2017 10:40			11 Jan 2018 09:13	1
HS17121113-05	18CPTMW06_121817	18 Dec 2017 11:40			11 Jan 2018 09:13	1
HS17121113-06	18CPTMW06_121817_a	18 Dec 2017 11:40			11 Jan 2018 09:13	1
HS17121113-07	18CPTMW16_121817	18 Dec 2017 13:40			11 Jan 2018 09:13	1
HS17121113-08	AWD3_121817	18 Dec 2017 14:50			11 Jan 2018 09:13	1

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: 123692 **Instrument: ICPMS05** **Method: SW6020**

MBLK Sample ID: **MBLK-123692** Units: **mg/L** Analysis Date: **02-Jan-2018 18:15**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4377325** PrepDate: **21-Dec-2017** 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
Beryllium	0.00100	0.00200								U

MBLK Sample ID: **MBLK-123692** Units: **mg/L** Analysis Date: **02-Jan-2018 13:28**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4376566** PrepDate: **21-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.00100	0.00200								U
Arsenic	0.00100	0.00200								U
Barium	0.00100	0.00400								U
Cadmium	0.00100	0.00200								U
Calcium	0.100	0.500								U
Chromium	0.00100	0.00400								U
Cobalt	0.00100	0.00500								U
Copper	0.00200	0.00200								U
Iron	0.100	0.200								U
Lead	0.00100	0.00200								U
Magnesium	0.01044	0.200								J
Manganese	0.00100	0.00500								U
Nickel	0.00200	0.00200								U
Potassium	0.100	0.200								U
Selenium	0.00100	0.00200								U
Silver	0.00100	0.00200								U
Sodium	0.100	0.200								U
Thallium	0.00100	0.00200								U
Vanadium	0.00100	0.00500								U
Zinc	0.00250	0.00400								U

LCS Sample ID: **LCS-123692** Units: **mg/L** Analysis Date: **02-Jan-2018 18:17**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4377326** PrepDate: **21-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1106	0.0100	0.1	0	111	80 - 120				
Beryllium	0.04754	0.00200	0.05	0	95.1	80 - 120				

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: 123692 **Instrument: ICPMS05** **Method: SW6020**

LCS Sample ID: **LCS-123692** Units: **mg/L** Analysis Date: **02-Jan-2018 13:30**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4376567** PrepDate: **21-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05108	0.00200	0.05	0	102	80 - 120				
Arsenic	0.04611	0.00200	0.05	0	92.2	80 - 120				
Barium	0.04822	0.00400	0.05	0	96.4	80 - 120				
Cadmium	0.04879	0.00200	0.05	0	97.6	80 - 120				
Calcium	4.427	0.500	5	0	88.5	80 - 120				
Chromium	0.04652	0.00400	0.05	0	93.0	80 - 120				
Cobalt	0.04706	0.00500	0.05	0	94.1	80 - 120				
Copper	0.04519	0.00200	0.05	0	90.4	80 - 120				
Iron	4.636	0.200	5	0	92.7	80 - 120				
Lead	0.05291	0.00200	0.05	0	106	80 - 120				
Magnesium	4.626	0.200	5	0	92.5	80 - 120				
Manganese	0.04483	0.00500	0.05	0	89.7	80 - 120				
Nickel	0.04707	0.00200	0.05	0	94.1	80 - 120				
Potassium	4.654	0.200	5	0	93.1	80 - 120				
Selenium	0.04531	0.00200	0.05	0	90.6	80 - 120				
Silver	0.04709	0.00200	0.05	0	94.2	80 - 120				
Sodium	4.753	0.200	5	0	95.1	80 - 120				
Thallium	0.04496	0.00200	0.05	0	89.9	80 - 120				
Vanadium	0.04528	0.00500	0.05	0	90.6	80 - 120				
Zinc	0.04594	0.00400	0.05	0	91.9	80 - 120				

MS Sample ID: **HS17121008-07MS** Units: **mg/L** Analysis Date: **02-Jan-2018 18:33**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4377334** PrepDate: **21-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1404	0.0100	0.1	0.04409	96.4	80 - 120				
Beryllium	0.05033	0.00200	0.05	0.00001	101	80 - 120				

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: 123692 **Instrument: ICPMS05** **Method: SW6020**

MS Sample ID: **HS17121008-07MS** Units: **mg/L** Analysis Date: **02-Jan-2018 13:52**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4376578** PrepDate: **21-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05459	0.00200	0.05	0.000131	109	80 - 120				
Arsenic	0.04948	0.00200	0.05	0.000188	98.6	80 - 120				
Barium	0.08531	0.00400	0.05	0.04143	87.8	80 - 120				
Cadmium	0.04762	0.00200	0.05	0.000027	95.2	80 - 120				
Calcium	64.06	0.500	5	56.3	155	80 - 120				SO
Chromium	0.04886	0.00400	0.05	0.00147	94.8	80 - 120				
Cobalt	0.04974	0.00500	0.05	0.001651	96.2	80 - 120				
Copper	0.04797	0.00200	0.05	0.002033	91.9	80 - 120				
Iron	4.874	0.200	5	0.1653	94.2	80 - 120				
Lead	0.05294	0.00200	0.05	0.000202	105	80 - 120				
Magnesium	34.22	0.200	5	29.55	93.4	80 - 120				O
Manganese	0.1462	0.00500	0.05	0.1042	84.0	80 - 120				
Nickel	0.05527	0.00200	0.05	0.007438	95.7	80 - 120				
Potassium	6.111	0.200	5	1.047	101	80 - 120				
Selenium	0.04883	0.00200	0.05	-0.000391	98.4	80 - 120				
Silver	0.04816	0.00200	0.05	0.000026	96.3	80 - 120				
Sodium	16.35	0.200	5	11.28	101	80 - 120				
Thallium	0.04642	0.00200	0.05	0.000011	92.8	80 - 120				
Vanadium	0.05635	0.00500	0.05	0.008108	96.5	80 - 120				
Zinc	0.05876	0.00400	0.05	0.01317	91.2	80 - 120				

MSD Sample ID: **HS17121008-07MSD** Units: **mg/L** Analysis Date: **02-Jan-2018 18:39**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4377337** PrepDate: **21-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.133	0.0100	0.1	0.04409	89.0	80 - 120	0.1404	5.41	20	
Beryllium	0.04822	0.00200	0.05	0.00001	96.4	80 - 120	0.05033	4.29	20	

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: 123692 **Instrument: ICPMS05** **Method: SW6020**

MSD Sample ID: **HS17121008-07MSD** Units: **mg/L** Analysis Date: **02-Jan-2018 13:54**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4376579** PrepDate: **21-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.05267	0.00200	0.05	0.000131	105	80 - 120	0.05459	3.58	20	
Arsenic	0.04818	0.00200	0.05	0.000188	96.0	80 - 120	0.04948	2.66	20	
Barium	0.08892	0.00400	0.05	0.04143	95.0	80 - 120	0.08531	4.15	20	
Cadmium	0.0487	0.00200	0.05	0.000027	97.3	80 - 120	0.04762	2.25	20	
Calcium	60.08	0.500	5	56.3	75.7	80 - 120	64.06	6.4	20	SO
Chromium	0.04958	0.00400	0.05	0.00147	96.2	80 - 120	0.04886	1.48	20	
Cobalt	0.04925	0.00500	0.05	0.001651	95.2	80 - 120	0.04974	1	20	
Copper	0.04864	0.00200	0.05	0.002033	93.2	80 - 120	0.04797	1.4	20	
Iron	4.761	0.200	5	0.1653	91.9	80 - 120	4.874	2.34	20	
Lead	0.05365	0.00200	0.05	0.000202	107	80 - 120	0.05294	1.32	20	
Magnesium	34.06	0.200	5	29.55	90.2	80 - 120	34.22	0.474	20	O
Manganese	0.1434	0.00500	0.05	0.1042	78.2	80 - 120	0.1462	1.98	20	S
Nickel	0.0539	0.00200	0.05	0.007438	92.9	80 - 120	0.05527	2.51	20	
Potassium	5.691	0.200	5	1.047	92.9	80 - 120	6.111	7.13	20	
Selenium	0.0447	0.00200	0.05	-0.000391	90.2	80 - 120	0.04883	8.82	20	
Silver	0.04718	0.00200	0.05	0.000026	94.3	80 - 120	0.04816	2.06	20	
Sodium	16.07	0.200	5	11.28	95.9	80 - 120	16.35	1.71	20	
Thallium	0.04718	0.00200	0.05	0.000011	94.3	80 - 120	0.04642	1.62	20	
Vanadium	0.05499	0.00500	0.05	0.008108	93.8	80 - 120	0.05635	2.45	20	
Zinc	0.05869	0.00400	0.05	0.01317	91.0	80 - 120	0.05876	0.124	20	

PDS Sample ID: **HS17121008-07PDS** Units: **mg/L** Analysis Date: **02-Jan-2018 18:41**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4377338** PrepDate: **21-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Aluminum	0.1257	0.0100	0.1	0.04409	81.6	75 - 125				
Beryllium	0.08532	0.00200	0.1	0.00001	85.3	75 - 125				
Magnesium	40.93	0.200	10	32.11	88.1	75 - 125				

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: 123692 **Instrument: ICPMS05** **Method: SW6020**

PDS Sample ID: **HS17121008-07PDS** Units: **mg/L** Analysis Date: **02-Jan-2018 13:56**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4376580** PrepDate: **21-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Antimony	0.09822	0.00200	0.1	0.000131	98.1	75 - 125				
Arsenic	0.09706	0.00200	0.1	0.000188	96.9	75 - 125				
Barium	0.1425	0.00400	0.1	0.04143	101	75 - 125				
Cadmium	0.1024	0.00200	0.1	0.000027	102	75 - 125				
Calcium	64.04	0.500	10	56.3	77.4	75 - 125				O
Chromium	0.09722	0.00400	0.1	0.00147	95.8	75 - 125				
Cobalt	0.0957	0.00500	0.1	0.001651	94.1	75 - 125				
Copper	0.09396	0.00200	0.1	0.002033	91.9	75 - 125				
Iron	9.329	0.200	10	0.1653	91.6	75 - 125				
Lead	0.1067	0.00200	0.1	0.000202	107	75 - 125				
Manganese	0.1851	0.00500	0.1	0.1042	80.9	75 - 125				
Nickel	0.1008	0.00200	0.1	0.007438	93.3	75 - 125				
Potassium	10.87	0.200	10	1.047	98.2	75 - 125				
Selenium	0.09742	0.00200	0.1	-0.000391	97.8	75 - 125				
Silver	0.09662	0.00200	0.1	0.000026	96.6	75 - 125				
Sodium	19.96	0.200	10	11.28	86.9	75 - 125				
Thallium	0.1037	0.00200	0.1	0.000011	104	75 - 125				
Vanadium	0.1014	0.00500	0.1	0.008108	93.2	75 - 125				
Zinc	0.1088	0.00400	0.1	0.01317	95.6	75 - 125				

SD Sample ID: **HS17121008-07SD** Units: **mg/L** Analysis Date: **02-Jan-2018 18:31**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4377333** PrepDate: **21-Dec-2017** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Aluminum	0.04823	0.0500					0.04409	0	10	J
Beryllium	0.00500	0.0100					0.00001	0	10	U
Potassium	1.204	1.00					1.139	5.72	10	

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: 123692 **Instrument: ICPMS05** **Method: SW6020**

SD Sample ID: **HS17121008-07SD** Units: **mg/L** Analysis Date: **02-Jan-2018 13:50**
Client ID: Run ID: **ICPMS05_308260** SeqNo: **4376577** PrepDate: **21-Dec-2017** DF: **5**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Antimony	0.00500	0.0100					0.000131	0	10	U
Arsenic	0.00500	0.0100					0.000188	0	10	U
Barium	0.03992	0.0200					0.04143	3.65	10	
Cadmium	0.00500	0.0100					0.000027	0	10	U
Calcium	58.89	2.50					56.3	4.59	10	
Chromium	0.00500	0.0200					0.00147	0	10	U
Cobalt	0.001645	0.0250					0.001651	0	10	J
Copper	0.00500	0.0100					0.002033	0	10	U
Iron	0.1868	1.00					0.1653	0	10	J
Lead	0.00500	0.0100					0.000202	0	10	U
Magnesium	30.87	1.00					29.55	4.44	10	
Manganese	0.1146	0.0250					0.1042	9.91	10	
Nickel	0.00574	0.0100					0.007438	0	10	J
Selenium	0.00500	0.0100					-0.000391	0	10	U
Silver	0.00500	0.0100					0.000026	0	10	U
Sodium	11.53	1.00					11.28	2.2	10	
Thallium	0.00500	0.0100					0.000011	0	10	U
Vanadium	0.008047	0.0250					0.008108	0	10	J
Zinc	0.01443	0.0200					0.01317	0	10	J

The following samples were analyzed in this batch: HS17121113-01 HS17121113-02 HS17121113-03 HS17121113-04 HS17121113-08

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: 123822 **Instrument: HG03** **Method: SW7470**

MBLK Sample ID: **MBLK-123822** Units: **mg/L** Analysis Date: **28-Dec-2017 19:35**
Client ID: Run ID: **HG03_308150** SeqNo: **4373184** PrepDate: **27-Dec-2017** 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-123822** Units: **mg/L** Analysis Date: **28-Dec-2017 19:43**
Client ID: Run ID: **HG03_308150** SeqNo: **4373185** PrepDate: **27-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00474	0.000200	0.005	0	94.8	80 - 120				

MS Sample ID: **HS17121113-03MS** Units: **mg/L** Analysis Date: **28-Dec-2017 19:50**
Client ID: **MW21_121817** Run ID: **HG03_308150** SeqNo: **4373189** PrepDate: **27-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00464	0.000200	0.005	0.000121	90.4	75 - 125				

MSD Sample ID: **HS17121113-03MSD** Units: **mg/L** Analysis Date: **28-Dec-2017 19:52**
Client ID: **MW21_121817** Run ID: **HG03_308150** SeqNo: **4373190** PrepDate: **27-Dec-2017** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	0.00495	0.000200	0.005	0.000121	96.6	75 - 125	0.00464	6.47	20	

The following samples were analyzed in this batch: HS17121113-01 HS17121113-02 HS17121113-03 HS17121113-04 HS17121113-08

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308199 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171229** Units: **ug/L** Analysis Date: **29-Dec-2017 14:52**
Client ID: Run ID: **VOA2_308199** SeqNo: **4374116** PrepDate: DF: **1**

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

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308199 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171229** Units: **ug/L** Analysis Date: **29-Dec-2017 14:52**
Client ID: Run ID: **VOA2_308199** SeqNo: **4374116** 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	0.50	1.0								U
Chlorobenzene	0.50	1.0								U
Chloroethane	0.50	1.0								U
Chloroform	0.50	1.0								U
Chloromethane	0.50	1.0								U
cis-1,2-Dichloroethene	0.50	1.0								U
cis-1,3-Dichloropropene	0.50	1.0								U
Dibromochloromethane	0.50	1.0								U
Dibromomethane	0.50	1.0								U
Dichlorodifluoromethane	0.50	1.0								U
Ethylbenzene	0.50	1.0								U
Hexachlorobutadiene	1.0	1.0								U
Isopropylbenzene	0.50	1.0								U
m,p-Xylene	1.0	2.0								U
Methylene chloride	0.50	2.0								U
Naphthalene	0.50	1.0								U
n-Butylbenzene	0.50	1.0								U
n-Propylbenzene	0.50	1.0								U
o-Xylene	0.50	1.0								U
sec-Butylbenzene	0.50	1.0								U
Styrene	0.50	1.0								U
tert-Butylbenzene	0.50	1.0								U
Tetrachloroethene	0.50	1.0								U
Toluene	0.50	1.0								U
trans-1,2-Dichloroethene	0.50	1.0								U
trans-1,3-Dichloropropene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Trichlorofluoromethane	0.50	1.0								U
Vinyl chloride	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.92*	*1.0*	*50*	*0*	*91.8*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.91*	*1.0*	*50*	*0*	*97.8*	*85 - 114*				
Surr: Dibromofluoromethane	*47.93*	*1.0*	*50*	*0*	*95.9*	*80 - 119*				
Surr: Toluene-d8	*48.59*	*1.0*	*50*	*0*	*97.2*	*89 - 112*				

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308199 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171229** Units: **ug/L** Analysis Date: **29-Dec-2017 14:03**
Client ID: Run ID: **VOA2_308199** SeqNo: **4374164** 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	47.52	1.0	50	0	95.0	78 - 124				
1,1,1-Trichloroethane	43.89	1.0	50	0	87.8	74 - 131				
1,1,2,2-Tetrachloroethane	40.62	1.0	50	0	81.2	71 - 121				
1,1,2-Trichloroethane	45.34	1.0	50	0	90.7	80 - 119				
1,1-Dichloroethane	45.83	1.0	50	0	91.7	77 - 125				
1,1-Dichloroethene	47.2	1.0	50	0	94.4	71 - 131				
1,1-Dichloropropene	48.3	1.0	50	0	96.6	79 - 125				
1,2,3-Trichlorobenzene	47.64	1.0	50	0	95.3	69 - 129				
1,2,3-Trichloropropane	42.3	1.0	50	0	84.6	73 - 122				
1,2,4-Trichlorobenzene	48.84	1.0	50	0	97.7	69 - 130				
1,2,4-Trimethylbenzene	39.71	1.0	50	0	79.4	76 - 124				
1,2-Dibromo-3-chloropropane	41.8	1.0	50	0	83.6	62 - 128				
1,2-Dibromoethane	47.93	1.0	50	0	95.9	77 - 121				
1,2-Dichlorobenzene	42.31	1.0	50	0	84.6	80 - 119				
1,2-Dichloroethane	49.31	1.0	50	0	98.6	73 - 128				
1,2-Dichloropropane	46.88	1.0	50	0	93.8	78 - 122				
1,3,5-Trimethylbenzene	39.79	1.0	50	0	79.6	75 - 124				
1,3-Dichlorobenzene	42.35	1.0	50	0	84.7	80 - 119				
1,3-Dichloropropane	45.02	1.0	50	0	90.0	80 - 119				
1,4-Dichlorobenzene	41.66	1.0	50	0	83.3	79 - 118				
2,2-Dichloropropane	47.08	1.0	50	0	94.2	60 - 139				
2-Butanone	83.34	2.0	100	0	83.3	56 - 143				
2-Chlorotoluene	40.18	1.0	50	0	80.4	79 - 122				
2-Hexanone	84.07	2.0	100	0	84.1	57 - 139				
4-Chlorotoluene	40.55	1.0	50	0	81.1	78 - 122				
4-Isopropyltoluene	40.39	1.0	50	0	80.8	77 - 127				
4-Methyl-2-pentanone	85.71	2.0	100	0	85.7	67 - 130				
Acetone	85.87	2.0	100	0	85.9	39 - 160				
Benzene	46.09	1.0	50	0	92.2	79 - 120				
Bromobenzene	41.95	1.0	50	0	83.9	80 - 120				
Bromochloromethane	47.81	1.0	50	0	95.6	78 - 123				
Bromodichloromethane	47.72	1.0	50	0	95.4	79 - 125				
Bromoform	49.58	1.0	50	0	99.2	66 - 130				
Bromomethane	48.9	1.0	50	0	97.8	53 - 141				

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308199 **Instrument: VOA2** **Method: SW8260**

LCS Sample ID: **VLCSW-171229** Units: **ug/L** Analysis Date: **29-Dec-2017 14:03**
Client ID: Run ID: **VOA2_308199** SeqNo: **4374164** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	93.82	2.0	100	0	93.8	64 - 133				
Carbon tetrachloride	38.06	1.0	50	0	76.1	72 - 136				
Chlorobenzene	44.9	1.0	50	0	89.8	80 - 120				
Chloroethane	41.96	1.0	50	0	83.9	82 - 118				
Chloroform	44.83	1.0	50	0	89.7	79 - 124				
Chloromethane	47.5	1.0	50	0	95.0	50 - 139				
cis-1,2-Dichloroethene	47.16	1.0	50	0	94.3	78 - 123				
cis-1,3-Dichloropropene	51.52	1.0	50	0	103	75 - 124				
Dibromochloromethane	48.66	1.0	50	0	97.3	74 - 126				
Dibromomethane	49.9	1.0	50	0	99.8	79 - 123				
Dichlorodifluoromethane	46.3	1.0	50	0	92.6	32 - 152				
Ethylbenzene	42.77	1.0	50	0	85.5	79 - 121				
Hexachlorobutadiene	45.93	1.0	50	0	91.9	66 - 134				
Isopropylbenzene	43.54	1.0	50	0	87.1	72 - 131				
m,p-Xylene	86.94	2.0	100	0	86.9	80 - 121				
Methylene chloride	44.31	2.0	50	0	88.6	74 - 124				
Naphthalene	45.8	1.0	50	0	91.6	61 - 128				
n-Butylbenzene	43.17	1.0	50	0	86.3	75 - 128				
n-Propylbenzene	40.18	1.0	50	0	80.4	76 - 126				
o-Xylene	44.46	1.0	50	0	88.9	78 - 122				
sec-Butylbenzene	40.84	1.0	50	0	81.7	77 - 126				
Styrene	45.95	1.0	50	0	91.9	78 - 128				
tert-Butylbenzene	39.7	1.0	50	0	79.4	78 - 124				
Tetrachloroethene	46.56	1.0	50	0	93.1	74 - 129				
Toluene	44.03	1.0	50	0	88.1	80 - 121				
trans-1,2-Dichloroethene	49.98	1.0	50	0	100.0	75 - 124				
trans-1,3-Dichloropropene	51.66	1.0	50	0	103	73 - 127				
Trichloroethene	46.68	1.0	50	0	93.4	79 - 123				
Trichlorofluoromethane	47.32	1.0	50	0	94.6	65 - 141				
Vinyl chloride	46.99	1.0	50	0	94.0	58 - 137				
Surr: 1,2-Dichloroethane-d4	*45.74*	*1.0*	*50*	*0*	*91.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.54*	*1.0*	*50*	*0*	*99.1*	*85 - 114*				
Surr: Dibromofluoromethane	*46.42*	*1.0*	*50*	*0*	*92.8*	*80 - 119*				
Surr: Toluene-d8	*47.1*	*1.0*	*50*	*0*	*94.2*	*89 - 112*				

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308199 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17121171-02MS** Units: **ug/L** Analysis Date: **29-Dec-2017 21:00**
Client ID: Run ID: **VOA2_308199** SeqNo: **4374131** 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	46.93	1.0	50	0	93.9	78 - 124				
1,1,1-Trichloroethane	49.11	1.0	50	0	98.2	74 - 131				
1,1,2,2-Tetrachloroethane	40.54	1.0	50	0	81.1	71 - 121				
1,1,2-Trichloroethane	45.38	1.0	50	0	90.8	80 - 119				
1,1-Dichloroethane	46.6	1.0	50	0	93.2	77 - 125				
1,1-Dichloroethene	49.45	1.0	50	0	98.9	71 - 131				
1,1-Dichloropropene	50.71	1.0	50	0	101	79 - 125				
1,2,3-Trichlorobenzene	48.56	1.0	50	0	97.1	69 - 129				
1,2,3-Trichloropropane	42.01	1.0	50	0	84.0	73 - 122				
1,2,4-Trichlorobenzene	48.99	1.0	50	0	98.0	69 - 130				
1,2,4-Trimethylbenzene	41.05	1.0	50	0	82.1	76 - 124				
1,2-Dibromo-3-chloropropane	41.69	1.0	50	0	83.4	62 - 128				
1,2-Dibromoethane	47.09	1.0	50	0	94.2	77 - 121				
1,2-Dichlorobenzene	42.07	1.0	50	0	84.1	80 - 119				
1,2-Dichloroethane	48.06	1.0	50	0	96.1	73 - 128				
1,2-Dichloropropane	45.46	1.0	50	0	90.9	78 - 122				
1,3,5-Trimethylbenzene	42.25	1.0	50	0	84.5	75 - 124				
1,3-Dichlorobenzene	42.52	1.0	50	0	85.0	80 - 119				
1,3-Dichloropropane	45.12	1.0	50	0	90.2	80 - 119				
1,4-Dichlorobenzene	41.91	1.0	50	0	83.8	79 - 118				
2,2-Dichloropropane	47.08	1.0	50	0	94.2	60 - 139				
2-Butanone	88.75	2.0	100	0	88.7	56 - 143				
2-Chlorotoluene	40.83	1.0	50	0	81.7	79 - 122				
2-Hexanone	87.89	2.0	100	0	87.9	57 - 139				
4-Chlorotoluene	41.11	1.0	50	0	82.2	78 - 122				
4-Isopropyltoluene	43.99	1.0	50	0	88.0	77 - 127				
4-Methyl-2-pentanone	88.89	2.0	100	0	88.9	67 - 130				
Acetone	91.34	2.0	100	0	91.3	39 - 160				
Benzene	46.29	1.0	50	0	92.6	79 - 120				
Bromobenzene	41.58	1.0	50	0	83.2	80 - 120				
Bromochloromethane	48.38	1.0	50	0	96.8	78 - 123				
Bromodichloromethane	46.03	1.0	50	0	92.1	79 - 125				
Bromoform	48.68	1.0	50	0	97.4	66 - 130				
Bromomethane	47.96	1.0	50	0	95.9	53 - 141				

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308199 **Instrument: VOA2** **Method: SW8260**

MS Sample ID: **HS17121171-02MS** Units: **ug/L** Analysis Date: **29-Dec-2017 21:00**
Client ID: Run ID: **VOA2_308199** SeqNo: **4374131** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Carbon disulfide	94.57	2.0	100	0	94.6	64 - 133				
Carbon tetrachloride	41.77	1.0	50	0	83.5	72 - 136				
Chlorobenzene	45.62	1.0	50	0	91.2	80 - 120				
Chloroethane	40.66	1.0	50	0	81.3	82 - 118				S
Chloroform	45.75	1.0	50	0	91.5	79 - 124				
Chloromethane	42.18	1.0	50	0	84.4	50 - 139				
cis-1,2-Dichloroethene	47.33	1.0	50	0	94.7	78 - 123				
cis-1,3-Dichloropropene	48.47	1.0	50	0	96.9	75 - 124				
Dibromochloromethane	47.26	1.0	50	0	94.5	74 - 126				
Dibromomethane	47.57	1.0	50	0	95.1	79 - 123				
Dichlorodifluoromethane	15.5	1.0	50	0	31.0	32 - 152				S
Ethylbenzene	45.41	1.0	50	0	90.8	79 - 121				
Hexachlorobutadiene	46.44	1.0	50	0	92.9	66 - 134				
Isopropylbenzene	47.37	1.0	50	0	94.7	72 - 131				
m,p-Xylene	91.17	2.0	100	0	91.2	80 - 121				
Methylene chloride	44.62	2.0	50	0	89.2	74 - 124				
Naphthalene	45.66	1.0	50	0	91.3	61 - 128				
n-Butylbenzene	45.43	1.0	50	0	90.9	75 - 128				
n-Propylbenzene	43.11	1.0	50	0	86.2	76 - 126				
o-Xylene	46.11	1.0	50	0	92.2	78 - 122				
sec-Butylbenzene	44.81	1.0	50	0	89.6	77 - 126				
Styrene	46.48	1.0	50	0	93.0	78 - 128				
tert-Butylbenzene	43.57	1.0	50	0	87.1	78 - 124				
Tetrachloroethene	52.17	1.0	50	0	104	74 - 129				
Toluene	45.82	1.0	50	0	91.6	80 - 121				
trans-1,2-Dichloroethene	50.59	1.0	50	0	101	75 - 124				
trans-1,3-Dichloropropene	48.99	1.0	50	0	98.0	73 - 127				
Trichloroethene	52.41	1.0	50	0	105	79 - 123				
Trichlorofluoromethane	48.59	1.0	50	0	97.2	65 - 141				
Vinyl chloride	40.77	1.0	50	0	81.5	58 - 137				
Surr: 1,2-Dichloroethane-d4	*48.19*	*1.0*	*50*	*0*	*96.4*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.3*	*1.0*	*50*	*0*	*101*	*85 - 114*				
Surr: Dibromofluoromethane	*49.19*	*1.0*	*50*	*0*	*98.4*	*80 - 119*				
Surr: Toluene-d8	*47.85*	*1.0*	*50*	*0*	*95.7*	*89 - 112*				

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308199 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17121171-02MSD** Units: **ug/L** Analysis Date: **29-Dec-2017 21:25**
Client ID: Run ID: **VOA2_308199** SeqNo: **4374132** 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	45.86	1.0	50	0	91.7	78 - 124	46.93	2.32	20	
1,1,1-Trichloroethane	46.87	1.0	50	0	93.7	74 - 131	49.11	4.66	20	
1,1,2,2-Tetrachloroethane	40.5	1.0	50	0	81.0	71 - 121	40.54	0.0847	20	
1,1,2-Trichloroethane	44.26	1.0	50	0	88.5	80 - 119	45.38	2.49	20	
1,1-Dichloroethane	44.96	1.0	50	0	89.9	77 - 125	46.6	3.58	20	
1,1-Dichloroethene	47.51	1.0	50	0	95.0	71 - 131	49.45	3.99	20	
1,1-Dichloropropene	51.57	1.0	50	0	103	79 - 125	50.71	1.68	20	
1,2,3-Trichlorobenzene	47.45	1.0	50	0	94.9	69 - 129	48.56	2.31	20	
1,2,3-Trichloropropane	42.04	1.0	50	0	84.1	73 - 122	42.01	0.0652	20	
1,2,4-Trichlorobenzene	48.53	1.0	50	0	97.1	69 - 130	48.99	0.928	20	
1,2,4-Trimethylbenzene	39.61	1.0	50	0	79.2	76 - 124	41.05	3.55	20	
1,2-Dibromo-3-chloropropane	42.23	1.0	50	0	84.5	62 - 128	41.69	1.28	20	
1,2-Dibromoethane	46.32	1.0	50	0	92.6	77 - 121	47.09	1.65	20	
1,2-Dichlorobenzene	41.24	1.0	50	0	82.5	80 - 119	42.07	1.98	20	
1,2-Dichloroethane	48.17	1.0	50	0	96.3	73 - 128	48.06	0.234	20	
1,2-Dichloropropane	45.46	1.0	50	0	90.9	78 - 122	45.46	0.0124	20	
1,3,5-Trimethylbenzene	40.42	1.0	50	0	80.8	75 - 124	42.25	4.42	20	
1,3-Dichlorobenzene	41.71	1.0	50	0	83.4	80 - 119	42.52	1.91	20	
1,3-Dichloropropane	43.9	1.0	50	0	87.8	80 - 119	45.12	2.74	20	
1,4-Dichlorobenzene	41.07	1.0	50	0	82.1	79 - 118	41.91	2.04	20	
2,2-Dichloropropane	45.15	1.0	50	0	90.3	60 - 139	47.08	4.19	20	
2-Butanone	91.07	2.0	100	0	91.1	56 - 143	88.75	2.58	20	
2-Chlorotoluene	39.57	1.0	50	0	79.1	79 - 122	40.83	3.14	20	
2-Hexanone	90.45	2.0	100	0	90.4	57 - 139	87.89	2.87	20	
4-Chlorotoluene	39.89	1.0	50	0	79.8	78 - 122	41.11	3.02	20	
4-Isopropyltoluene	42	1.0	50	0	84.0	77 - 127	43.99	4.64	20	
4-Methyl-2-pentanone	90.75	2.0	100	0	90.7	67 - 130	88.89	2.07	20	
Acetone	97.49	2.0	100	0	97.5	39 - 160	91.34	6.5	20	
Benzene	45.51	1.0	50	0	91.0	79 - 120	46.29	1.7	20	
Bromobenzene	40.32	1.0	50	0	80.6	80 - 120	41.58	3.08	20	
Bromochloromethane	45.58	1.0	50	0	91.2	78 - 123	48.38	5.96	20	
Bromodichloromethane	45.8	1.0	50	0	91.6	79 - 125	46.03	0.49	20	
Bromoform	48.12	1.0	50	0	96.2	66 - 130	48.68	1.15	20	
Bromomethane	45.14	1.0	50	0	90.3	53 - 141	47.96	6.04	20	

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308199 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17121171-02MSD** Units: **ug/L** Analysis Date: **29-Dec-2017 21:25**
Client ID: Run ID: **VOA2_308199** SeqNo: **4374132** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Carbon disulfide	91.07	2.0	100	0	91.1	64 - 133	94.57	3.78	20	
Carbon tetrachloride	42.29	1.0	50	0	84.6	72 - 136	41.77	1.26	20	
Chlorobenzene	43.89	1.0	50	0	87.8	80 - 120	45.62	3.85	20	
Chloroethane	37.71	1.0	50	0	75.4	82 - 118	40.66	7.52	20	S
Chloroform	44.37	1.0	50	0	88.7	79 - 124	45.75	3.07	20	
Chloromethane	38.14	1.0	50	0	76.3	50 - 139	42.18	10.1	20	
cis-1,2-Dichloroethene	45.82	1.0	50	0	91.6	78 - 123	47.33	3.25	20	
cis-1,3-Dichloropropene	49.11	1.0	50	0	98.2	75 - 124	48.47	1.31	20	
Dibromochloromethane	45.82	1.0	50	0	91.6	74 - 126	47.26	3.1	20	
Dibromomethane	48.29	1.0	50	0	96.6	79 - 123	47.57	1.48	20	
Dichlorodifluoromethane	14.89	1.0	50	0	29.8	32 - 152	15.5	3.98	20	S
Ethylbenzene	44.47	1.0	50	0	88.9	79 - 121	45.41	2.07	20	
Hexachlorobutadiene	45.64	1.0	50	0	91.3	66 - 134	46.44	1.72	20	
Isopropylbenzene	45.83	1.0	50	0	91.7	72 - 131	47.37	3.32	20	
m,p-Xylene	88.04	2.0	100	0	88.0	80 - 121	91.17	3.49	20	
Methylene chloride	43.14	2.0	50	0	86.3	74 - 124	44.62	3.37	20	
Naphthalene	46.19	1.0	50	0	92.4	61 - 128	45.66	1.15	20	
n-Butylbenzene	44.33	1.0	50	0	88.7	75 - 128	45.43	2.43	20	
n-Propylbenzene	41.55	1.0	50	0	83.1	76 - 126	43.11	3.68	20	
o-Xylene	44.56	1.0	50	0	89.1	78 - 122	46.11	3.43	20	
sec-Butylbenzene	42.96	1.0	50	0	85.9	77 - 126	44.81	4.23	20	
Styrene	45.5	1.0	50	0	91.0	78 - 128	46.48	2.14	20	
tert-Butylbenzene	41.87	1.0	50	0	83.7	78 - 124	43.57	3.98	20	
Tetrachloroethene	49.33	1.0	50	0	98.7	74 - 129	52.17	5.61	20	
Toluene	44.19	1.0	50	0	88.4	80 - 121	45.82	3.64	20	
trans-1,2-Dichloroethene	50.05	1.0	50	0	100	75 - 124	50.59	1.07	20	
trans-1,3-Dichloropropene	49.56	1.0	50	0	99.1	73 - 127	48.99	1.15	20	
Trichloroethene	50.69	1.0	50	0	101	79 - 123	52.41	3.34	20	
Trichlorofluoromethane	46.13	1.0	50	0	92.3	65 - 141	48.59	5.2	20	
Vinyl chloride	38.83	1.0	50	0	77.7	58 - 137	40.77	4.89	20	
Surr: 1,2-Dichloroethane-d4	*47.38*	*1.0*	*50*	*0*	*94.8*	*81 - 118*	*48.19*	*1.68*	*20*	
Surr: 4-Bromofluorobenzene	*49.26*	*1.0*	*50*	*0*	*98.5*	*85 - 114*	*50.3*	*2.07*	*20*	
Surr: Dibromofluoromethane	*47.89*	*1.0*	*50*	*0*	*95.8*	*80 - 119*	*49.19*	*2.69*	*20*	
Surr: Toluene-d8	*46.84*	*1.0*	*50*	*0*	*93.7*	*89 - 112*	*47.85*	*2.13*	*20*	

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308199 **Instrument: VOA2** **Method: SW8260**

The following samples were analyzed in this batch:				
	HS17121113-01	HS17121113-02	HS17121113-03	HS17121113-04
	HS17121113-05	HS17121113-06	HS17121113-08	

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308218 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-171230** Units: **ug/L** Analysis Date: **31-Dec-2017 03:28**
Client ID: Run ID: **VOA2_308218** SeqNo: **4374639** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	0.50	1.0								U
Trichloroethene	0.50	1.0								U
Surr: 1,2-Dichloroethane-d4	*45.96*	*1.0*	*50*	*0*	*91.9*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*48.69*	*1.0*	*50*	*0*	*97.4*	*85 - 114*				
Surr: Dibromofluoromethane	*48.59*	*1.0*	*50*	*0*	*97.2*	*80 - 119*				
Surr: Toluene-d8	*48.48*	*1.0*	*50*	*0*	*97.0*	*89 - 112*				

LCS Sample ID: **VLCSW-171230** Units: **ug/L** Analysis Date: **31-Dec-2017 02:38**
Client ID: Run ID: **VOA2_308218** SeqNo: **4374637** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	47.17	1.0	50	0	94.3	78 - 123				
Trichloroethene	47.68	1.0	50	0	95.4	79 - 123				
Surr: 1,2-Dichloroethane-d4	*48.26*	*1.0*	*50*	*0*	*96.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*49.31*	*1.0*	*50*	*0*	*98.6*	*85 - 114*				
Surr: Dibromofluoromethane	*47.85*	*1.0*	*50*	*0*	*95.7*	*80 - 119*				
Surr: Toluene-d8	*46.63*	*1.0*	*50*	*0*	*93.3*	*89 - 112*				

MS Sample ID: **HS17121134-06MS** Units: **ug/L** Analysis Date: **31-Dec-2017 04:41**
Client ID: Run ID: **VOA2_308218** SeqNo: **4374642** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	45.38	1.0	50	0	90.8	78 - 123				
Trichloroethene	45.64	1.0	50	0	91.3	79 - 123				
Surr: 1,2-Dichloroethane-d4	*47.25*	*1.0*	*50*	*0*	*94.5*	*81 - 118*				
Surr: 4-Bromofluorobenzene	*50.02*	*1.0*	*50*	*0*	*100*	*85 - 114*				
Surr: Dibromofluoromethane	*48.79*	*1.0*	*50*	*0*	*97.6*	*80 - 119*				
Surr: Toluene-d8	*46.56*	*1.0*	*50*	*0*	*93.1*	*89 - 112*				

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

QC BATCH REPORT

Batch ID: R308218 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS17121134-06MSD** Units: **ug/L** Analysis Date: **31-Dec-2017 05:06**
Client ID: Run ID: **VOA2_308218** SeqNo: **4374643** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
cis-1,2-Dichloroethene	43.4	1.0	50	0	86.8	78 - 123	45.38	4.46	20	
Trichloroethene	44.6	1.0	50	0	89.2	79 - 123	45.64	2.3	20	
Surr: 1,2-Dichloroethane-d4	*46.71*	*1.0*	*50*	*0*	*93.4*	*81 - 118*	*47.25*	*1.15*	*20*	
Surr: 4-Bromofluorobenzene	*49.63*	*1.0*	*50*	*0*	*99.3*	*85 - 114*	*50.02*	*0.79*	*20*	
Surr: Dibromofluoromethane	*47.75*	*1.0*	*50*	*0*	*95.5*	*80 - 119*	*48.79*	*2.15*	*20*	
Surr: Toluene-d8	*46.73*	*1.0*	*50*	*0*	*93.5*	*89 - 112*	*46.56*	*0.353*	*20*	

The following samples were analyzed in this batch: HS17121113-01 HS17121113-02 HS17121113-03 HS17121113-04 HS17121113-05 HS17121113-06 HS17121113-08

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

ALS Group USA, Corp Date: 11-Jan-18

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: **HS17121113**

QUALIFIERS, ACRONYMS, UNITS

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

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

Unit Reported	Description
mg/L	Milligrams per Liter

ALS Group USA, Corp Date: 11-Jan-18

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	17-027-0	27-Mar-2018
California	2919 2016-2018	31-Jul-2018
Illinois	004112	09-May-2018
Kentucky	123043	30-Apr-2018
Louisiana	03087 2017-2017	30-Jun-2018
North Dakota	R193 2017-2017	30-Apr-2018
Oklahoma	2017-088	31-Aug-2018
Texas	T104704231-17-19	30-Apr-2018
North Carolina	624-2018	31-Dec-2018

ALS Group USA, Corp Date: 11-Jan-18

Sample Receipt Checklist

Client Name: Bhate Environmental
Work Order: HS17121113
Date/Time Received: **20-Dec-2017 10:15**
Received by: **JRM**

Checklist completed by: *Cesar A. Lira* eSignature — 20-Dec-2017 Date
Reviewed by: *Sonia West* eSignature — 21-Dec-2017 Date

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

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.6C/0.3C UC/C	IR30	
Cooler(s)/Kit(s):	24062		
Date/Time sample(s) sent to storage:	12/20/2017 19:50		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

00873314

bhate ENVIRONMENTAL CONSTRUCTION ENERGY

1608 13th Avenue South, Suite 300
Birmingham Alabama 35205
Tel: 205-918-4000
Fax: 205-918-4050

Page: 1 of 1

Project/Phase No: NWO1312.0150

COC Number(1): _____

LIMS Number: _____

Chain of Custody and Analytical Request

Facility/Base I.D.: LHAAP

Project/Site Name: LHAAP / Site 18/24

Client Name:

Collected by: Scott Beesinger

Field Sample ID (30 Characters Max)	ERPIMS LOCID (15 Characters Max)	Date Collected (dd-mmm-yyyy)	Time Collected (Military) (hhmm)	Sample Depth (beginning - ending)	SA Code (2)	Sample Number (3)	Sample Matrix (4)	Number of containers	VOC	Perchlorate	Total metals	Ambient Blank Lot Control Number	Equipment Blank Lot Control Number	Trip Blank Lot Control Number	Cooler ID
MW14_121817		18 Dec 2017	0825	-			WG	5	X	X	X				
MW14_121817_a		18 Dec 2017	0825	-			WG	5	X	X	X				
MW21_121817		18 Dec 2017	0935	-			WG	5	X	X	X				
MW22_121817		18 Dec 2017	1040	-			WG	5	X	X	X				
18CPTMW06_121817		18 Dec 2017	1140	-			WG	4	X	X					
18CPTMW06_121817_a		18 Dec 2017	1140	-			WG	4	X	X					
18CPTMW16_121817		18 Dec 2017	1340	-			WG	1		X					
AWD3_121817		18 Dec 2017	1450	-			WG	5	X	X	X				
TRIP BLANK		18 Dec 2017		-			W	2	X						
				-											
				-											

HS17121113
Bhate Environmental Associates, Inc.
LHAAP 18 24

COMMENTS: _____

Custody Transfers Prior to Receipt by Laboratory

	Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1.	Scott Beesinger	12/14/17	1400	JM	12-20-17	10:15
2.						
3.						

Sample Delivery Details / Laboratory Receipt

Delivered Directly to Lab: _____ Shipped _____ No.:

_____ Method of Shipment: _____

_____ Fed Ex _____ Airbill Number:

_____ Analytical Lab: ALS 10450 Stancliff Rd, Suite 210 Houston, TX 77099 (281) 530-5656

ATTN: SONIA WEST Lab Recipient: Delivery Date/Time:

1.) Chain of Custody Number = date collected + custody number (e.g. 09-02-1999-01)

2.) Sample Type (SA) Codes: N = Normal Sample, TB = Trip Blank (-c) Sample, FD = Field Duplicate (-a) Samples, FR = Field Replicate (-b) Samples, EB = Equipment Blank (-d) Samples, MS = Matrix Spike, SD = Matrix Spike Duplicate, AB = Ambient Blank (-e)

3.) Sample Number: Unique sample number collected from a particular location per day. (e.g. Groundwater sample collected from MW-1 on 10/10/99 = 01, if sampled again on 10/10/99 = 02, etc.)

4.) Matrix Codes: GS = Soil Gas, WG = Groundwater, WS = Surface Water, SO = Soil, SE = Sediment, SL = Sludge, SS = Surface Soil Samples, WQ = Aqueous Blank Samples (trip, equipment, ambient, etc), SQ = Soil Blanks

5.) Sample Analysis Requested: Analytical method requested and number of containers provided for each.

6.) Quality assurance samples are assigned by date (ddmmyy) and the sample number associated with the sample (01, 02, etc) (e.g. Equipment blank collected in association with MW-1 on 10/10/99 will be designated 10109901 in the Equipment Blank Lot Control

24062
0.6c
MW30 QFC-03

ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
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24062

CUSTODY SEAL

Date: 12/19/17 Time: 1400
Name: SGA # B466 WCER
Company: SHAKE

Seal Broken By:

Date: 12/20/17

24062 DEC 20 2017

Volatile Organics Raw Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17121113

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171229	91	93	94	99	0
02	VBLKW-171229	92	96	97	98	0
03	HS17121113-09	95	101	96	97	0
04	HS17121113-01	91	97	95	98	0
05	HS17121113-02	92	96	94	97	0
06	HS17121113-03	92	100	95	98	0
07	HS17121113-04	92	98	96	98	0
08	HS17121113-05	92	100	96	96	0
09	HS17121113-06	92	98	96	96	0
10	HS17121113-08	95	99	95	97	0
11	HS17121171-02	96	98	96	100	0
12	HS17121171-02	95	96	94	98	0
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		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(70-130)
SMC2	= Dibromofluoromethane	(70-130)
SMC3 (TOL)	= Toluene-d8	(70-130)
OTHER	= 4-Bromofluorobenzene	(70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 2
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

	CLIENT SAMPLE NO.	SMC1 (DCE) #	SMC2 #	SMC3 (TOL) #	OTHER #	TOT OUT
01	VLCSW-171230	96	96	93	99	0
02	VBLKW-171230	92	97	97	97	0
03	HS17121134-06	94	98	93	100	0
04	HS17121134-06	93	96	93	99	0
05	HS17121113-05	93	99	96	99	0
06	HS17121113-06	92	98	96	97	0
07	HS17121113-04	94	97	97	97	0
08	HS17121113-08	90	94	98	97	0
09	HS17121113-01	91	95	98	95	0
10	HS17121113-02	91	98	99	95	0
11	HS17121113-03	91	98	98	95	0
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		QC LIMITS
SMC1 (DCE)	= 1,2-Dichloroethane-d4	(70-130)
SMC2	= Dibromofluoromethane	(70-130)
SMC3 (TOL)	= Toluene-d8	(70-130)
OTHER	= 4-Bromofluorobenzene	(70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
1,1,1-Trichloroethane	50.00	49.06	98	80-120
1,1,1,2-Tetrachloroetha	50.00	49.68	99	80-120
tert-Butylbenzene	50.00	45.55	91	80-120
Naphthalene	50.00	51.79	104	80-120
sec-Butylbenzene	50.00	46.50	93	80-120
1,1,2,2-Tetrachloroetha	50.00	45.44	91	80-120
1,1,2-Trichloroethane	50.00	48.61	97	80-120
1,1-Dichloropropene	50.00	51.30	103	80-120
1,1-Dichloroethane	50.00	48.08	96	80-120
1,1-Dichloroethene	50.00	50.33	101	80-120
1,2,4-Trichlorobenzene	50.00	55.22	110	80-120
1,2-Dibromo-3-Chloropro	50.00	47.98	96	80-120
1,2-Dibromoethane	50.00	49.92	100	80-120
1,2-Dichlorobenzene	50.00	47.36	95	80-120
1,2-Dichloroethane	50.00	51.46	103	80-120
1,2-Dichloropropane	50.00	47.58	95	80-120
1,3-Dichlorobenzene	50.00	47.02	94	80-120
1,4-Dichlorobenzene	50.00	46.92	94	80-120
2-Butanone	100.00	98.74	99	80-120
2-Hexanone	100.00	94.99	95	80-120
4-Methyl-2-Pentanone	100.00	93.96	94	80-120
Acetone	100.00	101.52	102	80-120
Benzene	50.00	47.98	96	80-120
Bromodichloromethane	50.00	49.79	100	80-120
Bromoform	50.00	53.45	107	80-120
Bromomethane	50.00	54.60	109	80-120
Carbon Disulfide	100.00	101.83	102	80-120
Carbon Tetrachloride	50.00	42.60	85	80-120

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

* Values outside of QC limits

COMMENTS: _____

_____

FORM III VOA

FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
Chlorobenzene	50.00	46.60	93	80-120
Chloroethane	50.00	42.06	84	80-120
Chloroform	50.00	48.98	98	80-120
Chloromethane	50.00	54.85	110	80-120
cis-1,2-Dichloroethene	50.00	49.49	99	80-120
cis-1,3-Dichloropropene	50.00	52.66	105	80-120
Dibromochloromethane	50.00	50.66	101	80-120
Dichlorodifluoromethane	50.00	53.81	108	80-120
Ethylbenzene	50.00	46.15	92	80-120
Isopropylbenzene	50.00	46.76	94	80-120
Methylene Chloride	50.00	48.55	97	80-120
Tetrachloroethene	50.00	50.78	102	80-120
Toluene	50.00	45.96	92	80-120
trans-1,2-Dichloroethen	50.00	52.97	106	80-120
trans-1,3-Dichloroprope	50.00	54.38	109	80-120
Trichloroethene	50.00	48.10	96	80-120
Trichlorofluoromethane	50.00	52.99	106	80-120
Vinyl Chloride	50.00	51.74	103	80-120
m,p-Xylenes	100.00	91.61	92	80-120
o-Xylene	50.00	46.64	93	80-120
Xylenes (total)	150.00	138.25	92	80-120
1,2,3-Trichloropropane	50.00	48.85	98	80-120
1,2,3-Trichlorobenzene	50.00	54.84	110	80-120
1,2,4-Trimethylbenzene	50.00	44.39	89	80-120
1,3,5-Trimethylbenzene	50.00	44.90	90	80-120
2,2-Dichloropropane	50.00	49.36	99	80-120
1,3-Dichloropropane	50.00	47.05	94	80-120
2-Chlorotoluene	50.00	44.48	89	80-120

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

* Values outside of QC limits

COMMENTS: _____

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FORM 3
WATER VOLATILE METHOD SPIKE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Matrix Spike - Sample No.: VSTD-ICV

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE AMOUNT ()	% REC #	QC. LIMITS REC.
4-Chlorotoluene	50.00	44.61	89	80-120
p-Isopropyltoluene	50.00	46.35	93	80-120
Bromochloromethane	50.00	52.80	106	80-120
Bromobenzene	50.00	46.42	93	80-120
Dibromomethane	50.00	51.22	102	80-120
Hexachlorobutadiene	50.00	49.83	100	80-120
n-Propylbenzene	50.00	45.14	90	80-120
n-Butylbenzene	50.00	48.19	96	80-120
Styrene	50.00	48.08	96	80-120

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

* Values outside of QC limits

COMMENTS: _____

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FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Lab File ID: D121901 BFB Injection Date: 12/19/17

Instrument ID: VOA2 BFB Injection Time: 0921

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	17.1
75	30.0 - 60.0% of mass 95	43.0
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	83.4
175	5.0 - 9.0% of mass 174	6.7 (8.0)1
176	95.0 - 101.0% of mass 174	80.0 (95.9)1
177	5.0 - 9.0% of mass 176	5.8 (7.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD00.5	VSTD00.5	D121903	12/19/17	1010
02	VSTD001	VSTD001	D121904	12/19/17	1034
03	VSTD002	VSTD002	D121905	12/19/17	1059
04	VSTD005	VSTD005	D121906	12/19/17	1123
05	VSTD010	VSTD010	D121907	12/19/17	1147
06	VSTD020	VSTD020	D121908	12/19/17	1214
07	VSTD050	VSTD050	D121909	12/19/17	1239
08	VSTD100	VSTD100	D121910	12/19/17	1303
09	VSTD200	VSTD200	D121911	12/19/17	1327
10	VSTD-ICV	VSTD-ICV	D121913	12/19/17	1416
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FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF0.5: D121903 RF1: D121904 RF2: D121905
RF5: D121906 RF10: D121907 RF20: D121908

COMPOUND	RF0.5	RF1	RF2	RF5	RF10	RF20
1,1,1-Trichloroethane	0.804	0.803	0.745	0.714	0.797	0.794
1,1,1,2-Tetrachloroethane	0.414	0.439	0.395	0.373	0.404	0.406
tert-Butylbenzene	3.220	3.180	2.800	2.512	2.689	2.709
Naphthalene	1123	3453	8523	34239	75559	161007
sec-Butylbenzene	4.297	4.084	3.646	3.220	3.596	3.673
1,1,2,2-Tetrachloroethane	1.431	1.401	1.274	1.150	1.186	1.090
1,1,2-Trichloroethane	0.354	0.348	0.305	0.289	0.300	0.299
1,1-Dichloropropene	2906	4681	7445	15499	28773	61975
1,1-Dichloroethane	1.067	1.147	1.054	0.993	1.054	1.040
1,1-Dichloroethene	0.347	0.438	0.420	0.379	0.435	0.435
1,2,4-Trichlorobenzene	0.741	0.962	0.873	0.877	0.991	1.106
1,2-Dibromo-3-Chloropropane	130	527	1073	2812	5460	11302
1,2-Dibromoethane	0.400	0.401	0.383	0.365	0.383	0.384
1,2-Dichlorobenzene	2.062	2.084	1.842	1.715	1.791	1.780
1,2-Dichloroethane	2076	3910	7652	19328	11455	73153
1,2-Dichloropropane	0.387	0.431	0.432	0.405	0.415	0.380
1,3-Dichlorobenzene	2.189	2.106	1.936	1.751	1.807	1.846
1,4-Dichlorobenzene	2.070	2.116	1.792	1.663	1.737	1.705
2-Butanone	0.276	0.300	0.260	0.271	0.264	0.247
2-Hexanone	0.322	0.328	0.307	0.274	0.293	0.277
4-Methyl-2-Pentanone	0.516	0.532	0.464	0.436	0.460	0.427
Acetone	2564	3611	4810	8024	15119	33367
Benzene	1.437	1.580	1.320	1.264	1.338	1.249
Bromodichloromethane	0.500	0.504	0.449	0.430	0.470	0.468
Bromoform	0.284	0.260	0.286	0.279	0.295	0.305
Bromomethane	1436	2542	4860	11772	19732	37890
Carbon Disulfide	1.039	0.948	0.859	0.833	0.960	0.977
Carbon Tetrachloride	0.626	0.510	0.521	0.436	0.486	0.452
Chlorobenzene	1.171	1.198	1.074	0.999	1.027	1.014
Chloroethane	0.355	0.450	0.438	0.496	0.423	0.409
Chloroform	0.988	0.952	0.930	0.874	0.930	0.895
Chloromethane	3374	5969	10010	22250	43035	90594
cis-1,2-Dichloroethene	0.668	0.561	0.587	0.540	0.564	0.544
cis-1,3-Dichloropropene	0.494	0.537	0.508	0.501	0.555	0.555
Dibromochloromethane	0.437	0.446	0.415	0.403	0.432	0.447
Dichlorodifluoromethane	0.376	0.410	0.356	0.382	0.460	0.479
Ethylbenzene	0.652	0.647	0.572	0.512	0.543	0.558
Isopropylbenzene	1.988	1.980	1.718	1.614	1.751	1.742
Methylene Chloride	0.664	0.606	0.547	0.518	0.532	0.512
Tetrachloroethene	2878	3904	5759	12517	22413	46886
Toluene	1.769	1.891	1.653	1.549	1.594	1.597
trans-1,2-Dichloroethene	0.349	0.427	0.475	0.423	0.462	0.461
trans-1,3-Dichloropropene	0.403	0.453	0.399	0.410	0.474	0.476
Trichloroethene	0.443	0.405	0.340	0.332	0.365	0.377

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712111

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF0.5: D121903 RF1: D121904 RF2: D121905
RF5: D121906 RF10: D121907 RF20: D121908

COMPOUND	RF0.5	RF1	RF2	RF5	RF10	RF20
Trichlorofluoromethane	0.537	0.608	0.565	0.540	0.679	0.679
Vinyl Chloride	0.611	0.630	0.621	0.558	0.626	0.642
m,p-Xylenes	0.813	0.786	0.693	0.640	0.682	0.677
o-Xylene	0.843	0.831	0.707	0.668	0.679	0.700
Xylenes (total)	0.738	0.726	0.617	0.588	0.634	0.617
1,2,3-Trichloropropane	1.343	1.424	1.273	1.151	1.188	1.148
1,2,3-Trichlorobenzene	0.609	0.748	0.797	0.818	0.896	0.940
1,2,4-Trimethylbenzene	4.242	4.007	3.451	3.125	3.218	3.243
1,3,5-Trimethylbenzene	4.026	3.821	3.404	3.059	3.223	3.167
2,2-Dichloropropane	0.729	0.794	0.715	0.676	0.750	0.734
1,3-Dichloropropane	0.710	0.742	0.619	0.586	0.593	0.601
2-Chlorotoluene	3.397	3.467	3.108	2.685	2.712	2.746
4-Chlorotoluene	3.737	3.682	3.298	2.962	3.019	2.968
p-Isopropyltoluene	3.778	3.456	3.033	2.864	3.057	3.110
Bromochloromethane	0.269	0.253	0.255	0.262	0.283	0.284
Bromobenzene	1.383	1.191	1.158	1.049	1.064	1.061
Dibromomethane	0.196	0.197	0.196	0.197	0.217	0.212
Hexachlorobutadiene	963	1399	2593	6524	13741	30591
n-Propylbenzene	4.960	4.944	4.499	3.983	4.179	4.225
n-Butylbenzene	2.497	2.531	2.124	2.093	2.307	2.450
Styrene	1.220	1.281	1.151	1.057	1.155	1.152
1,2-Dichloroethane-d4	0.632	0.541	0.571	0.505	0.571	0.546
Dibromofluoromethane	0.512	0.501	0.479	0.440	0.446	0.431
Toluene-d8	1.673	1.539	1.340	1.195	1.287	1.242
4-Bromofluorobenzene		0.618	0.516	0.462	0.490	0.466

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712111

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF50: D121909 RF100: D121910 RF200: D121911

COMPOUND	RF50	RF100	RF200
1,1,1-Trichloroethane	0.792	0.774	0.734
1,1,1,2-Tetrachloroethane	0.397	0.392	0.371
tert-Butylbenzene	2.592	2.464	2.320
Naphthalene	395649	794606	1461418
sec-Butylbenzene	3.438	3.291	3.100
1,1,2,2-Tetrachloroethane	1.084	1.085	1.034
1,1,2-Trichloroethane	0.294	0.288	0.275
1,1-Dichloropropene	151900	286474	583601
1,1-Dichloroethane	1.050	1.026	0.963
1,1-Dichloroethene	0.437	0.431	0.391
1,2,4-Trichlorobenzene	1.106	1.128	1.079
1,2-Dibromo-3-Chloropropane	30643	61519	121157
1,2-Dibromoethane	0.380	0.383	0.368
1,2-Dichlorobenzene	1.732	1.646	1.522
1,2-Dichloroethane	175492	337824	662291
1,2-Dichloropropane	0.375	0.370	0.351
1,3-Dichlorobenzene	1.790	1.745	1.661
1,4-Dichlorobenzene	1.708	1.694	1.614
2-Butanone	0.265	0.280	0.264
2-Hexanone	0.278	0.285	0.272
4-Methyl-2-Pentanone	0.426	0.426	0.395
Acetone	83806	155352	314789
Benzene	1.267	1.235	1.150
Bromodichloromethane	0.463	0.467	0.439
Bromoform	0.317	0.328	0.316
Bromomethane	88179	161998	315966
Carbon Disulfide	0.984	0.960	0.922
Carbon Tetrachloride	0.409	0.428	0.406
Chlorobenzene	0.976	0.938	0.869
Chloroethane	0.368	0.365	0.335
Chloroform	0.914	0.895	0.826
Chloromethane	201934	389398	800291
cis-1,2-Dichloroethene	0.568	0.561	0.526
cis-1,3-Dichloropropene	0.564	0.563	0.535
Dibromochloromethane	0.441	0.440	0.424
Dichlorodifluoromethane	0.470	0.466	0.448
Ethylbenzene	0.520	0.491	0.465
Isopropylbenzene	1.628	1.532	1.391
Methylene Chloride	0.524	0.525	0.496
Tetrachloroethene	108668	206898	413430
Toluene	1.481	1.409	1.316
trans-1,2-Dichloroethene	0.491	0.474	0.453
trans-1,3-Dichloropropene	0.486	0.504	0.488
Trichloroethene	0.364	0.360	0.348

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712111

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

LAB FILE ID: RF50: D121909 RF100: D121910 RF200: D121911

COMPOUND	RF50	RF100	RF200
Trichlorofluoromethane	0.669	0.651	0.620
Vinyl Chloride	0.619	0.623	0.585
m,p-Xylenes	0.631	0.594	0.550
o-Xylene	0.678	0.644	0.596
Xylenes (total)	0.583	0.556	0.514
1,2,3-Trichloropropane	1.159	1.174	0.858
1,2,3-Trichlorobenzene	0.914	0.982	0.934
1,2,4-Trimethylbenzene	3.063	2.910	2.715
1,3,5-Trimethylbenzene	3.000	2.851	2.639
2,2-Dichloropropane	0.741	0.730	0.686
1,3-Dichloropropane	0.578	0.577	0.545
2-Chlorotoluene	2.590	2.489	2.369
4-Chlorotoluene	2.875	2.736	2.555
p-Isopropyltoluene	2.916	2.821	2.664
Bromochloromethane	0.279	0.286	0.263
Bromobenzene	1.056	1.030	0.989
Dibromomethane	0.207	0.211	0.202
Hexachlorobutadiene	68105	134255	266365
n-Propylbenzene	3.932	3.780	3.543
n-Butylbenzene	2.286	2.203	2.095
Styrene	1.107	1.044	0.953
1,2-Dichloroethane-d4	0.554	0.564	0.522
Dibromofluoromethane	0.432	0.424	0.390
Toluene-d8	1.163	1.108	
4-Bromofluorobenzene	0.450	0.440	0.409

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712111

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
1,1,1-Trichloroethane	AVRG		0.77276924	4.350	15.000
1,1,1,2-Tetrachloroethane	AVRG		0.39899030	5.212	15.000
tert-Butylbenzene	AVRG		2.72069995	11.280	15.000
Naphthalene	LINR	-1.06e-002	0.39396060	0.9979078	0.9900000
sec-Butylbenzene	AVRG		3.59394331	10.964	15.000
1,1,2,2-Tetrachloroethane	AVRG		1.19275495	12.147	15.000
1,1,2-Trichloroethane	AVRG		0.30586501	8.839	15.000
1,1-Dichloropropene	LINR	-1.87e-002	2.61428031	0.9997801	0.9900000
1,1-Dichloroethane	AVRG		1.04387562	4.895	15.000
1,1-Dichloroethene	AVRG		0.41266966	7.912	15.000
1,2,4-Trichlorobenzene	AVRG		0.98501350	13.569	15.000
1,2-Dibromo-3-Chloropropane	LINR	1.077e-002	4.80773795	0.9997728	0.9900000
1,2-Dibromoethane	AVRG		0.38308597	3.220	15.000
1,2-Dichlorobenzene	AVRG		1.79719079	10.110	15.000
1,2-Dichloroethane	LINR	-2.e-003	2.26967717	0.9977457	0.9900000
1,2-Dichloropropane	AVRG		0.39381920	7.224	15.000
1,3-Dichlorobenzene	AVRG		1.87027266	9.388	15.000
1,4-Dichlorobenzene	AVRG		1.78884060	10.034	15.000
2-Butanone	AVRG		0.26980121	5.521	15.000
2-Hexanone	AVRG		0.29295978	7.283	15.000
4-Methyl-2-Pentanone	AVRG		0.45362315	9.861	15.000
Acetone	LINR	-4.69e-002	6.17516382	0.9992633	0.9900000
Benzene	AVRG		1.31556367	9.655	15.000
Bromodichloromethane	AVRG		0.46564182	5.335	15.000
Bromoform	AVRG		0.29659331	7.335	15.000
Bromomethane	LINR	-5.e-002	3.06715228	0.9980188	0.9900000
Carbon Disulfide	AVRG		0.94240963	6.753	15.000
Carbon Tetrachloride	AVRG		0.47493257	14.801	15.000
Chlorobenzene	AVRG		1.02970292	10.206	15.000
Chloroethane	AVRG		0.40453032	13.046	15.000
Chloroform	AVRG		0.91157626	5.113	15.000
Chloromethane	LINR	-1.91e-002	1.21864727	0.9997769	0.9900000
cis-1,2-Dichloroethene	AVRG		0.56884012	7.235	15.000
cis-1,3-Dichloropropene	AVRG		0.53474402	5.103	15.000
Dibromochloromethane	AVRG		0.43168732	3.484	15.000
Dichlorodifluoromethane	AVRG		0.42743627	10.958	15.000
Ethylbenzene	AVRG		0.55113746	11.724	15.000
Isopropylbenzene	AVRG		1.70498371	11.397	15.000
Methylene Chloride	AVRG		0.54727576	9.818	15.000
Tetrachloroethene	LINR	-3.42e-002	3.35406776	0.9995193	0.9900000
Toluene	AVRG		1.58456836	11.098	15.000
trans-1,2-Dichloroethene	AVRG		0.44636929	9.521	15.000
trans-1,3-Dichloropropene	AVRG		0.45502367	8.923	15.000
Trichloroethene	AVRG		0.37033768	9.361	15.000

FORM VI VOA

FORM 6
VOLATILE INITIAL CALIBRATION DATA

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712111

Instrument ID: VOA2 Calibration Date(s): 12/19/17 12/19/17

Column: DB624 ID: 0.18 (mm) Calibration Time(s): 1010 1327

COMPOUND	CURVE	COEFFICENTS A0	COEFFICENTS A1	%RSD OR R^2	MAX %RSD OR R^2
Trichlorofluoromethane	AVRG		0.61649749	9.352	15.000
Vinyl Chloride	AVRG		0.61283948	4.188	15.000
m,p-Xylenes	AVRG		0.67400585	12.531	15.000
o-Xylene	AVRG		0.70513462	11.580	15.000
Xylenes (total)	AVRG		0.61936012	11.870	15.000
1,2,3-Trichloropropane	AVRG		1.19108795	13.263	15.000
1,2,3-Trichlorobenzene	AVRG		0.84874055	13.882	15.000
1,2,4-Trimethylbenzene	AVRG		3.33043722	14.988	15.000
1,3,5-Trimethylbenzene	AVRG		3.24331762	13.740	15.000
2,2-Dichloropropane	AVRG		0.72842815	4.762	15.000
1,3-Dichloropropane	AVRG		0.61691019	10.615	15.000
2-Chlorotoluene	AVRG		2.84031752	13.816	15.000
4-Chlorotoluene	AVRG		3.09264178	13.064	15.000
p-Isopropyltoluene	AVRG		3.07768873	11.169	15.000
Bromochloromethane	AVRG		0.27070416	4.764	15.000
Bromobenzene	AVRG		1.10912501	10.843	15.000
Dibromomethane	AVRG		0.20408606	3.962	15.000
Hexachlorobutadiene	LINR	-8.76e-003	2.20054899	0.9998445	0.9900000
n-Propylbenzene	AVRG		4.22741997	11.650	15.000
n-Butylbenzene	AVRG		2.28734751	7.553	15.000
Styrene	AVRG		1.12463170	8.714	15.000
1,2-Dichloroethane-d4	AVRG		0.55637893	6.497	15.000
Dibromofluoromethane	AVRG		0.45048639	8.752	15.000
Toluene-d8	AVRG		1.31829540	14.782	15.000
4-Bromofluorobenzene	AVRG		0.48140050	13.223	15.000

FORM VI VOA

MSVOA02 -Logbook

Batch: 30538
Date: 01-19-2018
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	01-19-2018 12:03 pm	1.00	50 mL	50 mL	D011901.D	Liquid	Y	NA
2	*Auto find/purged* CCV	CCV	01-19-2018 12:28 pm	1.00	50 mL	50 mL	D011902.D	Liquid	Y	NA
3	*10 uL cal std/50 mL DI* CCB	SAMP	01-19-2018 12:52 pm	1.00	50 mL	50 mL	D011903.D	Liquid	Y	NA
4	*CCB* VLCSW-180119	LCS	01-19-2018 01:17 pm	1.00	50 mL	50 mL	D011904.D	Liquid	Y	NA
5	*10 uL cal std/50 mL DI* VLCSDW-180119	LCSD	01-19-2018 01:42 pm	1.00	50 mL	50 mL	D011905.D	Liquid	Y	NA
6	*10 uL cal std/50 mL DI* BLK	SAMP	01-19-2018 02:06 pm	1.00	50 mL	50 mL	D011906.D	Liquid	Y	NA
7	*Cleanup blk* VBLKW-180119	MBLK	01-19-2018 02:31 pm	1.00	50 mL	50 mL	D011907.D	Liquid	Y	NA
8	HS18010632-25	SAMP	01-19-2018 02:55 pm	1.00	50 mL	50 mL	D011908.D	Liquid	Y	<2
9	HS18010632-28	SAMP	01-19-2018 03:20 pm	1.00	50 mL	50 mL	D011909.D	Liquid	Y	<2
10	HS18010632-29	SAMP	01-19-2018 03:44 pm	1.00	50 mL	50 mL	D011910.D	Liquid	Y	<2
11	HS18010648-01	SAMP	01-19-2018 04:10 pm	1.00	50 mL	50 mL	D011911.D	Liquid	Y	<2
12	HS18010648-02	SAMP	01-19-2018 04:33 pm	1.00	50 mL	50 mL	D011912.D	Liquid	Y	<2
13	HS18010648-03	SAMP	01-19-2018 04:58 pm	1.00	50 mL	50 mL	D011913.D	Liquid	Y	<2
14	HS18010472-02	SAMP	01-19-2018 05:22 pm	1.00	50 mL	50 mL	D011914.D	Liquid	Y	<2
15	HS18010472-03	SAMP	01-19-2018 05:47 pm	1.00	50 mL	50 mL	D011915.D	Liquid	Y	<2
16	HS18010472-04	SAMP	01-19-2018 06:11 pm	1.00	50 mL	50 mL	D011916.D	Liquid	Y	<2
17	HS18010472-02MS	MS	01-19-2018 06:36 pm	1.00	50 mL	50 mL	D011917.D	Liquid	Y	<2
18	*8 uL cal std/40 mL sample* HS18010472-02MSD	MSD	01-19-2018 07:00 pm	1.00	50 mL	50 mL	D011918.D	Liquid	Y	<2
19	*8 uL cal std/40 mL sample* HS18010502-14	SAMP	01-19-2018 07:25 pm	1.00	50 mL	50 mL	D011919.D	Liquid	Y	<2
20	HS18010704-12	SAMP	01-19-2018 07:49 pm	1.00	50 mL	50 mL	D011920.D	Liquid	Y	<2
21	HS18010648-01	SAMP	01-19-2018 08:14 pm	1.00	50 mL	50 mL	D011921.D	Liquid	Y	<2
22	HS18010396-01	SAMP	01-19-2018 08:38 pm	1.00	50 mL	50 mL	D011922.D	Liquid	Y	<2
23	HS18010642-02	SAMP	01-19-2018 09:03 pm	1.00	50 mL	50 mL	D011923.D	Liquid	Y	<2
24	HS18010642-04	SAMP	01-19-2018 09:27 pm	1.00	50 mL	50 mL	D011924.D	Liquid	Y	<2
25	HS18010642-06	SAMP	01-19-2018 09:52 pm	1.00	50 mL	50 mL	D011925.D	Liquid	Y	<2
26	HS18010642-09	SAMP	01-19-2018 10:16 pm	1.00	50 mL	50 mL	D011926.D	Liquid	Y	<2
27	HS18010642-10	SAMP	01-19-2018 10:41 pm	1.00	50 mL	50 mL	D011927.D	Liquid	Y	<2
28	HS18010642-13	SAMP	01-19-2018 11:06 pm	1.00	50 mL	50 mL	D011928.D	Liquid	Y	<2
29	HS18010642-15	SAMP	01-19-2018 11:30 pm	1.00	50 mL	50 mL	D011929.D	Liquid	Y	<2

MSVOA02 -Logbook

Chemical	Value
SURR ID	30603-01-03
IS ID	30603-01-04
LCS/MS ID	30603-02-01
CAL STD ID	30603-02-01
BFB ID	30603-01-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

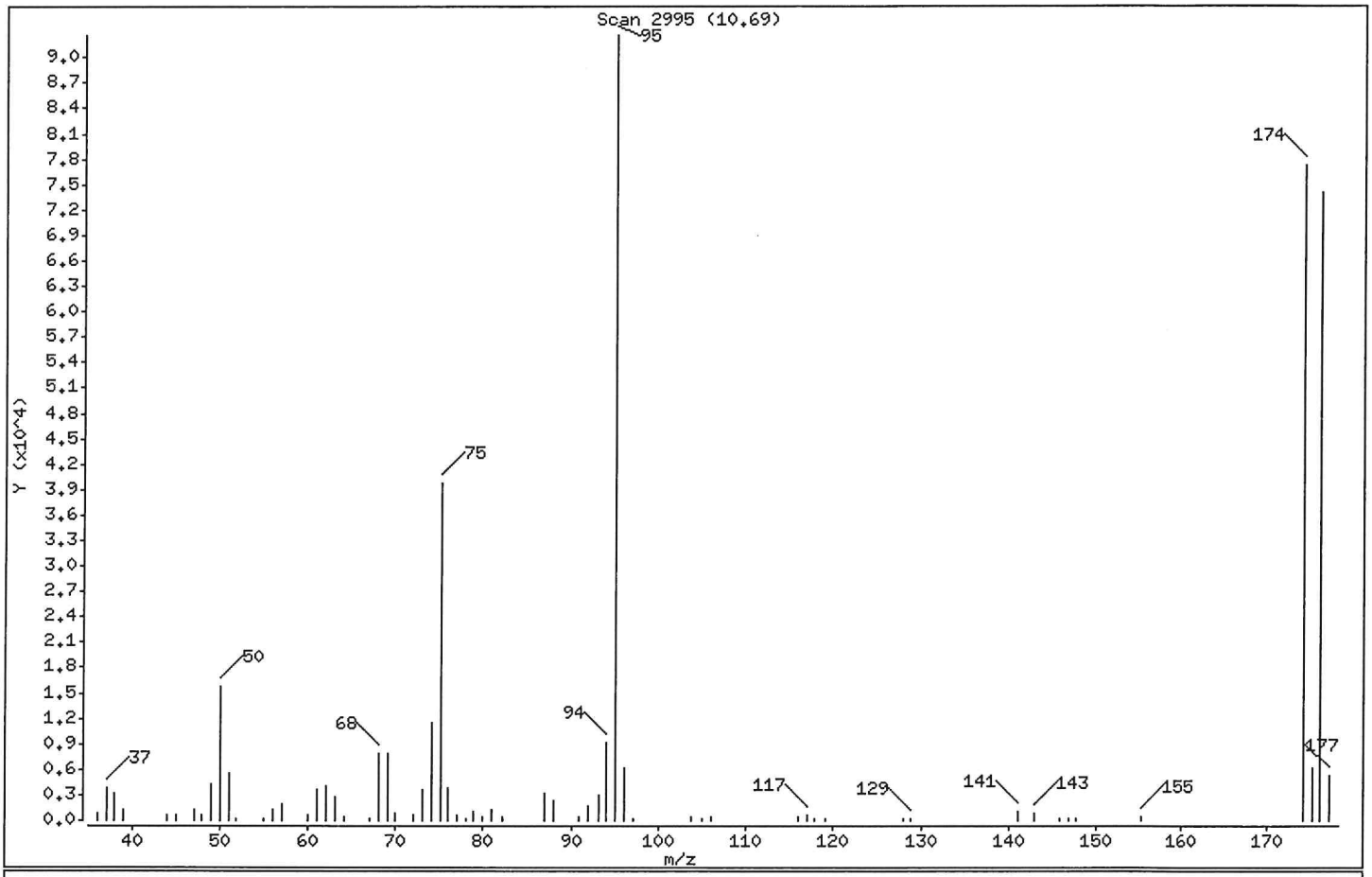
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	17.10
75	30.00 - 60.00% of mass 95	42.98
96	5.00 - 9.00% of mass 95	6.70
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	83.41
175	5.00 - 9.00% of mass 174	6.69 (8.02)
176	95.00 - 101.00% of mass 174	80.00 (95.92)
177	5.00 - 9.00% of mass 176	5.80 (7.25)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: D121901.D
Spectrum: Scan 2995 (10.69)
Location of Maximum: 95.10
Number of points: 63

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	848	61.10	3681	80.00	392	117.00	535
37.10	3899	62.10	4118	81.00	1369	117.90	289
38.10	3186	63.00	2763	82.10	505	119.00	178
39.10	1261	64.10	359	87.00	3297	128.00	213
44.00	703	67.00	160	88.00	2355	128.80	224
45.10	701	68.10	7863	90.80	345	141.00	1018
47.10	1299	69.10	7818	92.00	1652	143.00	802
48.00	615	70.00	864	93.10	3058	145.80	176
49.00	4200	72.00	664	94.10	9230	146.90	167
50.10	15838	73.00	3522	95.10	92608	147.80	292
51.10	5508	74.00	11471	96.00	6202	155.10	321
52.00	204	75.10	39800	97.10	186	174.00	77240
55.10	193	76.00	3881	103.80	420	175.00	6192
56.10	1190	77.00	562	104.90	165	176.00	74088
57.00	1938	78.00	270	106.00	442	177.00	5369
60.00	615	78.90	1147	116.00	390		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121901.D

Date : 19-DEC-2017 09:21

Client ID: BFB

Instrument: VOA2.i

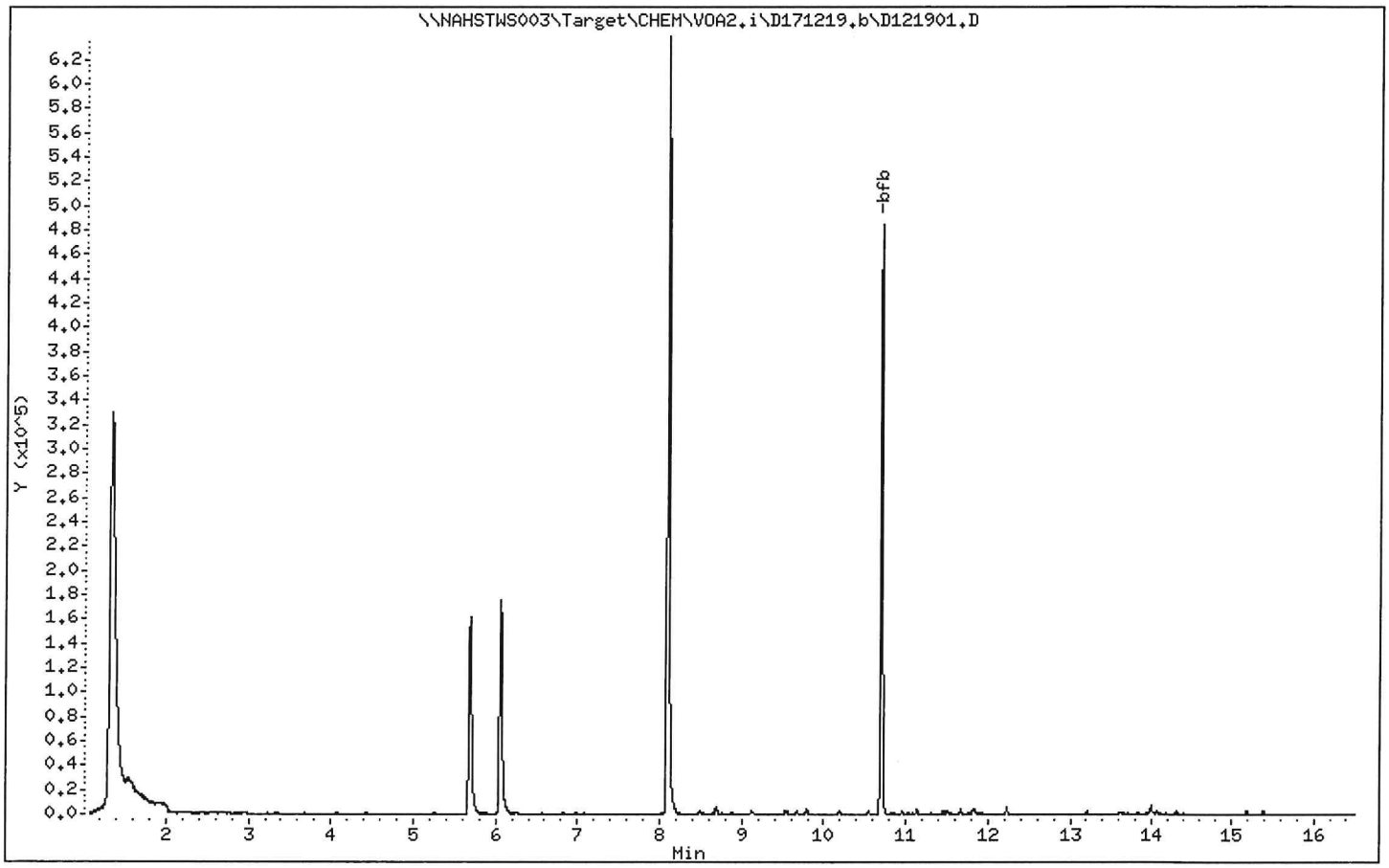
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 17:26

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Lab Smp Id: VSTD00.5 Client Smp ID: VSTD00.5
Inj Date : 19-DEC-2017 10:10
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD00.5;VSTD00.5;1;1;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:26 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:27 Cal File: D121911.D
Als bottle: 3 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.657	5.657	(0.979)	2140	0.50000	0.52(aM)
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	266257	50.0000	
$	30 Dibromofluoromethane	113	5.693	5.693	(0.985)	1363	0.50000	0.56(aM)
*	36 1,4-Difluorobenzene	114	6.569	6.569	(1.000)	394668	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	1684	0.50000	0.56(aM)
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	354076	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.850)	5924	0.50000	0.63(Ta)
$	69 4-Bromofluorobenzene	95	10.698	10.698	(1.123)	2922	0.50000	0.85(a)
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	145249	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.878	10.878	(0.919)	2079	0.50000	0.60(aM)
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	1254	0.50000	0.57(aM)
	32 1,1-Dichloropropene	75	5.850	5.850	(0.891)	2906	0.50000	0.02(aM)
	22 1,1-Dichloroethane	63	4.281	4.281	(0.741)	2841	0.50000	0.51(aM)
	11 1,1-Dichloroethene	96	2.753	2.753	(0.476)	924	0.50000	0.42(aM)
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	1076	0.50000	0.37(aM)
	89 1,2-Dibromo-3-Chloropropane	75	13.015	13.015	(1.099)	130	0.50000	0.75(aM)
	57 1,2-Dibromoethane	107	9.072	9.072	(0.952)	1418	0.50000	0.52(aM)
	88 1,2-Dichlorobenzene	146	12.229	12.229	(1.033)	2995	0.50000	0.57(aM)
	33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	2076	0.50000	0.49(aM)
	42 1,2-Dichloropropane	63	7.066	7.066	(1.076)	1527	0.50000	0.49(aM)
	83 1,3-Dichlorobenzene	146	11.764	11.764	(0.994)	3180	0.50000	0.58(aM)

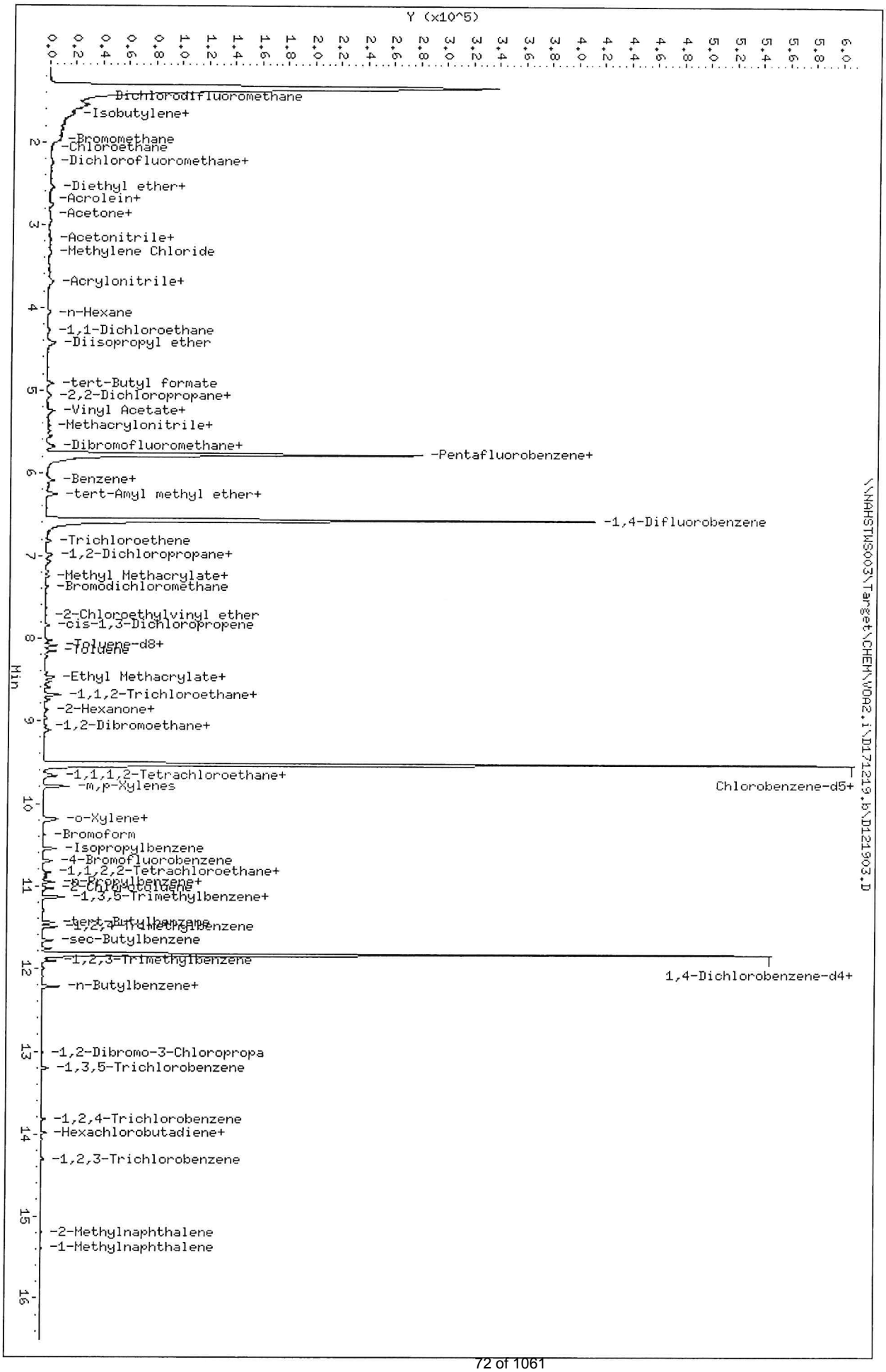
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 17:26

	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	11.863	11.863	(1.002)	3007	0.50000	0.57(a)
24	2-Butanone	43	5.169	5.169	(0.895)	1469	1.00000	1.02(aM)
52	2-Hexanone	43	8.873	8.873	(0.932)	2281	1.00000	1.09(aM)
45	4-Methyl-2-Pentanone	43	8.032	8.032	(0.843)	3651	1.00000	1.13(aM)
10	Acetone	43	2.865	2.865	(0.496)	2564	1.00000	0.62(aM)
37	Benzene	78	6.087	6.087	(0.927)	5673	0.50000	0.54(aM)
39	Bromodichloromethane	83	7.377	7.377	(1.123)	1975	0.50000	0.53(aM)
66	Bromoform	173	10.374	10.374	(1.089)	1005	0.50000	0.47(aM)
6	Bromomethane	94	1.964	1.964	(0.340)	1436	0.50000	(aM)
19	Carbon Disulfide	76	2.952	2.952	(0.511)	5535	1.00000	1.10(aM)
34	Carbon Tetrachloride	117	5.821	5.821	(0.886)	2469	0.50000	0.65(aM)
59	Chlorobenzene	112	9.556	9.556	(1.003)	4146	0.50000	0.56(Ta)
7	Chloroethane	64	2.028	2.028	(0.351)	945	0.50000	0.43(aM)
28	Chloroform	83	5.497	5.497	(0.951)	2630	0.50000	0.54(aM)
3	Chloromethane	50	1.595	1.595	(0.276)	3374	0.50000	(aM)
27	cis-1,2-Dichloroethene	96	5.076	5.076	(0.878)	1778	0.50000	0.58(aM)
46	cis-1,3-Dichloropropene	75	7.846	7.846	(1.194)	1950	0.50000	0.46(aM)
55	Dibromochloromethane	129	8.972	8.972	(0.942)	1549	0.50000	0.50(aM)
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	1000	0.50000	0.43(aM)
61	Ethylbenzene	106	9.668	9.668	(1.015)	2309	0.50000	0.59(aM)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	7040	0.50000	0.58(aM)
17	Methylene Chloride	84	3.334	3.334	(0.577)	1769	0.50000	0.60(aM)
56	Tetrachloroethene	164	8.693	8.693	(0.913)	2878	0.50000	(aM)
50	Toluene	91	8.160	8.160	(0.857)	6264	0.50000	0.55(Ta)
20	trans-1,2-Dichloroethene	96	3.677	3.677	(0.636)	930	0.50000	0.39(aM)
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.282)	1589	0.50000	0.44(aM)
38	Trichloroethene	130	6.816	6.816	(1.038)	1748	0.50000	0.59(aM)
8	Trichlorofluoromethane	101	2.237	2.237	(0.387)	1431	0.50000	0.43(aM)
5	Vinyl Chloride	62	1.681	1.681	(0.291)	1626	0.50000	0.49(aM)
62	m,p-Xylenes	106	9.790	9.790	(1.028)	5758	1.00000	1.20(aM)
63	o-Xylene	106	10.185	10.185	(1.069)	2985	0.50000	0.59(aM)
M 95	Xylenes (total)	106				8743	1.50000	(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	1951	0.50000	0.56(aM)
93	1,2,3-Trichlorobenzene	182	14.312	14.312	(1.209)	885	0.50000	0.35(aM)
79	1,2,4-Trimethylbenzene	105	11.504	11.504	(0.972)	6162	0.50000	0.63(a)
75	1,3,5-Trimethylbenzene	105	11.138	11.138	(0.941)	5847	0.50000	0.62(a)
26	2,2-Dichloropropane	77	5.048	5.048	(0.873)	1940	0.50000	0.50(aM)
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	2515	0.50000	0.57(aM)
76	2-Chlorotoluene	91	11.026	11.026	(0.931)	4934	0.50000	0.59(aM)
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	5428	0.50000	0.60(aM)
82	p-Isopropyltoluene	119	11.822	11.822	(0.999)	5487	0.50000	0.61(aM)
29	Bromochloromethane	128	5.368	5.368	(0.929)	717	0.50000	0.49(aM)
74	Bromobenzene	156	10.833	10.833	(0.915)	2009	0.50000	0.62(aM)
44	Dibromomethane	93	7.191	7.191	(1.095)	773	0.50000	0.47(aM)
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	963	0.50000	0.29(aM)
73	n-Propylbenzene	91	10.958	10.958	(0.926)	7204	0.50000	0.58(Ta)
87	n-Butylbenzene	91	12.226	12.226	(1.033)	3627	0.50000	0.54(aM)
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	6241	0.50000	0.59(aM)
92	Naphthalene	128	14.068	14.068	(1.188)	1123	0.50000	(aM)
78	tert-Butylbenzene	119	11.453	11.453	(0.967)	4677	0.50000	0.59(Ta)
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	1467	0.50000	0.51(aM)
64	Styrene	104	10.201	10.201	(1.071)	4321	0.50000	0.54(aM)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Report Date: 09-Feb-2018 17:26

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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121903.D
Date : 19-DEC-2017 10:10
Client ID: VSTD00.5
Sample Info: WSTD00.5;VSTD00.5;1;1;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 17:26

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Lab Smp Id: VSTD001 Client Smp ID: VSTD001
Inj Date : 19-DEC-2017 10:34
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD001;VSTD001;1;2;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:26 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 10:10 Cal File: D121903.D
Als bottle: 4 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.979)	4089	1.00000	1.03(a)
*	1 Pentafluorobenzene	168	5.776	5.776	(1.000)	254673	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.985)	2553	1.00000	1.11(aM)
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	370301	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.049)	2757	1.00000	0.97(Ta)
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	335559	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	10331	1.00000	1.16(Ta)
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	4145	1.00000	1.28(a)
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	139780	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.875	10.875	(0.919)	3917	1.00000	1.17(aM)
	53 1,1,2-Trichloroethane	83	8.603	8.603	(0.903)	2335	1.00000	1.13(aM)
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	4681	1.00000	0.71(aM)
	22 1,1-Dichloroethane	63	4.284	4.284	(0.742)	5842	1.00000	1.09(aM)
	11 1,1-Dichloroethene	96	2.763	2.763	(0.478)	2233	1.00000	1.06(aM)
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	2691	1.00000	0.97(Ta)
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	527	1.00000	1.44(aM)
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	2693	1.00000	1.04(Ta)
	88 1,2-Dichlorobenzene	146	12.229	12.229	(1.033)	5826	1.00000	1.15(aM)
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	3910	1.00000	1.09(aM)
	42 1,2-Dichloropropane	63	7.073	7.073	(1.076)	3194	1.00000	1.09(aM)
	83 1,3-Dichlorobenzene	146	11.770	11.770	(0.994)	5888	1.00000	1.12(aM)

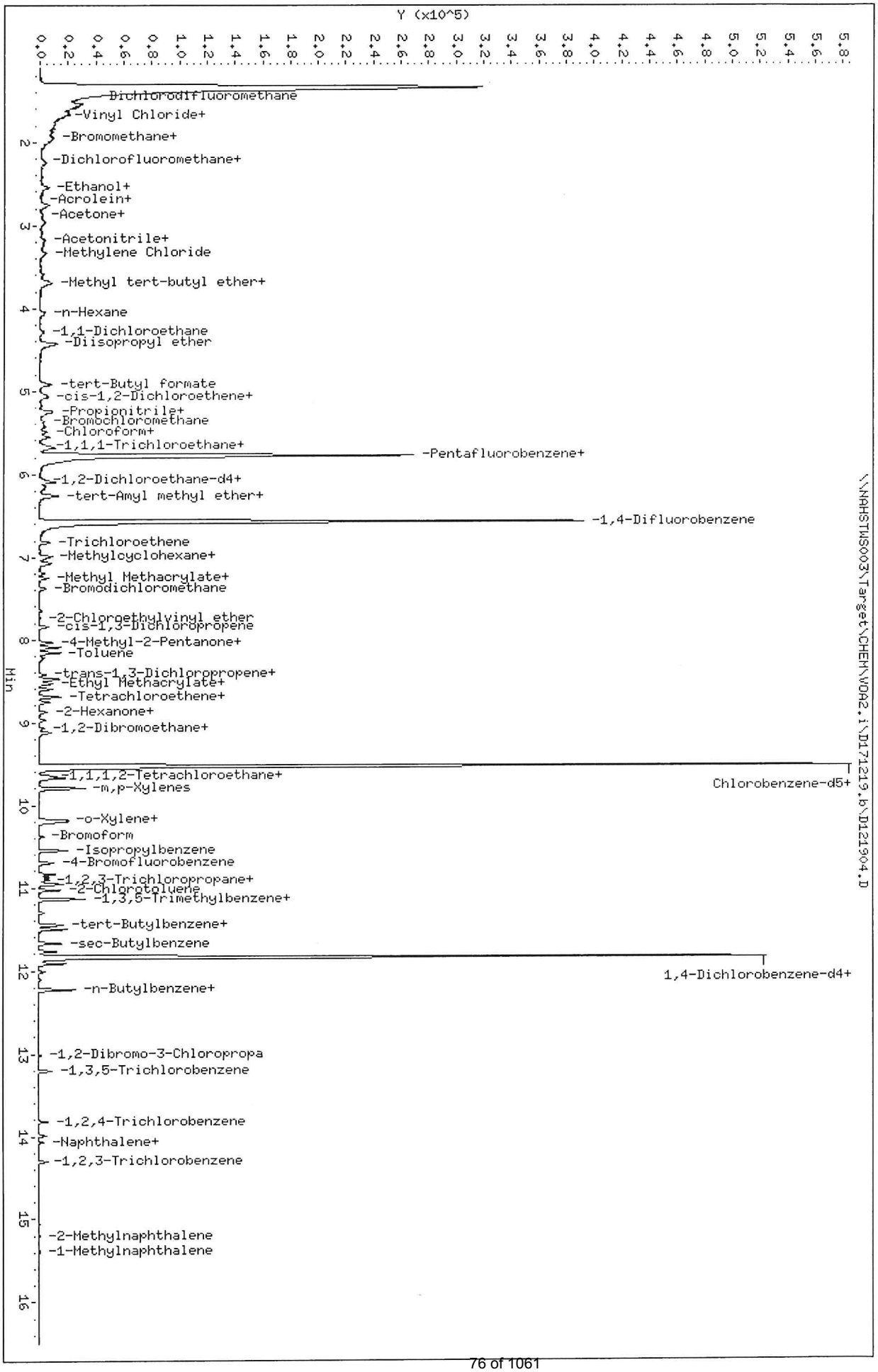
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 17:26

	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	11.860	11.860	(1.002)	5915	1.00000	1.18 (aM)
	24 2-Butanone	43	5.166	5.166	(0.894)	3060	2.00000	2.22 (aM)
	52 2-Hexanone	43	8.873	8.873	(0.932)	4407	2.00000	2.24 (Ta)
	45 4-Methyl-2-Pentanone	43	8.032	8.032	(0.843)	7137	2.00000	2.34 (a)
	10 Acetone	43	2.866	2.866	(0.496)	3611	2.00000	2.03 (aM)
	37 Benzene	78	6.094	6.094	(0.927)	11705	1.00000	1.20 (aM)
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	3729	1.00000	1.08 (aM)
	66 Bromoform	173	10.371	10.371	(1.089)	1745	1.00000	0.87 (aM)
	6 Bromomethane	94	1.938	1.938	(0.336)	2542	1.00000	(aM)
	19 Carbon Disulfide	76	2.962	2.962	(0.513)	9653	2.00000	2.01 (aM)
	34 Carbon Tetrachloride	117	5.824	5.824	(0.886)	3778	1.00000	1.07 (TaM)
	59 Chlorobenzene	112	9.556	9.556	(1.003)	8040	1.00000	1.16 (a)
	7 Chloroethane	64	2.031	2.031	(0.352)	2295	1.00000	1.11 (aM)
	28 Chloroform	83	5.494	5.494	(0.951)	4849	1.00000	1.04 (Ta)
	3 Chloromethane	50	1.595	1.595	(0.276)	5969	1.00000	0.47 (aM)
	27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	2859	1.00000	0.98 (Ta)
	46 cis-1,3-Dichloropropene	75	7.843	7.843	(1.193)	3975	1.00000	1.00 (aM)
	55 Dibromochloromethane	129	8.969	8.969	(0.942)	2995	1.00000	1.03 (aM)
	2 Dichlorodifluoromethane	85	1.447	1.447	(0.251)	2091	1.00000	0.96 (aM)
	61 Ethylbenzene	106	9.675	9.675	(1.016)	4343	1.00000	1.17 (aMH)
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	13289	1.00000	1.16 (a)
	17 Methylene Chloride	84	3.328	3.328	(0.576)	3087	1.00000	1.10 (aM)
	56 Tetrachloroethene	164	8.687	8.687	(0.912)	3904	1.00000	0.24 (a)
	50 Toluene	91	8.160	8.160	(0.857)	12691	1.00000	1.19 (Ta)
	20 trans-1,2-Dichloroethene	96	3.665	3.665	(0.634)	2177	1.00000	0.95 (aM)
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	3358	1.00000	0.99 (aM)
	38 Trichloroethene	130	6.819	6.819	(1.038)	2998	1.00000	1.09 (aM)
	8 Trichlorofluoromethane	101	2.259	2.259	(0.391)	3095	1.00000	0.98 (aM)
	5 Vinyl Chloride	62	1.678	1.678	(0.291)	3210	1.00000	1.02 (Ta)
	62 m,p-Xylenes	106	9.794	9.794	(1.028)	10553	2.00000	2.33 (a)
	63 o-Xylene	106	10.176	10.176	(1.068)	5578	1.00000	1.17 (a)
M	95 Xylenes (total)	106				16131	3.00000	(a)
	71 1,2,3-Trichloropropane	75	10.907	10.907	(0.921)	3980	1.00000	1.19 (Ta)
	93 1,2,3-Trichlorobenzene	182	14.305	14.305	(1.208)	2091	1.00000	0.88 (aM)
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	11202	1.00000	1.20 (a)
	75 1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	10681	1.00000	1.17 (a)
	26 2,2-Dichloropropane	77	5.044	5.044	(0.873)	4044	1.00000	1.08 (aM)
	54 1,3-Dichloropropane	76	8.757	8.757	(0.919)	4979	1.00000	1.20 (aM)
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	9692	1.00000	1.22 (Ta)
	77 4-Chlorotoluene	91	11.141	11.141	(0.941)	10294	1.00000	1.19 (a)
	82 p-Isopropyltoluene	119	11.819	11.819	(0.998)	9663	1.00000	1.12 (a)
	29 Bromochloromethane	128	5.372	5.372	(0.930)	1289	1.00000	0.93 (aM)
	74 Bromobenzene	156	10.837	10.837	(0.915)	3330	1.00000	1.07 (a)
	44 Dibromomethane	93	7.188	7.188	(1.094)	1461	1.00000	0.96 (aM)
	91 Hexachlorobutadiene	225	13.985	13.985	(1.181)	1399	1.00000	0.66 (aM)
	73 n-Propylbenzene	91	10.952	10.952	(0.925)	13821	1.00000	1.16 (Ta)
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	7076	1.00000	1.10 (a)
	81 sec-Butylbenzene	105	11.671	11.671	(0.986)	11416	1.00000	1.13 (a)
	92 Naphthalene	128	14.065	14.065	(1.188)	3453	1.00000	(a)
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	8889	1.00000	1.16 (a)
	60 1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	2945	1.00000	1.09 (a)
	64 Styrene	104	10.198	10.198	(1.071)	8599	1.00000	1.13 (a)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Report Date: 09-Feb-2018 17:26

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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121904.D
Date : 19-DEC-2017 10:34
Client ID: VSTD001
Sample Info: VSTD001;VSTD001;1;2;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 17:26

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Lab Smp Id: VSTD002 Client Smp ID: VSTD002
Inj Date : 19-DEC-2017 10:59
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD002;VSTD002;1;3;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:26 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 10:34 Cal File: D121904.D
Als bottle: 5 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
31	1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	7739	2.00000	1.92(a)
* 1	Pentafluorobenzene	168	5.779	5.779	(1.000)	259826	50.0000	
$ 30	Dibromofluoromethane	113	5.683	5.683	(0.983)	4981	2.00000	2.12(a)
* 36	1,4-Difluorobenzene	114	6.572	6.572	(1.000)	391700	50.0000	
$ 35	1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	5934	2.00000	2.05(Ta)
* 47	Chlorobenzene-d5	117	9.524	9.524	(1.000)	346408	50.0000	
$ 48	Toluene-d8	98	8.093	8.093	(0.850)	18565	2.00000	2.03(Ta)
$ 69	4-Bromofluorobenzene	95	10.695	10.695	(1.123)	7156	2.00000	2.14(a)
* 70	1,4-Dichlorobenzene-d4	152	11.835	11.835	(1.000)	146224	50.0000	
68	1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	7449	2.00000	2.13(aM)
53	1,1,2-Trichloroethane	83	8.603	8.603	(0.903)	4222	2.00000	1.99(a)
32	1,1-Dichloropropene	75	5.856	5.856	(0.891)	7445	2.00000	1.55(aM)
22	1,1-Dichloroethane	63	4.274	4.274	(0.740)	10955	2.00000	2.01(aM)
11	1,1-Dichloroethene	96	2.760	2.760	(0.478)	4364	2.00000	2.03(aM)
90	1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	5108	2.00000	1.77(Ta)
89	1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	1073	2.00000	2.30(aM)
57	1,2-Dibromoethane	107	9.065	9.065	(0.952)	5304	2.00000	1.99(Ta)
88	1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	10774	2.00000	2.04(a)
33	1,2-Dichloroethane	62	6.155	6.155	(0.937)	7652	2.00000	2.11(aM)
42	1,2-Dichloropropane	63	7.069	7.069	(1.076)	6767	2.00000	2.19(aM)
83	1,3-Dichlorobenzene	146	11.764	11.764	(0.994)	11327	2.00000	2.07(a)

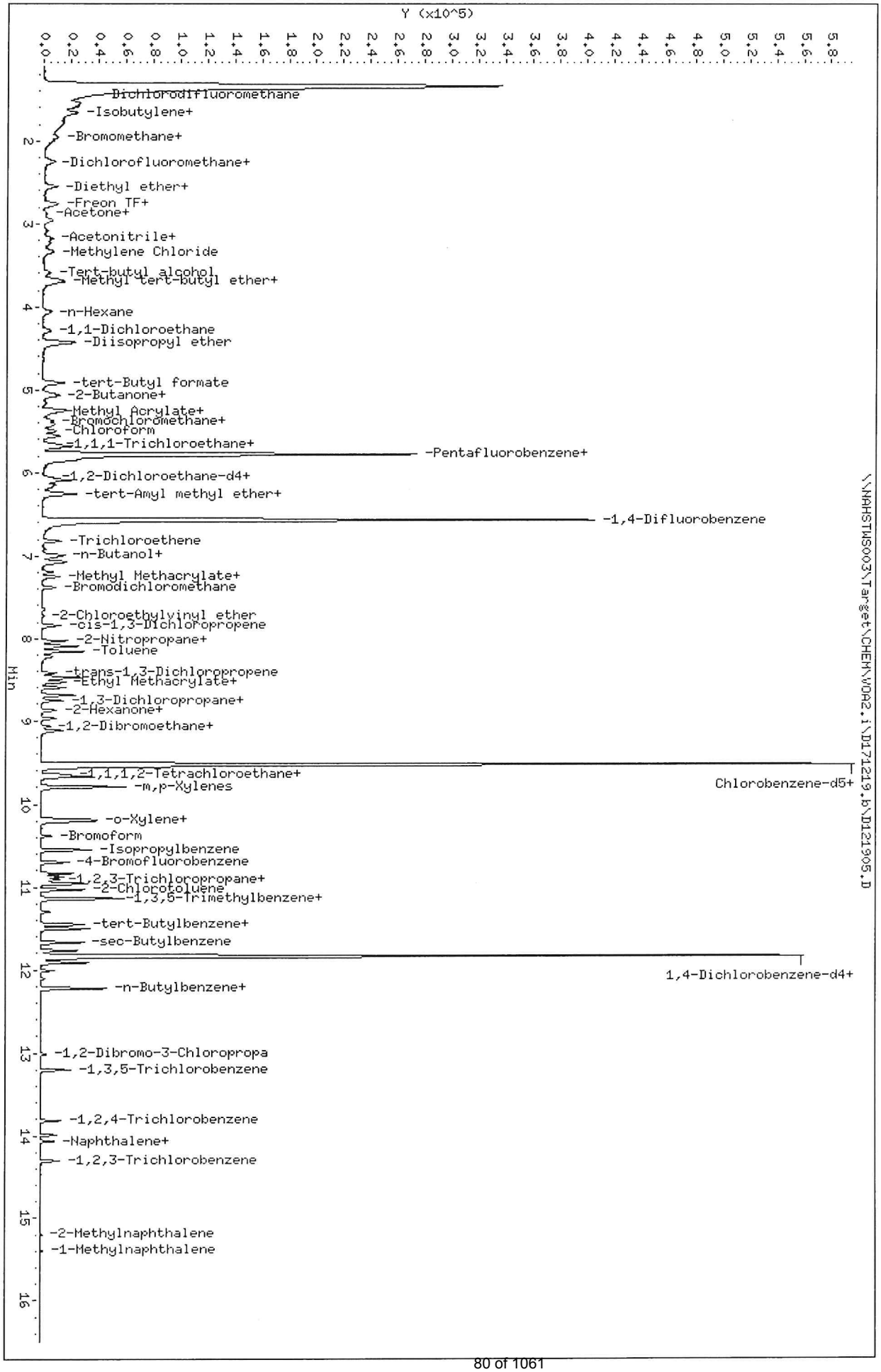
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 17:26

	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	11.860	11.860	(1.002)	10483	2.00000	2.00 (a)
24	2-Butanone	43	5.170	5.170	(0.895)	5411	4.00000	3.85 (aM)
52	2-Hexanone	43	8.873	8.873	(0.932)	8511	4.00000	4.19 (a)
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	12860	4.00000	4.09 (a)
10	Acetone	43	2.872	2.872	(0.497)	4810	4.00000	3.36 (aM)
37	Benzene	78	6.094	6.094	(0.927)	20675	2.00000	2.00 (a)
39	Bromodichloromethane	83	7.377	7.377	(1.123)	7033	2.00000	1.92 (Ta)
66	Bromoform	173	10.378	10.378	(1.090)	3966	2.00000	1.93 (aM)
6	Bromomethane	94	1.951	1.951	(0.338)	4860	2.00000	0.36 (aM)
19	Carbon Disulfide	76	2.959	2.959	(0.512)	17850	4.00000	3.64 (aM)
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	8167	2.00000	2.19 (TaM)
59	Chlorobenzene	112	9.556	9.556	(1.003)	14887	2.00000	2.08 (a)
7	Chloroethane	64	2.038	2.038	(0.353)	4553	2.00000	2.16 (aM)
28	Chloroform	83	5.494	5.494	(0.951)	9662	2.00000	2.03 (Ta)
3	Chloromethane	50	1.605	1.605	(0.278)	10010	2.00000	1.39 (aM)
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	6103	2.00000	2.06 (aM)
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	7958	2.00000	1.89 (aM)
55	Dibromochloromethane	129	8.969	8.969	(0.942)	5749	2.00000	1.92 (Ta)
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	3705	2.00000	1.66 (aM)
61	Ethylbenzene	106	9.672	9.672	(1.015)	7922	2.00000	2.07 (aMH)
67	Isopropylbenzene	105	10.545	10.545	(1.107)	23813	2.00000	2.01 (a)
17	Methylene Chloride	84	3.341	3.341	(0.578)	5681	2.00000	1.99 (aM)
56	Tetrachloroethene	164	8.687	8.687	(0.912)	5759	2.00000	1.07 (a)
50	Toluene	91	8.157	8.157	(0.856)	22911	2.00000	2.08 (a)
20	trans-1,2-Dichloroethene	96	3.677	3.677	(0.636)	4940	2.00000	2.12 (a)
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	6256	2.00000	1.75 (aM)
38	Trichloroethene	130	6.819	6.819	(1.038)	5320	2.00000	1.83 (a)
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	5870	2.00000	1.83 (aM)
5	Vinyl Chloride	62	1.682	1.682	(0.291)	6459	2.00000	2.02 (aM)
62	m,p-Xylenes	106	9.794	9.794	(1.028)	19203	4.00000	4.11 (a)
63	o-Xylene	106	10.176	10.176	(1.068)	9802	2.00000	2.00 (a)
M 95	Xylenes (total)	106				29005	6.00000	(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	7447	2.00000	2.13 (a)
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	4663	2.00000	1.87 (Ta)
79	1,2,4-Trimethylbenzene	105	11.498	11.498	(0.972)	20183	2.00000	2.07 (a)
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	19907	2.00000	2.09 (a)
26	2,2-Dichloropropane	77	5.054	5.054	(0.875)	7433	2.00000	1.96 (aM)
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	8573	2.00000	2.00 (a)
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	18179	2.00000	2.18 (a)
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	19291	2.00000	2.13 (a)
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	17740	2.00000	1.97 (a)
29	Bromochloromethane	128	5.375	5.375	(0.930)	2655	2.00000	1.88 (a)
74	Bromobenzene	156	10.833	10.833	(0.915)	6776	2.00000	2.08 (a)
44	Dibromomethane	93	7.191	7.191	(1.094)	3077	2.00000	1.92 (a)
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	2593	2.00000	1.51 (aM)
73	n-Propylbenzene	91	10.955	10.955	(0.926)	26316	2.00000	2.12 (a)
87	n-Butylbenzene	91	12.223	12.223	(1.033)	12425	2.00000	1.85 (a)
81	sec-Butylbenzene	105	11.664	11.664	(0.986)	21328	2.00000	2.02 (a)
92	Naphthalene	128	14.065	14.065	(1.188)	8523	2.00000	0.61 (a)
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	16377	2.00000	2.05 (a)
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	5468	2.00000	1.97 (a)
64	Styrene	104	10.198	10.198	(1.071)	15951	2.00000	2.04 (a)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121905.D
Report Date: 09-Feb-2018 17:26

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: \\NAHSTWS003\Target\CHEM\WOA2.i\D171219.b\D1219O5.D
Date : 19-DEC-2017 10:59
Client ID: VSTD002
Sample Info: VSTD002;VSTD002;1;3;
Purge Volume: 5.0
Column phase: DB624

Instrument: WOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 17:26

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Lab Smp Id: VSTD005 Client Smp ID: VSTD005
Inj Date : 19-DEC-2017 11:23
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD005;VSTD005;1;4;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:26 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 10:59 Cal File: D121905.D
Als bottle: 6 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	19452	5.00000	4.61(a)
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	272617	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.984)	11996	5.00000	4.88(a)
*	36 1,4-Difluorobenzene	114	6.569	6.569	(1.000)	412491	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	13758	5.00000	4.53(a)
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	373656	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	44645	5.00000	4.53(a)
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	17276	5.00000	4.80(a)
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	161728	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.869	10.869	(0.918)	18597	5.00000	4.82(aM)
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	10807	5.00000	4.72(a)
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	15499	5.00000	3.97(a)
	22 1,1-Dichloroethane	63	4.287	4.287	(0.742)	27067	5.00000	4.75(Ta)
	11 1,1-Dichloroethene	96	2.747	2.747	(0.475)	10340	5.00000	4.59(a)
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.167)	14191	5.00000	4.45(a)
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.099)	2812	5.00000	4.71(a)
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	13628	5.00000	4.76(Ta)
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	27735	5.00000	4.77(a)
	33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	19328	5.00000	5.21(M)
	42 1,2-Dichloropropane	63	7.066	7.066	(1.076)	16698	5.00000	5.13(M)
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	28316	5.00000	4.68(a)

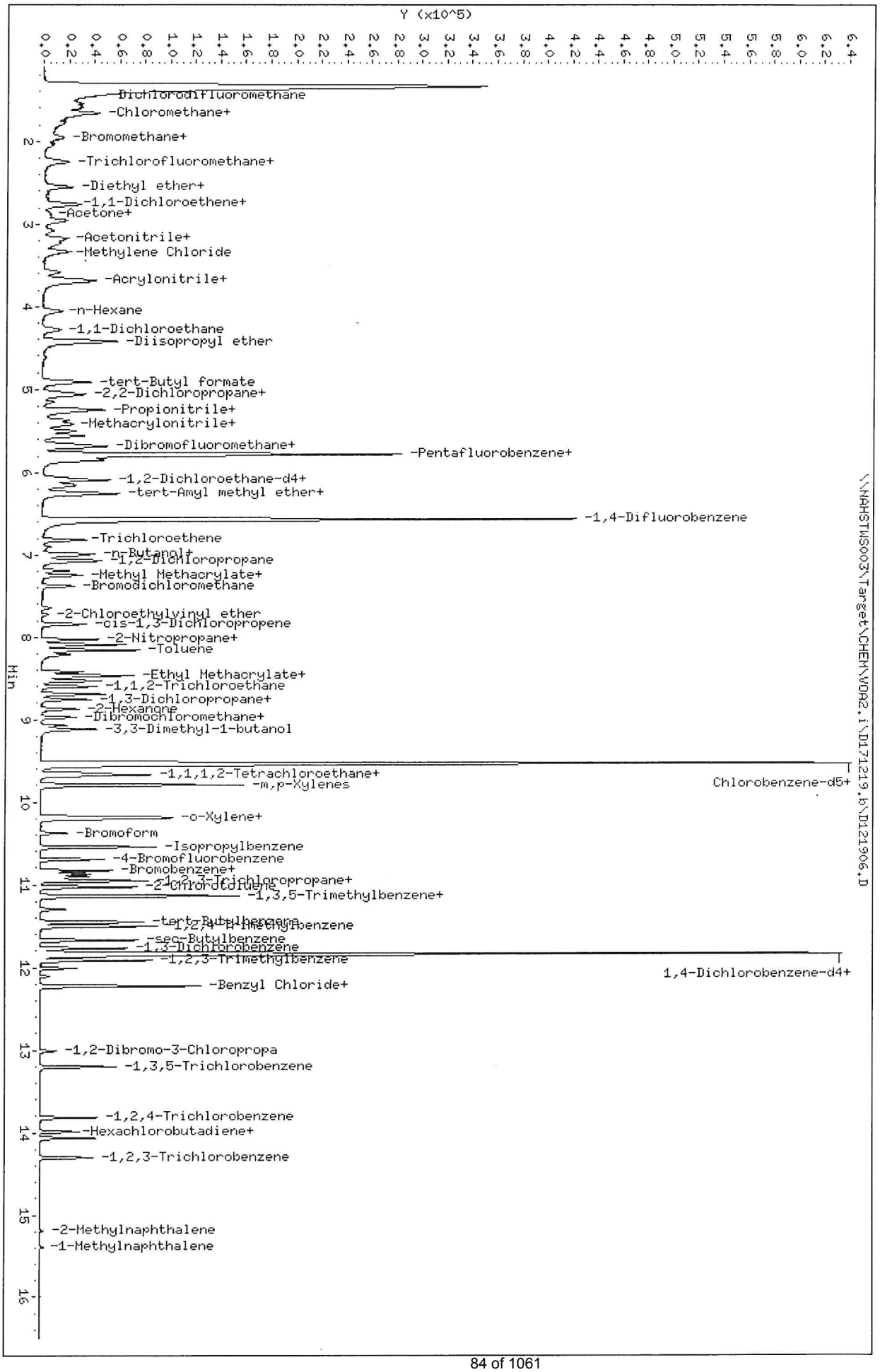
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 17:26

	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	11.857	11.857	(1.002)	26891	5.00000	4.64(a)
24	2-Butanone	43	5.144	5.144	(0.890)	14793	10.0000	10.05(M)
52	2-Hexanone	43	8.869	8.869	(0.931)	20452	10.0000	9.34
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	32602	10.0000	9.61
10	Acetone	43	2.866	2.866	(0.496)	8024	10.0000	6.74(T)
37	Benzene	78	6.090	6.090	(0.927)	52138	5.00000	4.80(a)
39	Bromodichloromethane	83	7.380	7.380	(1.124)	17741	5.00000	4.61(Ta)
66	Bromoform	173	10.374	10.374	(1.089)	10411	5.00000	4.69(Ta)
6	Bromomethane	94	1.951	1.951	(0.338)	11772	5.00000	4.12(TaM)
19	Carbon Disulfide	76	2.959	2.959	(0.512)	45421	10.0000	8.83
34	Carbon Tetrachloride	117	5.831	5.831	(0.888)	18004	5.00000	4.59(aM)
59	Chlorobenzene	112	9.553	9.553	(1.003)	37334	5.00000	4.85(a)
7	Chloroethane	64	2.034	2.034	(0.352)	13535	5.00000	6.13(M)
28	Chloroform	83	5.494	5.494	(0.951)	23836	5.00000	4.79(a)
3	Chloromethane	50	1.598	1.598	(0.277)	22250	5.00000	4.01(Ta)
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	14731	5.00000	4.74(a)
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	20685	5.00000	4.68(a)
55	Dibromochloromethane	129	8.972	8.972	(0.942)	15049	5.00000	4.66(Ta)
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	10402	5.00000	4.46(TaM)
61	Ethylbenzene	106	9.668	9.668	(1.015)	19113	5.00000	4.64(aH)
67	Isopropylbenzene	105	10.551	10.551	(1.107)	60307	5.00000	4.73(a)
17	Methylene Chloride	84	3.340	3.340	(0.578)	14132	5.00000	4.73(a)
56	Tetrachloroethene	164	8.686	8.686	(0.912)	12517	5.00000	3.90(a)
50	Toluene	91	8.157	8.157	(0.856)	57868	5.00000	4.88(a)
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.635)	11542	5.00000	4.74(a)
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.282)	16929	5.00000	4.50(a)
38	Trichloroethene	130	6.812	6.812	(1.037)	13693	5.00000	4.48(a)
8	Trichlorofluoromethane	101	2.249	2.249	(0.389)	14728	5.00000	4.38(Ta)
5	Vinyl Chloride	62	1.678	1.678	(0.290)	15224	5.00000	4.55(a)
62	m,p-Xylenes	106	9.790	9.790	(1.028)	47823	10.0000	9.49
63	o-Xylene	106	10.179	10.179	(1.068)	24981	5.00000	4.74(a)
M 95	Xylenes (total)	106				72804	15.0000	(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	18621	5.00000	4.83(a)
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	13224	5.00000	4.81(a)
79	1,2,4-Trimethylbenzene	105	11.497	11.497	(0.971)	50539	5.00000	4.69(a)
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.940)	49475	5.00000	4.71(a)
26	2,2-Dichloropropane	77	5.048	5.048	(0.873)	18442	5.00000	4.64(a)
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	21911	5.00000	4.75(a)
76	2-Chlorotoluene	91	11.026	11.026	(0.931)	43425	5.00000	4.72(a)
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	47906	5.00000	4.78(a)
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	46314	5.00000	4.65(a)
29	Bromochloromethane	128	5.368	5.368	(0.929)	7151	5.00000	4.84(a)
74	Bromobenzene	156	10.833	10.833	(0.915)	16961	5.00000	4.72(a)
44	Dibromomethane	93	7.194	7.194	(1.095)	8132	5.00000	4.82(a)
91	Hexachlorobutadiene	225	13.994	13.994	(1.182)	6524	5.00000	4.00(a)
73	n-Propylbenzene	91	10.955	10.955	(0.925)	64421	5.00000	4.71(a)
87	n-Butylbenzene	91	12.223	12.223	(1.033)	33851	5.00000	4.57(a)
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	52080	5.00000	4.48(a)
92	Naphthalene	128	14.065	14.065	(1.188)	34239	5.00000	3.64(a)
78	tert-Butylbenzene	119	11.453	11.453	(0.967)	40621	5.00000	4.61(a)
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	13932	5.00000	4.67(a)
64	Styrene	104	10.198	10.198	(1.070)	39508	5.00000	4.70(a)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Report Date: 09-Feb-2018 17:26

QC Flag Legend

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


Y (x10^5)
Min
Dichlorodifluoromethane
-Chloromethane+
-Bromomethane+
-Trichlorofluoromethane+
-Diethyl ether+
-1,1-Dichloroethene+
-Acetone+
-Acetonitrile+
-Methylene Chloride
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-tert-Butyl formate
-2,2-Dichloropropane+
-Propionitrile+
-Methacrylonitrile+
-Dibromofluoromethane+
-Pentafluorobenzene+
-1,2-Dichloroethane-d4+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene
-Ethyl Methacrylate+
-1,1,2-Trichloroethane
-1,3-Dichloropropane+
-2-Hexanone
-Dibromochloromethane+
-3,3-Dimethyl-1-butanol
-1,1,1,2-Tetrachloroethane+
-m,p-Xylenes
Chlorobenzene-d5+
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-1,3,5-Trimethylbenzene+
-tert-Butylbenzene
-1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,2,3-Trimethylbenzene
1,4-Dichlorobenzene-d4+
-Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene+
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121906.D
Date : 19-DEC-2017 11:23
Client ID: VSTD005
Sample Info: VSTD005;VSTD005;1;4;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 17:26

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Lab Smp Id: VSTD010 Client Smp ID: VSTD010
Inj Date : 19-DEC-2017 11:47
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD010;VSTD010;1;5;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:26 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 11:23 Cal File: D121906.D
Als bottle: 7 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	37895	10.0000	10.30
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	237830	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.984)	21200	10.0000	9.89
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	352105	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.049)	27168	10.0000	10.26
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	328049	50.0000	
$	48 Toluene-d8	98	8.090	8.090	(0.849)	84452	10.0000	9.76
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	32136	10.0000	10.17
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	144718	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	34314	10.0000	9.93
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.903)	19720	10.0000	9.82
	32 1,1-Dichloropropene	75	5.853	5.853	(0.891)	28773	10.0000	9.74
	22 1,1-Dichloroethane	63	4.281	4.281	(0.741)	50157	10.0000	10.10
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	20686	10.0000	10.53
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	28692	10.0000	10.06
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	5460	10.0000	9.60
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	25156	10.0000	10.00
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	51831	10.0000	9.96
	33 1,2-Dichloroethane	62	6.569	6.569	(1.000)	11455	10.0000	3.59(a)
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	29213	10.0000	10.53(M)
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	52296	10.0000	9.66

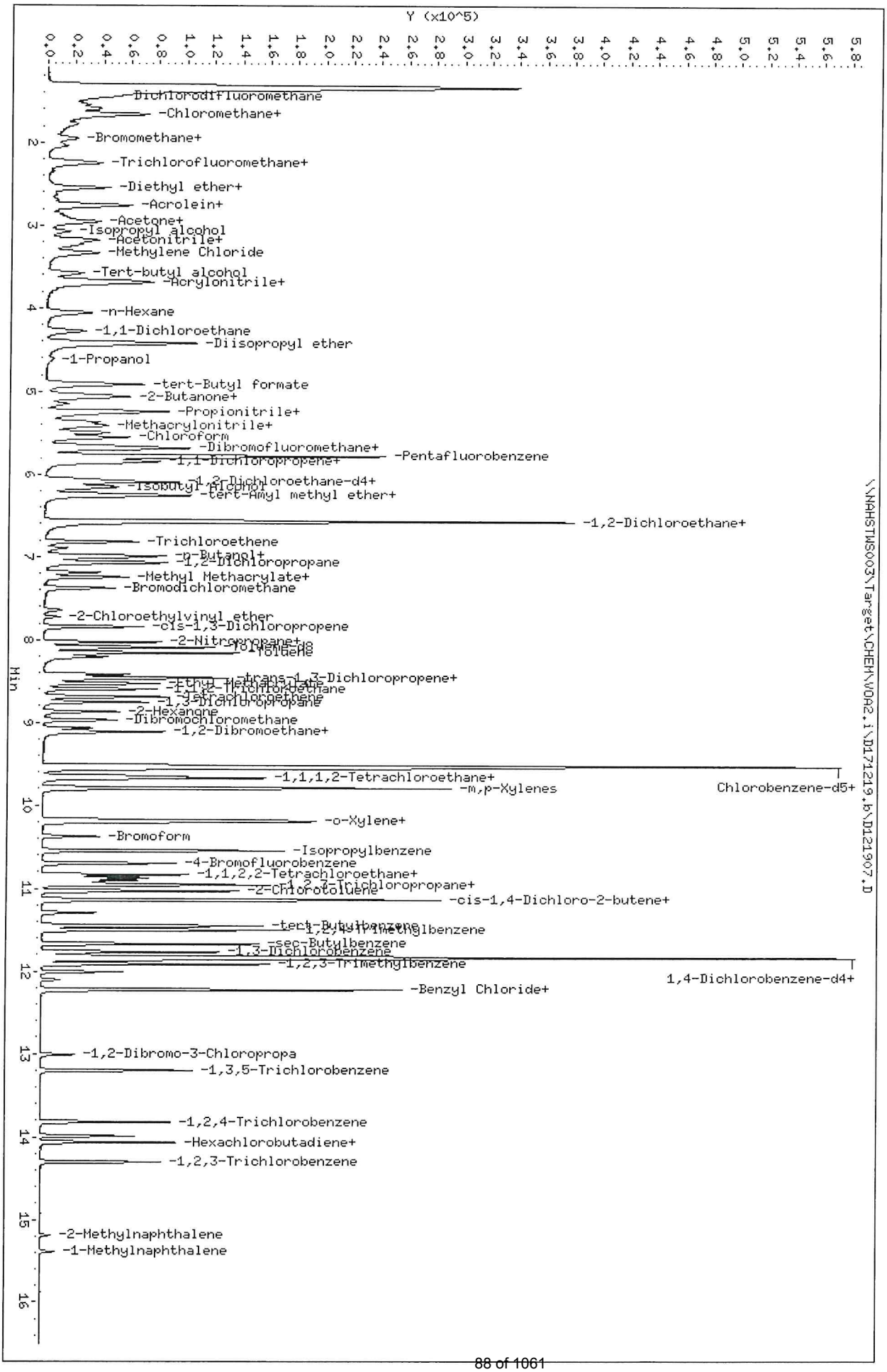
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 17:26

	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	11.860	11.860	(1.002)	50273	10.0000	9.70
24	2-Butanone	43	5.147	5.147	(0.891)	25131	20.0000	19.58
52	2-Hexanone	43	8.869	8.869	(0.931)	38430	20.0000	19.99
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	60355	20.0000	20.27
10	Acetone	43	2.862	2.862	(0.495)	15119	20.0000	17.28
37	Benzene	78	6.094	6.094	(0.927)	94240	10.0000	10.17
39	Bromodichloromethane	83	7.377	7.377	(1.123)	33081	10.0000	10.08
66	Bromoform	173	10.374	10.374	(1.089)	19346	10.0000	9.94(T)
6	Bromomethane	94	1.948	1.948	(0.337)	19732	10.0000	10.22(M)
19	Carbon Disulfide	76	2.952	2.952	(0.511)	91292	20.0000	20.36
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	34246	10.0000	10.23(M)
59	Chlorobenzene	112	9.553	9.553	(1.003)	67378	10.0000	9.97
7	Chloroethane	64	2.034	2.034	(0.352)	20139	10.0000	10.46(M)
28	Chloroform	83	5.494	5.494	(0.951)	44244	10.0000	10.20
3	Chloromethane	50	1.595	1.595	(0.276)	43035	10.0000	10.06(T)
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	26852	10.0000	9.92
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	39110	10.0000	10.38
55	Dibromochloromethane	129	8.972	8.972	(0.942)	28378	10.0000	10.01
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	21870	10.0000	10.75(T)
61	Ethylbenzene	106	9.668	9.668	(1.015)	35642	10.0000	9.85(H)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	114863	10.0000	10.26
17	Methylene Chloride	84	3.331	3.331	(0.576)	25318	10.0000	9.72
56	Tetrachloroethene	164	8.690	8.690	(0.912)	22413	10.0000	9.74
50	Toluene	91	8.157	8.157	(0.856)	104621	10.0000	10.06
20	trans-1,2-Dichloroethene	96	3.665	3.665	(0.634)	21988	10.0000	10.35
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	33383	10.0000	10.41
38	Trichloroethene	130	6.816	6.816	(1.037)	25682	10.0000	9.84
8	Trichlorofluoromethane	101	2.249	2.249	(0.389)	32301	10.0000	11.01
5	Vinyl Chloride	62	1.681	1.681	(0.291)	29755	10.0000	10.20
62	m,p-Xylenes	106	9.790	9.790	(1.028)	89427	20.0000	20.22
63	o-Xylene	106	10.182	10.182	(1.069)	44528	10.0000	9.62
M 95	Xylenes (total)	106				133955	30.0000	(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	34398	10.0000	9.97
93	1,2,3-Trichlorobenzene	182	14.299	14.299	(1.208)	25930	10.0000	10.55
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	93133	10.0000	9.66
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	93296	10.0000	9.93
26	2,2-Dichloropropane	77	5.044	5.044	(0.873)	35680	10.0000	10.29
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	38920	10.0000	9.61
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	78484	10.0000	9.54
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	87380	10.0000	9.76
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	88488	10.0000	9.93
29	Bromochloromethane	128	5.362	5.362	(0.928)	13447	10.0000	10.44
74	Bromobenzene	156	10.833	10.833	(0.915)	30785	10.0000	9.58
44	Dibromomethane	93	7.191	7.191	(1.094)	15302	10.0000	10.64
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	13741	10.0000	10.00
73	n-Propylbenzene	91	10.952	10.952	(0.925)	120968	10.0000	9.88
87	n-Butylbenzene	91	12.223	12.223	(1.033)	66777	10.0000	10.08
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	104072	10.0000	10.00
92	Naphthalene	128	14.065	14.065	(1.188)	75559	10.0000	9.75
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	77835	10.0000	9.88
60	1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	26535	10.0000	10.13
64	Styrene	104	10.198	10.198	(1.071)	75784	10.0000	10.27

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Report Date: 09-Feb-2018 17:26

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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Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Date : 19-DEC-2017 11:47
Client ID: VSTD010
Sample Info: VSTD010;VSTD010;1;5;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121907.D
Dichlorodifluoromethane
Chloromethane+
Bromomethane+
Trichlorofluoromethane+
Diethyl ether+
Acrolein+
Acetone+
Isopropyl alcohol
Acetonitrile+
Methylene Chloride
Tert-butyl alcohol
Acrylonitrile+
n-Hexane
1,1-Dichloroethane
Diisopropyl ether
1-Propanol
tert-Butyl formate
2-Butanone+
Propionitrile+
Methacrylonitrile+
Chloroform
Dibromofluoromethane+
Pentafluorobenzene
1,1-Dichloropropene+
1,2-Dichloroethane-d4+
Isobutyl alcohol
tert-Amyl methyl ether+
1,2-Dichloroethane+
Trichloroethene
n-Butanol+
1,2-Dichloropropane
Methyl Methacrylate+
Bromodichloromethane
2-Chloroethylvinyl ether
cis-1,3-Dichloropropene
2-Nitropropane+d8
Toluene-d8
Toluene
trans-1,3-Dichloropropene+
Ethyl Methacrylate
1,1,2-Trichloroethane
Tetrachloroethene
1,3-Dichloropropane
2-Hexanone
Dibromochloromethane
1,2-Dibromoethane+
1,1,1,2-Tetrachloroethane+
m,p-Xylenes
Chlorobenzene-d5+
o-Xylene+
Bromoform
Isopropylbenzene
4-Bromofluorobenzene
1,1,2,2-Tetrachloroethane+
1,2,3-Trichloropropane+
2-Chlorotoluene
cis-1,4-Dichloro-2-butene+
tert-Butylbenzene
1,2,4-Trimethylbenzene
sec-Butylbenzene
1,3-Dichlorobenzene
1,2,3-Trimethylbenzene
1,4-Dichlorobenzene-d4+
Benzyl Chloride+
1,2-Dibromo-3-Chloropropa
1,3,5-Trichlorobenzene
1,2,4-Trichlorobenzene
Hexachlorobutadiene+
1,2,3-Trichlorobenzene
2-Methylnaphthalene
1-Methylnaphthalene

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 17:26

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Lab Smp Id: VSTD020 Client Smp ID: VSTD020
Inj Date : 19-DEC-2017 12:14
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD020;VSTD020;1;6;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:26 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 11:47 Cal File: D121907.D
Als bottle: 8 Calibration Sample, Level: 6
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	78591	20.0000	20.54
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	247505	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	42633	20.0000	19.11
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	377533	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.055	(1.047)	54044	20.0000	19.62
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	340657	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	169178	20.0000	18.83
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	63474	20.0000	19.35
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	152059	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	66290	20.0000	18.27
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	40699	20.0000	19.53
	32 1,1-Dichloropropene	75	5.850	5.850	(0.890)	61975	20.0000	20.52
	22 1,1-Dichloroethane	63	4.274	4.274	(0.739)	102995	20.0000	19.93
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	43049	20.0000	21.07
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	67305	20.0000	22.46
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	11302	20.0000	18.40
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	52264	20.0000	20.02
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	108285	20.0000	19.81
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	73153	20.0000	21.88
	42 1,2-Dichloropropane	63	7.069	7.069	(1.076)	57317	20.0000	19.27(M)
	83 1,3-Dichlorobenzene	146	11.770	11.770	(0.995)	112309	20.0000	19.74

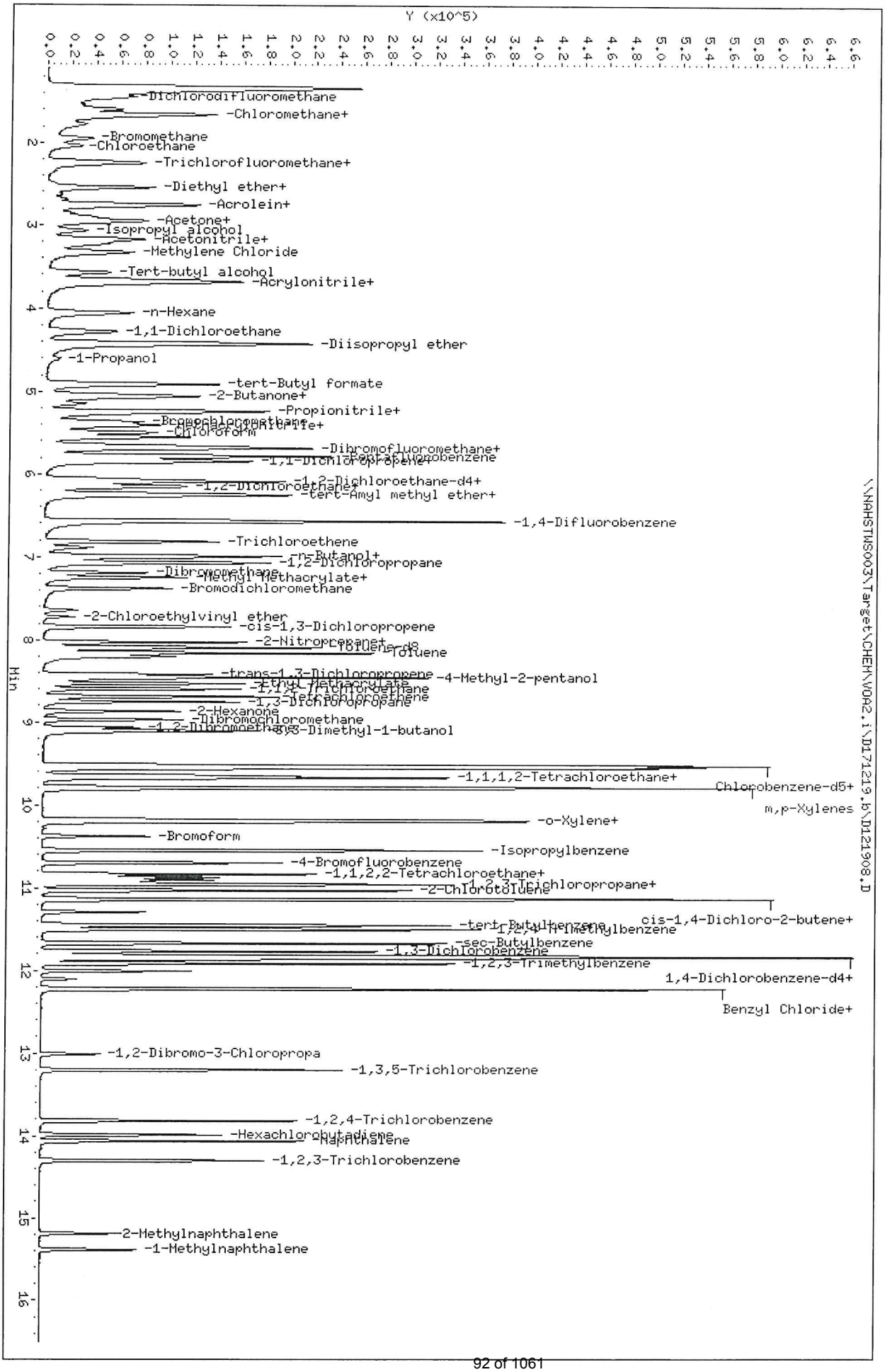
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 17:26

	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	11.860	11.860	(1.002)	103710	20.0000	19.06
24	2-Butanone	43	5.141	5.141	(0.889)	48984	40.0000	36.67
52	2-Hexanone	43	8.866	8.866	(0.931)	75537	40.0000	37.84
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	116500	40.0000	37.69
10	Acetone	43	2.856	2.856	(0.494)	33367	40.0000	39.27
37	Benzene	78	6.087	6.087	(0.926)	188661	20.0000	18.99
39	Bromodichloromethane	83	7.377	7.377	(1.123)	70757	20.0000	20.12
66	Bromoform	173	10.374	10.374	(1.089)	41520	20.0000	20.54
6	Bromomethane	94	1.941	1.941	(0.336)	37890	20.0000	20.97(M)
19	Carbon Disulfide	76	2.952	2.952	(0.511)	193500	40.0000	41.47
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	68216	20.0000	19.02(MH)
59	Chlorobenzene	112	9.553	9.553	(1.003)	138156	20.0000	19.69
7	Chloroethane	64	2.047	2.047	(0.354)	40521	20.0000	20.23(M)
28	Chloroform	83	5.494	5.494	(0.950)	88595	20.0000	19.63
3	Chloromethane	50	1.595	1.595	(0.276)	90594	20.0000	21.34
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	53810	20.0000	19.10
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	83791	20.0000	20.75
55	Dibromochloromethane	129	8.969	8.969	(0.941)	60863	20.0000	20.69
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	47446	20.0000	22.42
61	Ethylbenzene	106	9.675	9.675	(1.015)	75990	20.0000	20.23(H)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	237346	20.0000	20.43
17	Methylene Chloride	84	3.331	3.331	(0.576)	50656	20.0000	18.69
56	Tetrachloroethene	164	8.686	8.686	(0.912)	46886	20.0000	21.37
50	Toluene	91	8.157	8.157	(0.856)	217602	20.0000	20.15
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	45649	20.0000	20.65
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	71936	20.0000	20.93
38	Trichloroethene	130	6.822	6.822	(1.038)	56994	20.0000	20.38
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	67183	20.0000	22.01
5	Vinyl Chloride	62	1.681	1.681	(0.291)	63525	20.0000	20.94
62	m,p-Xylenes	106	9.790	9.790	(1.028)	184416	40.0000	40.15
63	o-Xylene	106	10.175	10.175	(1.068)	95335	20.0000	19.84
M 95	Xylenes (total)	106				279751	60.0000	(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	69837	20.0000	19.27
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	57198	20.0000	22.15
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	197269	20.0000	19.47
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	192655	20.0000	19.53
26	2,2-Dichloropropane	77	5.048	5.048	(0.873)	72639	20.0000	20.14
54	1,3-Dichloropropane	76	8.751	8.751	(0.918)	81872	20.0000	19.47
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	167050	20.0000	19.33
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	180539	20.0000	19.19
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	189137	20.0000	20.20
29	Bromochloromethane	128	5.365	5.365	(0.928)	28167	20.0000	21.01
74	Bromobenzene	156	10.833	10.833	(0.915)	64552	20.0000	19.13
44	Dibromomethane	93	7.191	7.191	(1.094)	32043	20.0000	20.79
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	30591	20.0000	21.69
73	n-Propylbenzene	91	10.955	10.955	(0.926)	257005	20.0000	19.99
87	n-Butylbenzene	91	12.223	12.223	(1.033)	149001	20.0000	21.41
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	223410	20.0000	20.44
92	Naphthalene	128	14.061	14.061	(1.188)	161007	20.0000	20.32
78	tert-Butylbenzene	119	11.453	11.453	(0.968)	164758	20.0000	19.91
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	55350	20.0000	20.36
64	Styrene	104	10.198	10.198	(1.070)	156998	20.0000	20.48

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Report Date: 09-Feb-2018 17:26

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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121908.D
Date : 19-DEC-2017 12:14
Client ID: VSTD020
Sample Info: VSTD020;VSTD020;1;6;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 17:27

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Lab Smp Id: VSTD050 Client Smp ID: VSTD050
Inj Date : 19-DEC-2017 12:39
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD050;VSTD050;1;7;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 9 Calibration Sample, Level: 7
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	186795	50.0000	51.22
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	235952	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	101827	50.0000	47.89
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	375071	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	130826	50.0000	49.82
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	338284	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	393321	50.0000	44.09
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	152091	50.0000	46.69
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	148533	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.918)	161093	50.0000	45.46
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	99527	50.0000	48.09
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	151900	50.0000	52.00
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	247818	50.0000	50.30
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	103192	50.0000	52.98
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.167)	164262	50.0000	56.13
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	30643	50.0000	50.13
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	128740	50.0000	49.67
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	257317	50.0000	48.19
	33 1,2-Dichloroethane	62	6.142	6.142	(0.935)	175492	50.0000	52.99
	42 1,2-Dichloropropane	63	7.069	7.069	(1.076)	140543	50.0000	47.57
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	265949	50.0000	47.86

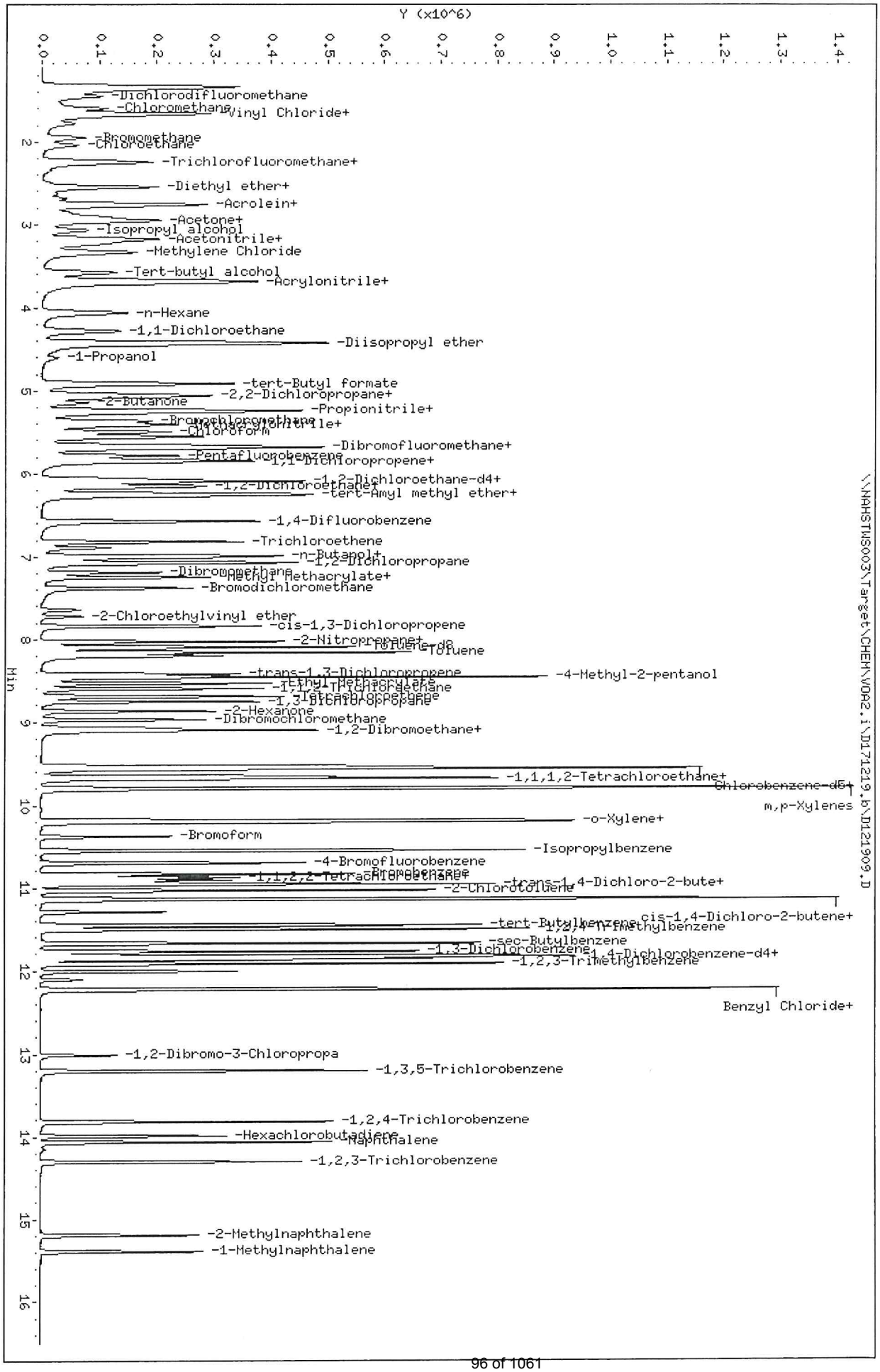
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 17:27

	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	11.860	11.860	(1.002)	253757	50.0000	47.75
24	2-Butanone	43	5.147	5.147	(0.890)	124936	100.000	98.12
52	2-Hexanone	43	8.866	8.866	(0.931)	187852	100.000	94.77
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	288559	100.000	94.02
10	Acetone	43	2.862	2.862	(0.495)	83806	100.000	107.31
37	Benzene	78	6.097	6.097	(0.928)	475144	50.0000	48.14
39	Bromodichloromethane	83	7.377	7.377	(1.123)	173751	50.0000	49.74
66	Bromoform	173	10.374	10.374	(1.089)	107385	50.0000	53.51
6	Bromomethane	94	1.944	1.944	(0.336)	88179	50.0000	54.81
19	Carbon Disulfide	76	2.952	2.952	(0.511)	464487	100.000	104.44
34	Carbon Tetrachloride	117	5.830	5.830	(0.887)	153362	50.0000	43.04(H)
59	Chlorobenzene	112	9.556	9.556	(1.003)	330208	50.0000	47.39
7	Chloroethane	64	2.041	2.041	(0.353)	86782	50.0000	45.45(M)
28	Chloroform	83	5.494	5.494	(0.950)	215735	50.0000	50.15
3	Chloromethane	50	1.595	1.595	(0.276)	201934	50.0000	51.19
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	133957	50.0000	49.90
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	211359	50.0000	52.69
55	Dibromochloromethane	129	8.969	8.969	(0.941)	149132	50.0000	51.06
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	110936	50.0000	54.99
61	Ethylbenzene	106	9.672	9.672	(1.015)	175926	50.0000	47.18(H)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	550664	50.0000	47.73
17	Methylene Chloride	84	3.334	3.334	(0.577)	123761	50.0000	47.92
56	Tetrachloroethene	164	8.690	8.690	(0.912)	108668	50.0000	52.16
50	Toluene	91	8.160	8.160	(0.857)	501085	50.0000	46.74
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.634)	115924	50.0000	55.03
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.281)	182394	50.0000	53.43
38	Trichloroethene	130	6.819	6.819	(1.038)	136623	50.0000	49.17
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	157909	50.0000	54.27
5	Vinyl Chloride	62	1.681	1.681	(0.291)	146127	50.0000	50.52
62	m,p-Xylenes	106	9.790	9.790	(1.028)	427108	100.000	93.66
63	o-Xylene	106	10.179	10.179	(1.068)	229237	50.0000	48.05
M 95	Xylenes (total)	106				656345	150.000	(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	172192	50.0000	48.66
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	135765	50.0000	53.84
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	454906	50.0000	45.97
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	445617	50.0000	46.25
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	174913	50.0000	50.88
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	195730	50.0000	46.89
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	384723	50.0000	45.59
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	427083	50.0000	46.48
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	433050	50.0000	47.36
29	Bromochloromethane	128	5.365	5.365	(0.928)	65939	50.0000	51.61
74	Bromobenzene	156	10.833	10.833	(0.915)	156920	50.0000	47.62
44	Dibromomethane	93	7.191	7.191	(1.094)	77818	50.0000	50.83
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	68105	50.0000	50.01
73	n-Propylbenzene	91	10.955	10.955	(0.925)	584086	50.0000	46.51
87	n-Butylbenzene	91	12.223	12.223	(1.033)	339560	50.0000	49.97
81	sec-Butylbenzene	105	11.667	11.667	(0.986)	510740	50.0000	47.83
92	Naphthalene	128	14.061	14.061	(1.188)	395649	50.0000	51.94
78	tert-Butylbenzene	119	11.452	11.452	(0.967)	385055	50.0000	47.64
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	134297	50.0000	49.74
64	Styrene	104	10.201	10.201	(1.071)	374411	50.0000	49.20

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Report Date: 09-Feb-2018 17:27

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: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121909.D
Date : 19-DEC-2017 12:39
Client ID: WSTD050
Sample Info: WSTD050;WSTD050;1;7;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 17:27

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Lab Smp Id: VSTD100 Client Smp ID: VSTD100
Inj Date : 19-DEC-2017 13:03
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD100;VSTD100;1;8;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:39 Cal File: D121909.D
Als bottle: 10 Calibration Sample, Level: 8
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.657	5.657	(0.978)	359337	100.000	100.16
*	1 Pentafluorobenzene	168	5.786	5.786	(1.000)	232106	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	196966	100.000	94.18
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	367391	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	261877	100.000	101.39
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	334258	50.0000	
$	48 Toluene-d8	98	8.096	8.096	(0.850)	740602	100.000	84.03
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	294343	100.000	91.46
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.838	(1.000)	145669	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.875	10.875	(0.919)	316208	100.000	90.99
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.902)	192511	100.000	94.14
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	286474	100.000	100.99
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	476188	100.000	98.26
	11 1,1-Dichloroethene	96	2.750	2.750	(0.475)	200113	100.000	104.46
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.168)	328605	100.000	114.50
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	61519	100.000	102.05
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	256307	100.000	100.08
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	479561	100.000	91.59
	33 1,2-Dichloroethane	62	6.148	6.148	(0.935)	337824	100.000	104.25
	42 1,2-Dichloropropane	63	7.069	7.069	(1.075)	271672	100.000	93.88
	83 1,3-Dichlorobenzene	146	11.770	11.770	(0.994)	508346	100.000	93.29

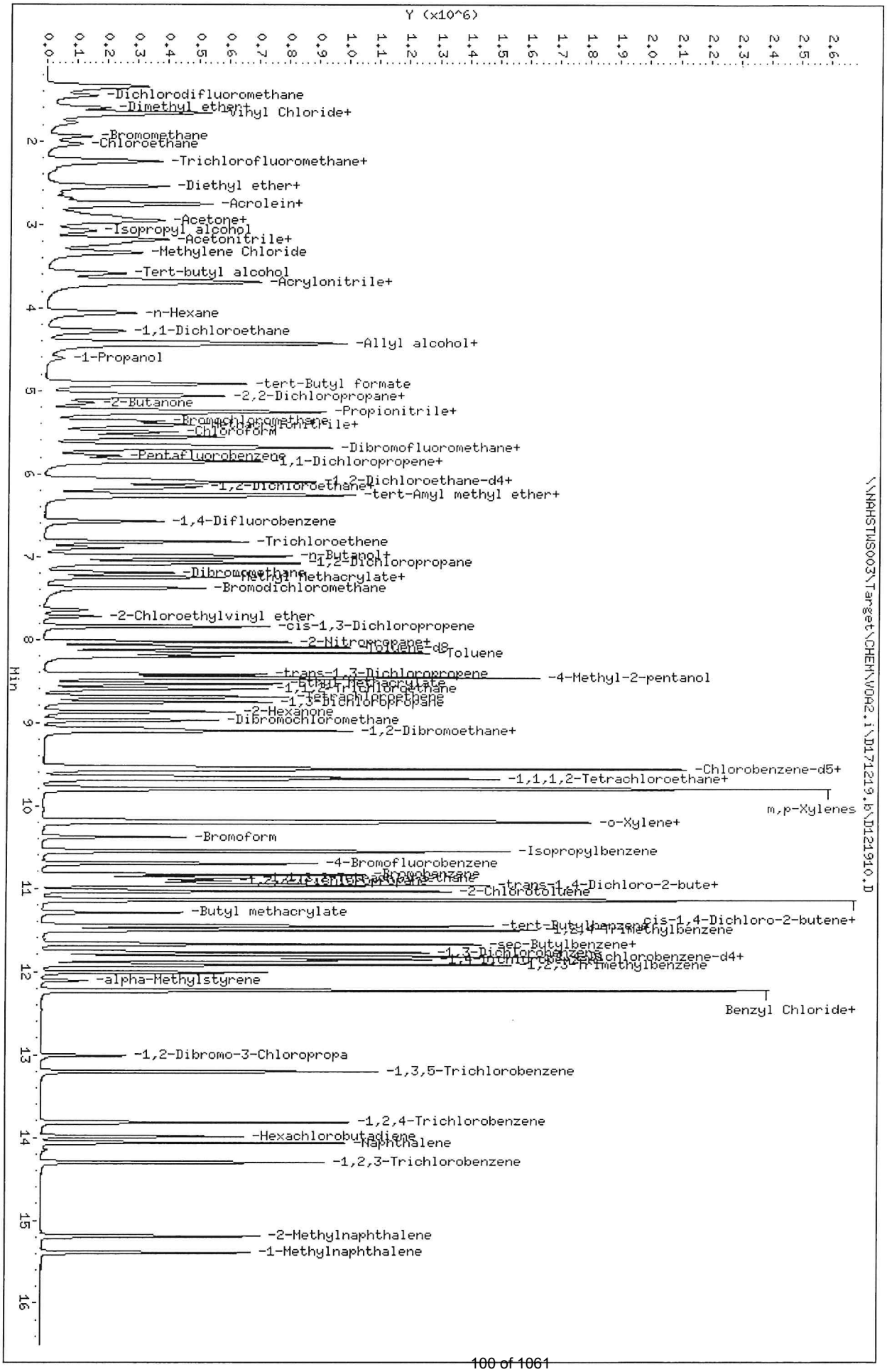
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 17:27

	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	11.863	11.863	(1.002)	493502	100.000	94.69
24	2-Butanone	43	5.150	5.150	(0.890)	260350	200.000	207.87(A)
52	2-Hexanone	43	8.869	8.869	(0.931)	381694	200.000	194.89
45	4-Methyl-2-Pentanone	43	8.032	8.032	(0.843)	569796	200.000	187.89
10	Acetone	43	2.862	2.862	(0.495)	155352	200.000	204.30(A)
37	Benzene	78	6.094	6.094	(0.927)	907206	100.000	93.85
39	Bromodichloromethane	83	7.377	7.377	(1.122)	343436	100.000	100.37
66	Bromoform	173	10.378	10.378	(1.089)	219356	100.000	110.63
6	Bromomethane	94	1.938	1.938	(0.335)	161998	100.000	104.53
19	Carbon Disulfide	76	2.955	2.955	(0.511)	891341	200.000	203.74(A)
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	314365	100.000	90.08(MH)
59	Chlorobenzene	112	9.556	9.556	(1.003)	627395	100.000	91.14
7	Chloroethane	64	2.038	2.038	(0.352)	169642	100.000	90.33
28	Chloroform	83	5.497	5.497	(0.950)	415480	100.000	98.18
3	Chloromethane	50	1.595	1.595	(0.276)	389398	100.000	101.26
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	260493	100.000	98.64
46	cis-1,3-Dichloropropene	75	7.842	7.842	(1.193)	413879	100.000	105.33
55	Dibromochloromethane	129	8.972	8.972	(0.942)	294218	100.000	101.95
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	216165	100.000	108.94
61	Ethylbenzene	106	9.675	9.675	(1.015)	328547	100.000	89.17(H)
67	Isopropylbenzene	105	10.548	10.548	(1.107)	1024383	100.000	89.87
17	Methylene Chloride	84	3.334	3.334	(0.576)	243786	100.000	95.95
56	Tetrachloroethene	164	8.693	8.693	(0.912)	206898	100.000	102.09
50	Toluene	91	8.160	8.160	(0.857)	942268	100.000	88.95
20	trans-1,2-Dichloroethene	96	3.668	3.668	(0.634)	220029	100.000	106.18
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.281)	370545	100.000	110.82
38	Trichloroethene	130	6.822	6.822	(1.038)	264221	100.000	97.09
8	Trichlorofluoromethane	101	2.249	2.249	(0.389)	302337	100.000	105.64
5	Vinyl Chloride	62	1.681	1.681	(0.291)	289377	100.000	101.71
62	m,p-Xylenes	106	9.794	9.794	(1.028)	794645	200.000	176.35
63	o-Xylene	106	10.182	10.182	(1.069)	430424	100.000	91.30
M 95	Xylenes (total)	106				1225069	300.000	(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	342153	100.000	98.60
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	286124	100.000	115.71
79	1,2,4-Trimethylbenzene	105	11.504	11.504	(0.972)	847846	100.000	87.38
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	830511	100.000	87.89
26	2,2-Dichloropropane	77	5.044	5.044	(0.872)	339030	100.000	100.26
54	1,3-Dichloropropane	76	8.757	8.757	(0.919)	385871	100.000	93.56
76	2-Chlorotoluene	91	11.032	11.032	(0.932)	725093	100.000	87.62
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	797152	100.000	88.47
82	p-Isopropyltoluene	119	11.822	11.822	(0.999)	821994	100.000	91.67
29	Bromochloromethane	128	5.368	5.368	(0.928)	132951	100.000	105.79
74	Bromobenzene	156	10.833	10.833	(0.915)	300219	100.000	92.90
44	Dibromomethane	93	7.194	7.194	(1.094)	154979	100.000	103.34
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	134255	100.000	100.96
73	n-Propylbenzene	91	10.958	10.958	(0.926)	1101290	100.000	89.41
87	n-Butylbenzene	91	12.223	12.223	(1.033)	641790	100.000	96.30
81	sec-Butylbenzene	105	11.671	11.671	(0.986)	958811	100.000	91.57
92	Naphthalene	128	14.065	14.065	(1.188)	794606	100.000	106.92
78	tert-Butylbenzene	119	11.453	11.453	(0.967)	717972	100.000	90.57
60	1,1,1,2-Tetrachloroethane	131	9.649	9.649	(1.013)	262051	100.000	98.24
64	Styrene	104	10.201	10.201	(1.071)	698309	100.000	92.88

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Report Date: 09-Feb-2018 17:27

QC Flag Legend

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


Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Date : 19-DEC-2017 13:03
Client ID: VSTD100
Sample Info: VSTD100;VSTD100;1;8;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121910.D
Y (x10^6)
Min
-Dichlorodifluoromethane
-Dimethyl ether
-Vihyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Allyl alcohol+
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Bromochloromethane
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-1,2-Dichloroethane
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene
-4-Methyl-2-pentanol
-Ethyl methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene
-1,1,2,2-Tetrachloroethane
-trans-1,4-Dichloro-2-bute+
-2-Chlorotoluene
-Butyl methacrylate
-tert-Butylbenzene
-cis-1,4-Dichloro-2-butene+
-1,2,4-Trimethylbenzene
-sec-Butylbenzene+
-1,3-Dichlorobenzene
-4-Isopropyltoluene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
-alpha-Methylstyrene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 09-Feb-2018 17:27

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Lab Smp Id: VSTD200 Client Smp ID: VSTD200
Inj Date : 19-DEC-2017 13:27
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD200;VSTD200;1;9;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:03 Cal File: D121910.D
Als bottle: 11 Calibration Sample, Level: 9
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.661	5.661	(0.978)	716255	200.000	189.95
*	1 Pentafluorobenzene	168	5.786	5.786	(1.000)	243965	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	380348	200.000	173.03
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	381634	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	509778	200.000	187.78
*	47 Chlorobenzene-d5	117	9.531	9.531	(1.000)	346750	50.0000	
$	48 Toluene-d8	98	8.096	8.096	(0.850)	1426526	200.000	156.03
$	69 4-Bromofluorobenzene	95	10.702	10.702	(1.123)	567658	200.000	170.03
*	70 1,4-Dichlorobenzene-d4	152	11.841	11.841	(1.000)	146695	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.878	10.878	(0.919)	606455	200.000	173.30
	53 1,1,2-Trichloroethane	83	8.603	8.603	(0.903)	381912	200.000	180.04
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	583601	200.000	198.95
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	939835	200.000	184.52
	11 1,1-Dichloroethene	96	2.741	2.741	(0.474)	381816	200.000	189.62
	90 1,2,4-Trichlorobenzene	180	13.821	13.821	(1.167)	633301	200.000	219.14(A)
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.099)	121157	200.000	199.07
	57 1,2-Dibromoethane	107	9.075	9.075	(0.952)	509836	200.000	191.90
	88 1,2-Dichlorobenzene	146	12.229	12.229	(1.033)	893240	200.000	169.40
	33 1,2-Dichloroethane	62	6.148	6.148	(0.935)	662291	200.000	196.84
	42 1,2-Dichloropropane	63	7.073	7.073	(1.076)	535297	200.000	178.08
	83 1,3-Dichlorobenzene	146	11.774	11.774	(0.994)	974555	200.000	177.60

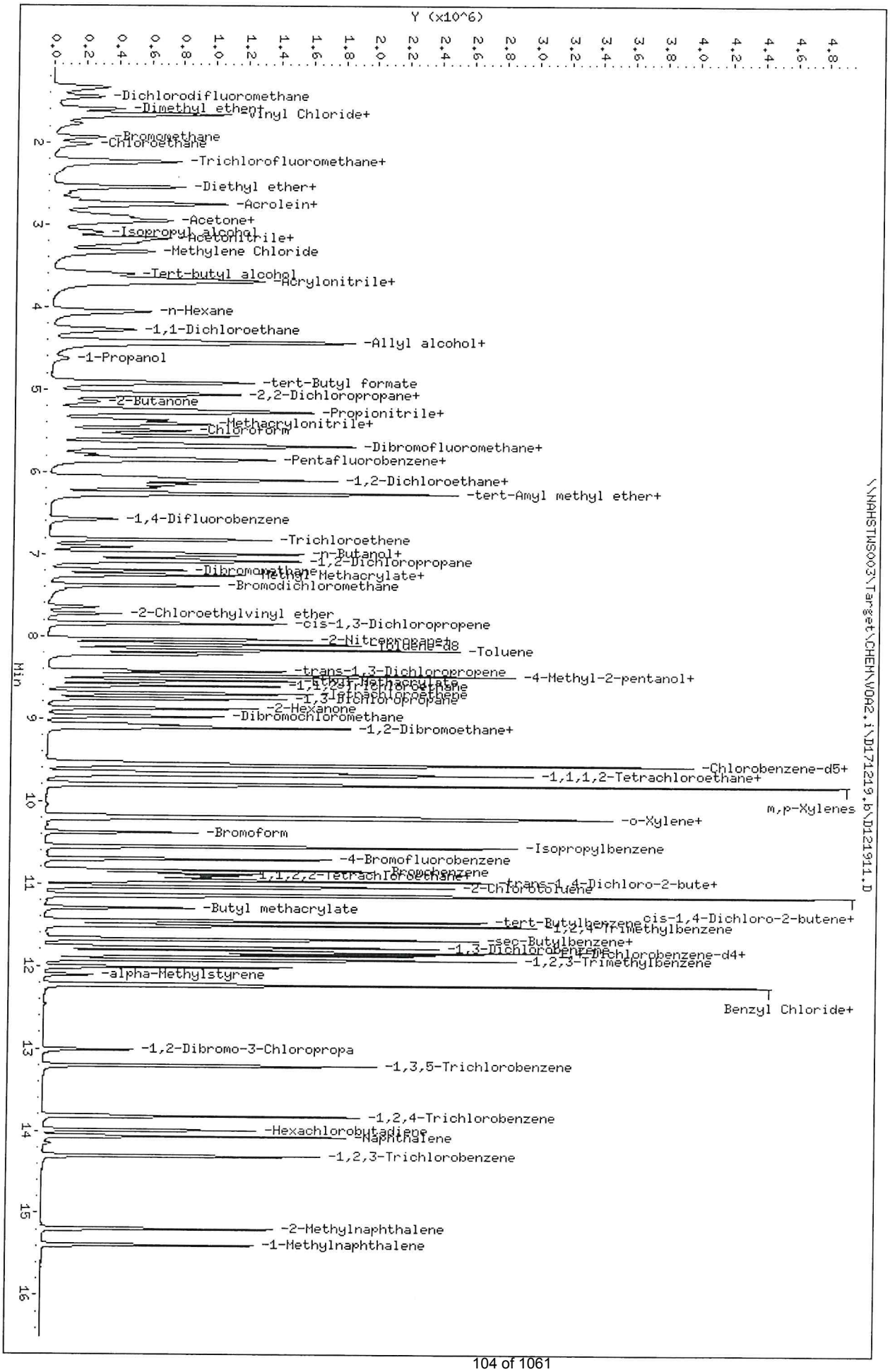
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 09-Feb-2018 17:27

	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	11.867	11.867	(1.002)	947137	200.000	180.46
24	2-Butanone	43	5.150	5.150	(0.890)	514478	400.000	390.80(A)
52	2-Hexanone	43	8.876	8.876	(0.931)	755178	400.000	371.70(A)
45	4-Methyl-2-Pentanone	43	8.038	8.038	(0.843)	1095468	400.000	348.22(A)
10	Acetone	43	2.866	2.866	(0.495)	314789	400.000	396.04(A)
37	Benzene	78	6.100	6.100	(0.928)	1754958	200.000	174.77
39	Bromodichloromethane	83	7.381	7.381	(1.122)	670027	200.000	188.52
66	Bromoform	173	10.378	10.378	(1.089)	437607	200.000	212.75(A)
6	Bromomethane	94	1.935	1.935	(0.335)	315966	200.000	196.11(M)
19	Carbon Disulfide	76	2.956	2.956	(0.511)	1798818	400.000	391.19(A)
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	620089	200.000	171.05(M)
59	Chlorobenzene	112	9.559	9.559	(1.003)	1205848	200.000	168.86
7	Chloroethane	64	2.015	2.015	(0.348)	326706	200.000	165.51(M)
28	Chloroform	83	5.497	5.497	(0.950)	806092	200.000	181.23
3	Chloromethane	50	1.592	1.592	(0.275)	800291	200.000	198.92
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.876)	513279	200.000	184.92
46	cis-1,3-Dichloropropene	75	7.846	7.846	(1.193)	817440	200.000	200.27(A)
55	Dibromochloromethane	129	8.975	8.975	(0.942)	587599	200.000	196.27
2	Dichlorodifluoromethane	85	1.444	1.444	(0.250)	437112	200.000	209.58(A)
61	Ethylbenzene	106	9.678	9.678	(1.015)	645405	200.000	168.85(H)
67	Isopropylbenzene	105	10.551	10.551	(1.107)	1929664	200.000	163.19
17	Methylene Chloride	84	3.331	3.331	(0.576)	484417	200.000	181.40
56	Tetrachloroethene	164	8.693	8.693	(0.912)	413430	200.000	198.24
50	Toluene	91	8.167	8.167	(0.857)	1826045	200.000	166.17
20	trans-1,2-Dichloroethene	96	3.661	3.661	(0.633)	442346	200.000	203.10(A)
51	trans-1,3-Dichloropropene	75	8.420	8.420	(1.281)	745710	200.000	214.71(A)
38	Trichloroethene	130	6.822	6.822	(1.038)	531039	200.000	187.86
8	Trichlorofluoromethane	101	2.240	2.240	(0.387)	605156	200.000	201.17(A)
5	Vinyl Chloride	62	1.678	1.678	(0.290)	570730	200.000	190.86
62	m,p-Xylenes	106	9.800	9.800	(1.028)	1525807	400.000	326.42(A)
63	o-Xylene	106	10.185	10.185	(1.069)	826994	200.000	169.11
M 95	Xylenes (total)	106				2352801	600.000	(a)
71	1,2,3-Trichloropropane	75	10.907	10.907	(0.921)	503444	200.000	144.06
93	1,2,3-Trichlorobenzene	182	14.305	14.305	(1.208)	548103	200.000	220.11(A)
79	1,2,4-Trimethylbenzene	105	11.507	11.507	(0.972)	1593131	200.000	163.04
75	1,3,5-Trimethylbenzene	105	11.141	11.141	(0.941)	1548771	200.000	162.76
26	2,2-Dichloropropane	77	5.045	5.045	(0.872)	669571	200.000	188.38
54	1,3-Dichloropropane	76	8.760	8.760	(0.919)	755983	200.000	176.70
76	2-Chlorotoluene	91	11.039	11.039	(0.932)	1389990	200.000	166.80
77	4-Chlorotoluene	91	11.148	11.148	(0.941)	1499500	200.000	165.26
82	p-Isopropyltoluene	119	11.828	11.828	(0.999)	1563485	200.000	173.15
29	Bromochloromethane	128	5.375	5.375	(0.929)	256786	200.000	194.41
74	Bromobenzene	156	10.840	10.840	(0.915)	580164	200.000	178.28
44	Dibromomethane	93	7.195	7.195	(1.094)	308722	200.000	198.18
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	266365	200.000	199.34
73	n-Propylbenzene	91	10.965	10.965	(0.926)	2079135	200.000	167.63
87	n-Butylbenzene	91	12.226	12.226	(1.033)	1229106	200.000	183.15
81	sec-Butylbenzene	105	11.674	11.674	(0.986)	1819078	200.000	172.51
92	Naphthalene	128	14.065	14.065	(1.188)	1461418	200.000	195.70
78	tert-Butylbenzene	119	11.459	11.459	(0.968)	1361470	200.000	170.56
60	1,1,1,2-Tetrachloroethane	131	9.653	9.653	(1.013)	514128	200.000	185.80
64	Styrene	104	10.208	10.208	(1.071)	1321701	200.000	169.46

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Report Date: 09-Feb-2018 17:27

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.


Y (x10^6)
0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2 4.4 4.6 4.8
Min
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
-Dichlorodifluoromethane
-Dimethyl ether
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Allyl alcohol+
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene+
-1,2-Dichloroethane+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
Toluene-d8
-Toluene
-trans-1,3-Dichloropropene
-4-Methyl-2-pentanol+
Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-Bromobenzene
-1,1,2,2-Tetrachloroethane+
-trans-1,4-Dichloro-2-bute+
-2-Chlorotoluene
-Butyl methacrylate
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene+
-1,3-Dichlorobenzene
-4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
-alpha-Methylstyrene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121911.D
Date : 19-DEC-2017 13:27
Client ID: VSTD200
Sample Info: VSTD200;VSTD200;1;9;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Report Date: 09-Feb-2018 17:27

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Lab Smp Id: VSTD-ICV Client Smp ID: VSTD-ICV
Inj Date : 19-DEC-2017 14:16
Operator : AP Inst ID: VOA2.i
Smp Info : VSTD-ICV;VSTD-ICV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171219.b\8260LL.m
Meth Date : 09-Feb-2018 17:27 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 13:27 Cal File: D121911.D
Als bottle: 13 QC Sample: METHSPIKE
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

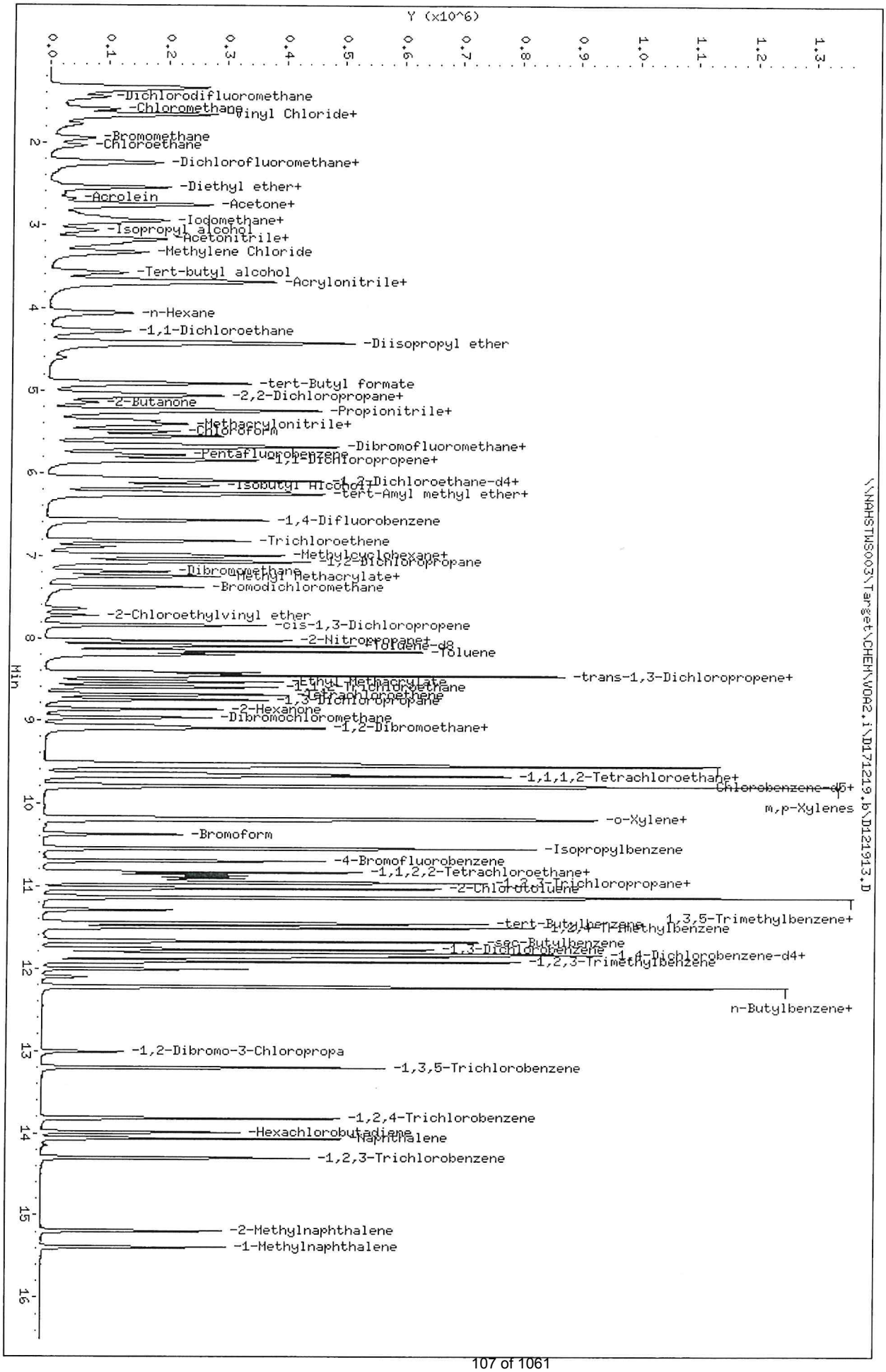
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.661	(0.978)	179115	49.0617	49.06
*	1 Pentafluorobenzene	168	5.779	5.786	(1.000)	236216	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	101991	47.9227	47.92
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	371286	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.049)	130923	49.8088	49.80
*	47 Chlorobenzene-d5	117	9.527	9.531	(1.000)	338097	50.0000	
$	48 Toluene-d8	98	8.093	8.096	(0.849)	388288	43.5582	43.55
$	69 4-Bromofluorobenzene	95	10.695	10.702	(1.123)	150830	46.3351	46.33
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.841	(1.000)	149771	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.869	10.878	(0.918)	162360	45.4433	45.44
	53 1,1,2-Trichloroethane	83	8.597	8.603	(0.902)	100546	48.6143	48.61
	32 1,1-Dichloropropene	75	5.853	5.856	(0.890)	148378	51.3040	51.30
	22 1,1-Dichloroethane	63	4.281	4.281	(0.741)	237141	48.0860	48.08
	11 1,1-Dichloroethene	96	2.753	2.741	(0.476)	98125	50.3313	50.33
	90 1,2,4-Trichlorobenzene	180	13.818	13.821	(1.168)	162937	55.2230	55.22
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.012	(1.099)	29561	47.9848	47.98
	57 1,2-Dibromoethane	107	9.065	9.075	(0.952)	129329	49.9262	49.92
	88 1,2-Dichlorobenzene	146	12.223	12.229	(1.033)	254978	47.3643	47.36
	33 1,2-Dichloroethane	62	6.145	6.148	(0.935)	168706	51.4651	51.46
	42 1,2-Dichloropropane	63	7.066	7.073	(1.075)	139163	47.5870	47.58
	83 1,3-Dichlorobenzene	146	11.767	11.774	(0.994)	263425	47.0213	47.02

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Report Date: 09-Feb-2018 17:27

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.867	(1.002)	251434	46.9240	46.92
24	2-Butanone	43	5.144	5.150	(0.890)	125859	98.7418	98.74
52	2-Hexanone	43	8.866	8.876	(0.931)	188174	94.9905	94.99
45	4-Methyl-2-Pentanone	43	8.029	8.038	(0.843)	288228	93.9658	93.96
10	Acetone	43	2.856	2.866	(0.494)	79464	101.521	101.52
37	Benzene	78	6.094	6.100	(0.927)	468722	47.9805	47.98
39	Bromodichloromethane	83	7.377	7.381	(1.122)	172162	49.7905	49.79
66	Bromoform	173	10.374	10.378	(1.089)	107206	53.4548	53.45
6	Bromomethane	94	1.945	1.935	(0.337)	87966	54.6082	54.60
19	Carbon Disulfide	76	2.955	2.956	(0.511)	453389	101.834	101.83
34	Carbon Tetrachloride	117	5.834	5.837	(0.887)	150248	42.6028	42.60
59	Chlorobenzene	112	9.556	9.559	(1.003)	324514	46.6069	46.60
7	Chloroethane	64	2.038	2.015	(0.353)	80390	42.0641	42.06
28	Chloroform	83	5.494	5.497	(0.951)	210974	48.9888	48.98
3	Chloromethane	50	1.598	1.592	(0.277)	216344	54.8507	54.85
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	133003	49.4916	49.49
46	cis-1,3-Dichloropropene	75	7.839	7.846	(1.192)	209138	52.6682	52.66
55	Dibromochloromethane	129	8.972	8.975	(0.942)	147898	50.6666	50.66
2	Dichlorodifluoromethane	85	1.450	1.444	(0.251)	108668	53.8135	53.81
61	Ethylbenzene	106	9.672	9.678	(1.015)	172020	46.1581	46.15
67	Isopropylbenzene	105	10.548	10.551	(1.107)	539189	46.7681	46.76
17	Methylene Chloride	84	3.331	3.331	(0.576)	125545	48.5572	48.55
56	Tetrachloroethene	164	8.690	8.693	(0.912)	105833	50.7856	50.78
50	Toluene	91	8.160	8.167	(0.857)	492502	45.9648	45.96
20	trans-1,2-Dichloroethene	96	3.668	3.661	(0.635)	111703	52.9702	52.97
51	trans-1,3-Dichloropropene	75	8.417	8.420	(1.280)	183760	54.3849	54.38
38	Trichloroethene	130	6.816	6.822	(1.037)	132301	48.1090	48.10
8	Trichlorofluoromethane	101	2.253	2.240	(0.390)	154364	52.9999	52.99
5	Vinyl Chloride	62	1.681	1.678	(0.291)	149803	51.7410	51.74
62	m,p-Xylenes	106	9.794	9.800	(1.028)	417543	91.6149	91.61
63	o-Xylene	106	10.179	10.185	(1.068)	222400	46.6435	46.64
M 95	Xylenes (total)	106				639943	138.258	138.25
71	1,2,3-Trichloropropane	75	10.904	10.907	(0.921)	174309	48.8560	48.85
93	1,2,3-Trichlorobenzene	182	14.302	14.305	(1.209)	139440	54.8472	54.84
79	1,2,4-Trimethylbenzene	105	11.501	11.507	(0.972)	442889	44.3952	44.39
75	1,3,5-Trimethylbenzene	105	11.132	11.141	(0.941)	436227	44.9020	44.90
26	2,2-Dichloropropane	77	5.044	5.045	(0.873)	169895	49.3690	49.36
54	1,3-Dichloropropane	76	8.754	8.760	(0.919)	196311	47.0599	47.05
76	2-Chlorotoluene	91	11.029	11.039	(0.932)	378502	44.4881	44.48
77	4-Chlorotoluene	91	11.138	11.148	(0.941)	413336	44.6186	44.61
82	p-Isopropyltoluene	119	11.818	11.828	(0.999)	427373	46.3580	46.35
29	Bromochloromethane	128	5.365	5.375	(0.928)	67528	52.8019	52.80
74	Bromobenzene	156	10.833	10.840	(0.915)	154221	46.4200	46.42
44	Dibromomethane	93	7.191	7.195	(1.094)	77635	51.2278	51.22
91	Hexachlorobutadiene	225	13.988	13.991	(1.182)	68432	49.8346	49.83
73	n-Propylbenzene	91	10.955	10.965	(0.926)	571686	45.1465	45.14
87	n-Butylbenzene	91	12.223	12.226	(1.033)	330221	48.1964	48.19
81	sec-Butylbenzene	105	11.671	11.674	(0.986)	500608	46.5017	46.50
92	Naphthalene	128	14.061	14.065	(1.188)	397816	51.7926	51.79
78	tert-Butylbenzene	119	11.453	11.459	(0.968)	371229	45.5516	45.55
60	1,1,1,2-Tetrachloroethane	131	9.649	9.653	(1.013)	134061	49.6900	49.68
64	Styrene	104	10.201	10.208	(1.071)	365703	48.0891	48.08



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171219.b\D121913.D
Date : 19-DEC-2017 14:16
Client ID: VSTD-ICV
Sample Info: VSTD-ICV;VSTD-ICV;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Lab File ID: D122901 BFB Injection Date: 12/29/17

Instrument ID: VOA2 BFB Injection Time: 1314

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.8
75	30.0 - 60.0% of mass 95	45.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	86.9
175	5.0 - 9.0% of mass 174	6.9 (8.0)1
176	95.0 - 101.0% of mass 174	85.5 (98.4)1
177	5.0 - 9.0% of mass 176	4.9 (5.7)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	D122902	12/29/17	1339
02	VLCSW-171229	VLCSW-171229	D122903	12/29/17	1403
03	VBLKW-171229	VBLKW-171229	D122905	12/29/17	1452
04	HS17121113-0	HS17121113-09	D122911	12/29/17	1720
05	HS17121113-0	HS17121113-01	D122913	12/29/17	1809
06	HS17121113-0	HS17121113-02	D122914	12/29/17	1833
07	HS17121113-0	HS17121113-03	D122915	12/29/17	1858
08	HS17121113-0	HS17121113-04	D122916	12/29/17	1922
09	HS17121113-0	HS17121113-05	D122917	12/29/17	1947
10	HS17121113-0	HS17121113-06	D122918	12/29/17	2012
11	HS17121113-0	HS17121113-08	D122919	12/29/17	2036
12	HS17121171-0	HS17121171-02M	D122920	12/29/17	2100
13	HS17121171-0	HS17121171-02M	D122921	12/29/17	2125
14	CCV_END	CCV_END	D122929	12/30/17	0052
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Instrument ID: VOA2 Calibration Date: 12/29/17 Time: 1339

Lab File ID: D122902 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7690490	0.7690490	0.1	-0.51	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.4025244	0.4025244	0.1	0.88	20.00	AVRG
tert-Butylbenzene	2.7210000	2.4313792	2.4313792	0.1	-10.64	20.00	AVRG
Naphthalene	47.051909	50.000000	2.4154912	0.2	-5.90	20.00	LINR
sec-Butylbenzene	3.5940000	3.3420400	3.3420400	0.1	-7.01	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	1.0063527	1.0063527	0.3	-15.64	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2864441	0.2864441	0.1	-6.39	20.00	AVRG
1,1-Dichloropropene	52.228974	50.000000	0.4067092	0.1	4.46	20.00	LINR
1,1-Dichloroethane	1.0440000	0.9946718	0.9946718	0.2	-4.72	20.00	AVRG
1,1-Dichloroethene	0.4120000	0.4297574	0.4297574	0.1	4.31	20.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0297735	1.0297735	0.2	4.54	20.00	AVRG
1,2-Dibromo-3-Chloropropane	43.235479	50.000000	0.1776175	0.05	-13.53	20.00	LINR
1,2-Dibromoethane	0.3830000	0.3799436	0.3799436	0.1	-0.80	20.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5984696	1.5984696	0.4	-11.05	20.00	AVRG
1,2-Dichloroethane	51.316562	50.000000	0.4530744	0.1	2.63	20.00	LINR
1,2-Dichloropropane	0.3940000	0.3831012	0.3831012	0.1	-2.77	20.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6844316	1.6844316	0.6	-9.92	20.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.6153243	1.6153243	0.4	-9.71	20.00	AVRG
2-Butanone	0.2700000	0.2414587	0.2414587	0.1	-10.57	20.00	AVRG
2-Hexanone	0.2930000	0.2632696	0.2632696	0.1	-10.15	20.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4087619	0.4087619	0.1	-9.96	20.00	AVRG
Acetone	95.860645	100.00000	0.1590362	0.1	-4.14	20.00	LINR
Benzene	1.3160000	1.2935412	1.2935412	0.5	-1.71	20.00	AVRG
Bromodichloromethane	0.4660000	0.4658236	0.4658236	0.2	-0.04	20.00	AVRG
Bromoform	0.2970000	0.3052006	0.3052006	0.1	2.76	20.00	AVRG
Bromomethane	49.157083	50.000000	0.3368515	0.1	-1.68	20.00	LINR
Carbon Disulfide	0.9420000	0.9724281	0.9724281	0.1	3.23	20.00	AVRG
Carbon Tetrachloride	0.4750000	0.4219212	0.4219212	0.1	-11.17	20.00	AVRG
Chlorobenzene	1.0300000	0.9749825	0.9749825	0.5	-5.34	20.00	AVRG
Chloroethane	0.4040000	0.3675907	0.3675907	0.1	-9.01	20.00	AVRG
Chloroform	0.9120000	0.8661833	0.8661833	0.2	-5.02	20.00	AVRG
Chloromethane	51.095399	50.000000	0.8542436	0.1	2.19	20.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5568813	0.5568813	0.1	-2.13	20.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5692103	0.5692103	0.2	6.39	20.00	AVRG
Dibromochloromethane	0.4320000	0.4342095	0.4342095	0.1	0.51	20.00	AVRG
Dichlorodifluoromethane	0.4270000	0.4673565	0.4673565	0.1	9.45	20.00	AVRG
Ethylbenzene	0.5510000	0.5285045	0.5285045	0.1	-4.08	20.00	AVRG
Isopropylbenzene	1.7050000	1.6675928	1.6675928	0.1	-2.19	20.00	AVRG
Methylene Chloride	0.5470000	0.5129112	0.5129112	0.1	-6.23	20.00	AVRG
Tetrachloroethene	53.126281	50.000000	0.3269830	0.2	6.25	20.00	LINR
Toluene	1.5840000	1.4911565	1.4911565	0.4	-5.86	20.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4745626	0.4745626	0.1	6.40	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712111

Instrument ID: VOA2 Calibration Date: 12/29/17 Time: 1339

Lab File ID: D122902 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4902660	0.4902660	0.1	7.75	20.00	AVRG
Trichloroethene	0.3700000	0.3753642	0.3753642	0.2	1.45	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.6717233	0.6717233	0.1	9.04	20.00	AVRG
Vinyl Chloride	0.6130000	0.6336721	0.6336721	0.1	3.37	20.00	AVRG
m,p-Xylenes	0.6740000	0.6386022	0.6386022	0.1	-5.25	20.00	AVRG
o-Xylene	0.7050000	0.6720447	0.6720447	0.3	-4.67	20.00	AVRG
Xylenes (total)	0.6190000	0.5955377	0.5955377	0.1	-3.79	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0492144	1.0492144	0.1	-11.90	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8542024	0.8542024	0.1	0.61	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.8570962	2.8570962	0.1	-14.20	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.8490675	2.8490675	0.1	-12.15	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.7587714	0.7587714	0.1	4.23	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.5783272	0.5783272	0.1	-6.27	20.00	AVRG
2-Chlorotoluene	2.8400000	2.4343672	2.4343672	0.1	-14.28	20.00	AVRG
4-Chlorotoluene	3.0920000	2.6754926	2.6754926	0.1	-13.47	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.8171472	2.8171472	0.1	-8.47	20.00	AVRG
Bromochloromethane	0.2700000	0.2730757	0.2730757	0.1	1.14	20.00	AVRG
Bromobenzene	1.1090000	0.9761147	0.9761147	0.1	-11.98	20.00	AVRG
Dibromomethane	0.2040000	0.2095550	0.2095550	0.1	2.72	20.00	AVRG
Hexachlorobutadiene	50.102393	50.000000	0.4593448	0.1	0.20	20.00	LINR
n-Propylbenzene	4.2270000	3.7889807	3.7889807	0.1	-10.36	20.00	AVRG
n-Butylbenzene	2.2870000	2.2214334	2.2214334	0.05	-2.87	20.00	AVRG
Styrene	1.1240000	1.0973150	1.0973150	0.3	-2.37	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5303705	0.5303705	0.1	-4.61	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4345357	0.4345357	0.1	-3.44	20.00	AVRG
Toluene-d8	1.3180000	1.2323933	1.2323933	0.1	-6.50	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4822291	0.4822291	0.1	0.26	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Instrument ID: VOA2 Calibration Date: 12/30/17 Time: 0052

Lab File ID: D122929 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.6595467	0.6595467	0.1	-14.68	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3696490	0.3696490	0.1	-7.36	50.00	AVRG
tert-Butylbenzene	2.7210000	2.0420940	2.0420940	0.1	-24.95	50.00	AVRG
Naphthalene	48.867500	50.000000	2.5076624	0.2	-2.26	50.00	LINR
sec-Butylbenzene	3.5940000	2.7262046	2.7262046	0.1	-24.14	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.9883270	0.9883270	0.3	-17.16	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2809443	0.2809443	0.1	-8.19	50.00	AVRG
1,1-Dichloropropene	45.909969	50.000000	0.3583670	0.1	-8.18	50.00	LINR
1,1-Dichloroethane	1.0440000	0.9138745	0.9138745	0.2	-12.46	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.3819063	0.3819063	0.1	-7.30	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	0.9097468	0.9097468	0.2	-7.64	50.00	AVRG
1,2-Dibromo-3-Chloropropane	42.084180	50.000000	0.1728281	0.05	-15.83	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3726620	0.3726620	0.1	-2.70	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.4825000	1.4825000	0.4	-17.50	50.00	AVRG
1,2-Dichloroethane	50.180975	50.000000	0.4430678	0.1	0.36	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3616441	0.3616441	0.1	-8.21	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.5204977	1.5204977	0.6	-18.69	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.4689852	1.4689852	0.4	-17.89	50.00	AVRG
2-Butanone	0.2700000	0.2416561	0.2416561	0.1	-10.50	50.00	AVRG
2-Hexanone	0.2930000	0.2600835	0.2600835	0.1	-11.23	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4090589	0.4090589	0.1	-9.90	50.00	AVRG
Acetone	97.321336	100.00000	0.1614016	0.1	-2.68	50.00	LINR
Benzene	1.3160000	1.2139484	1.2139484	0.5	-7.75	50.00	AVRG
Bromodichloromethane	0.4660000	0.4373948	0.4373948	0.2	-6.14	50.00	AVRG
Bromoform	0.2970000	0.2935682	0.2935682	0.1	-1.16	50.00	AVRG
Bromomethane	46.950666	50.000000	0.3224641	0.1	-6.10	50.00	LINR
Carbon Disulfide	0.9420000	0.8487001	0.8487001	0.1	-9.90	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.3507497	0.3507497	0.1	-26.16	50.00	AVRG
Chlorobenzene	1.0300000	0.9066629	0.9066629	0.5	-11.97	50.00	AVRG
Chloroethane	0.4040000	0.3389743	0.3389743	0.1	-16.10	50.00	AVRG
Chloroform	0.9120000	0.8087752	0.8087752	0.2	-11.32	50.00	AVRG
Chloromethane	51.553011	50.000000	0.8617538	0.1	3.11	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5265833	0.5265833	0.1	-7.45	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5363938	0.5363938	0.2	0.26	50.00	AVRG
Dibromochloromethane	0.4320000	0.4134866	0.4134866	0.1	-4.28	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.3716799	0.3716799	0.1	-12.96	50.00	AVRG
Ethylbenzene	0.5510000	0.4789511	0.4789511	0.1	-13.08	50.00	AVRG
Isopropylbenzene	1.7050000	1.4279888	1.4279888	0.1	-16.25	50.00	AVRG
Methylene Chloride	0.5470000	0.4841170	0.4841170	0.1	-11.50	50.00	AVRG
Tetrachloroethene	44.649774	50.000000	0.2764383	0.2	-10.70	50.00	LINR
Toluene	1.5840000	1.3732309	1.3732309	0.4	-13.31	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4383046	0.4383046	0.1	-1.72	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712111

Instrument ID: VOA2 Calibration Date: 12/30/17 Time: 0052

Lab File ID: D122929 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4622761	0.4622761	0.1	1.60	50.00	AVRG
Trichloroethene	0.3700000	0.3472881	0.3472881	0.2	-6.14	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.5528499	0.5528499	0.1	-10.25	50.00	AVRG
Vinyl Chloride	0.6130000	0.5646085	0.5646085	0.1	-7.89	50.00	AVRG
m,p-Xylenes	0.6740000	0.6035304	0.6035304	0.1	-10.46	50.00	AVRG
o-Xylene	0.7050000	0.6290086	0.6290086	0.3	-10.78	50.00	AVRG
Xylenes (total)	0.6190000	0.5599449	0.5599449	0.1	-9.54	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0283379	1.0283379	0.1	-13.66	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.7907238	0.7907238	0.1	-6.86	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.5448535	2.5448535	0.1	-23.58	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.4514693	2.4514693	0.1	-24.41	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.5710842	0.5710842	0.1	-21.55	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5633515	0.5633515	0.1	-8.70	50.00	AVRG
2-Chlorotoluene	2.8400000	2.1641591	2.1641591	0.1	-23.80	50.00	AVRG
4-Chlorotoluene	3.0920000	2.4173901	2.4173901	0.1	-21.82	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.3155909	2.3155909	0.1	-24.77	50.00	AVRG
Bromochloromethane	0.2700000	0.2645868	0.2645868	0.1	-2.00	50.00	AVRG
Bromobenzene	1.1090000	0.9186762	0.9186762	0.1	-17.16	50.00	AVRG
Dibromomethane	0.2040000	0.2030898	0.2030898	0.1	-0.45	50.00	AVRG
Hexachlorobutadiene	37.659922	50.000000	0.3462596	0.1	-24.68	50.00	LINR
n-Propylbenzene	4.2270000	3.1910490	3.1910490	0.1	-24.51	50.00	AVRG
n-Butylbenzene	2.2870000	1.8423506	1.8423506	0.05	-19.44	50.00	AVRG
Styrene	1.1240000	1.0367792	1.0367792	0.3	-7.76	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5149188	0.5149188	0.1	-7.39	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4235146	0.4235146	0.1	-5.88	50.00	AVRG
Toluene-d8	1.3180000	1.2325917	1.2325917	0.1	-6.48	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4741381	0.4741381	0.1	-1.43	50.00	AVRG

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Lab File ID (Standard): D122902 Date Analyzed: 12/29/17

Instrument ID: VOA2 Time Analyzed: 1339

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	245485	5.78	370299	6.57	339403	9.53
	UPPER LIMIT	490970	6.28	740598	7.07	678806	10.03
	LOWER LIMIT	122743	5.28	185150	6.07	169702	9.03
	CLIENT SAMPLE NO.						
01	VLCSW-171229	249693	5.78	368330	6.57	335873	9.52
02	VBLKW-171229	260936	5.78	368256	6.57	330802	9.53
03	HS17121113-09	254596	5.78	372647	6.57	335445	9.52
04	HS17121113-01	256713	5.78	377095	6.58	346364	9.52
05	HS17121113-02	255617	5.78	377717	6.58	347524	9.52
06	HS17121113-03	256338	5.78	381093	6.58	344988	9.52
07	HS17121113-04	253930	5.78	361297	6.57	327279	9.52
08	HS17121113-05	261749	5.78	371361	6.57	338132	9.52
09	HS17121113-06	258378	5.78	372952	6.57	334109	9.52
10	HS17121113-08	250369	5.78	365401	6.57	335864	9.52
11	HS17121171-02	234487	5.79	362701	6.57	322596	9.53
12	HS17121171-02	240721	5.78	356649	6.57	330374	9.53
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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Lab File ID (Standard): D122902 Date Analyzed: 12/29/17

Instrument ID: VOA2 Time Analyzed: 1339

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	159303	11.84				
	UPPER LIMIT	318606	12.34				
	LOWER LIMIT	79652	11.34				
	CLIENT SAMPLE NO.						
01	VLCSW-171229	155366	11.83				
02	VBLKW-171229	146667	11.83				
03	HS17121113-09	148377	11.84				
04	HS17121113-01	155367	11.83				
05	HS17121113-02	155808	11.83				
06	HS17121113-03	156642	11.83				
07	HS17121113-04	143389	11.84				
08	HS17121113-05	145409	11.83				
09	HS17121113-06	146596	11.83				
10	HS17121113-08	148595	11.83				
11	HS17121171-02	150864	11.83				
12	HS17121171-02	154492	11.83				
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.

MSVOA02 -Logbook

Batch: 30731
Date: 12-29-2017
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-29-2017 01:14 pm	1.00	50 mL	50 mL	D122901.D	Liquid	Y	NA
2	*Auto find/purged* CCV	CCV	12-29-2017 01:39 pm	1.00	50 mL	50 mL	D122902.D	Liquid	Y	NA
3	*10 uL cal std/50 mL DI* VLCSW-171229	LCS	12-29-2017 02:03 pm	1.00	50 mL	50 mL	D122903.D	Liquid	Y	NA
4	*10 uL cal std/50 mL DI* VBLKM-171229	SAMP	12-29-2017 02:28 pm	50.00	50 mL	50 mL	D122904.D	Liquid	Y	NA
5	*Medium Level BLK* VBLKW-171229	MBLK	12-29-2017 02:52 pm	1.00	50 mL	50 mL	D122905.D	Liquid	Y	NA
6	HS17120951-04	SAMP	12-29-2017 03:17 pm	1.00	50 mL	50 mL	D122906.D	Liquid	Y	<2
7	HS17120951-09	SAMP	12-29-2017 03:42 pm	1.00	50 mL	50 mL	D122907.D	Liquid	Y	<2
8	HS17120951-10	SAMP	12-29-2017 04:06 pm	1.00	50 mL	50 mL	D122908.D	Liquid	Y	<2
9	HS17120951-13	SAMP	12-29-2017 04:31 pm	1.00	50 mL	50 mL	D122909.D	Liquid	Y	<2
10	HS17120951-15	SAMP	12-29-2017 04:55 pm	1.00	50 mL	50 mL	D122910.D	Liquid	Y	<2
11	HS17121113-09	SAMP	12-29-2017 05:20 pm	1.00	50 mL	50 mL	D122911.D	Liquid	Y	<2
12	HS17121171-02	SAMP	12-29-2017 05:44 pm	1.00	50 mL	50 mL	D122912.D	Liquid	Y	<2
13	HS17121113-01	SAMP	12-29-2017 06:09 pm	1.00	50 mL	50 mL	D122913.D	Liquid	Y	<2
14	HS17121113-02	SAMP	12-29-2017 06:33 pm	1.00	50 mL	50 mL	D122914.D	Liquid	Y	<2
15	HS17121113-03	SAMP	12-29-2017 06:58 pm	1.00	50 mL	50 mL	D122915.D	Liquid	Y	<2
16	HS17121113-04	SAMP	12-29-2017 07:22 pm	1.00	50 mL	50 mL	D122916.D	Liquid	Y	<2
17	HS17121113-05	SAMP	12-29-2017 07:47 pm	1.00	50 mL	50 mL	D122917.D	Liquid	Y	<2
18	HS17121113-06	SAMP	12-29-2017 08:12 pm	1.00	50 mL	50 mL	D122918.D	Liquid	Y	<2
19	HS17121113-08	SAMP	12-29-2017 08:36 pm	1.00	50 mL	50 mL	D122919.D	Liquid	Y	<2
20	HS17121171-02MS	MS	12-29-2017 09:00 pm	1.00	50 mL	50 mL	D122920.D	Liquid	Y	<2
21	*8 uL cal std/40 mL sample* HS17121171-02MSD	MSD	12-29-2017 09:25 pm	1.00	50 mL	50 mL	D122921.D	Liquid	Y	<2
22	*8 uL cal std/40 mL sample* HS17121136-02	SAMP	12-29-2017 09:52 pm	25.00	2 mL	50 mL	D122922.D	Liquid	Y	<2
23	HS17121072-14	SAMP	12-29-2017 10:17 pm	1.00	50 mL	50 mL	D122923.D	Liquid	Y	<2
24	HS17121072-13	SAMP	12-29-2017 10:44 pm	5.00	10 mL	50 mL	D122924.D	Liquid	Y	<2
25	HS17120965-02	SAMP	12-29-2017 11:09 pm	1.00	50 mL	50 mL	D122925.D	Liquid	Y	<2
26	HS17120965-02	SAMP	12-29-2017 11:36 pm	10.00	5 mL	50 mL	D122926.D	Liquid	Y	<2
27	HS17120965-01	SAMP	12-30-2017 12:00 am	1000.0	50 µL	50 mL	D122927.D	Liquid	Y	<2
28	HS17120965-01	SAMP	12-30-2017 12:27 am	10000.(	5 µL	50 mL	D122928.D	Liquid	Y	<2
29	CCV_END	CCV_END	12-30-2017 12:52 am	1.00	50 mL	50 mL	D122929.D	Liquid	Y	NA
30	*10 uL cal std/50 mL DI* BFB	TUNE	12-30-2017 01:17 am	1.00	50 mL	50 mL	E122901.D	Liquid	Y	NA
31	*Auto find/purged* CCV	CCV	12-30-2017 01:41 am	1.00	50 mL	50 mL	E122902.D	Liquid	Y	NA
32	*10 uL cal std/50 mL DI* CCV	CCV	12-30-2017 02:06 am	1.00	50 mL	50 mL	E122903.D	Liquid	Y	NA
33	*10 uL cal std/50 mL DI* VLCSW-171229	LCS	12-30-2017 02:30 am	1.00	50 mL	50 mL	E122904.D	Liquid	Y	NA
34	*10 uL cal std/50 mL DI* VBLKM-171229	SAMP	12-30-2017 02:55 am	50.00	50 mL	50 mL	E122905.D	Liquid	Y	NA
35	*Medium Level BLK* VBLKW-171229	MBLK	12-30-2017 03:19 am	1.00	50 mL	50 mL	E122906.D	Liquid	Y	NA

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
36	HS17121073-07	SAMP	12-30-2017 03:44 am	1.00	50 mL	50 mL	E122907.D	Liquid	Y	<2
37	HS17121171-01	SAMP	12-30-2017 04:09 am	1.00	50 mL	50 mL	E122908.D	Liquid	Y	<2
38	HS17121171-01MS	MS	12-30-2017 04:33 am	1.00	50 mL	50 mL	E122909.D	Liquid	Y	<2
	10 uL cal std/50 mL DI									
39	HS17121171-01MSD	MSD	12-30-2017 04:58 am	1.00	50 mL	50 mL	E122910.D	Liquid	Y	<2
	10 uL cal std/50 mL DI									
40	BLK	SAMP	12-30-2017 05:22 am	1.00	50 mL	50 mL	E122911.D	Liquid	Y	NA
	Cleanup blk									
41	HS17121171-03	SAMP	12-30-2017 05:47 am	1.00	50 mL	50 mL	E122912.D	Liquid	Y	<2
42	HS17121171-04	SAMP	12-30-2017 06:11 am	1.00	50 mL	50 mL	E122913.D	Liquid	Y	<2
43	HS17121171-05	SAMP	12-30-2017 06:36 am	1.00	50 mL	50 mL	E122914.D	Liquid	Y	<2
44	HS17121171-06	SAMP	12-30-2017 07:01 am	1.00	50 mL	50 mL	E122915.D	Liquid	Y	<2
45	HS17121171-07	SAMP	12-30-2017 07:25 am	1.00	50 mL	50 mL	E122916.D	Liquid	Y	<2
46	HS17121171-08	SAMP	12-30-2017 07:50 am	1.00	50 mL	50 mL	E122917.D	Liquid	Y	<2
47	HS17121171-09	SAMP	12-30-2017 08:14 am	1.00	50 mL	50 mL	E122918.D	Liquid	Y	<2
48	HS17121171-10	SAMP	12-30-2017 08:39 am	1.00	50 mL	50 mL	E122919.D	Liquid	Y	<2
49	HS17121171-11	SAMP	12-30-2017 09:03 am	1.00	50 mL	50 mL	E122920.D	Liquid	Y	<2
50	HS17121171-12	SAMP	12-30-2017 09:28 am	1.00	50 mL	50 mL	E122921.D	Liquid	Y	<2
51	HS17121171-13	SAMP	12-30-2017 09:52 am	1.00	50 mL	50 mL	E122922.D	Liquid	Y	<2
52	HS17121171-14	SAMP	12-30-2017 10:17 am	1.00	50 mL	50 mL	E122923.D	Liquid	Y	<2
53	HS17121073-01	SAMP	12-30-2017 10:41 am	1.00	50 mL	50 mL	E122924.D	Liquid	Y	<2
54	HS17121073-02	SAMP	12-30-2017 11:06 am	1.00	50 mL	50 mL	E122925.D	Liquid	Y	<2
55	HS17121073-03	SAMP	12-30-2017 11:31 am	1.00	50 mL	50 mL	E122926.D	Liquid	Y	<2
56	HS17121073-04	SAMP	12-30-2017 11:55 am	1.00	50 mL	50 mL	E122927.D	Liquid	Y	<2
57	HS17121073-05	SAMP	12-30-2017 12:20 pm	1.00	50 mL	50 mL	E122928.D	Liquid	Y	<2
58	HS17121073-06	SAMP	12-30-2017 12:44 pm	1.00	50 mL	50 mL	E122929.D	Liquid	Y	<2
59	BLK	SAMP	12-30-2017 01:09 pm	1.00	50 mL	50 mL	D122930.D	Liquid	Y	NA
	Cleanup blk									
60	BLK	SAMP	12-30-2017 01:33 pm	1.00	50 mL	50 mL	D122931.D	Liquid	Y	NA
	Cleanup blk									

Chemical	Value
SURR ID	29814-95-03
IS ID	29814-95-04
LCS/MS ID	29814-98-01
CAL STD ID	29814-98-01
BFB ID	29814-95-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122901.D

Date : 29-DEC-2017 13:14

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

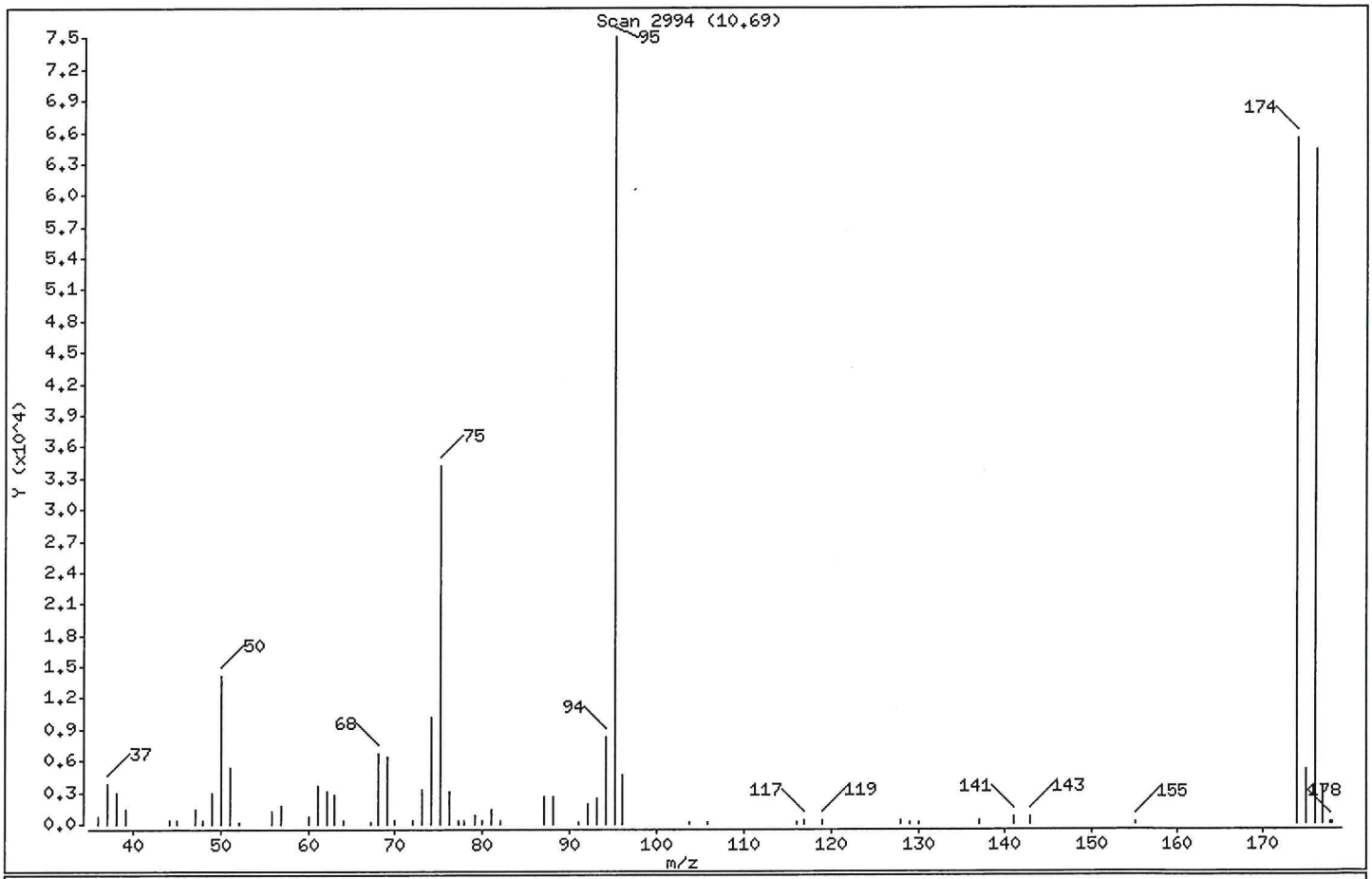
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.75
75	30.00 - 60.00% of mass 95	45.57
96	5.00 - 9.00% of mass 95	6.28
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	86.89
175	5.00 - 9.00% of mass 174	6.93 (7.98)
176	95.00 - 101.00% of mass 174	85.52 (98.42)
177	5.00 - 9.00% of mass 176	4.91 (5.74)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122901.D

Date : 29-DEC-2017 13:14

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: D122901.D
Spectrum: Scan 2994 (10.69)
Location of Maximum: 95.10
Number of points: 60

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	674	62.10	3117	80.90	1338	129.10	251
37.10	3761	63.10	2765	82.00	278	130.00	190
38.10	2997	64.10	280	87.00	2644	137.00	318
39.10	1323	67.20	227	88.10	2637	141.00	752
44.20	335	68.00	6738	91.00	223	142.80	607
45.10	328	69.00	6443	92.10	1973	154.90	235
47.10	1443	70.00	390	93.00	2388	174.00	65224
48.00	414	72.00	386	94.10	8313	175.00	5203
49.10	2926	73.10	3357	95.10	75064	176.00	64192
50.10	14078	74.10	10249	96.10	4717	177.00	3683
51.10	5415	75.10	34208	103.80	204	177.80	158
52.10	232	76.10	3184	105.90	202	178.00	153
56.00	1187	77.20	286	116.00	230		
57.00	1686	77.90	264	117.00	414		
60.10	612	79.00	785	119.00	306		
61.10	3604	80.00	330	127.90	296		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122901.D

Date : 29-DEC-2017 13:14

Client ID: BFB

Instrument: VOA2.i

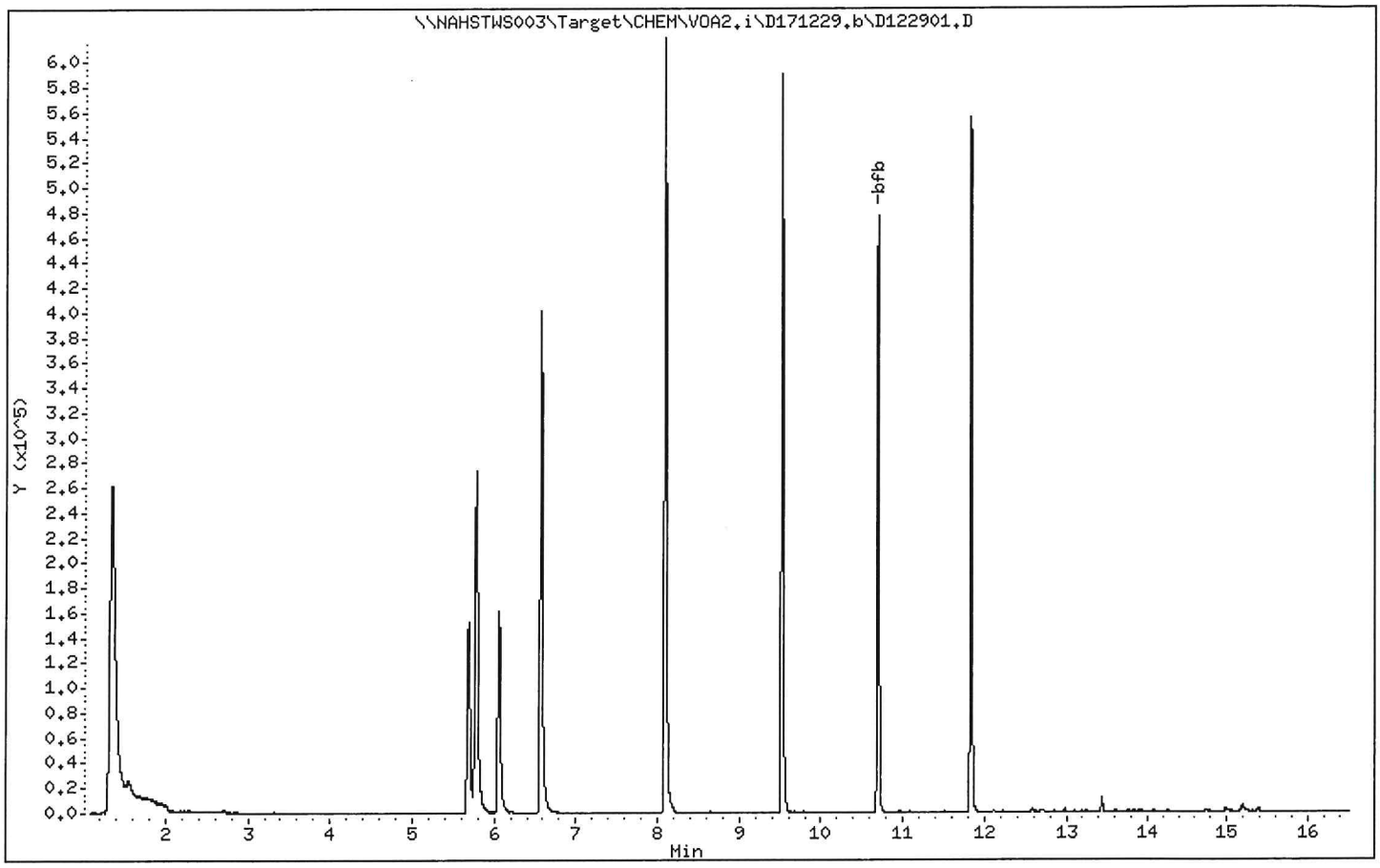
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122902.D
Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122902.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 29-DEC-2017 13:39
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 2 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.657	5.657	(0.978)	188790	50.0000	49.75
*	1 Pentafluorobenzene	168	5.783	5.783	(1.000)	245485	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	106672	50.0000	48.22
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	370299	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	130198	50.0000	47.66
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	339403	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	418278	50.0000	46.74
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	163670	50.0000	50.08
*	70 1,4-Dichlorobenzene-d4	152	11.835	11.835	(1.000)	159303	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	160315	50.0000	42.18
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.902)	97220	50.0000	46.82
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	150604	50.0000	52.22
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	244177	50.0000	47.64
	11 1,1-Dichloroethene	96	2.760	2.760	(0.477)	105499	50.0000	52.07
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	164046	50.0000	52.27
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	28295	50.0000	43.23
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	128954	50.0000	49.58
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	254641	50.0000	44.47
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	167773	50.0000	51.31
	42 1,2-Dichloropropane	63	7.069	7.069	(1.076)	141862	50.0000	48.63
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	268335	50.0000	45.03

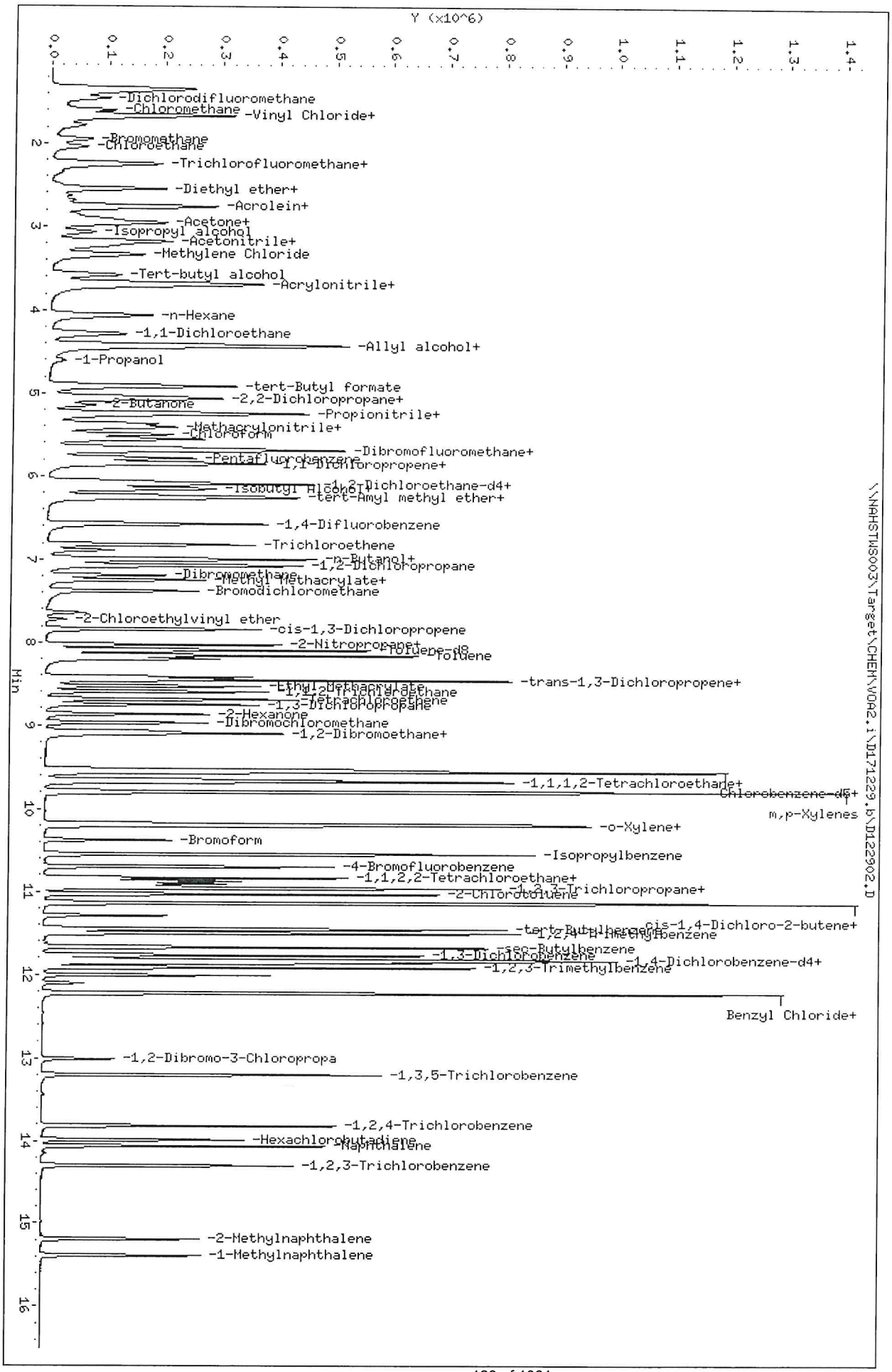
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122902.D
Report Date: 09-Feb-2018 18:17

	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	11.860	11.860	(1.002)	257326	50.0000	45.15	
24	2-Butanone	43	5.141	5.141	(0.889)	118549	100.000	89.49	
52	2-Hexanone	43	8.866	8.866	(0.931)	178709	100.000	89.86	
45	4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	277470	100.000	90.11	
10	Acetone	43	2.862	2.862	(0.495)	78082	100.000	95.86	
37	Benzene	78	6.094	6.094	(0.927)	478997	50.0000	49.16	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	172494	50.0000	50.01	
66	Bromoform	173	10.378	10.378	(1.089)	103586	50.0000	51.45	
6	Bromomethane	94	1.945	1.945	(0.336)	82692	50.0000	49.15	
19	Carbon Disulfide	76	2.959	2.959	(0.512)	477433	100.000	103.18	
34	Carbon Tetrachloride	117	5.834	5.834	(0.888)	156237	50.0000	44.41	
59	Chlorobenzene	112	9.556	9.556	(1.003)	330912	50.0000	47.34	
7	Chloroethane	64	2.044	2.044	(0.354)	90238	50.0000	45.43	
28	Chloroform	83	5.497	5.497	(0.951)	212635	50.0000	47.51	
3	Chloromethane	50	1.601	1.601	(0.277)	209704	50.0000	51.09	
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	136706	50.0000	48.94	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	210778	50.0000	53.22	
55	Dibromochloromethane	129	8.972	8.972	(0.942)	147372	50.0000	50.29	
2	Dichlorodifluoromethane	85	1.454	1.454	(0.251)	114729	50.0000	54.66	
61	Ethylbenzene	106	9.672	9.672	(1.015)	179376	50.0000	47.94	
67	Isopropylbenzene	105	10.548	10.548	(1.107)	565986	50.0000	48.90	
17	Methylene Chloride	84	3.337	3.337	(0.577)	125912	50.0000	46.86	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	110979	50.0000	53.12	
50	Toluene	91	8.157	8.157	(0.856)	506103	50.0000	47.05	
20	trans-1,2-Dichloroethene	96	3.674	3.674	(0.635)	116498	50.0000	53.15	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	181545	50.0000	53.87	
38	Trichloroethene	130	6.819	6.819	(1.038)	138997	50.0000	50.67	
8	Trichlorofluoromethane	101	2.259	2.259	(0.391)	164898	50.0000	54.47	
5	Vinyl Chloride	62	1.685	1.685	(0.291)	155557	50.0000	51.69	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	433487	100.000	94.74	
63	o-Xylene	106	10.179	10.179	(1.068)	228094	50.0000	47.65	
M 95	Xylenes (total)	106				661581	150.000		(a)
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	167143	50.0000	44.04	
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	136077	50.0000	50.32	
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	455144	50.0000	42.89	
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	453865	50.0000	43.92	
26	2,2-Dichloropropane	77	5.045	5.045	(0.872)	186267	50.0000	52.08	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	196286	50.0000	46.87	
76	2-Chlorotoluene	91	11.032	11.032	(0.932)	387802	50.0000	42.85	
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	426214	50.0000	43.25	
82	p-Isopropyltoluene	119	11.819	11.819	(0.999)	448780	50.0000	45.76	
29	Bromochloromethane	128	5.372	5.372	(0.929)	67036	50.0000	50.43	
74	Bromobenzene	156	10.833	10.833	(0.915)	155498	50.0000	44.00	
44	Dibromomethane	93	7.191	7.191	(1.094)	77598	50.0000	51.33	
91	Hexachlorobutadiene	225	13.991	13.991	(1.182)	73175	50.0000	50.10	
73	n-Propylbenzene	91	10.955	10.955	(0.926)	603596	50.0000	44.81	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	353881	50.0000	48.55	
81	sec-Butylbenzene	105	11.671	11.671	(0.986)	532397	50.0000	46.49	
92	Naphthalene	128	14.065	14.065	(1.188)	384795	50.0000	47.05	
78	tert-Butylbenzene	119	11.453	11.453	(0.968)	387326	50.0000	44.68	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	136618	50.0000	50.44	
64	Styrene	104	10.198	10.198	(1.070)	372432	50.0000	48.78	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122902.D
Report Date: 09-Feb-2018 18:17

QC Flag Legend

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


Y (x10^6)
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0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
1.3
1.4
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Allyl alcohol+
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\WOA2.i\D171229.b\D122902.D
Data File: \\NAHSTWS003\Target\CHEM\WOA2.i\D171229.b\D122902.D
Date : 29-DEC-2017 13:39
Client ID: CCV
Sample Info: CCV;CCV;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: WOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122903.D
Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122903.D
Lab Smp Id: VLCSW-171229 Client Smp ID: VLCSW-171229
Inj Date : 29-DEC-2017 14:03
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171229;VLCSW-171229;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 3 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

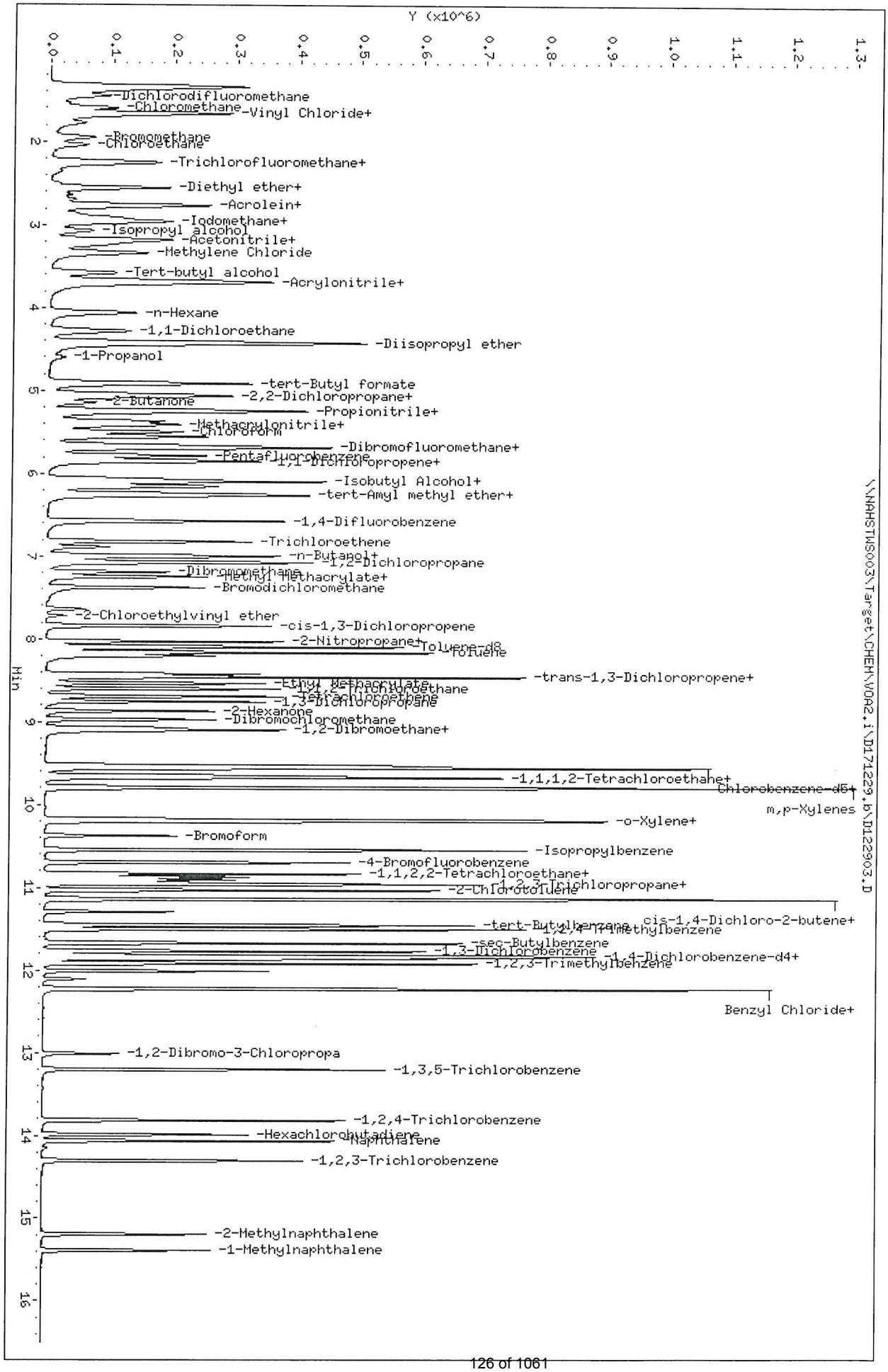
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.657	5.657	(0.979)	169374	43.8895	43.88
*	1 Pentafluorobenzene	168	5.779	5.783	(1.000)	249693	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.686	(0.983)	104422	46.4167	46.41
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	368330	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	127092	45.7416	45.74
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	335873	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.850)	417063	47.0960	47.09
$	69 4-Bromofluorobenzene	95	10.699	10.695	(1.123)	160188	49.5357	49.53
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	155366	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	150553	40.6211	40.62
	53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	93149	45.3360	45.33
	32 1,1-Dichloropropene	75	5.853	5.856	(0.891)	138730	48.2993	48.29
	22 1,1-Dichloroethane	63	4.284	4.281	(0.741)	238935	45.8347	45.83
	11 1,1-Dichloroethene	96	2.756	2.760	(0.477)	97275	47.2022	47.20
	90 1,2,4-Trichlorobenzene	180	13.818	13.818	(1.168)	149477	48.8367	48.83
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.012	(1.099)	26666	41.7970	41.79
	57 1,2-Dibromoethane	107	9.065	9.068	(0.952)	123349	47.9330	47.93
	88 1,2-Dichlorobenzene	146	12.223	12.226	(1.033)	236259	42.3066	42.30
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	160373	49.3115	49.31
	42 1,2-Dichloropropane	63	7.066	7.069	(1.075)	136004	46.8800	46.88
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	246136	42.3530	42.35

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122903.D
Report Date: 09-Feb-2018 18:17

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	84 1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	231541	41.6553	41.65
	24 2-Butanone	43	5.141	5.141	(0.890)	112293	83.3436	83.34
	52 2-Hexanone	43	8.866	8.866	(0.931)	165452	84.0735	84.07
	45 4-Methyl-2-Pentanone	43	8.029	8.029	(0.843)	261178	85.7109	85.71
	10 Acetone	43	2.853	2.862	(0.494)	71344	85.8737	85.87
	37 Benzene	78	6.091	6.094	(0.927)	446627	46.0857	46.08
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	163706	47.7250	47.72
	66 Bromoform	173	10.374	10.378	(1.089)	98778	49.5785	49.57
	6 Bromomethane	94	1.951	1.945	(0.338)	83690	48.8995	48.89
	19 Carbon Disulfide	76	2.955	2.959	(0.511)	441537	93.8190	93.81
	34 Carbon Tetrachloride	117	5.837	5.834	(0.888)	133167	38.0625	38.06
	59 Chlorobenzene	112	9.553	9.556	(1.003)	310549	44.8966	44.89
	7 Chloroethane	64	2.041	2.044	(0.353)	84759	41.9564	41.95
	28 Chloroform	83	5.497	5.497	(0.951)	204084	44.8311	44.83
	3 Chloromethane	50	1.592	1.601	(0.275)	198551	47.4965	47.49
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	133976	47.1629	47.16
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	202963	51.5233	51.52
	55 Dibromochloromethane	129	8.972	8.972	(0.942)	141116	48.6633	48.66
	2 Dichlorodifluoromethane	85	1.457	1.454	(0.252)	98825	46.2977	46.29
	61 Ethylbenzene	106	9.672	9.672	(1.015)	158347	42.7705	42.77
	67 Isopropylbenzene	105	10.548	10.548	(1.107)	498716	43.5440	43.54
	17 Methylene Chloride	84	3.331	3.337	(0.576)	121099	44.3096	44.30
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	96673	46.5595	46.55
	50 Toluene	91	8.157	8.157	(0.856)	468617	44.0253	44.02
	20 trans-1,2-Dichloroethene	96	3.671	3.674	(0.635)	111418	49.9833	49.98
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	173164	51.6603	51.66
	38 Trichloroethene	130	6.819	6.819	(1.038)	127361	46.6844	46.68
	8 Trichlorofluoromethane	101	2.259	2.259	(0.391)	145673	47.3164	47.31
	5 Vinyl Chloride	62	1.685	1.685	(0.292)	143796	46.9855	46.98
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	393619	86.9375	86.93
	63 o-Xylene	106	10.179	10.179	(1.069)	210608	44.4629	44.46
M	95 Xylenes (total)	106				604227	131.400	131.40
	71 1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	156557	42.3002	42.30
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	125648	47.6425	47.64
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	410991	39.7141	39.71
	75 1,3,5-Trimethylbenzene	105	11.132	11.135	(0.941)	401050	39.7945	39.79
	26 2,2-Dichloropropane	77	5.048	5.045	(0.873)	171249	47.0766	47.07
	54 1,3-Dichloropropane	76	8.754	8.754	(0.919)	186549	45.0159	45.01
	76 2-Chlorotoluene	91	11.029	11.032	(0.932)	354628	40.1809	40.18
	77 4-Chlorotoluene	91	11.141	11.141	(0.941)	389700	40.5522	40.55
	82 p-Isopropyltoluene	119	11.818	11.819	(0.999)	386300	40.3937	40.39
	29 Bromochloromethane	128	5.365	5.372	(0.928)	64627	47.8060	47.80
	74 Bromobenzene	156	10.833	10.833	(0.915)	144584	41.9521	41.95
	44 Dibromomethane	93	7.191	7.191	(1.094)	75022	49.9009	49.90
	91 Hexachlorobutadiene	225	13.988	13.991	(1.182)	65476	45.9308	45.93
	73 n-Propylbenzene	91	10.955	10.955	(0.926)	527751	40.1761	40.17
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	306855	43.1733	43.17
	81 sec-Butylbenzene	105	11.668	11.671	(0.986)	456089	40.8406	40.84
	92 Naphthalene	128	14.061	14.065	(1.188)	365394	45.7979	45.79
	78 tert-Butylbenzene	119	11.453	11.453	(0.968)	335609	39.6978	39.69
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	127375	47.5244	47.52
	64 Styrene	104	10.198	10.198	(1.071)	347127	45.9487	45.94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1.2
1.3
Min
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10
11
12
13
14
15
16
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Iodomethane+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
Toluene-d8
Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
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Date : 29-DEC-2017 14:03
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Sample Info: VLCSW-171229;VLCSW-171229;3;;LCS
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122905.D
Report Date: 09-Feb-2018 18:17

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122905.D
Lab Smp Id: VBLKW-171229 Client Smp ID: VBLKW-171229
Inj Date : 29-DEC-2017 14:52
Operator : AP Inst ID: VOA2.i
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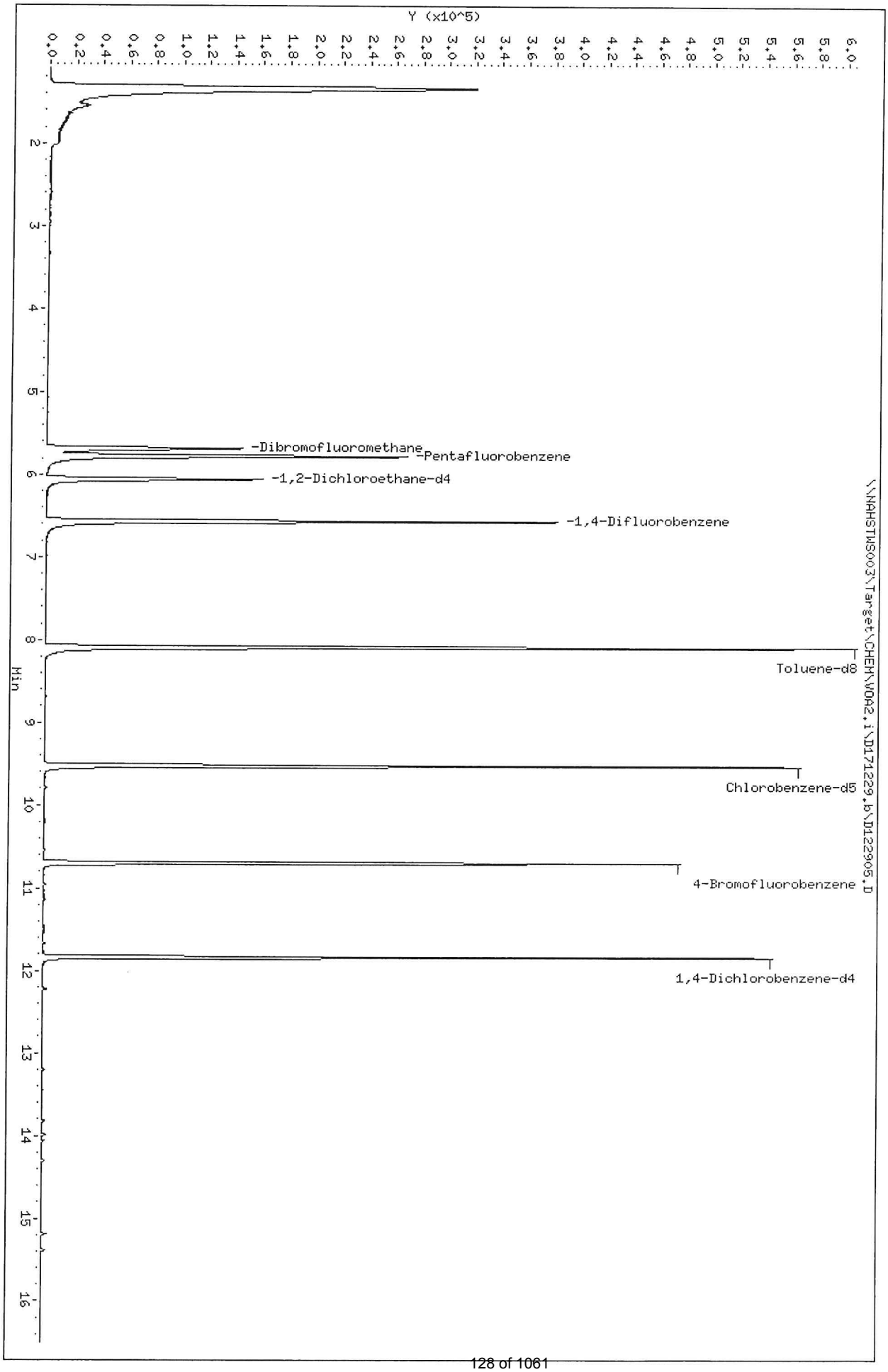
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 5 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.783	(1.000)	260936	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.984)	112675	47.9272	47.92
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	368256	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.062	(1.048)	133326	45.9177	45.91
* 47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	330802	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	423790	48.5892	48.58
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	155774	48.9092	48.90
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	146667	50.0000	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Date : 29-DEC-2017 14:52
Client ID: VBLKW-171229
Sample Info: VBLKW-171229;VBLKW-171229;3;;BLANK
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122905.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122911.D
Report Date: 09-Feb-2018 18:17

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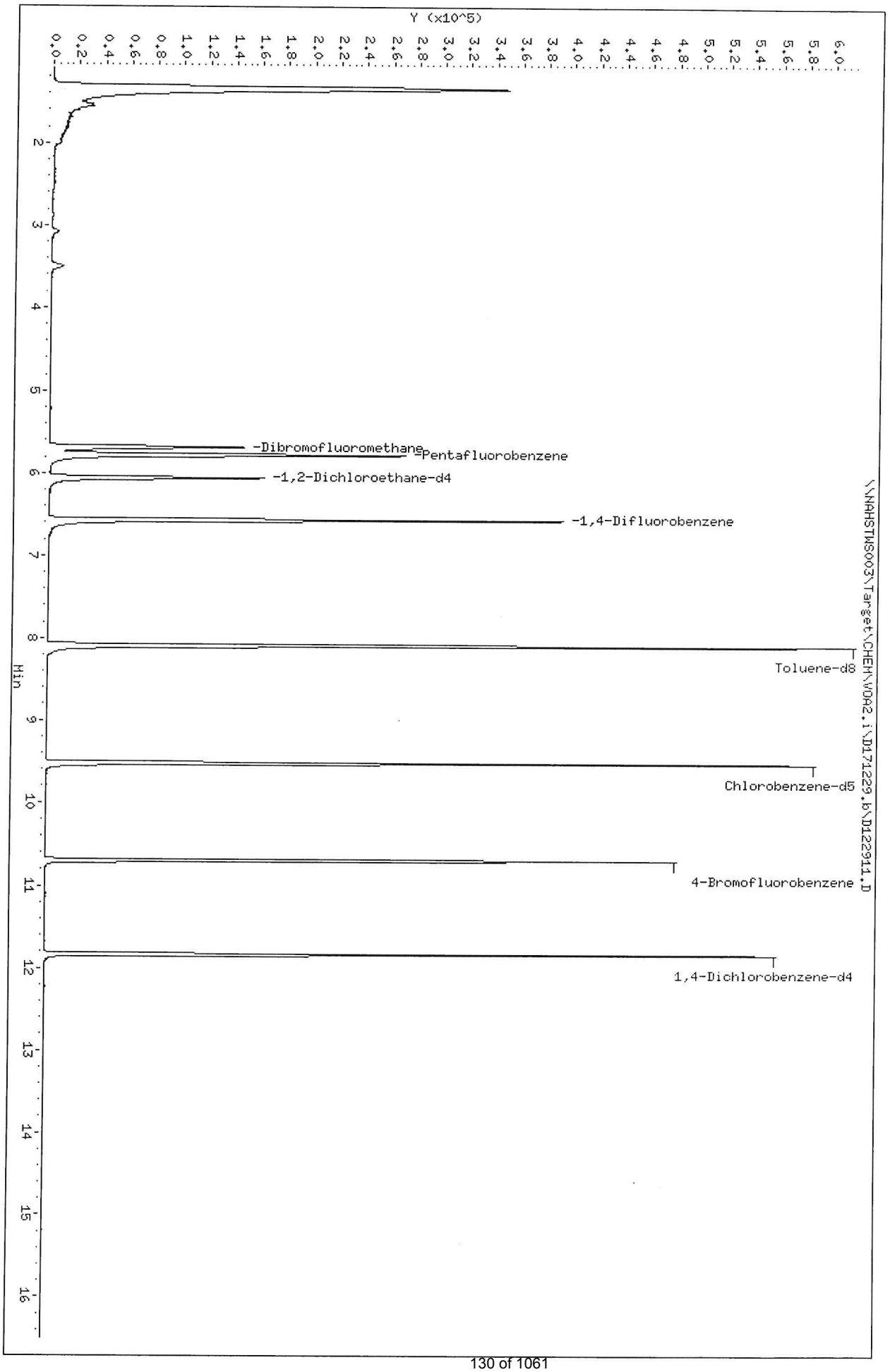
Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122911.D
Lab Smp Id: HS17121113-09 Client Smp ID: HS17121113-09
Inj Date : 29-DEC-2017 17:20
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-09;HS17121113-09;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.783	(1.000)	254596	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	116155	50.6378	50.63
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	372647	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.059	6.062	(1.048)	134352	47.4233	47.42
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	335445	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	424924	48.0449	48.04
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	157173	48.6654	48.66
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.835	(1.000)	148377	50.0000	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Sample Info: HS17121113-09;HS17121113-09;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
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-Dibromofluoromethane
Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122911.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D
Report Date: 09-Feb-2018 18:17

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Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D
Lab Smp Id: HS17121113-01 Client Smp ID: HS17121113-01
Inj Date : 29-DEC-2017 18:09
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-01;HS17121113-01;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

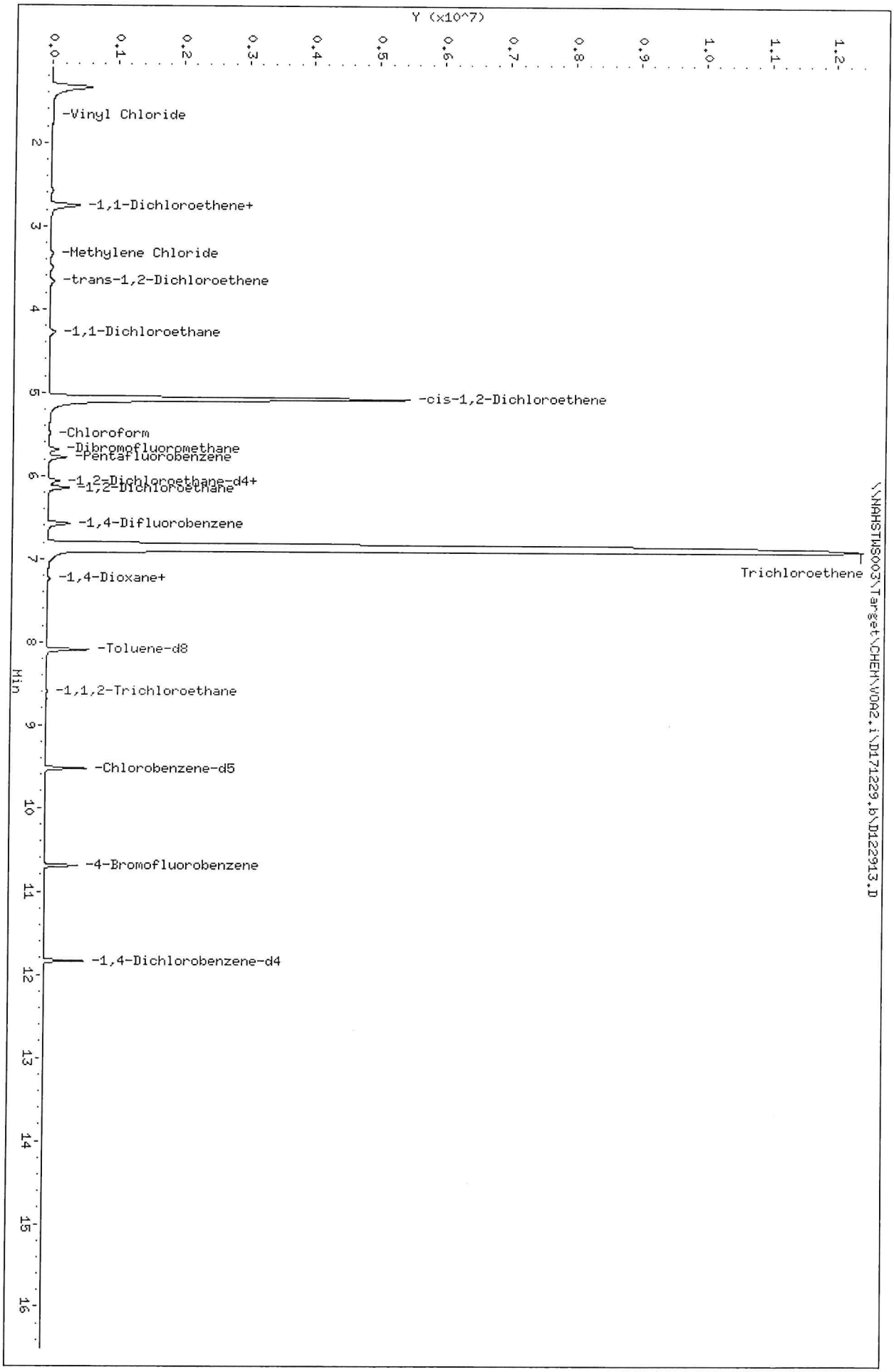
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.779	5.783	(1.000)	256713	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.686	(0.983)	112350	48.5751	48.57
* 36 1,4-Difluorobenzene	114	6.578	6.572	(1.000)	377095	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.062	(1.048)	130424	45.6572	45.65
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	346364	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	432511	47.3611	47.36
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	162802	48.8192	48.81
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	155367	50.0000	
53 1,1,2-Trichloroethane	83	8.600	8.597	(0.903)	6952	3.28108	3.28(a)
22 1,1-Dichloroethane	63	4.277	4.281	(0.740)	151777	28.3191	28.31
11 1,1-Dichloroethene	96	2.750	2.760	(0.476)	298937	141.091	141.09
33 1,2-Dichloroethane	62	6.145	6.145	(0.934)	298408	89.7035	89.70
37 Benzene	78	6.094	6.094	(0.926)	42614	4.29497	4.29(a)
28 Chloroform	83	5.494	5.497	(0.951)	23316	4.98176	4.98(a)
27 cis-1,2-Dichloroethene	96	5.076	5.070	(0.878)	4011646	1373.58	1373.58(A)
17 Methylene Chloride	84	3.334	3.337	(0.577)	32172	11.4497	11.44
20 trans-1,2-Dichloroethene	96	3.664	3.674	(0.634)	49628	21.6548	21.65
38 Trichloroethene	130	6.889	6.819	(1.047)	11451293	4099.92	4099.92(A)
5 Vinyl Chloride	62	1.681	1.685	(0.291)	17531	5.57163	5.57

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D
Report Date: 09-Feb-2018 18:17

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D
Date : 29-DEC-2017 18:09
Client ID: HS17121113-01
Sample Info: HS17121113-01;HS17121113-01;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

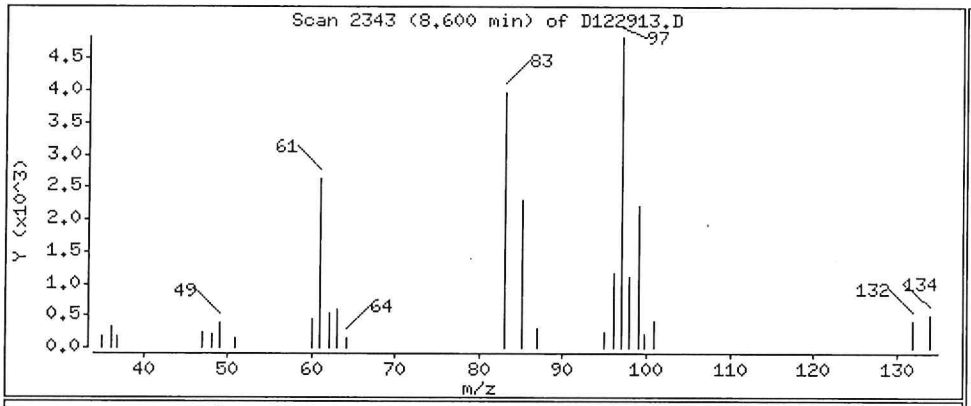
Column phase: DB624

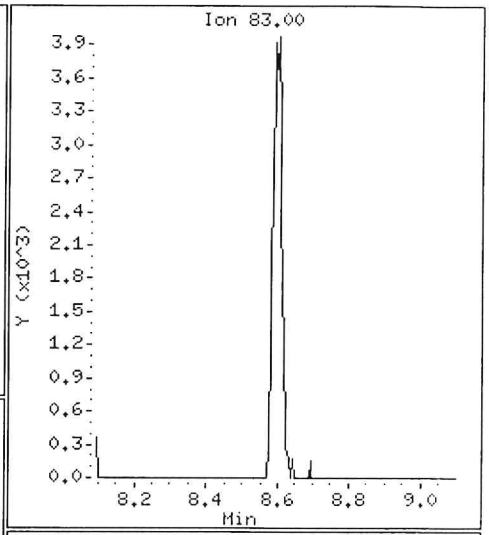
Column diameter: 0.18

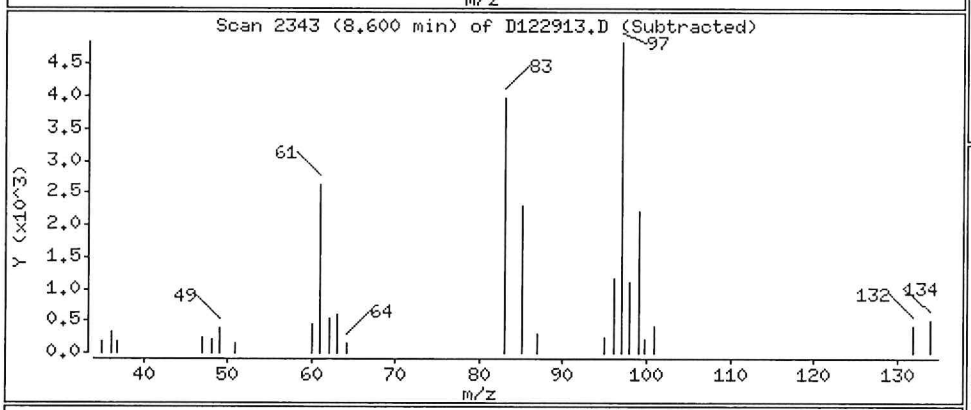
53 1,1,2-Trichloroethane

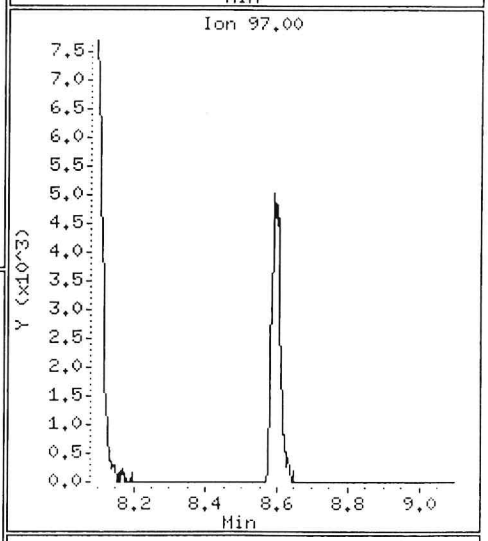
Concentration: 3.28 ug/l

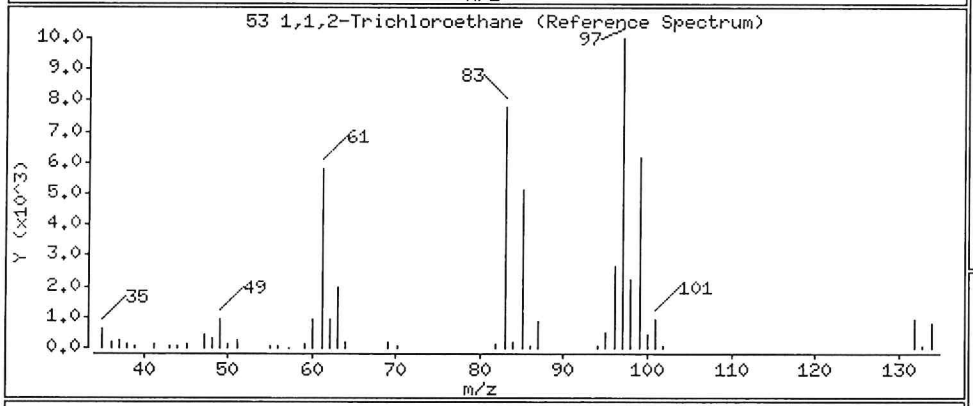
Review Code:

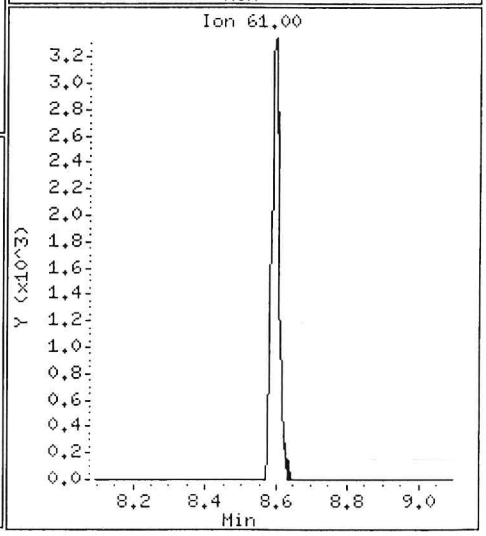


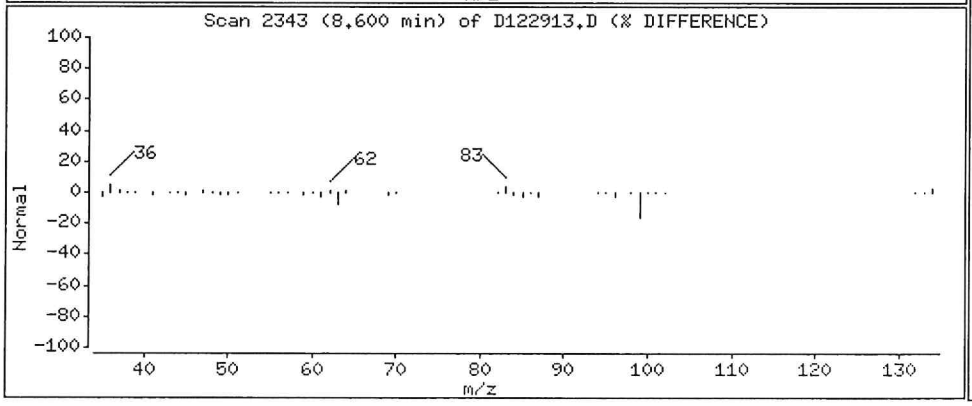












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

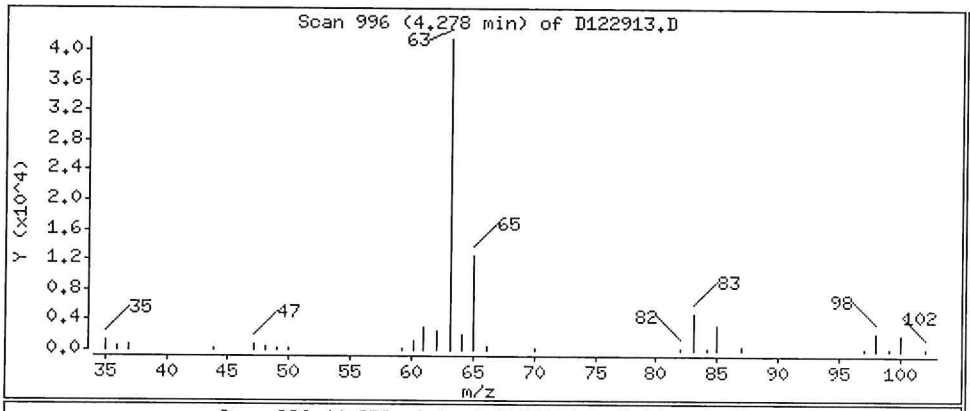
Column phase: DB624

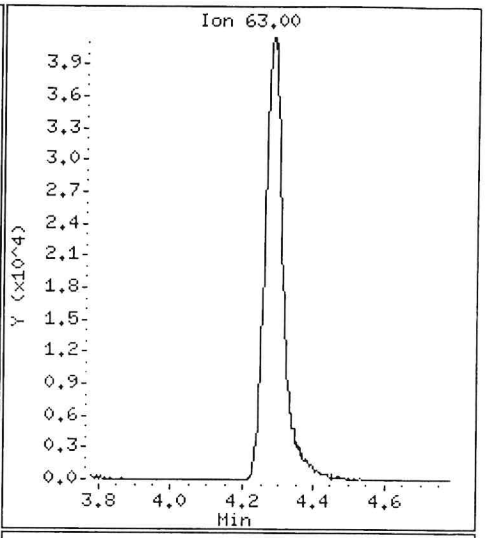
Column diameter: 0.18

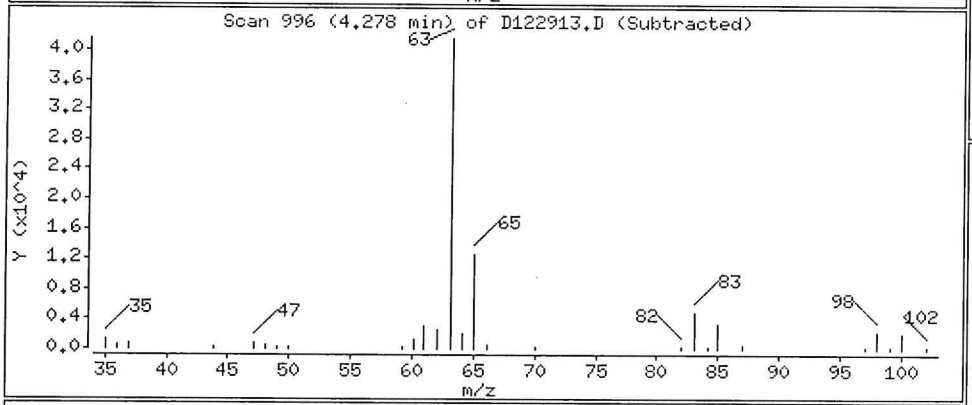
22 1,1-Dichloroethane

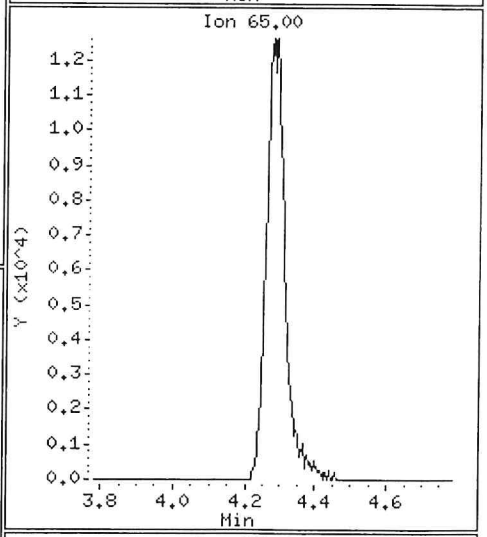
Concentration: 28.31 ug/l

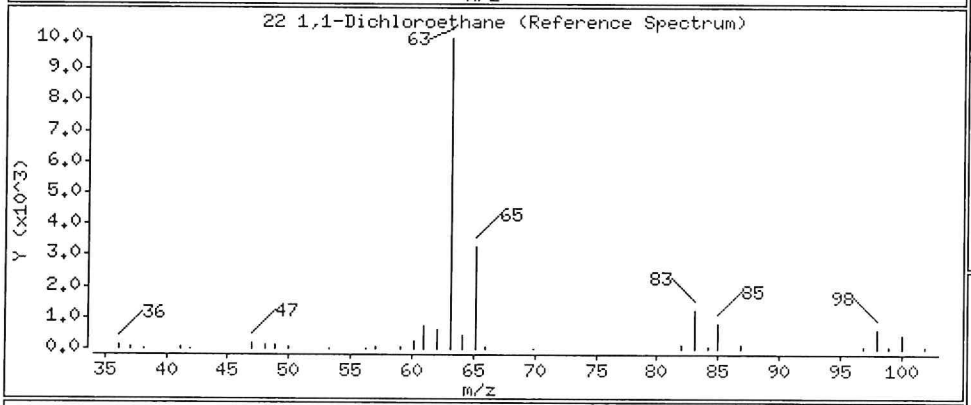
Review Code:

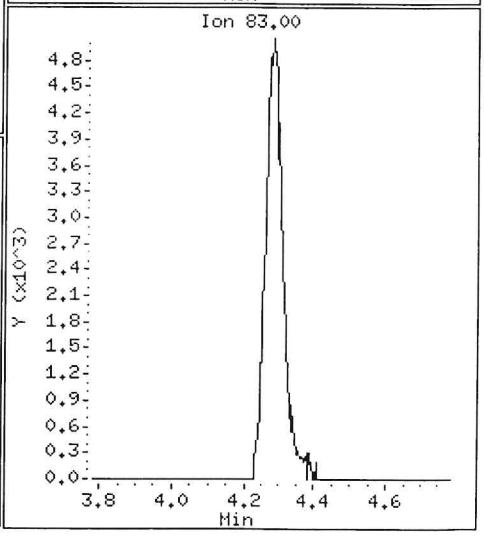


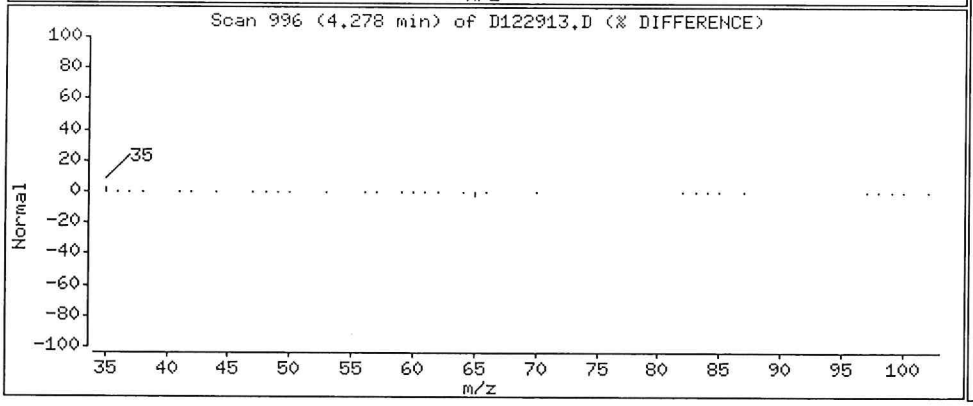












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

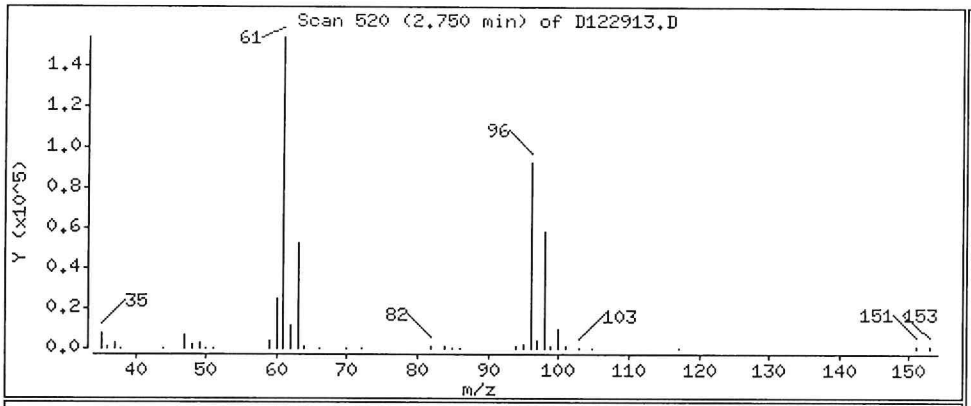
Client ID: HS17121113-01 Instrument: VOA2.i

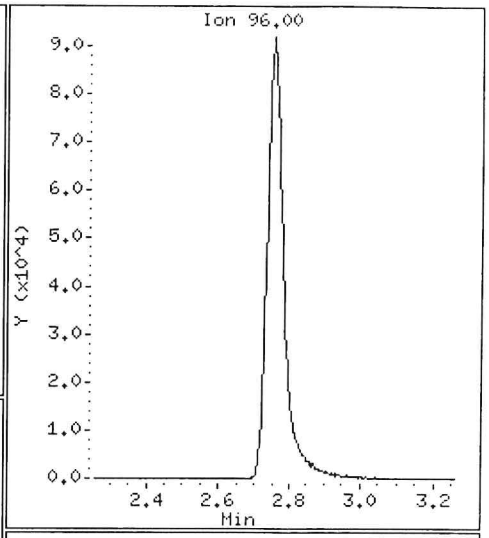
Sample Info: HS17121113-01;HS17121113-01;;;

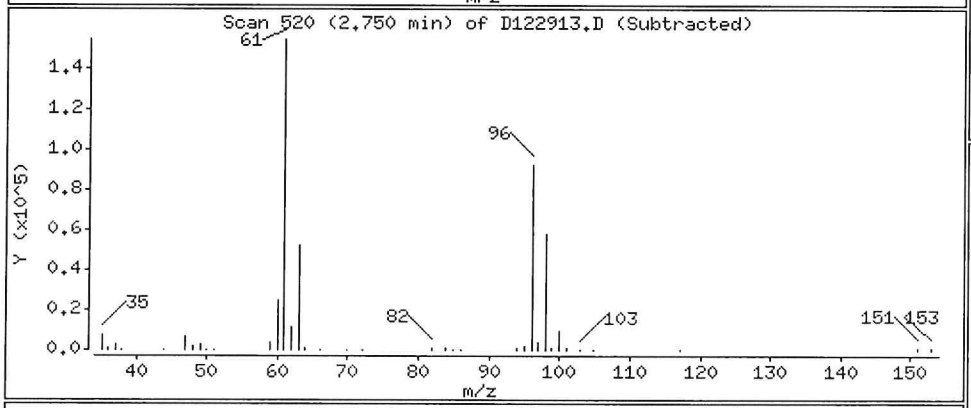
Purge Volume: 5.0 Operator: AP

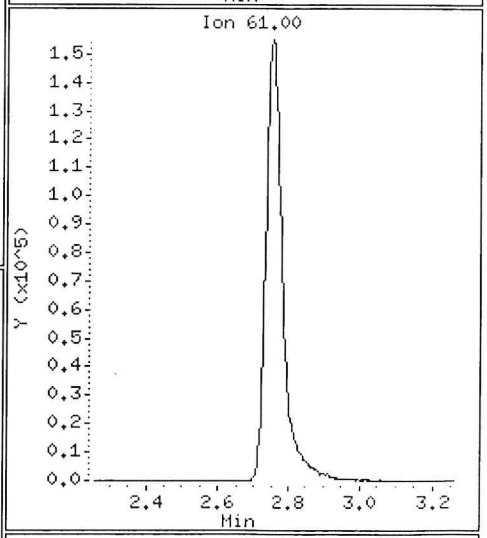
Column phase: DB624 Column diameter: 0.18

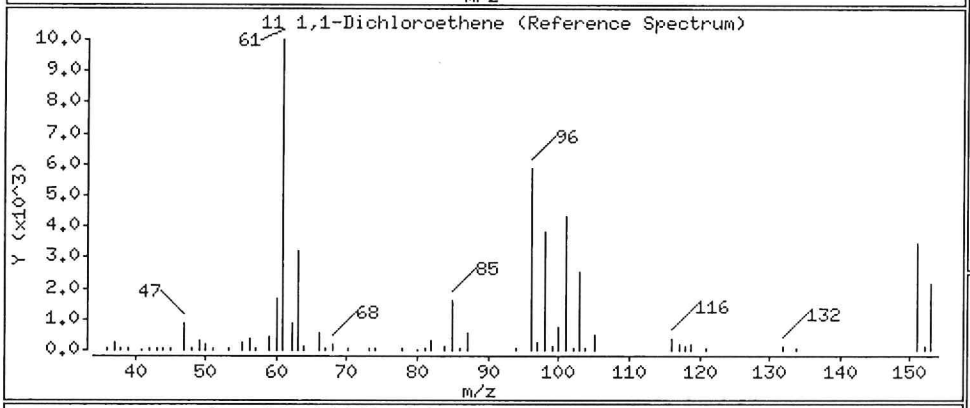
11 1,1-Dichloroethene Concentration: 141.09 ug/l Review Code:

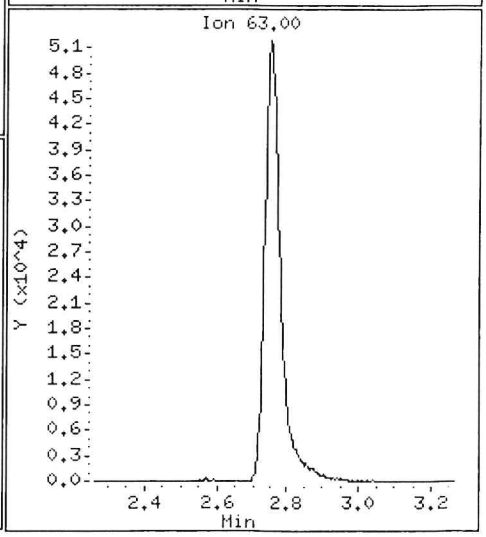


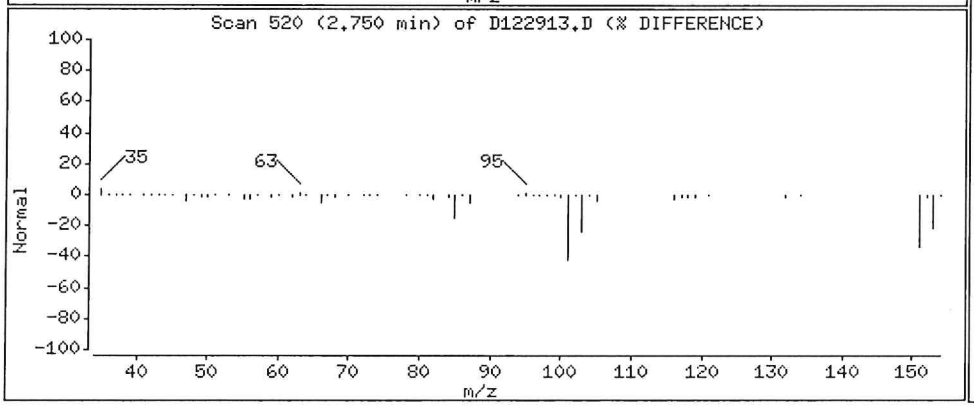












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

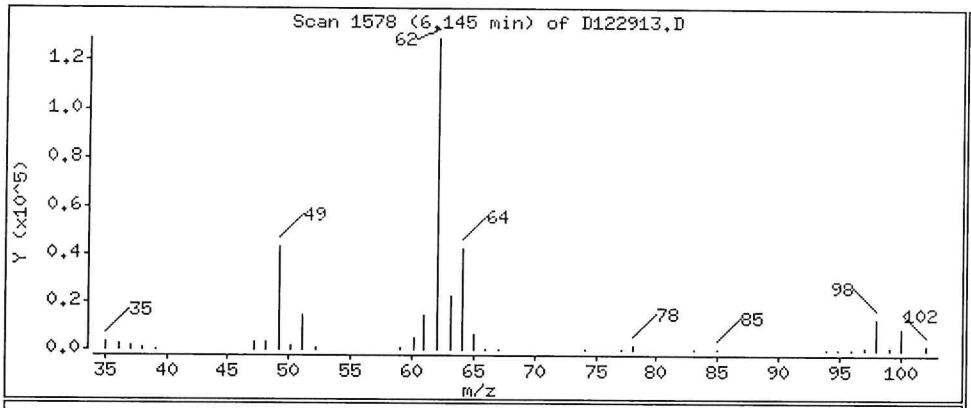
Column phase: DB624

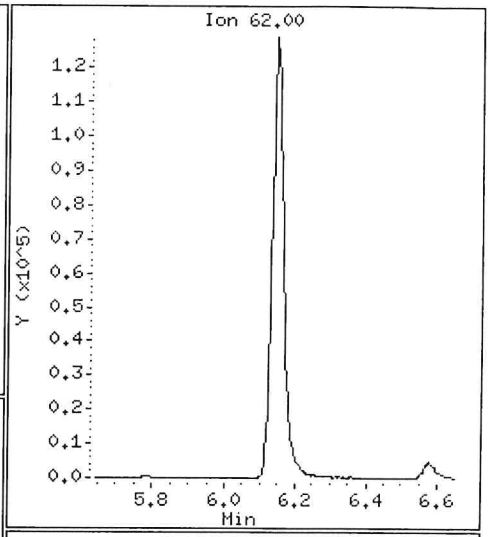
Column diameter: 0.18

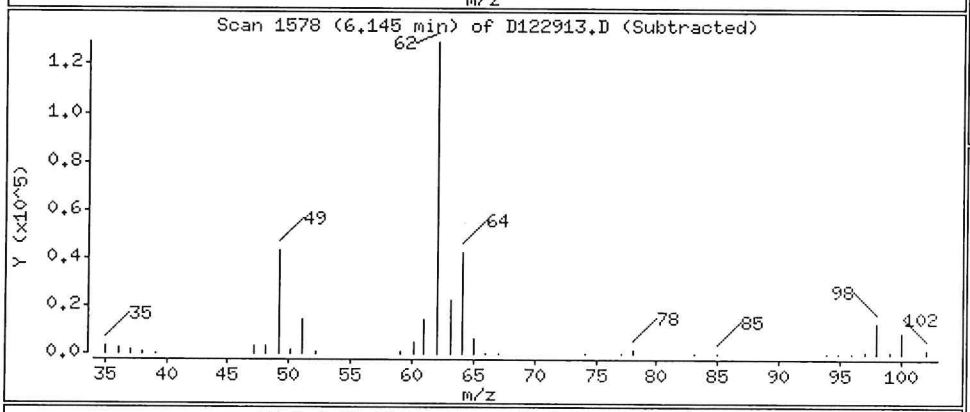
33 1,2-Dichloroethane

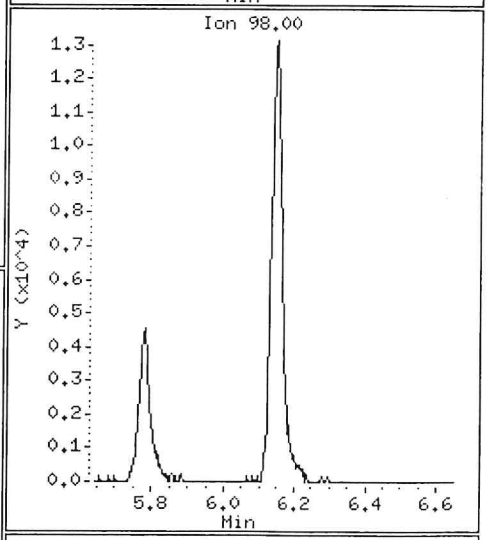
Concentration: 89.70 ug/l

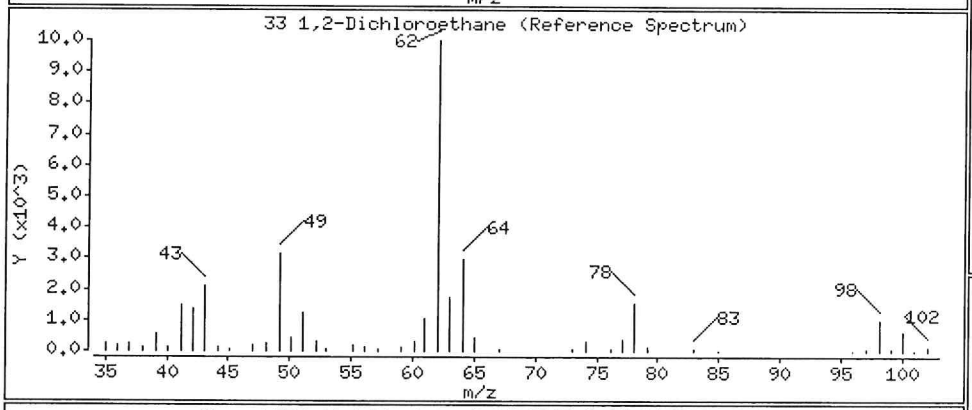
Review Code:

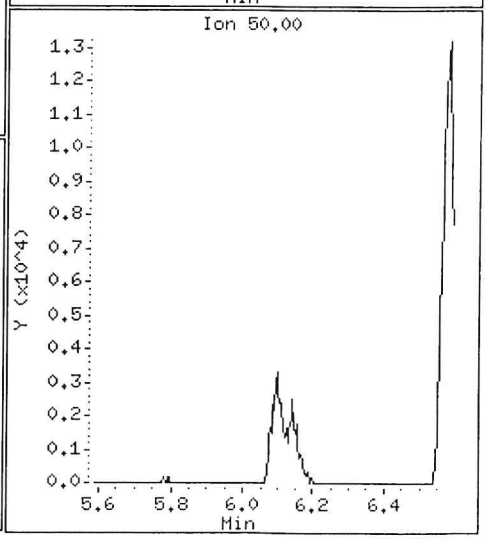


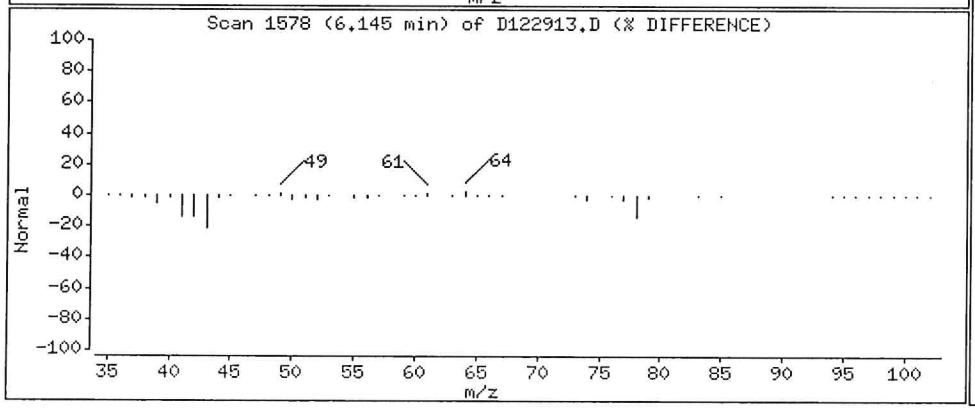












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

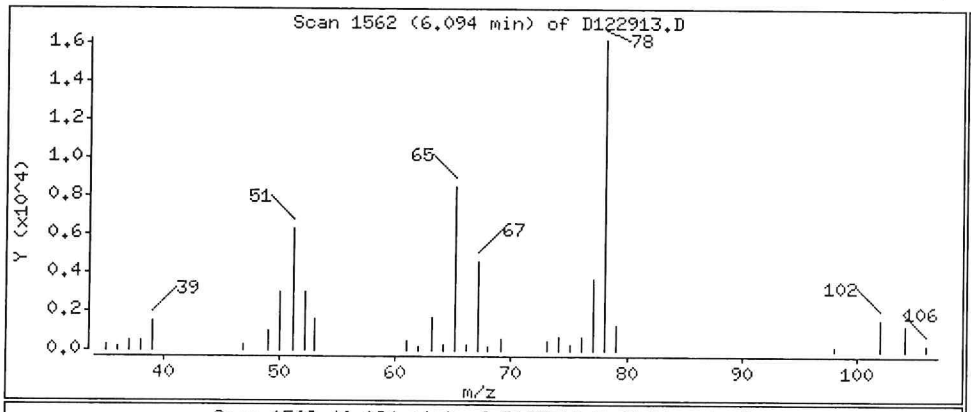
Column phase: DB624

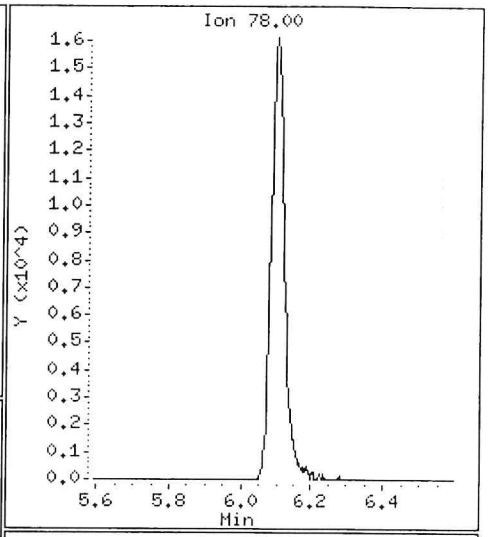
Column diameter: 0.18

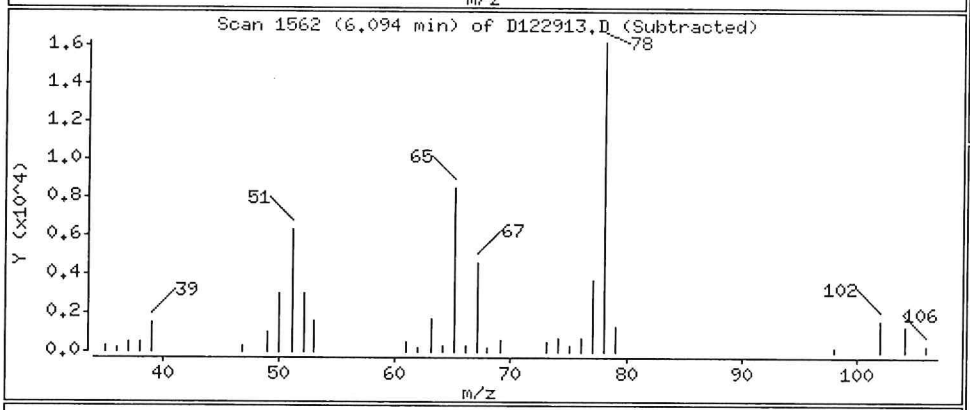
37 Benzene

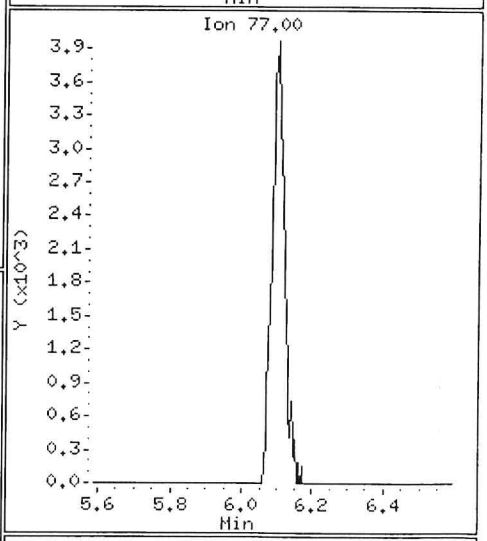
Concentration: 4.29 ug/l

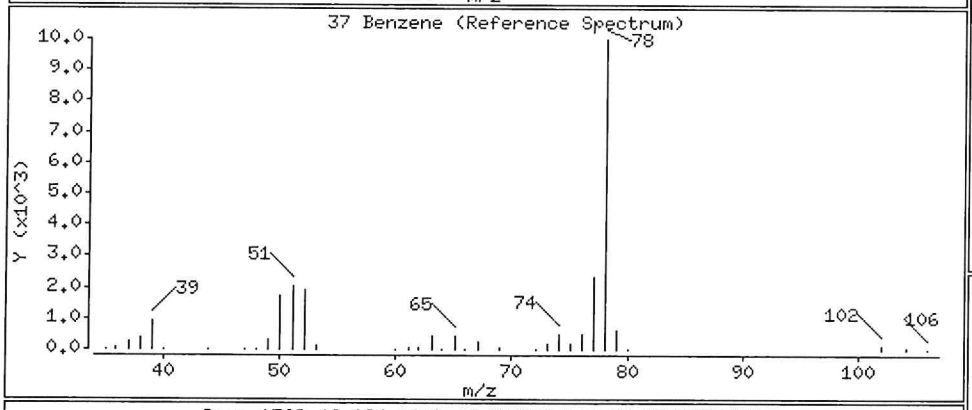
Review Code:

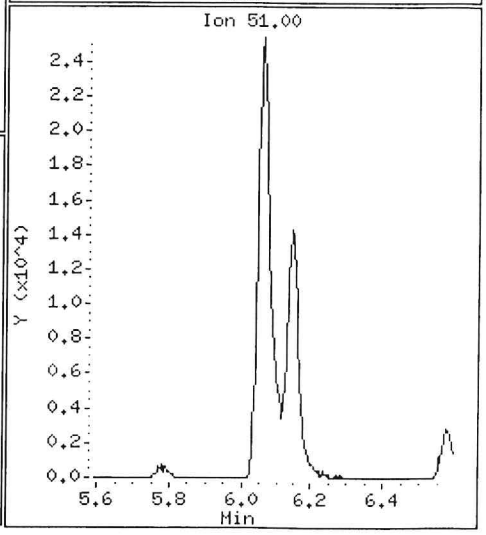


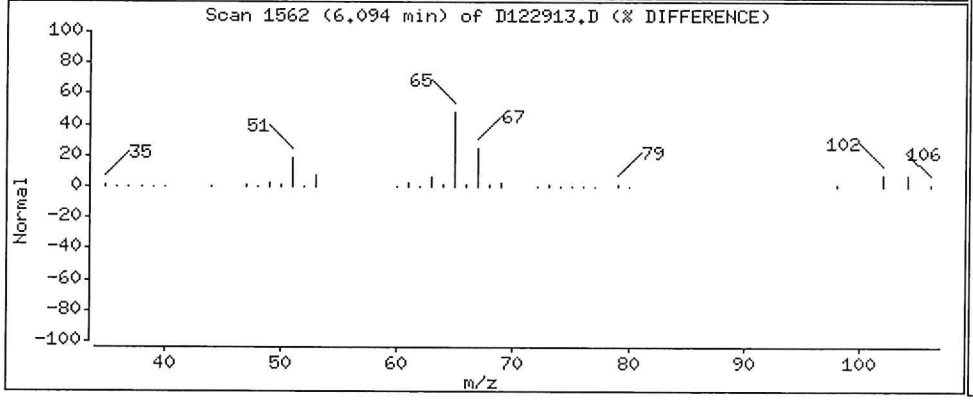












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

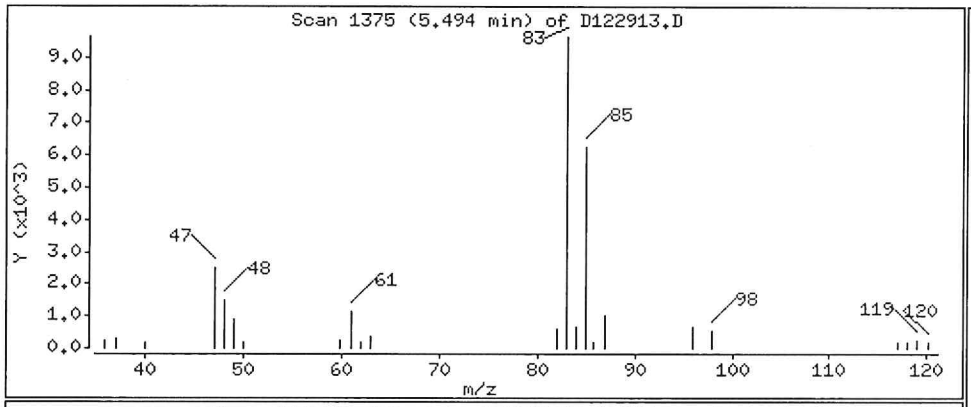
Client ID: HS17121113-01 Instrument: VOA2.i

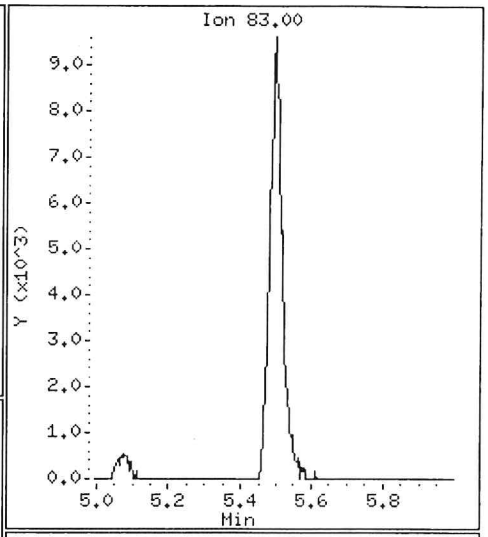
Sample Info: HS17121113-01;HS17121113-01;;;

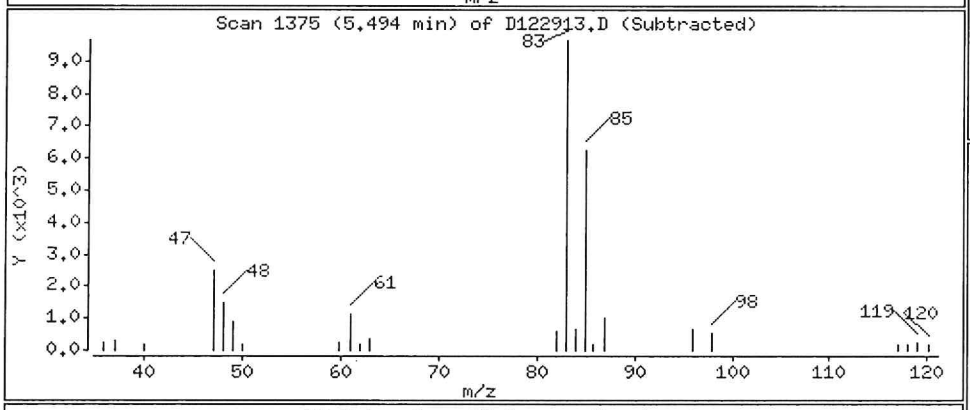
Purge Volume: 5.0 Operator: AP

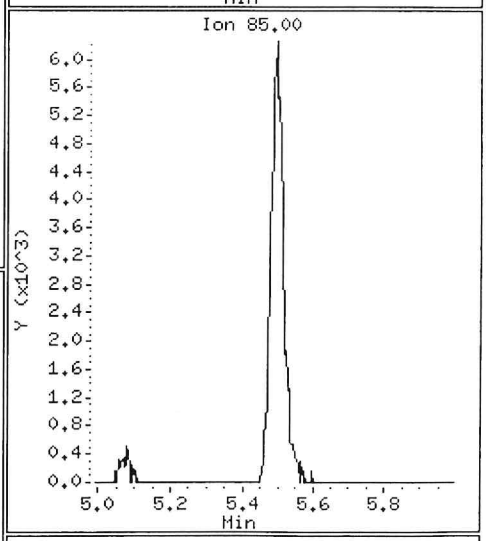
Column phase: DB624 Column diameter: 0.18

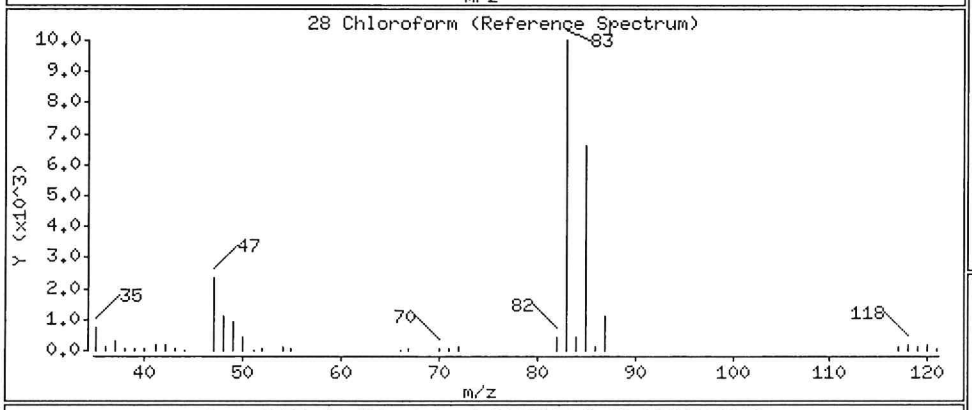
28 Chloroform Concentration: 4.98 ug/l Review Code:

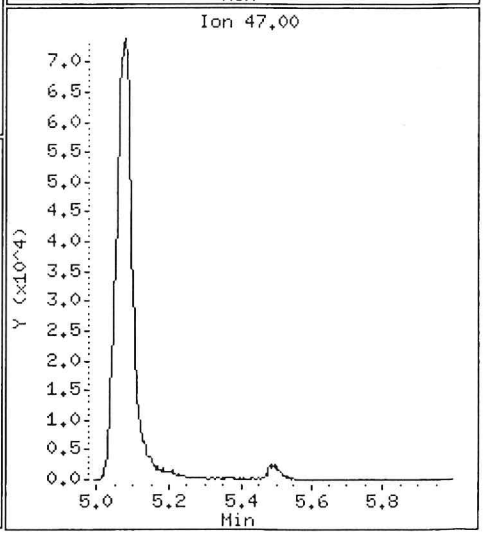


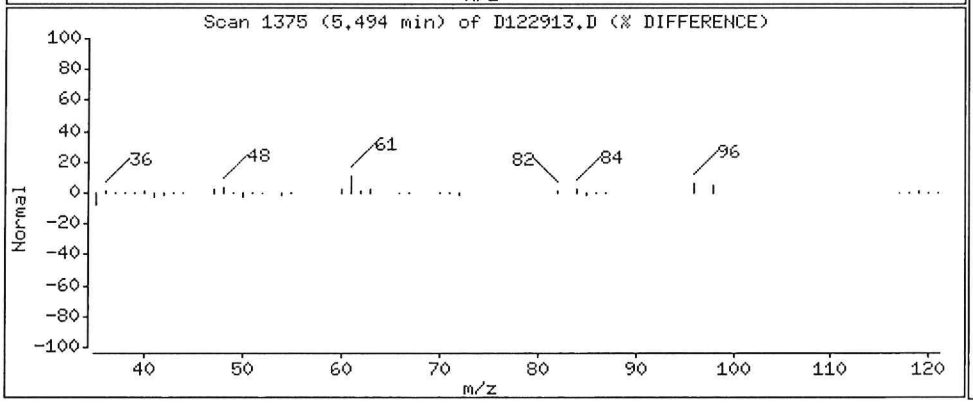












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

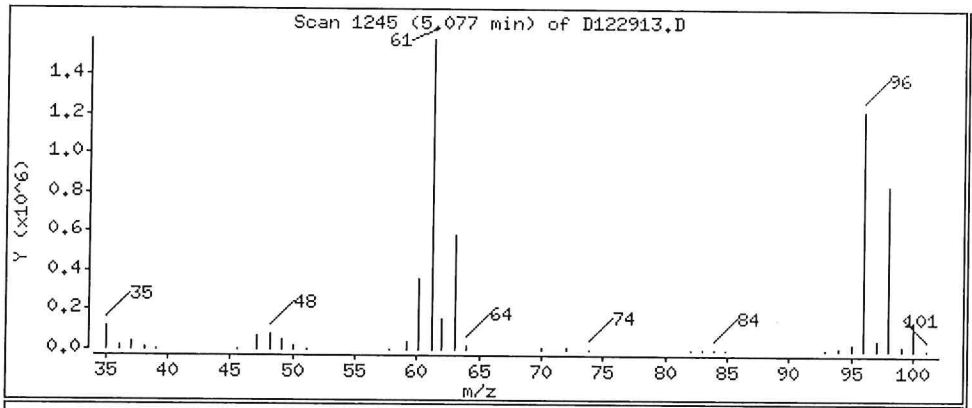
Column phase: DB624

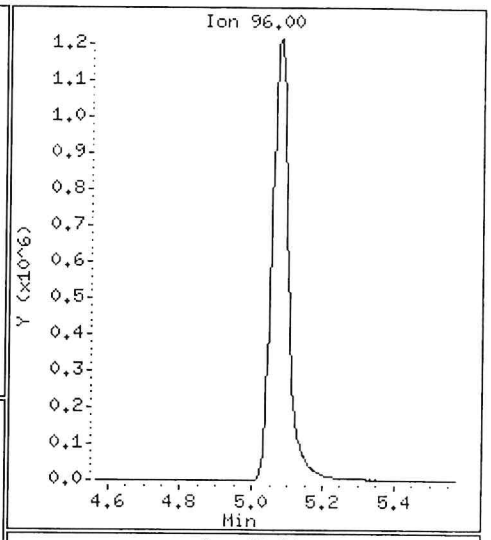
Column diameter: 0.18

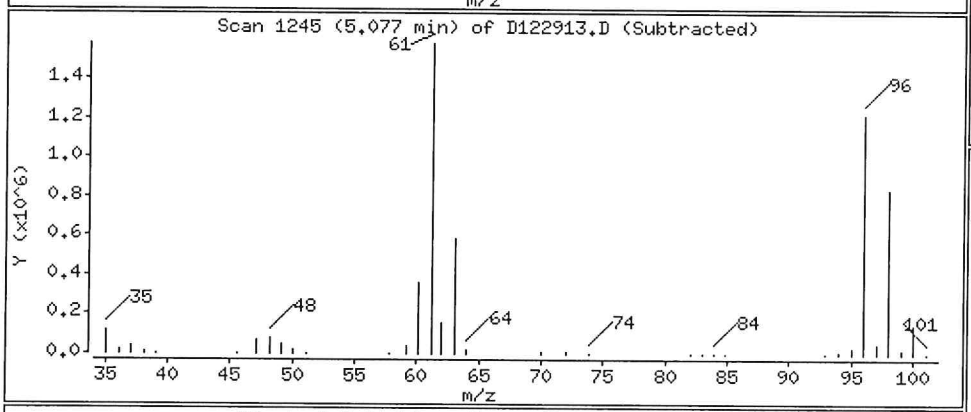
27 cis-1,2-Dichloroethene

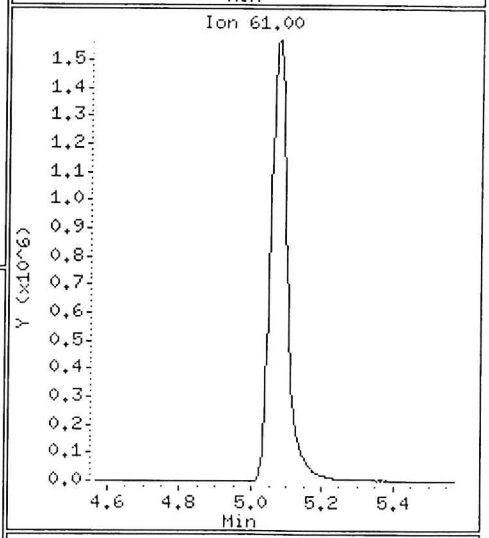
Concentration: 1373.58 ug/l

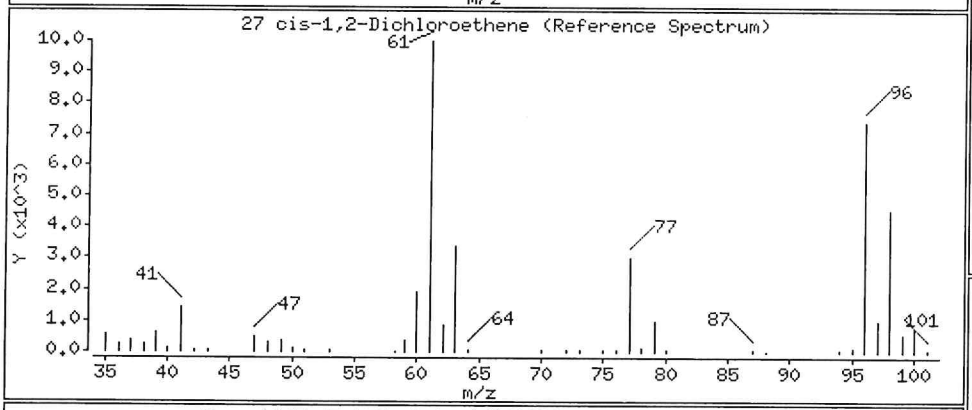
Review Code:

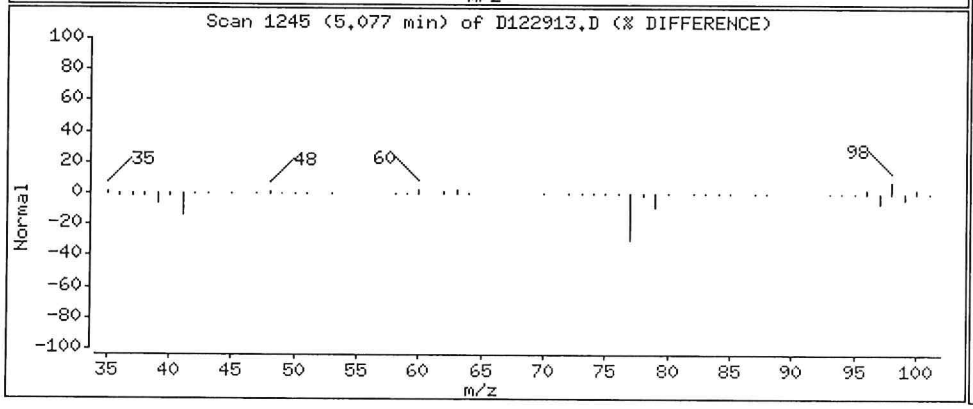


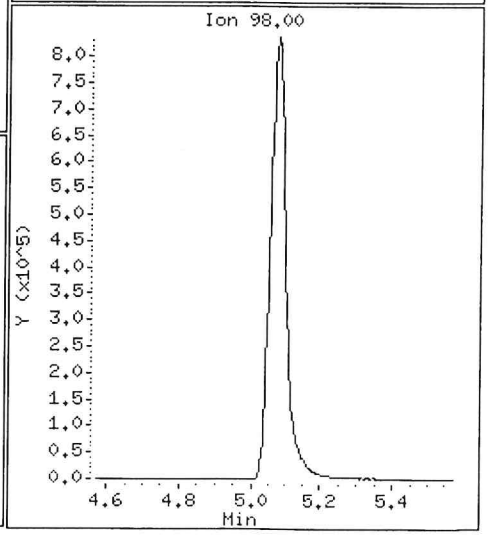












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

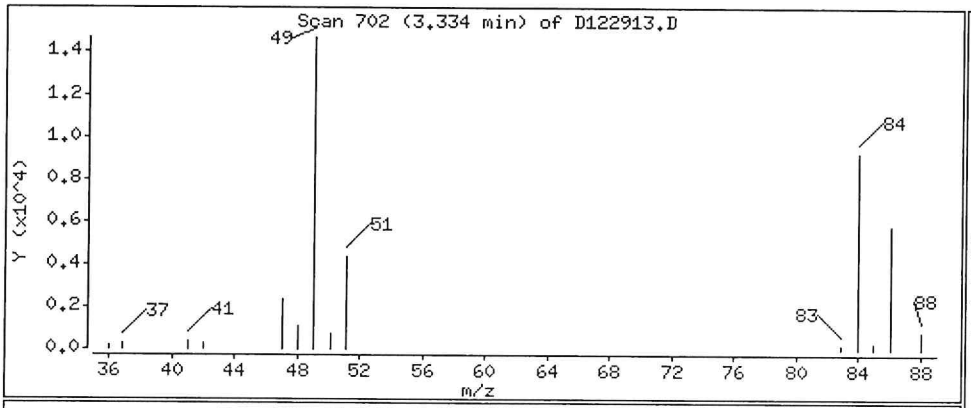
Column phase: DB624

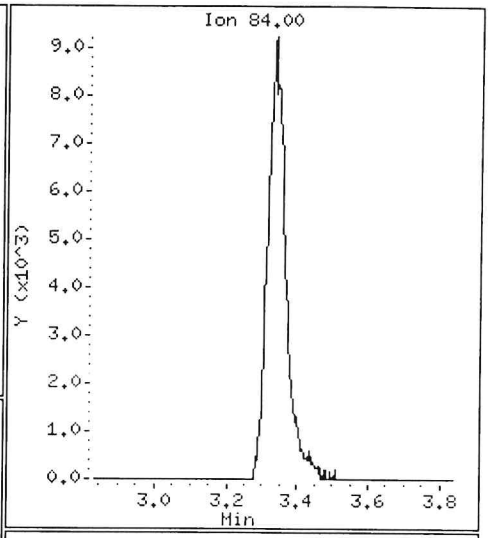
Column diameter: 0.18

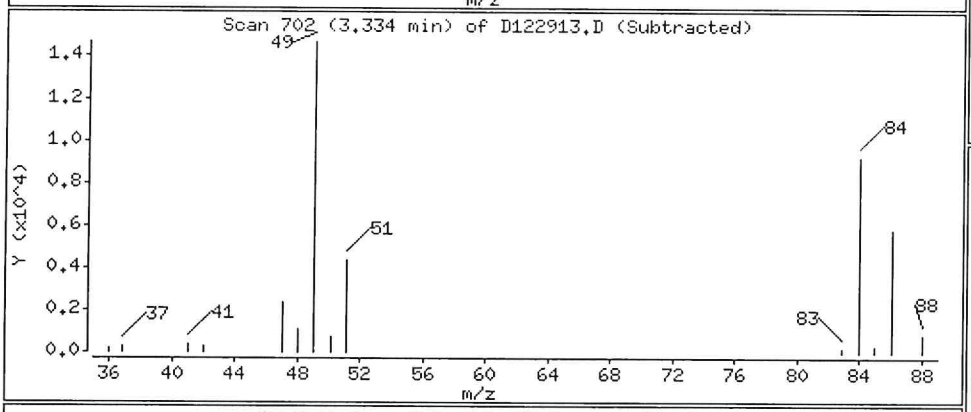
17 Methylene Chloride

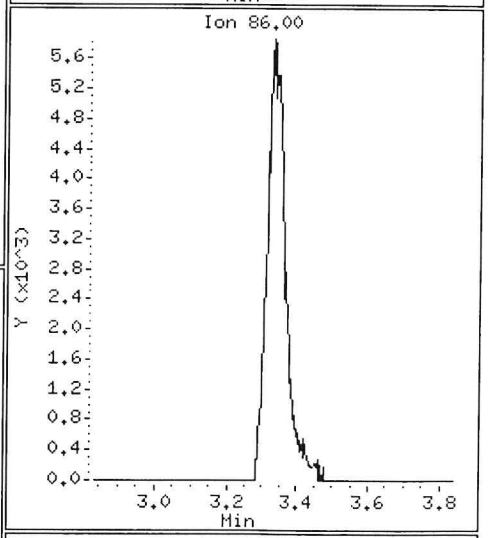
Concentration: 11.44 ug/l

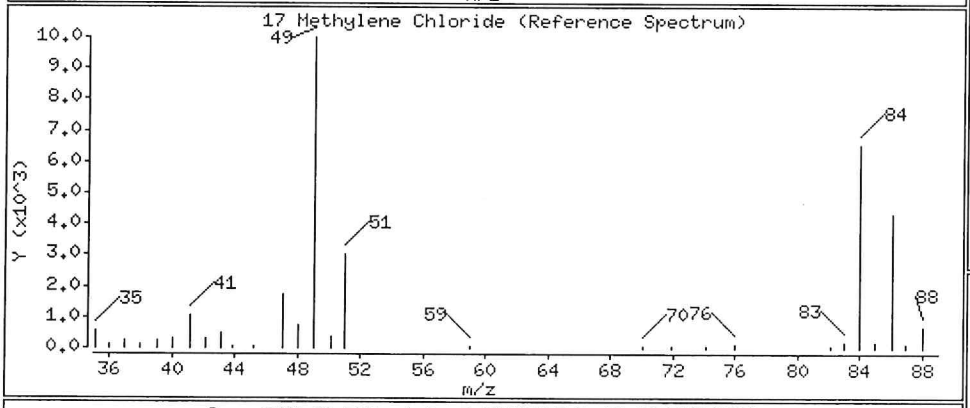
Review Code:

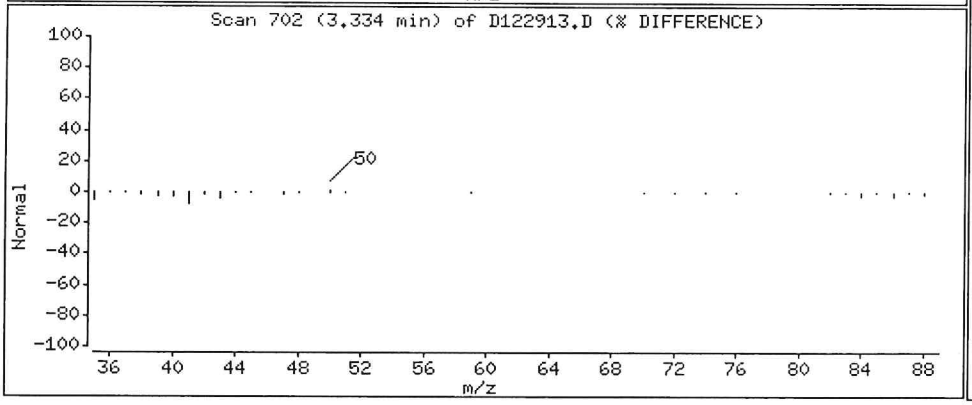


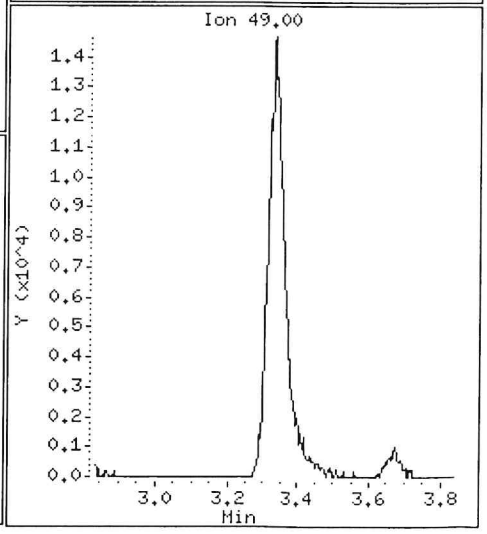












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

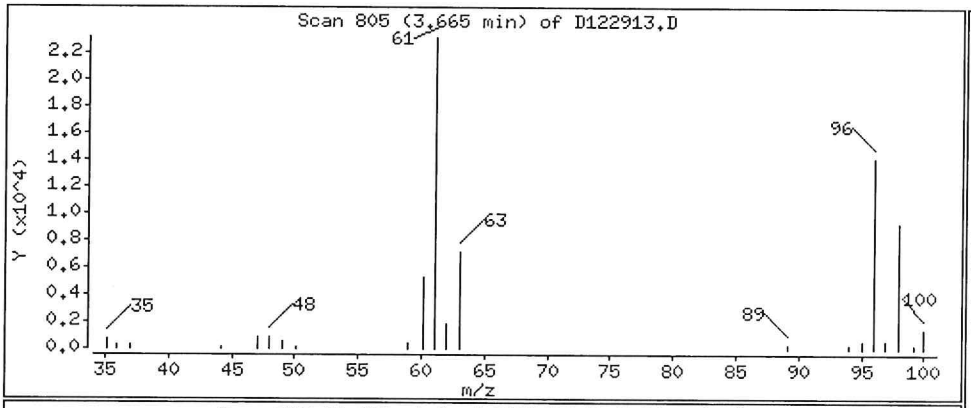
Column phase: DB624

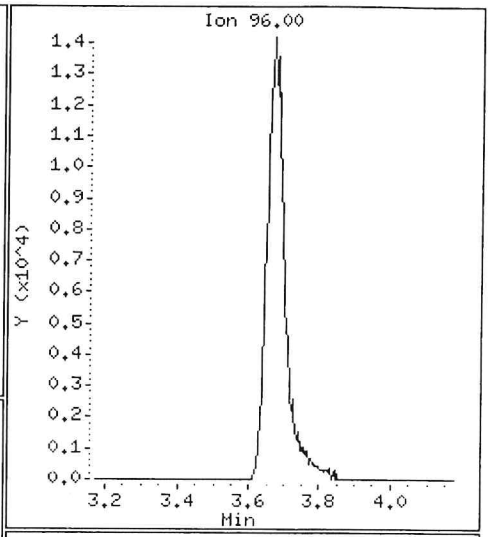
Column diameter: 0.18

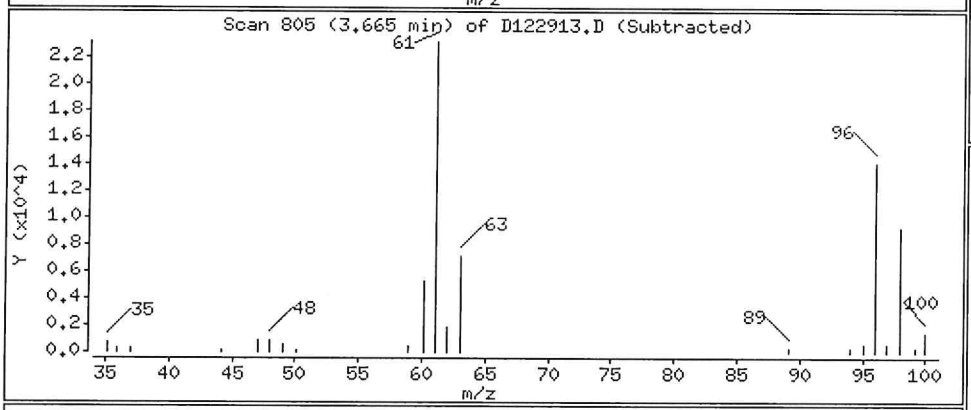
20 trans-1,2-Dichloroethene

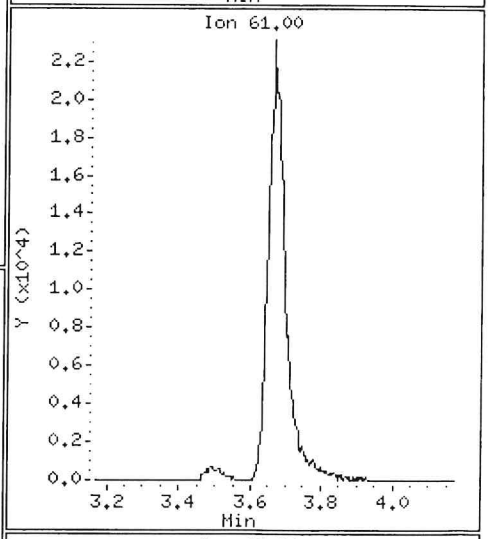
Concentration: 21.65 ug/l

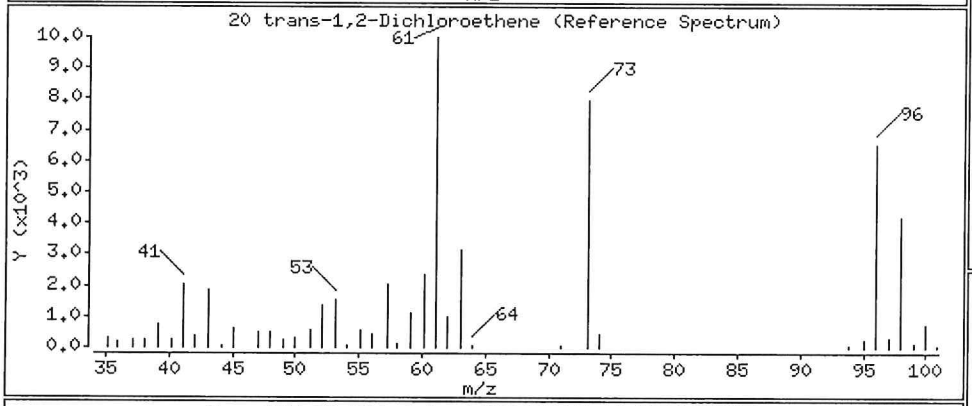
Review Code:

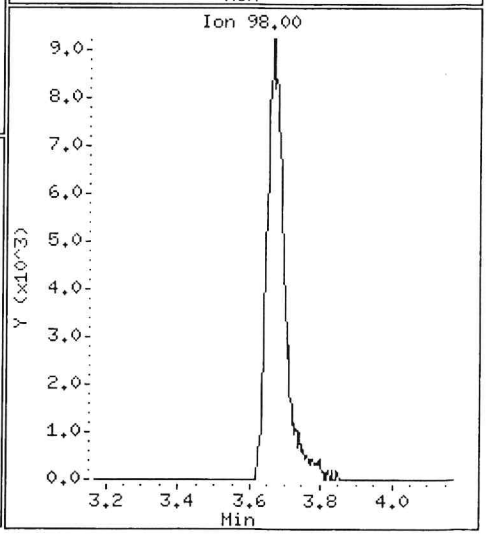


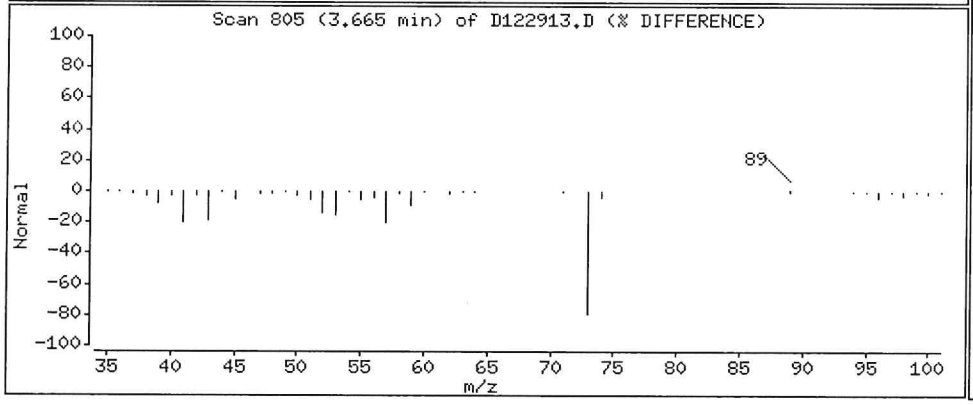












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

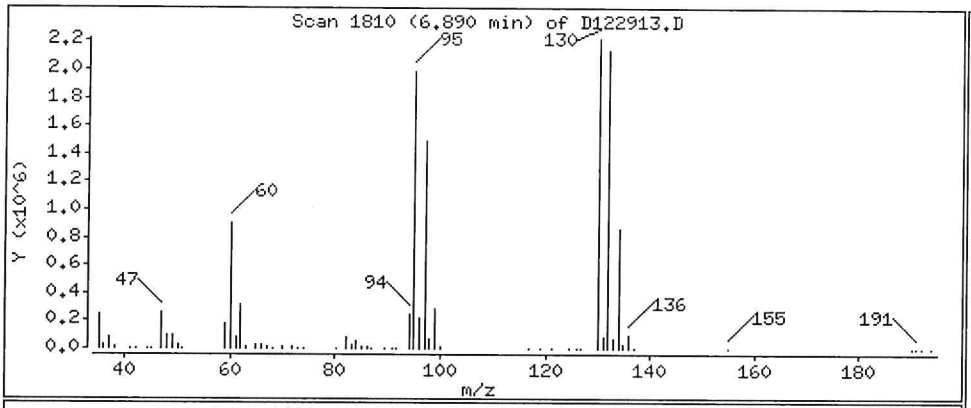
Column phase: DB624

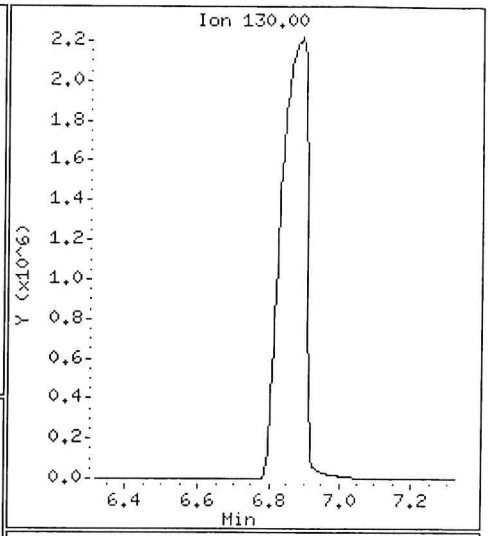
Column diameter: 0.18

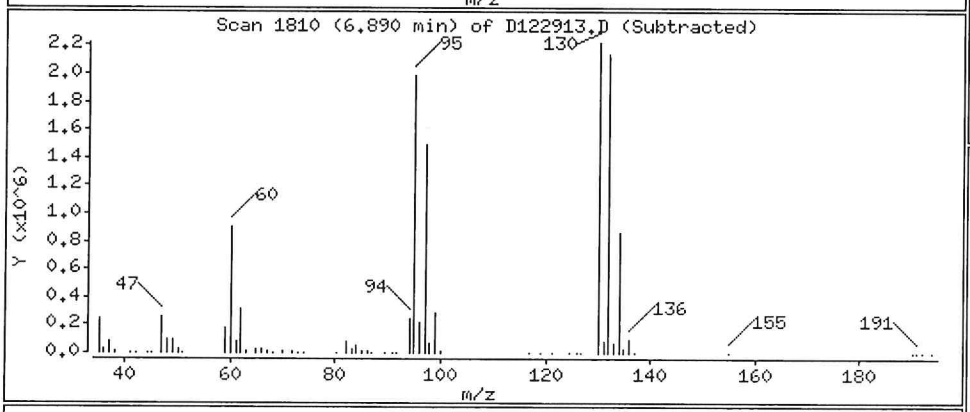
38 Trichloroethene

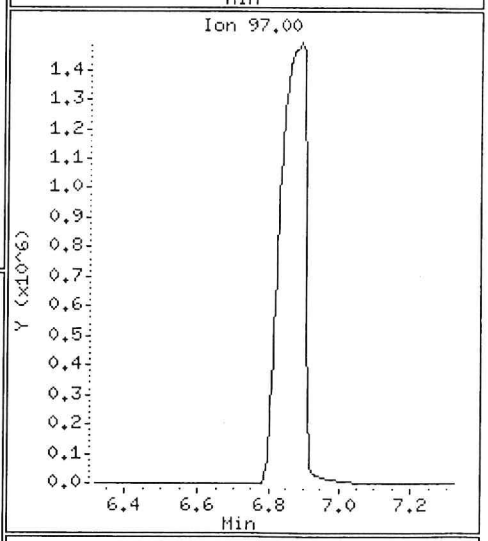
Concentration: 4099.92 ug/l

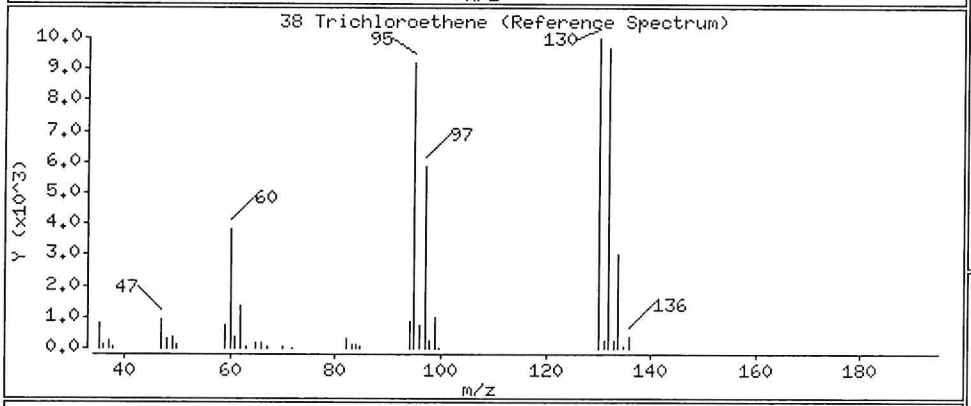
Review Code:

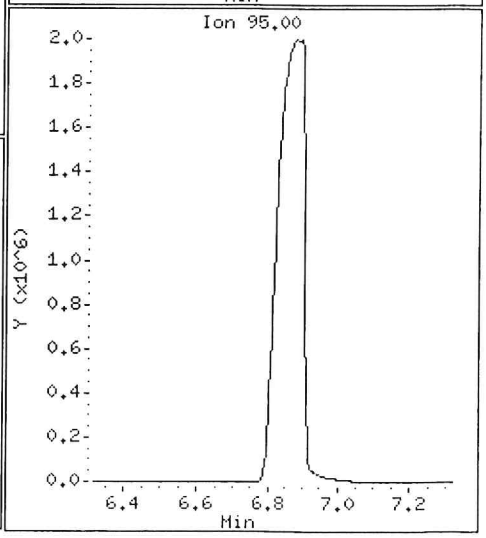


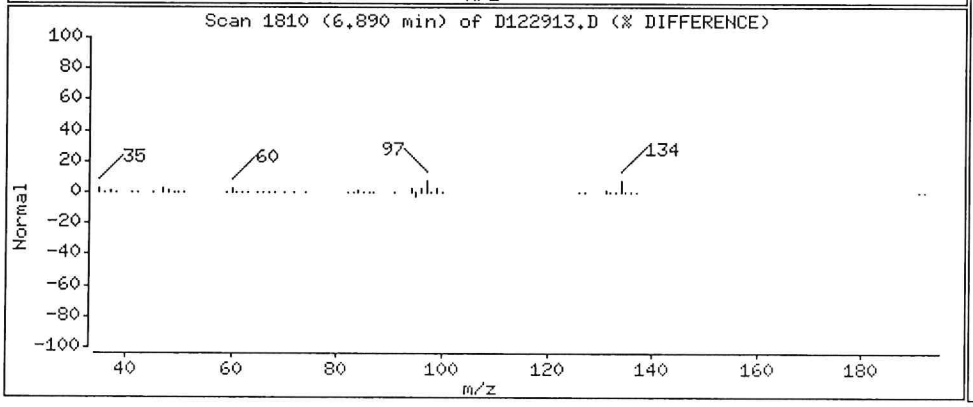












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122913.D

Date : 29-DEC-2017 18:09

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

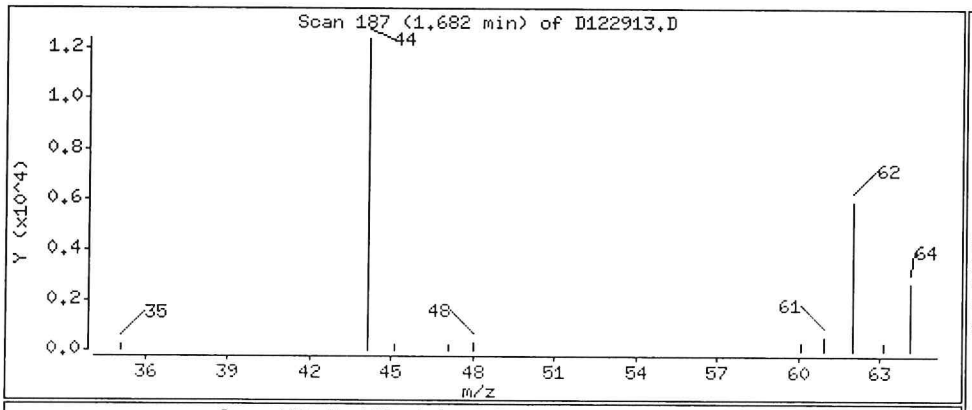
Column phase: DB624

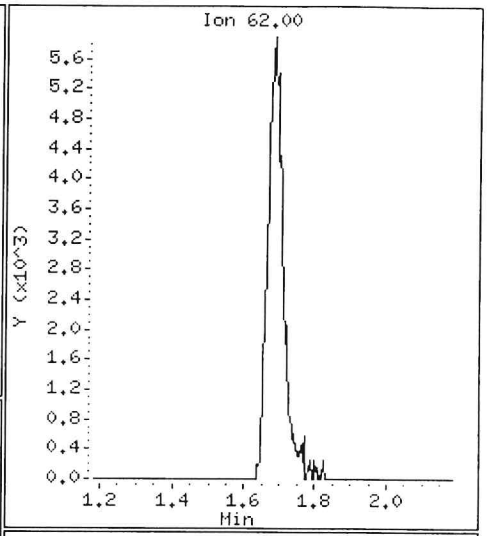
Column diameter: 0.18

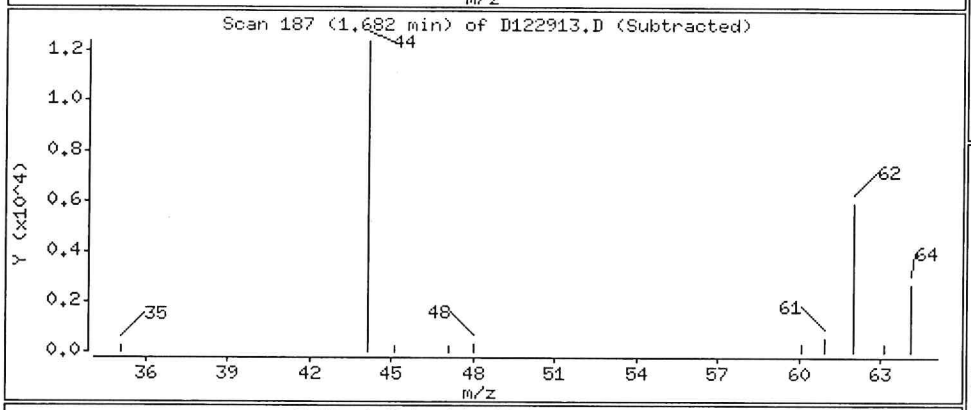
5 Vinyl Chloride

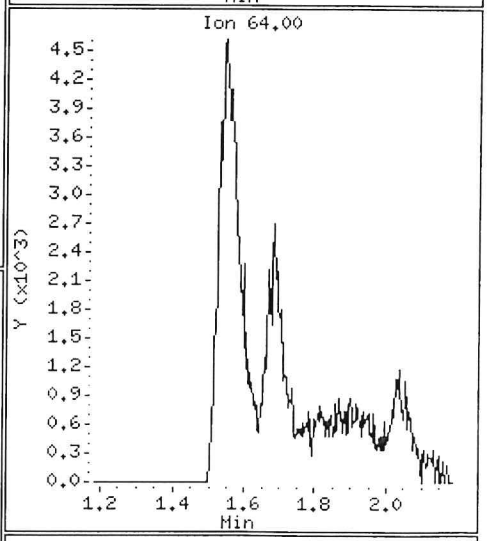
Concentration: 5.57 ug/l

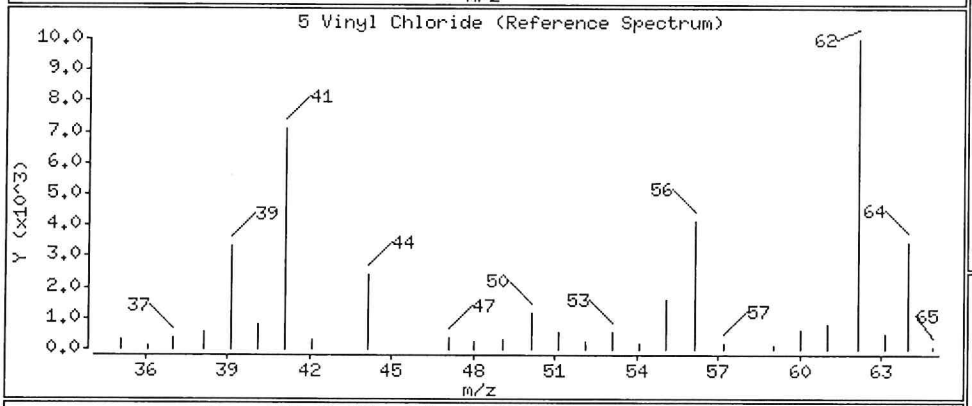
Review Code:

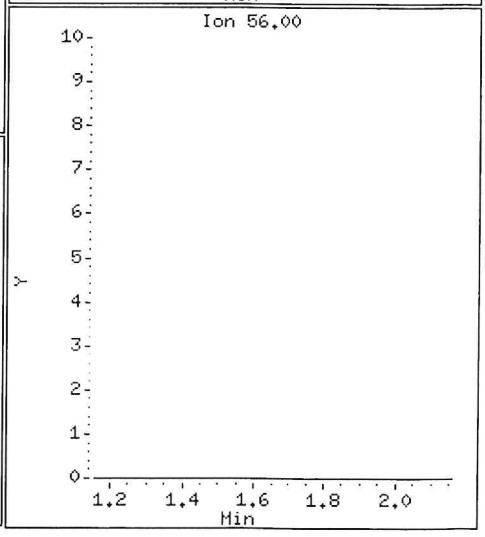


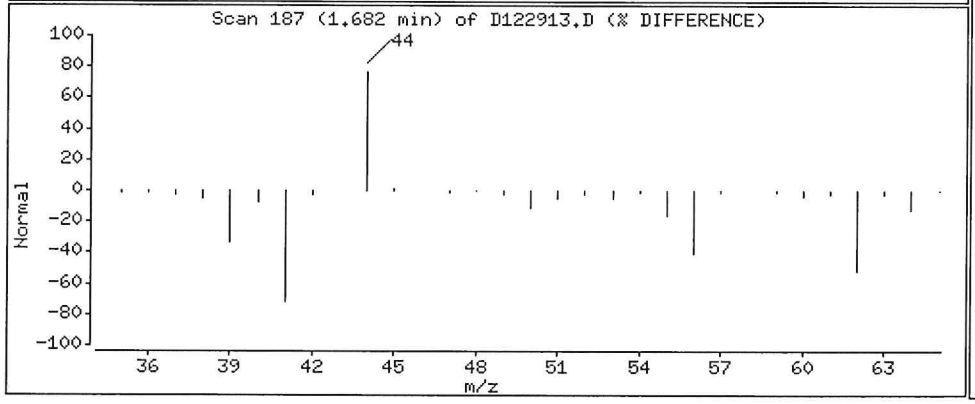












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D
Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D
Lab Smp Id: HS17121113-02 Client Smp ID: HS17121113-02
Inj Date : 29-DEC-2017 18:33
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-02;HS17121113-02;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

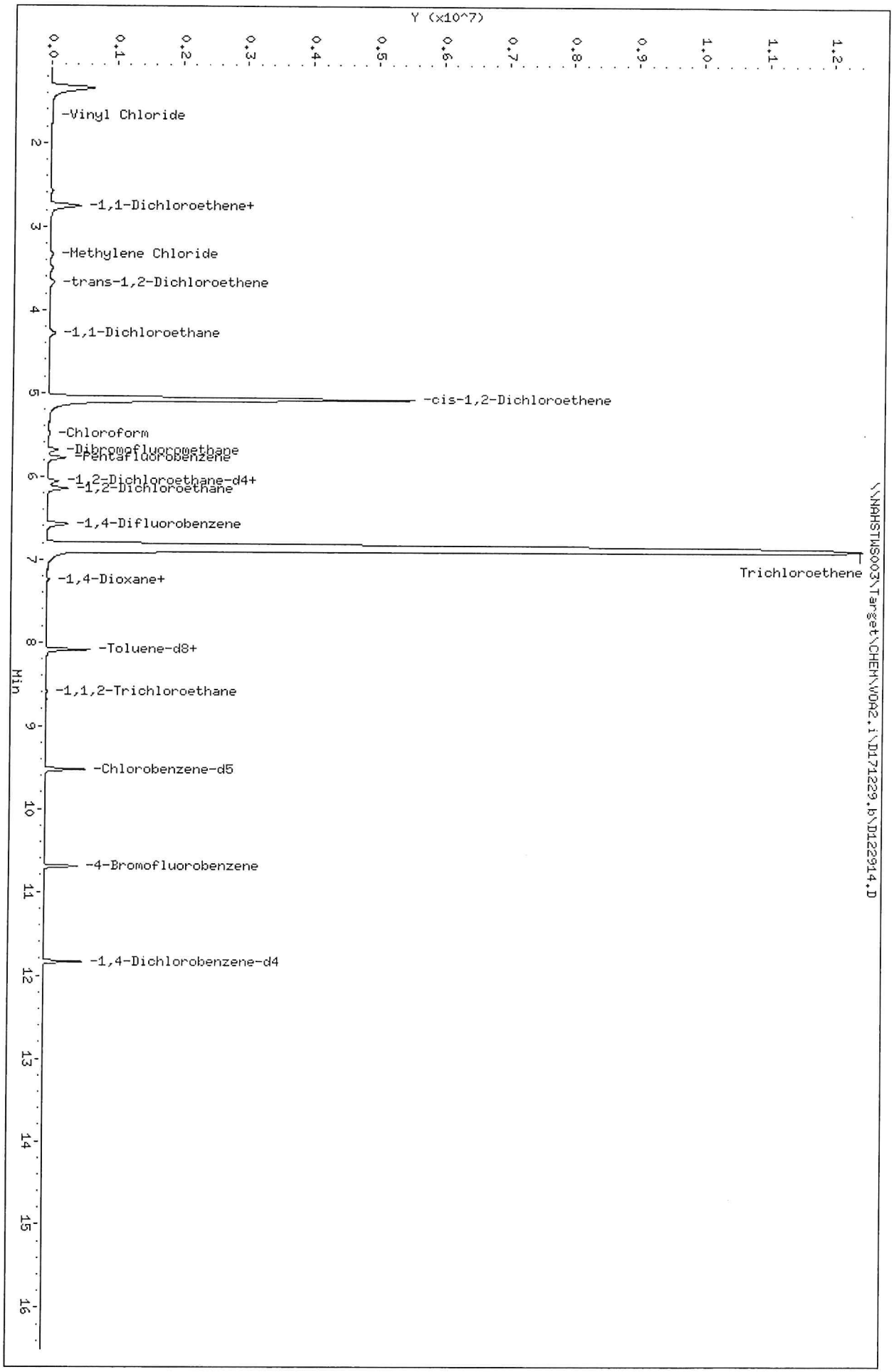
Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
* 1 Pentafluorobenzene	168	5.779	5.783	(1.000)	255617	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	110739	48.0838	48.08
* 36 1,4-Difluorobenzene	114	6.578	6.572	(1.000)	377717	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	131217	46.1317	46.13
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	347524	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	432051	47.1528	47.15
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	162344	48.5193	48.51
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	155808	50.0000	
53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	6646	3.12619	3.12(a)
22 1,1-Dichloroethane	63	4.281	4.281	(0.741)	153398	28.7443	28.74
11 1,1-Dichloroethene	96	2.756	2.760	(0.477)	305154	144.643	144.64
33 1,2-Dichloroethane	62	6.145	6.145	(0.934)	301718	90.5501	90.55
37 Benzene	78	6.094	6.094	(0.926)	43887	4.41598	4.41(a)
28 Chloroform	83	5.497	5.497	(0.951)	23292	4.99797	4.99(a)
27 cis-1,2-Dichloroethene	96	5.077	5.070	(0.878)	4070501	1399.71	1399.70(A)
17 Methylene Chloride	84	3.334	3.337	(0.577)	32577	11.6435	11.64
50 Toluene	91	8.160	8.157	(0.857)	4083	0.37073	0.37(a)
20 trans-1,2-Dichloroethene	96	3.668	3.674	(0.635)	49013	21.4782	21.47
38 Trichloroethene	130	6.890	6.819	(1.047)	11573057	4136.70	4136.69(A)
5 Vinyl Chloride	62	1.681	1.685	(0.291)	17333	5.53232	5.53

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D
Report Date: 09-Feb-2018 18:17

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D
Date : 29-DEC-2017 18:33
Client ID: HS17121113-02
Sample Info: HS17121113-02;HS17121113-02;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

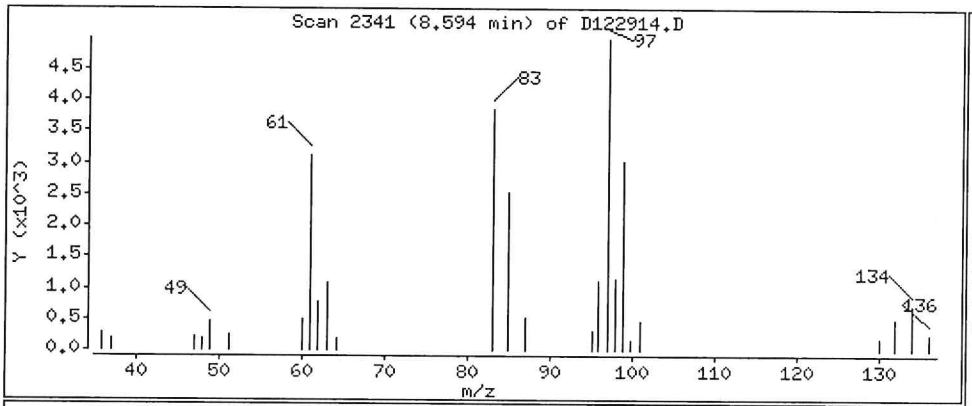
Column phase: DB624

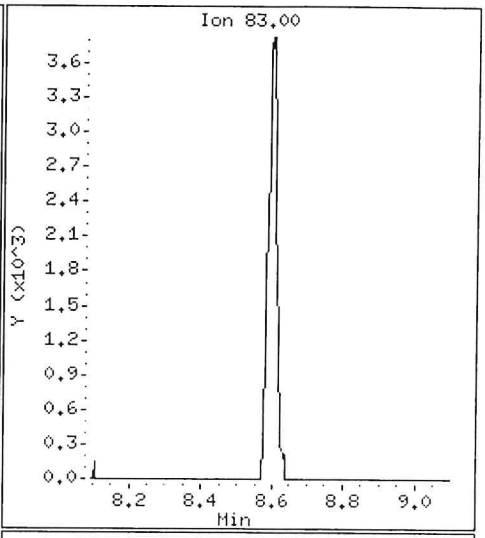
Column diameter: 0.18

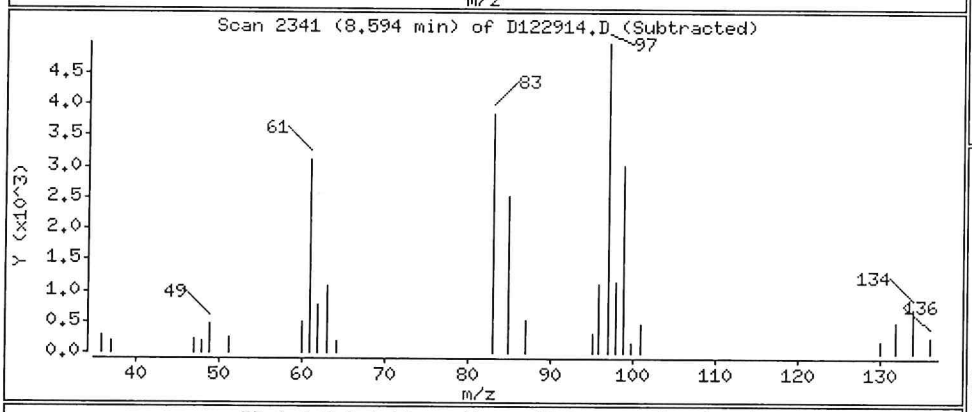
53 1,1,2-Trichloroethane

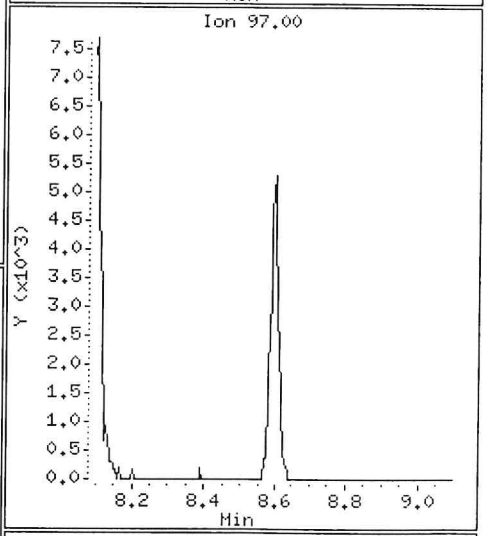
Concentration: 3.12 ug/l

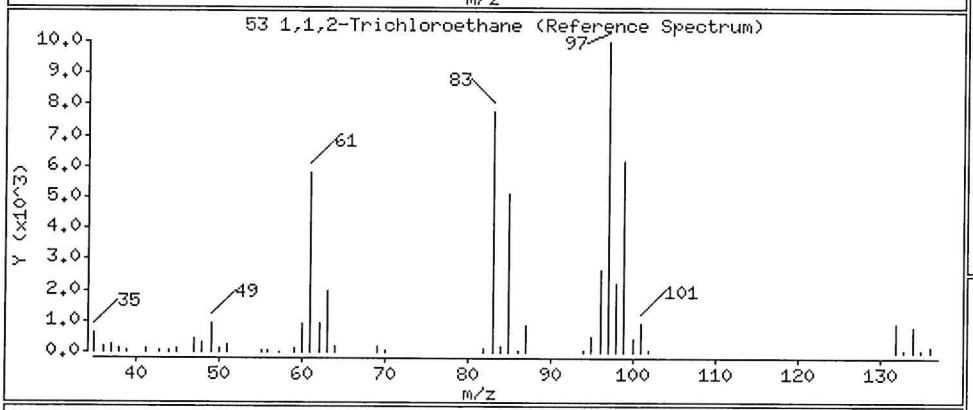
Review Code:

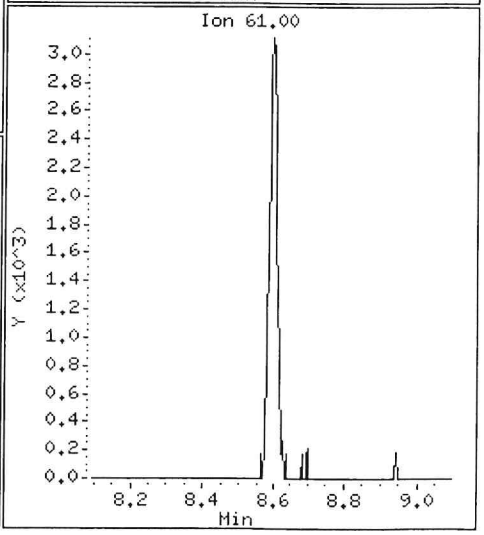


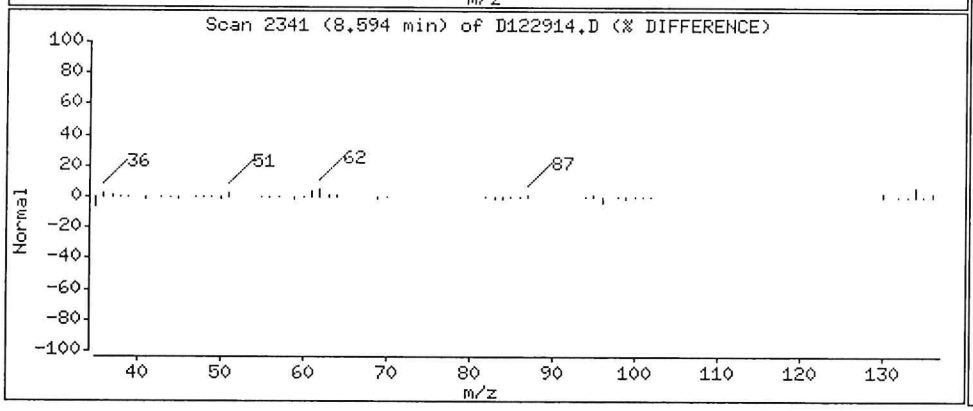












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

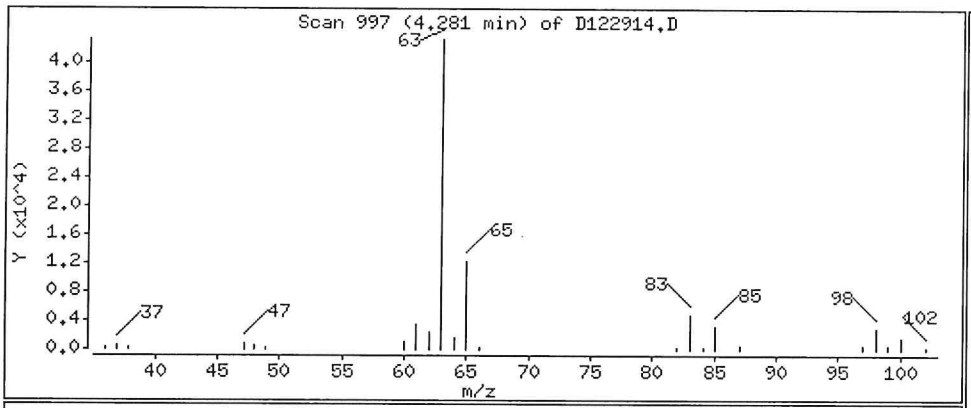
Column phase: DB624

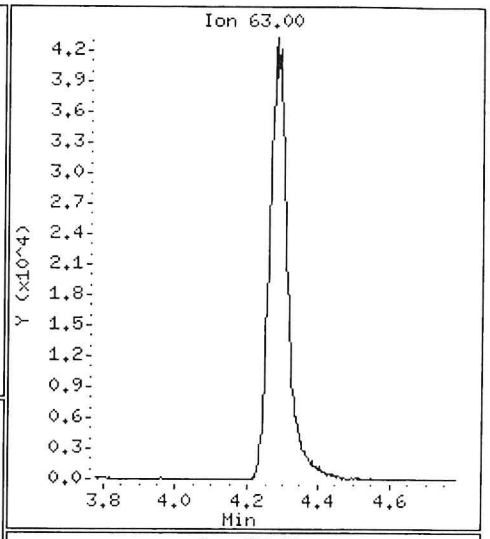
Column diameter: 0.18

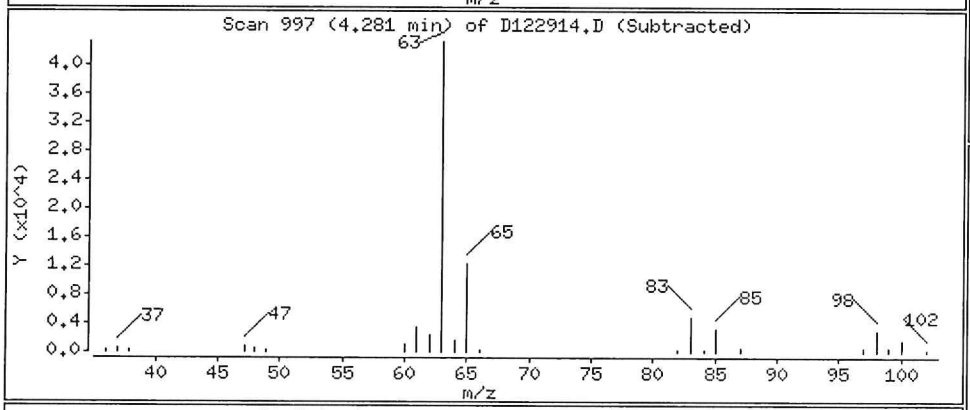
22 1,1-Dichloroethane

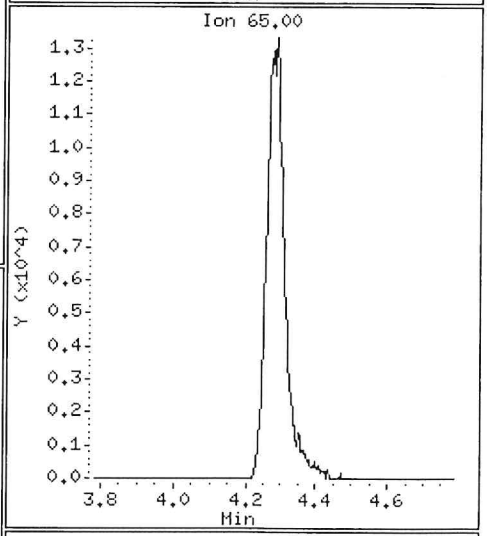
Concentration: 28.74 ug/l

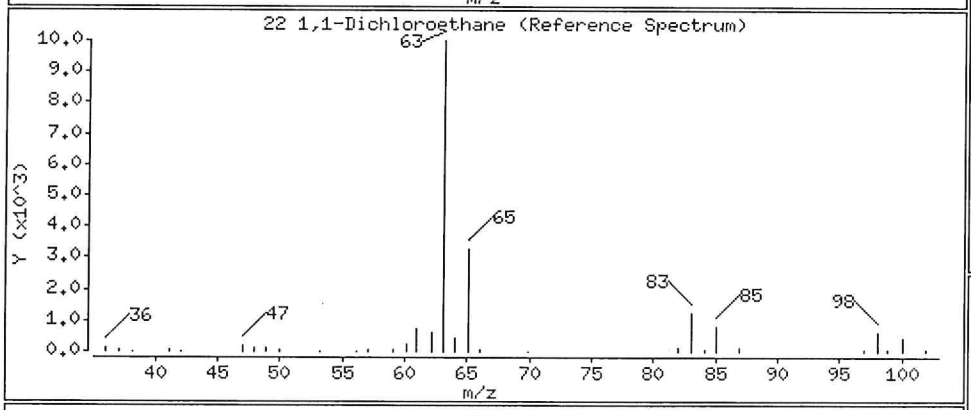
Review Code:

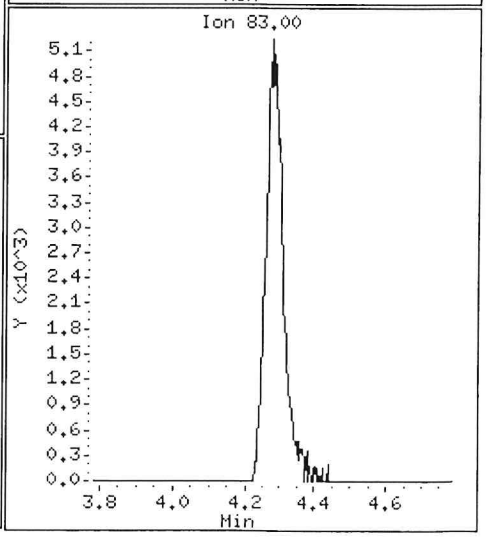


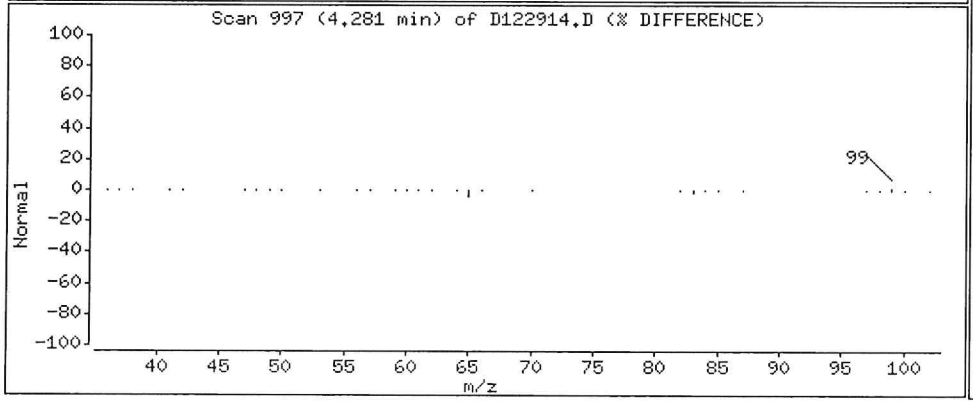












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

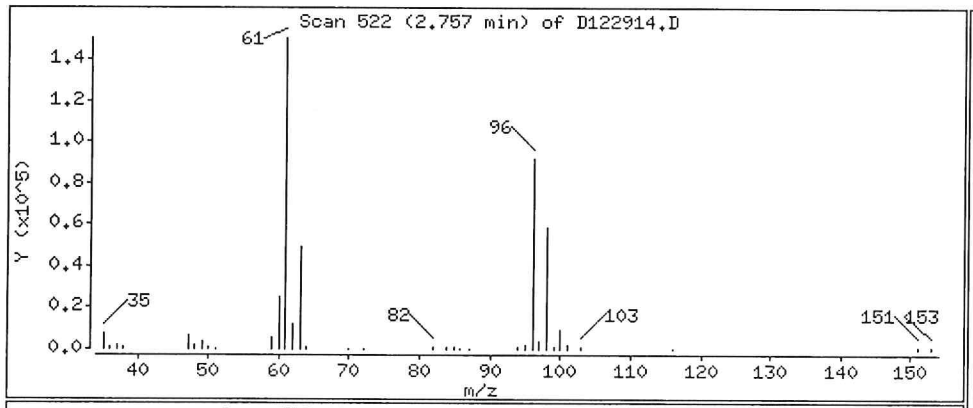
Column phase: DB624

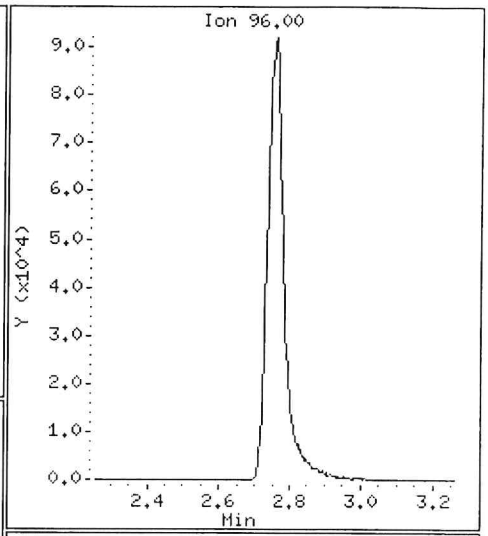
Column diameter: 0.18

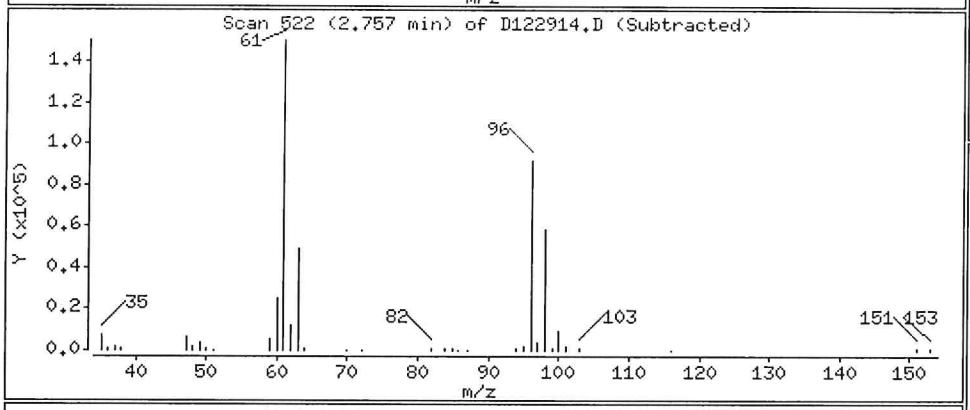
11 1,1-Dichloroethene

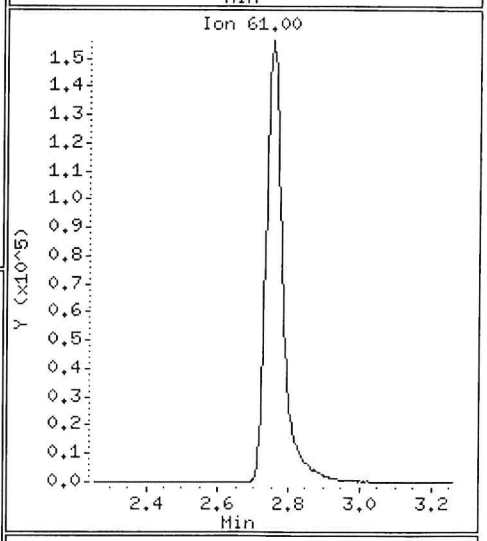
Concentration: 144.64 ug/l

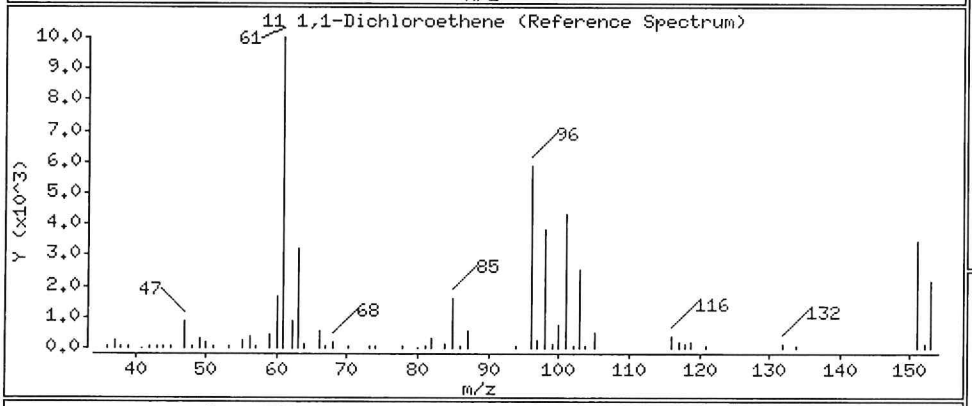
Review Code:

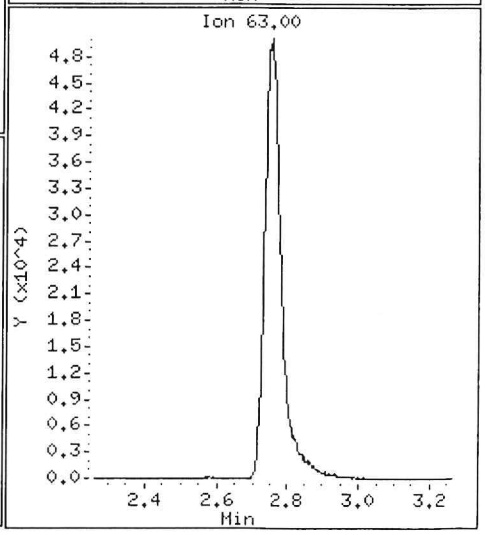


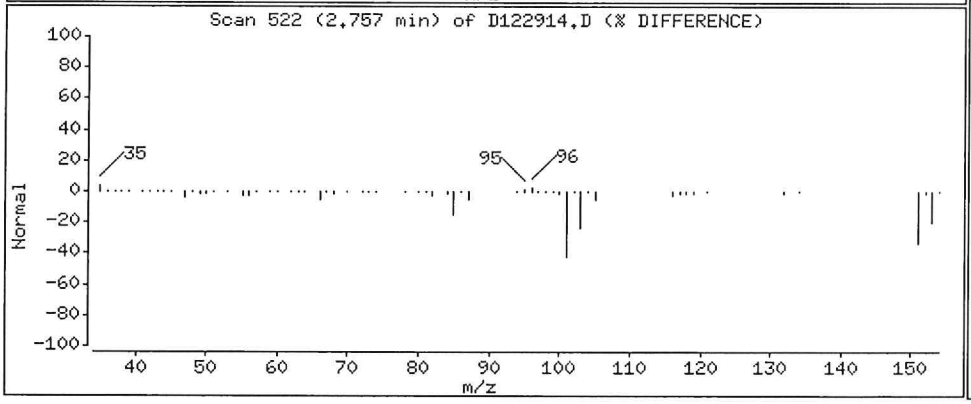












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

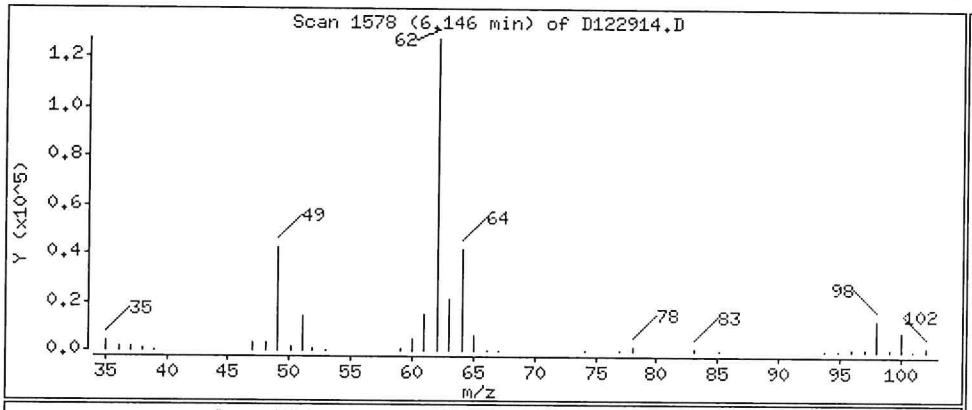
Column phase: DB624

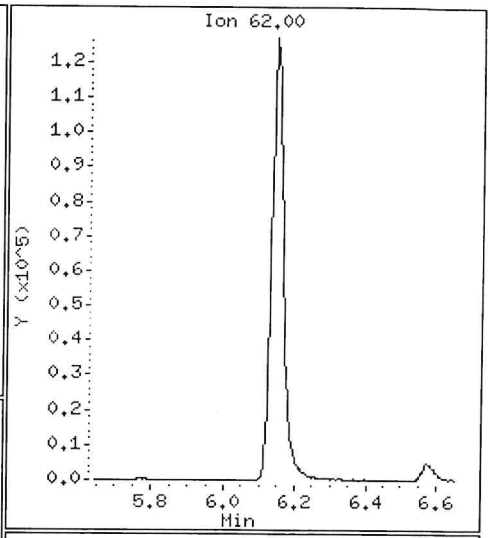
Column diameter: 0.18

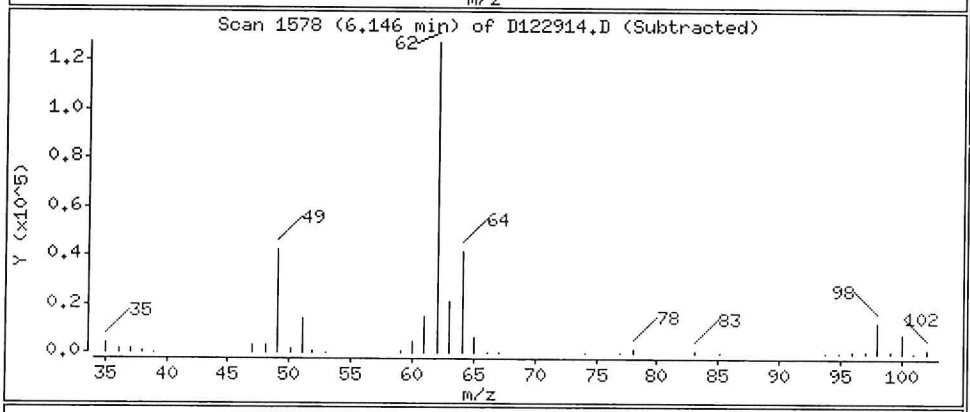
33 1,2-Dichloroethane

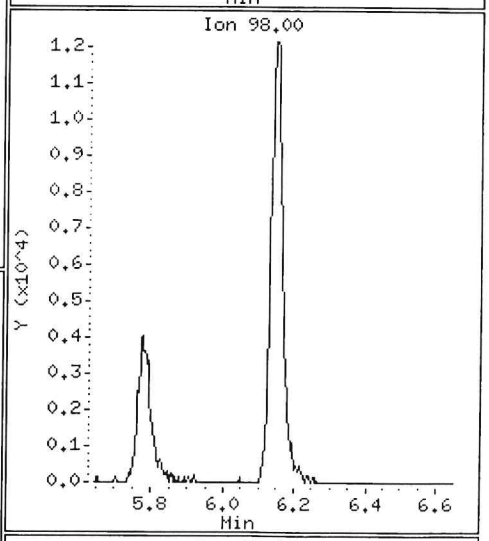
Concentration: 90.55 ug/l

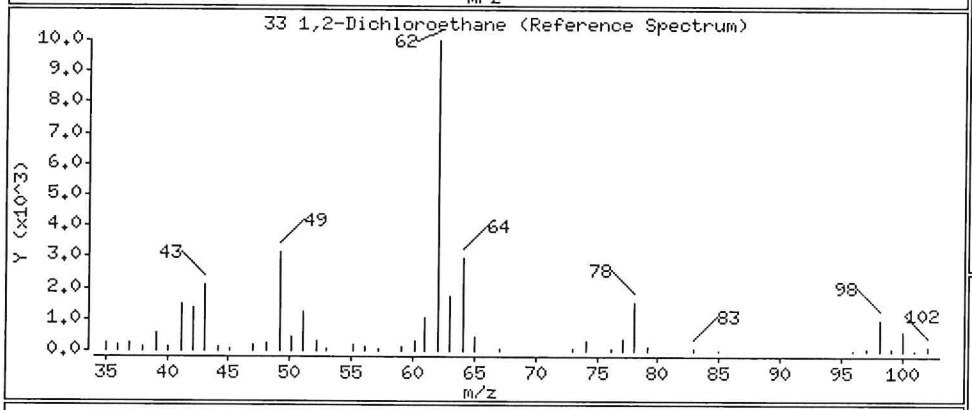
Review Code:

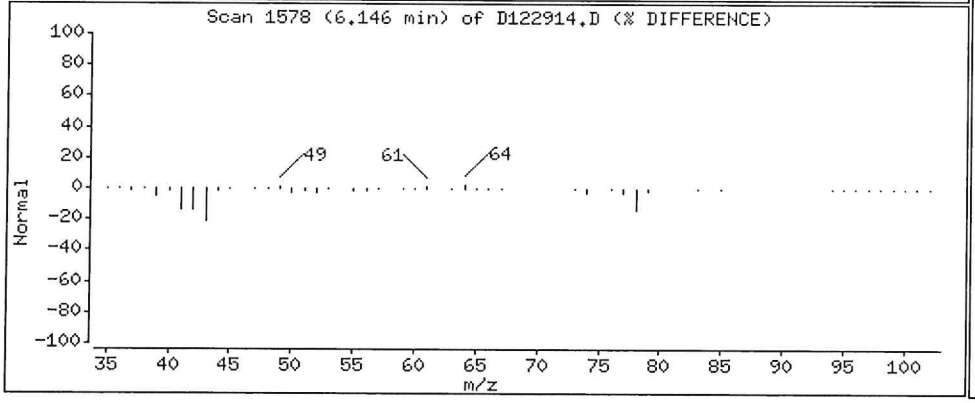


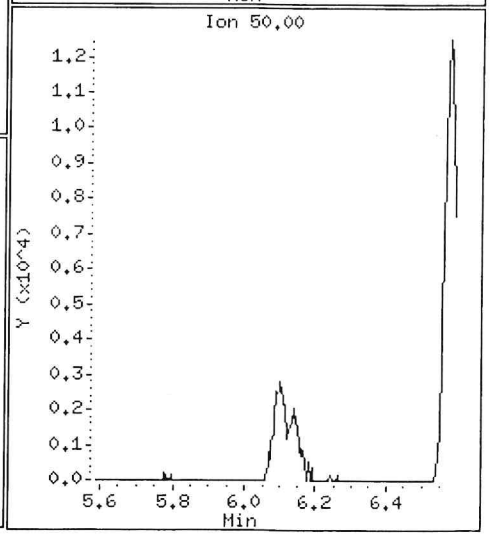












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

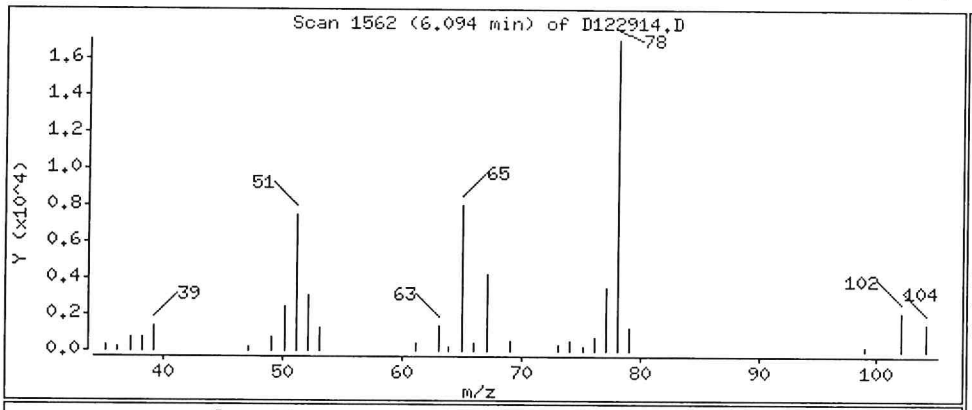
Column phase: DB624

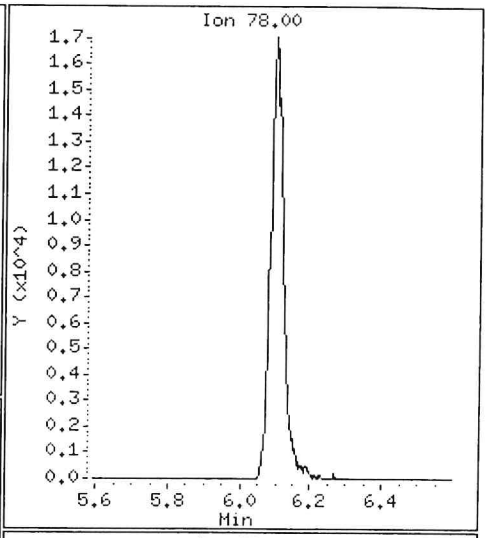
Column diameter: 0.18

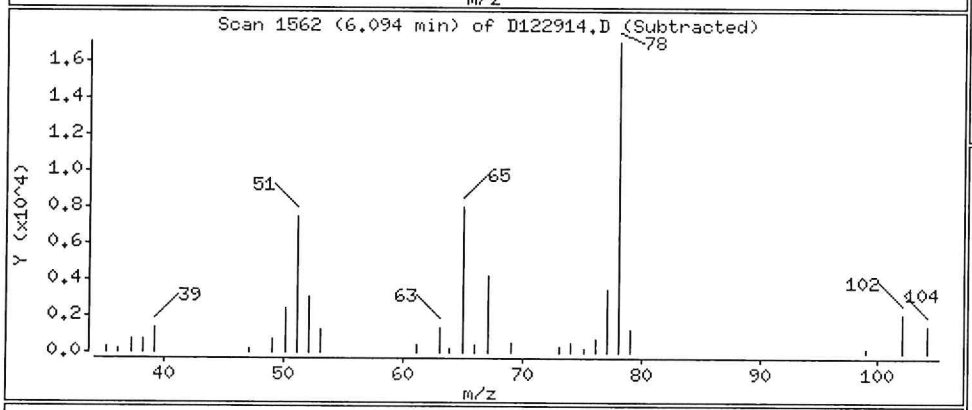
37 Benzene

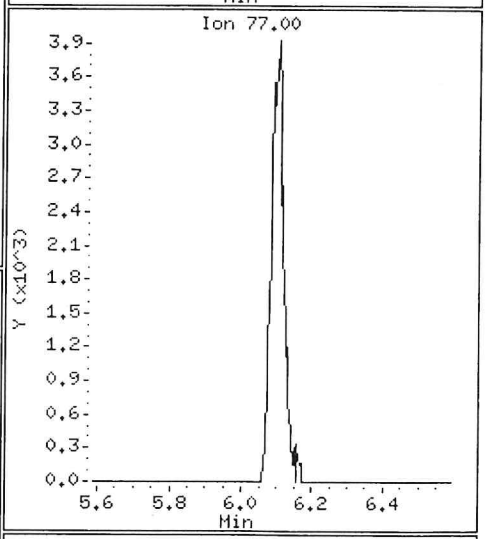
Concentration: 4.41 ug/l

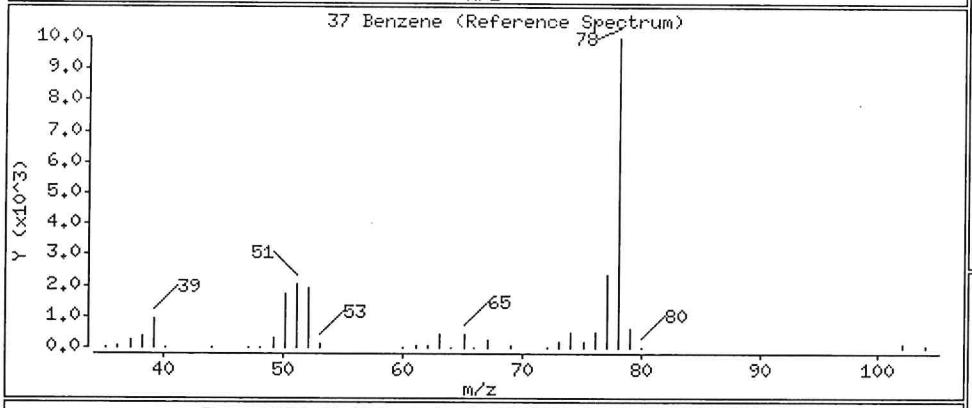
Review Code:

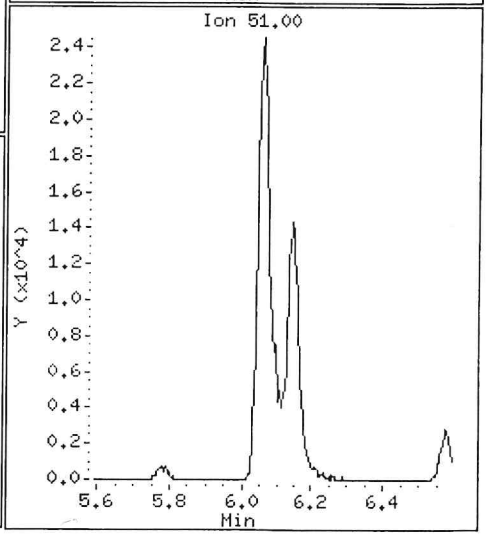


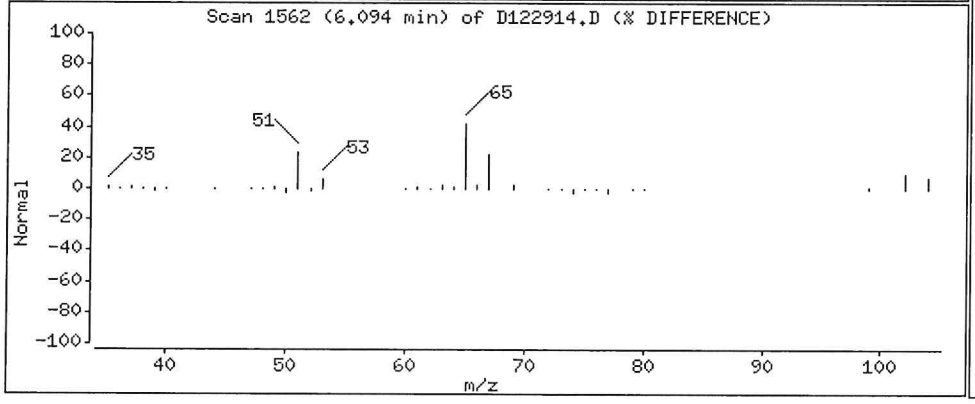












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

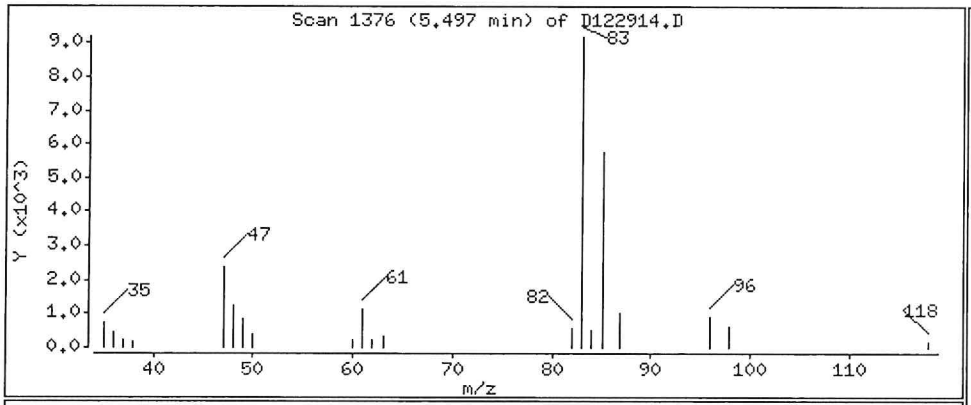
Column phase: DB624

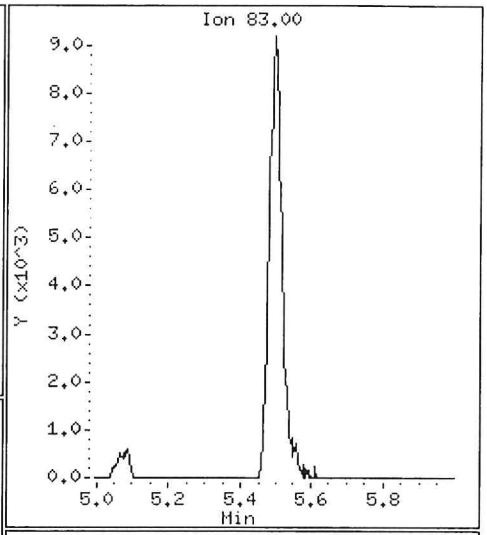
Column diameter: 0.18

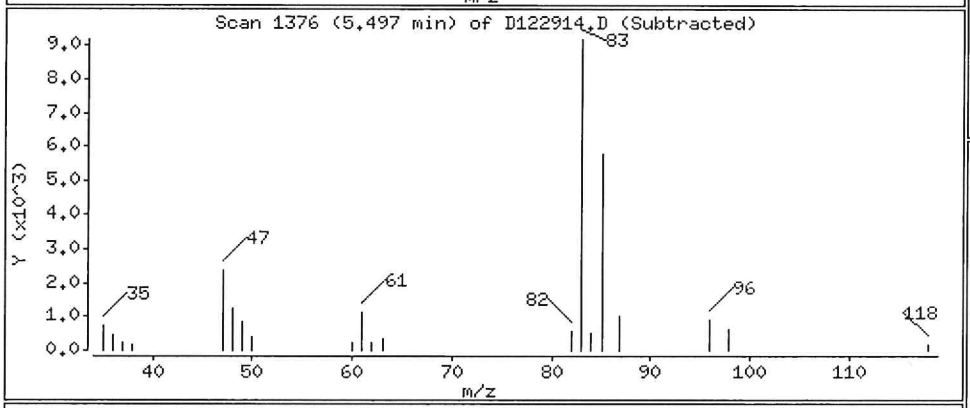
28 Chloroform

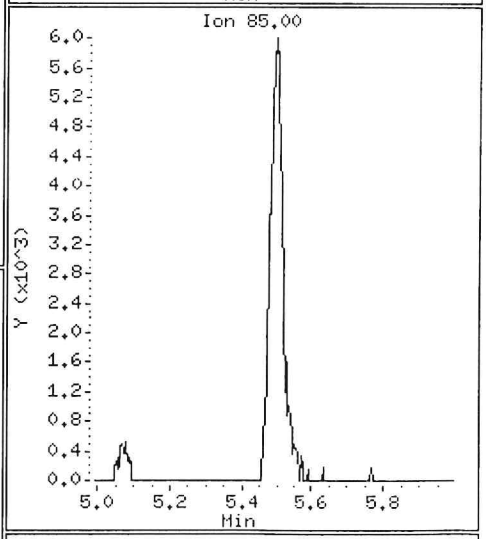
Concentration: 4.99 ug/l

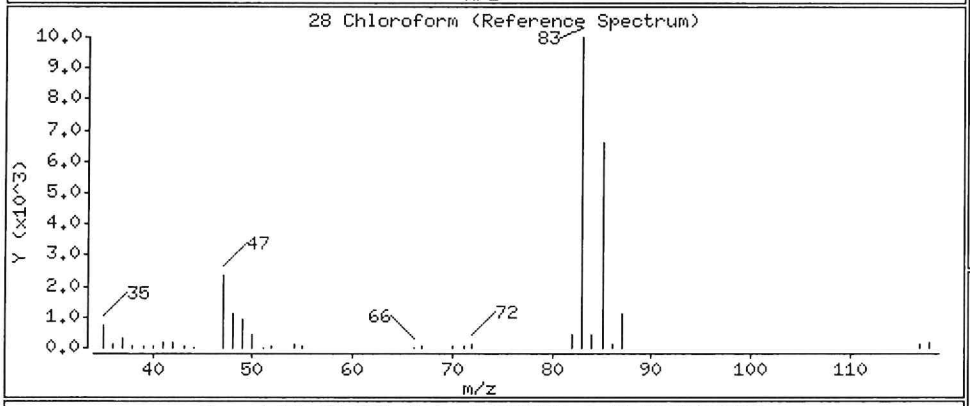
Review Code:

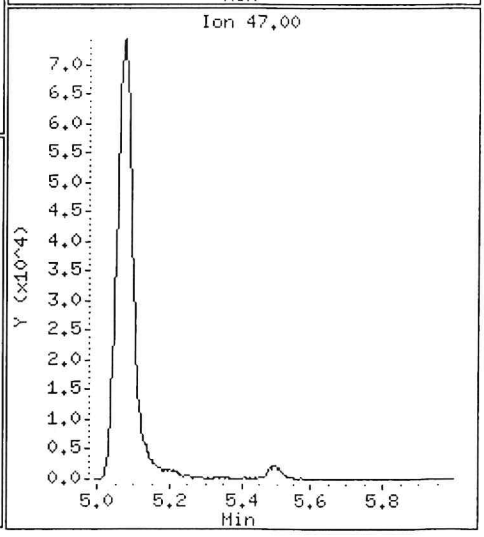


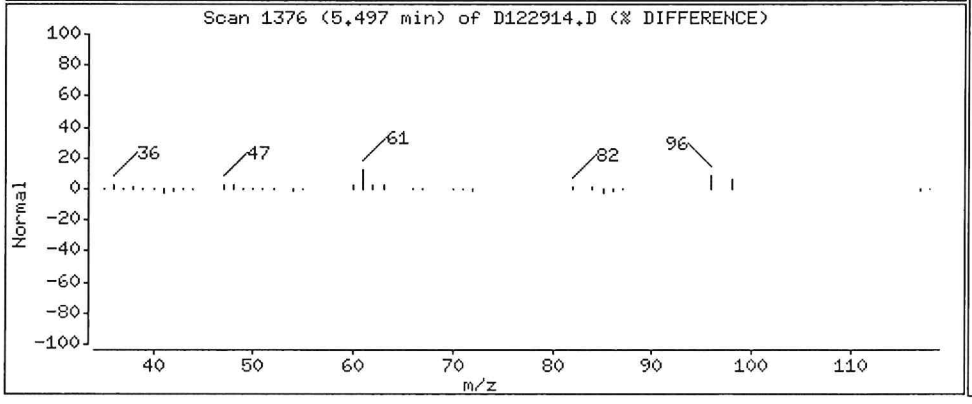












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

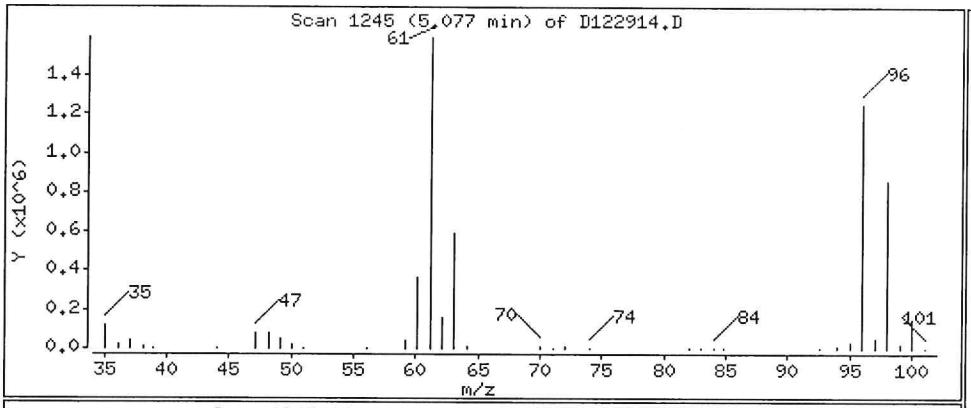
Column phase: DB624

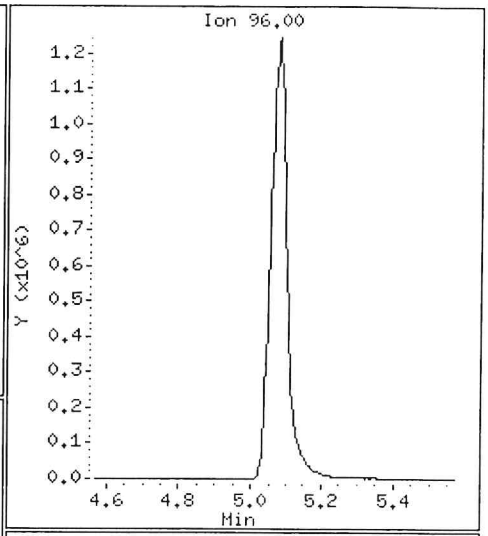
Column diameter: 0.18

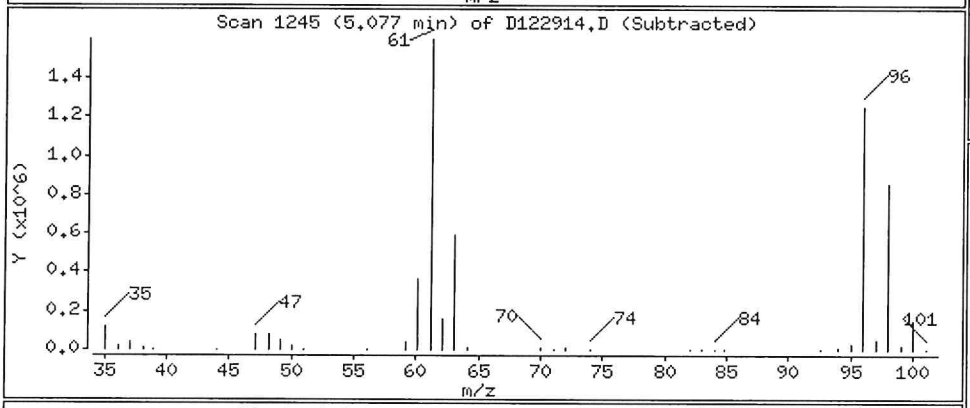
27 cis-1,2-Dichloroethene

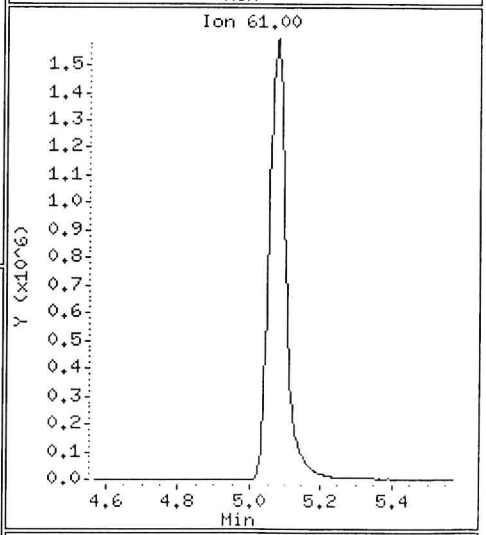
Concentration: 1399.70 ug/l

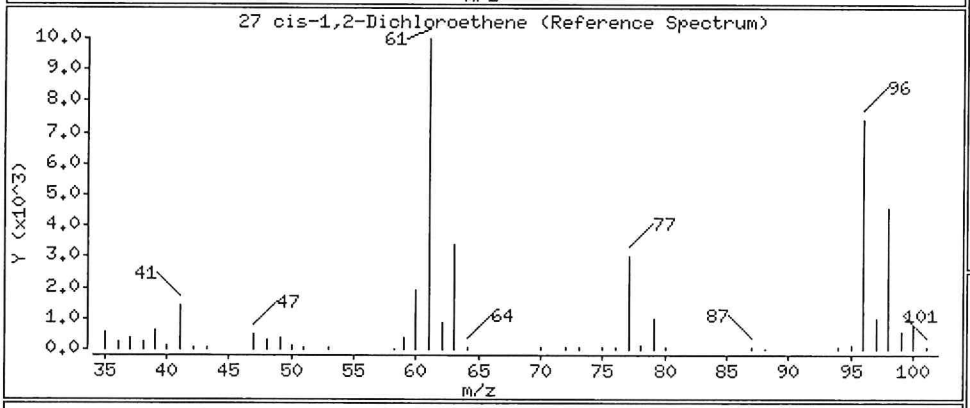
Review Code:

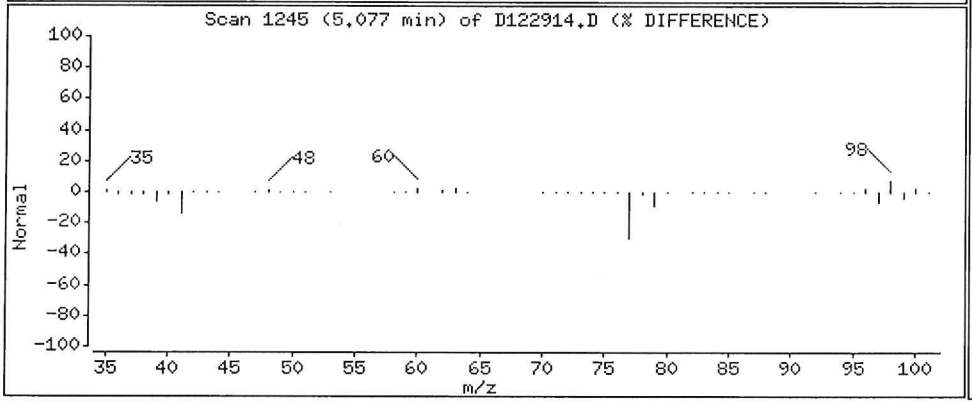


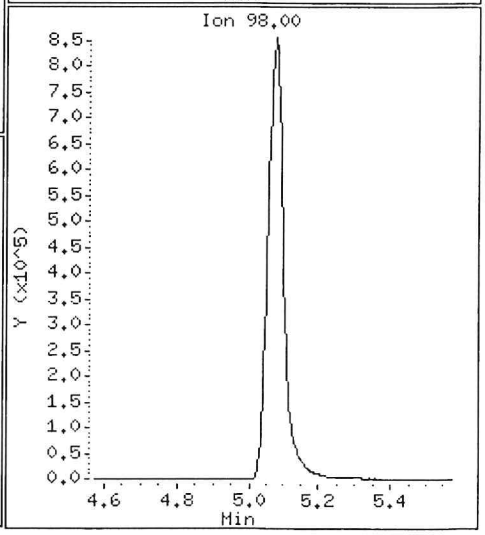












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

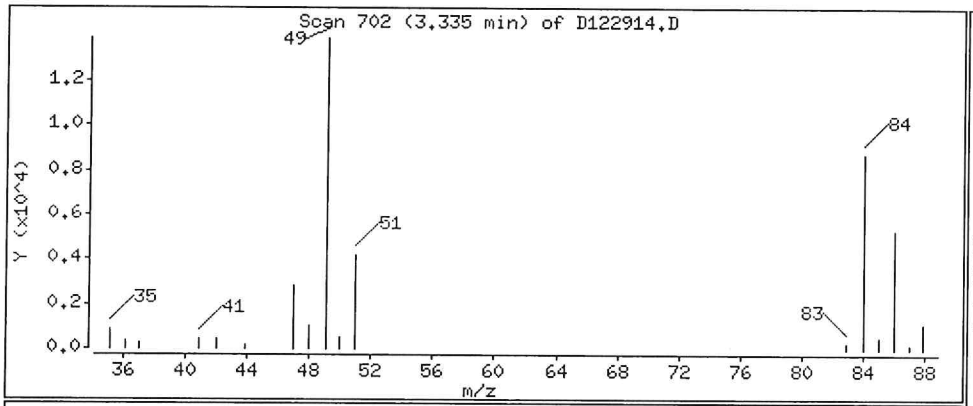
Column phase: DB624

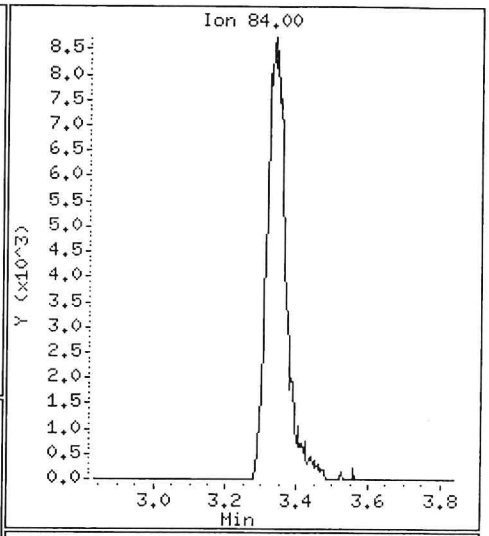
Column diameter: 0.18

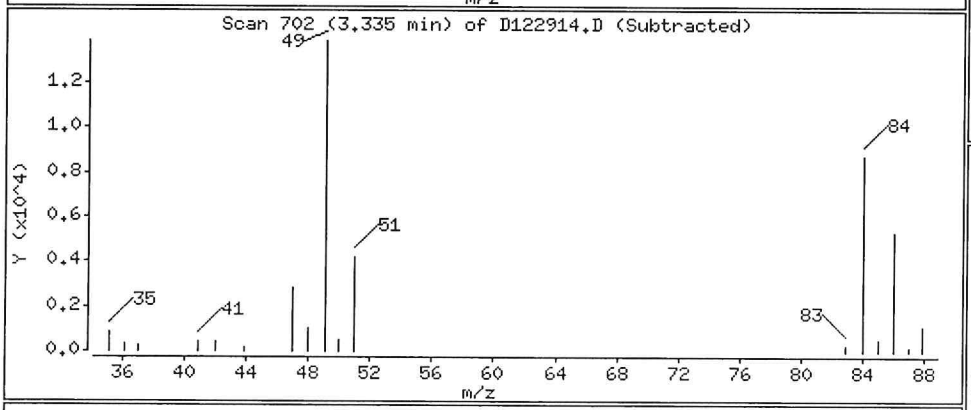
17 Methylene Chloride

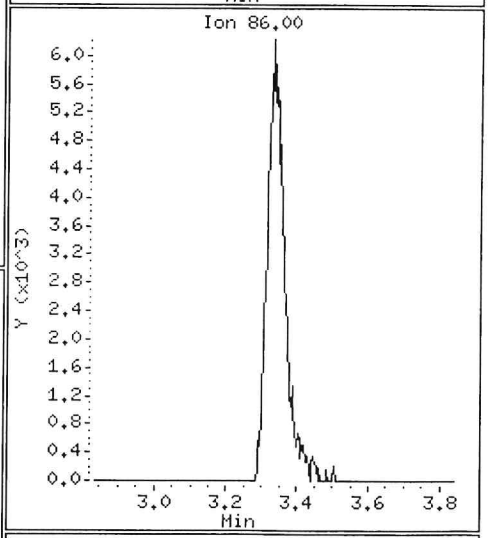
Concentration: 11.64 ug/l

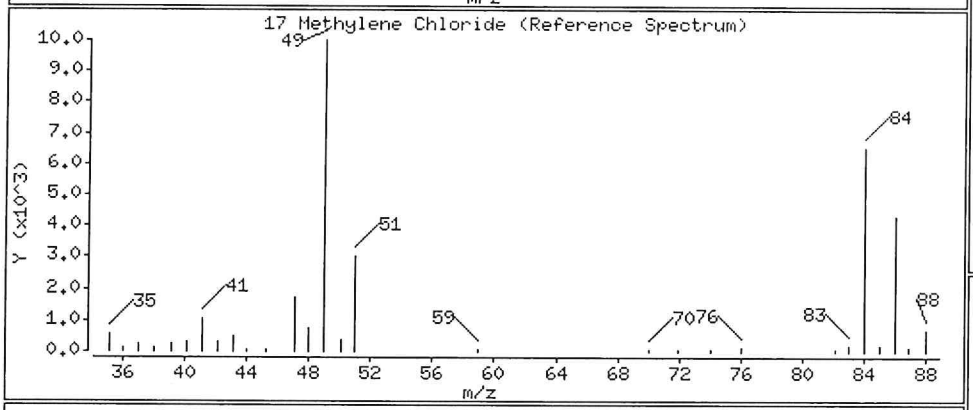
Review Code:

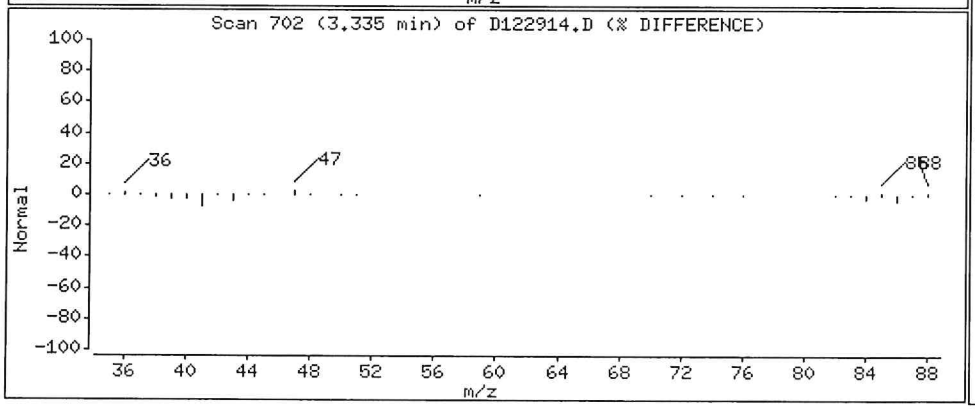


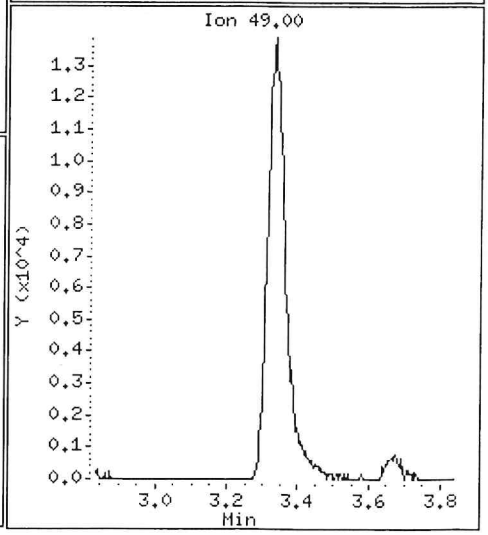












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

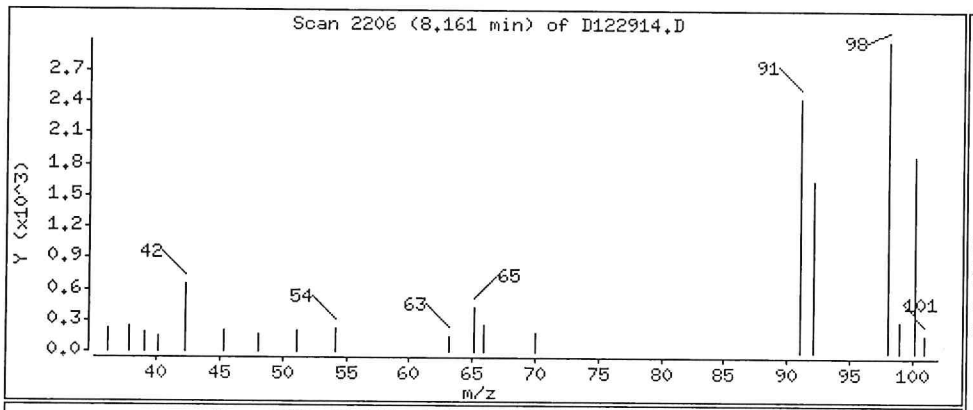
Column phase: DB624

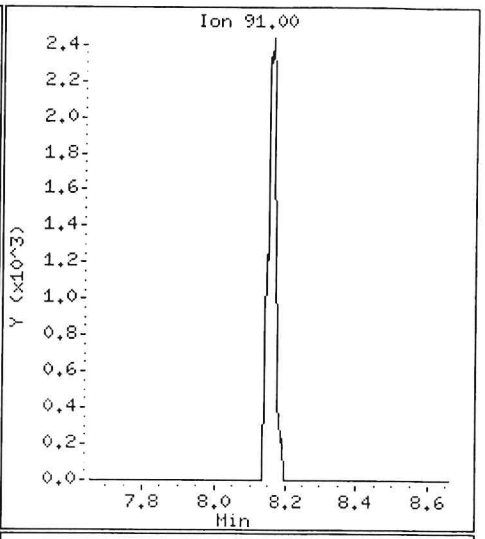
Column diameter: 0.18

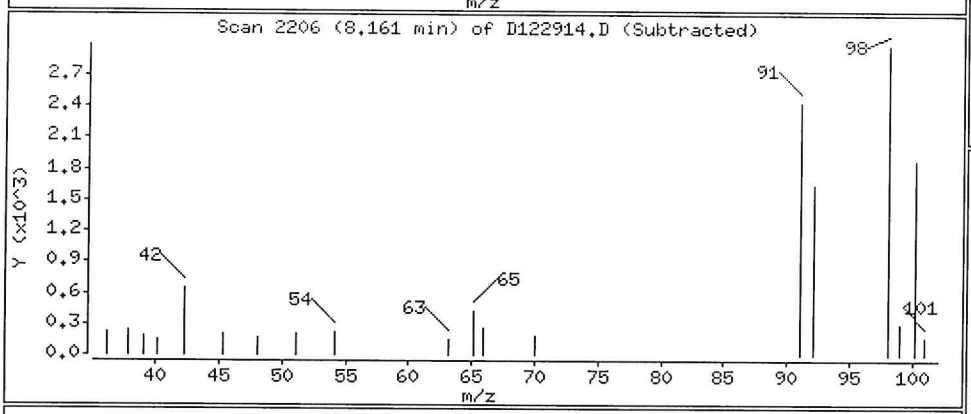
50 Toluene

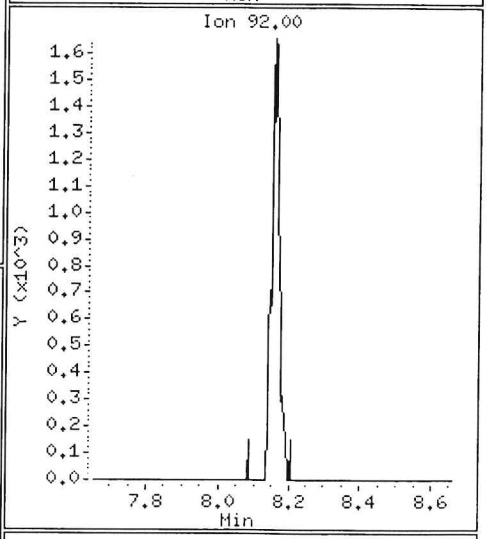
Concentration: 0.37 ug/l

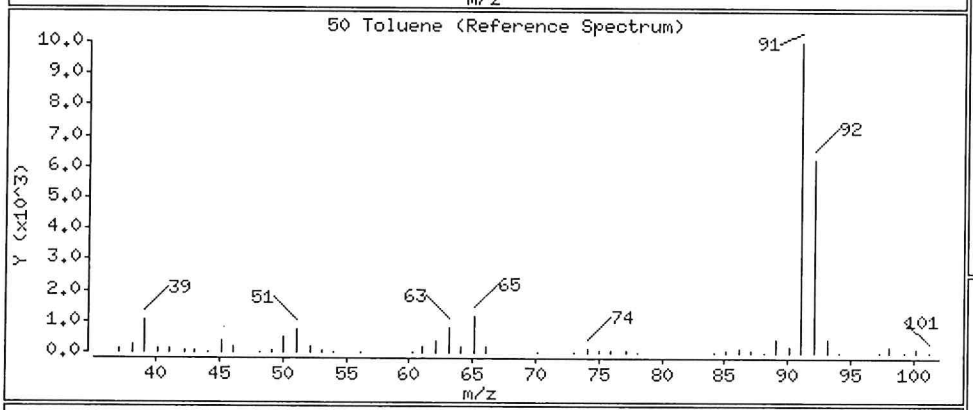
Review Code:

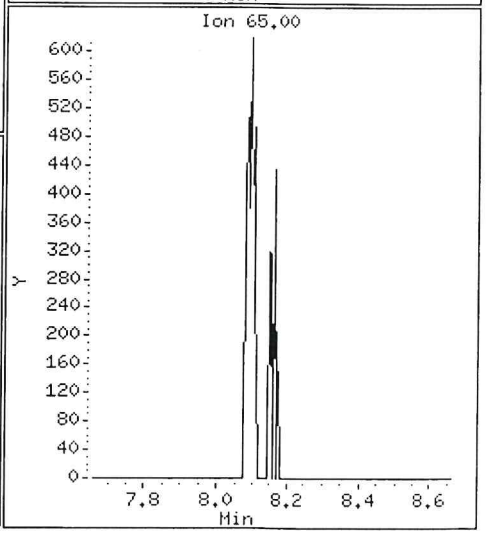


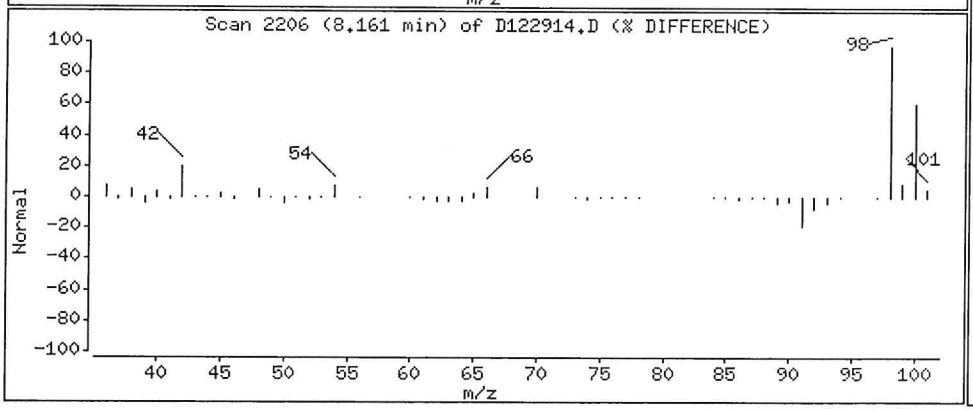












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

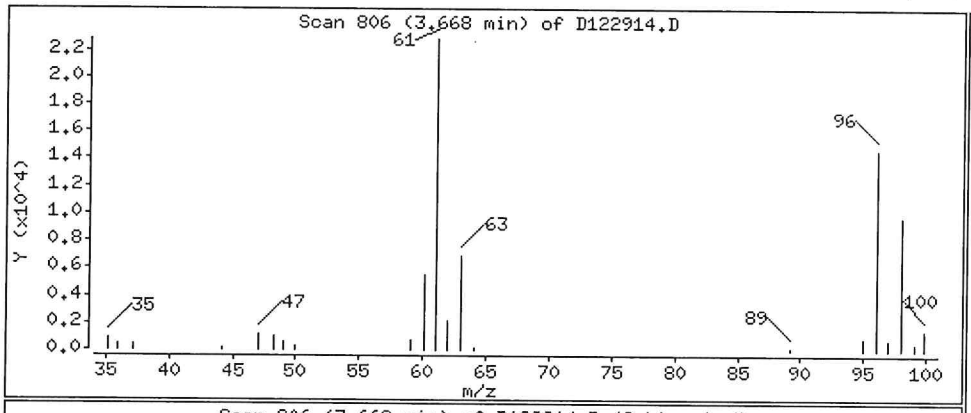
Column phase: DB624

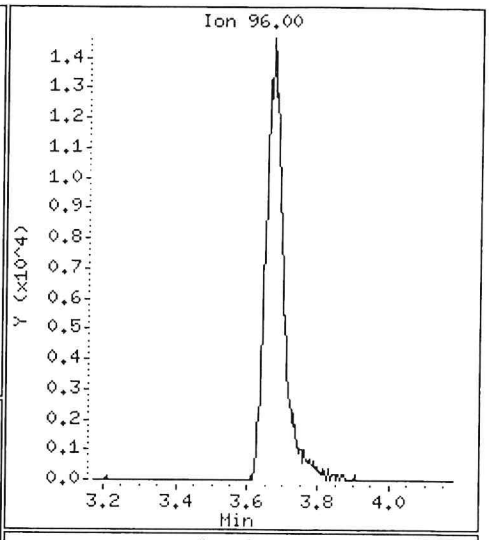
Column diameter: 0.18

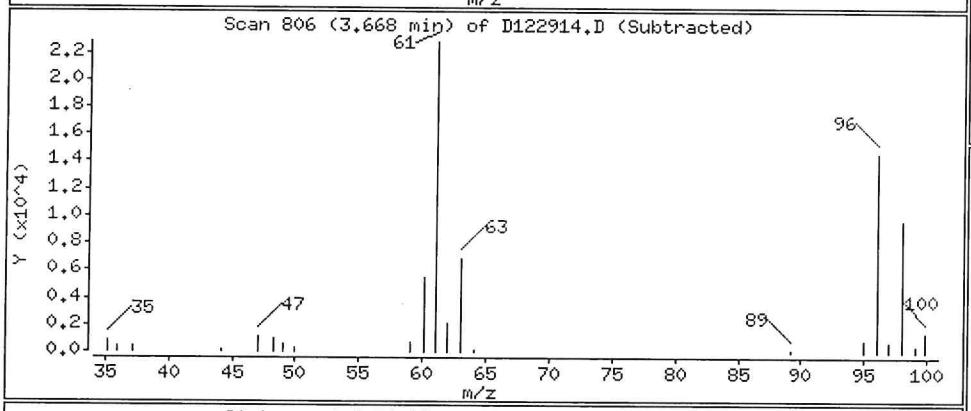
20 trans-1,2-Dichloroethene

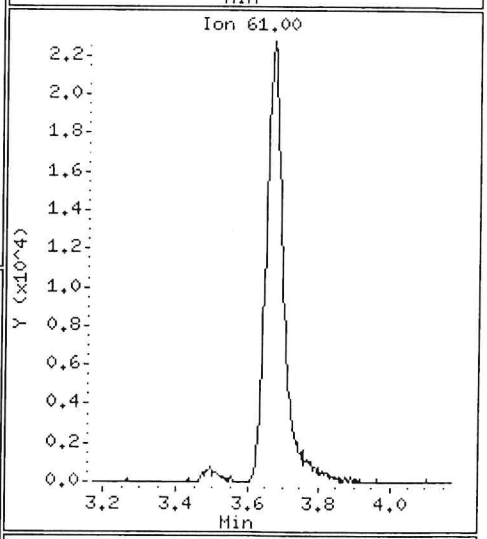
Concentration: 21.47 ug/l

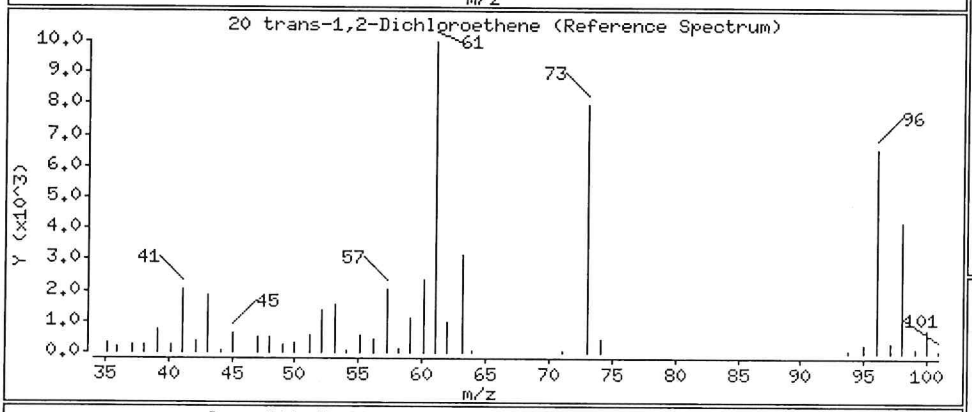
Review Code:

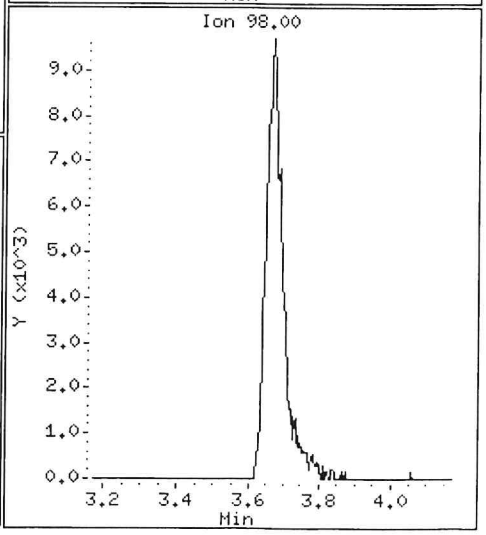


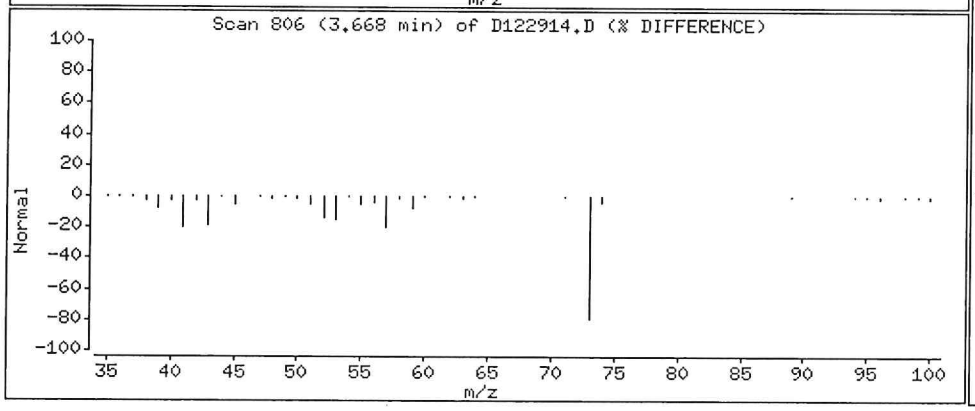












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

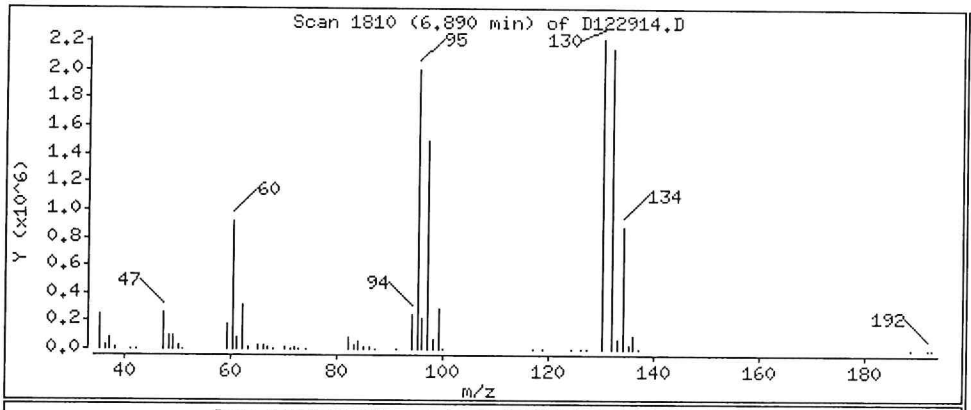
Column phase: DB624

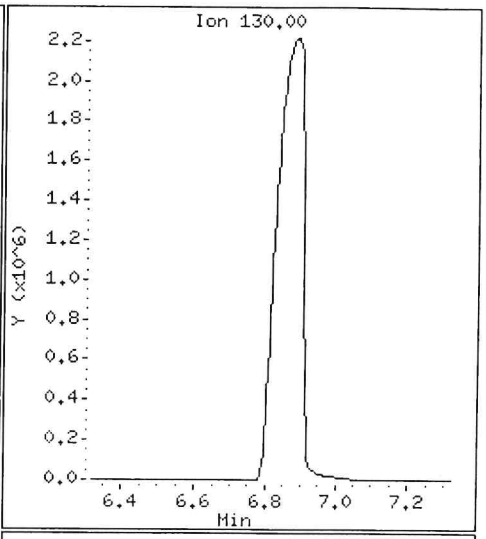
Column diameter: 0.18

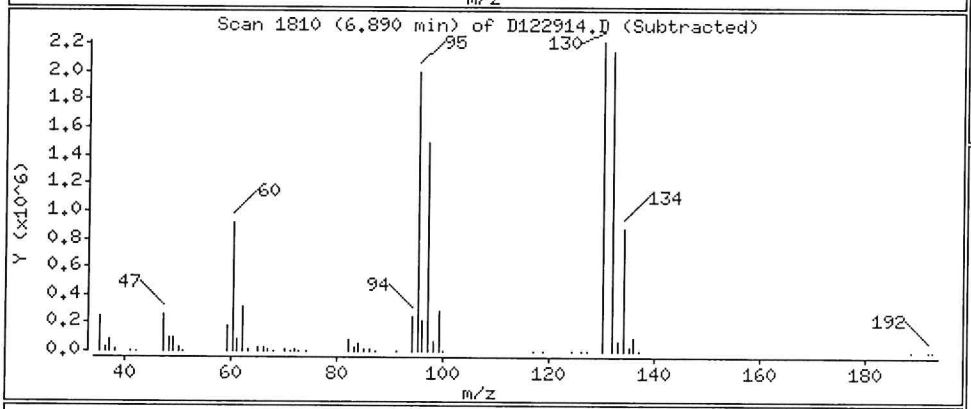
38 Trichloroethene

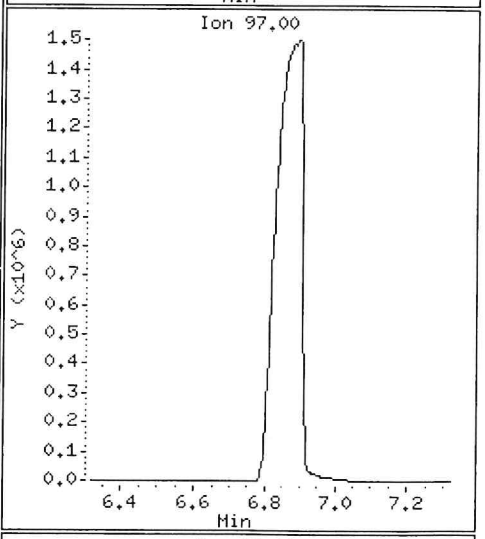
Concentration: 4136.69 ug/l

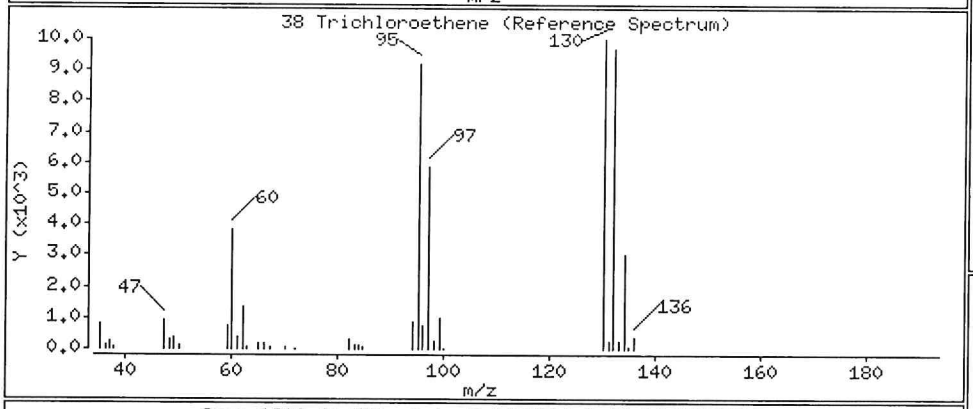
Review Code:

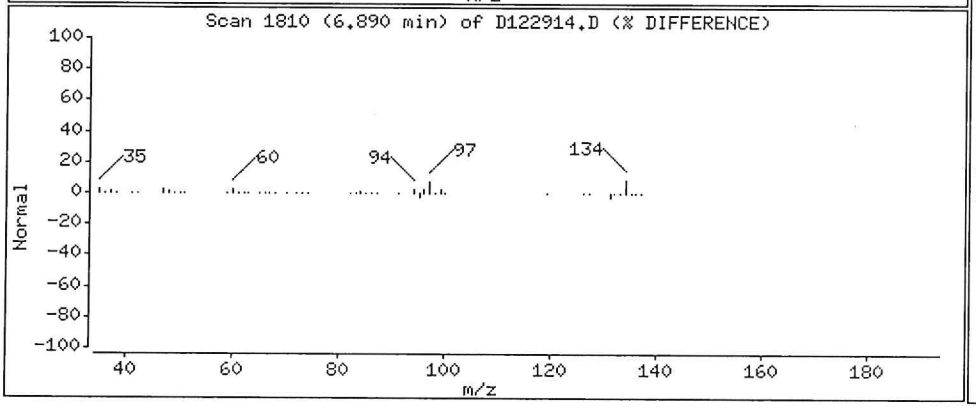


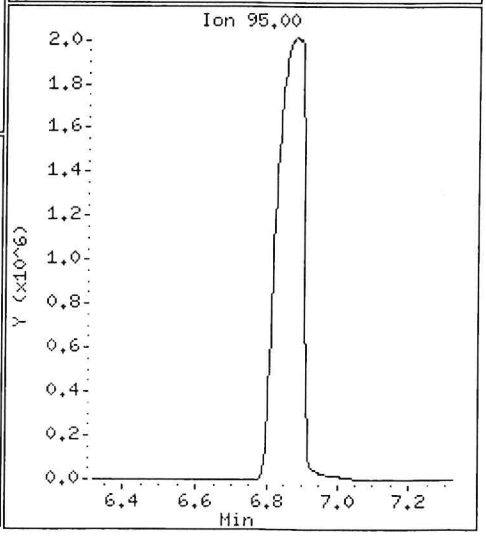












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122914.D

Date : 29-DEC-2017 18:33

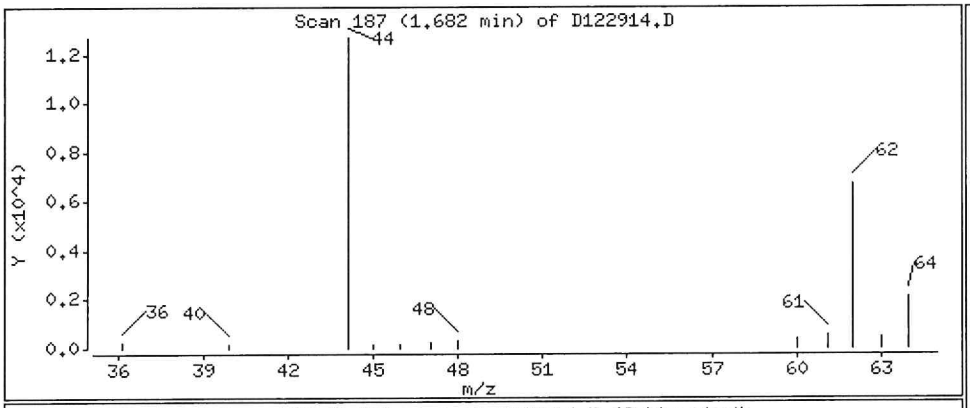
Client ID: HS17121113-02 Instrument: VOA2.i

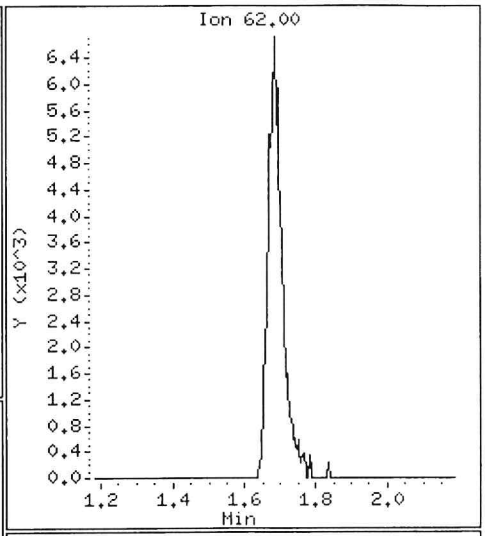
Sample Info: HS17121113-02;HS17121113-02;;;

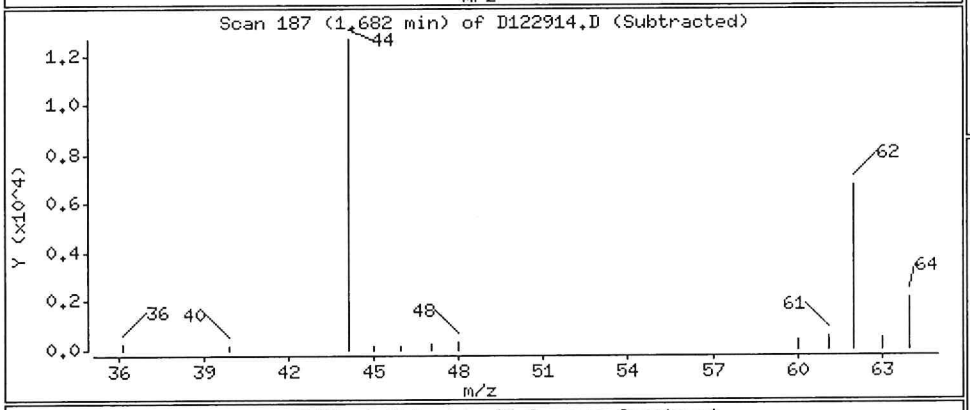
Purge Volume: 5.0 Operator: AP

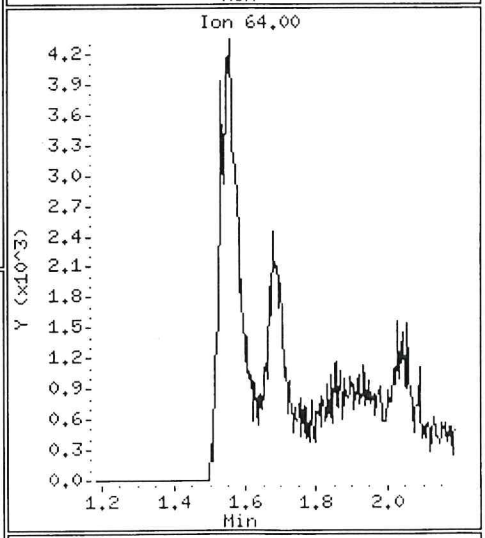
Column phase: DB624 Column diameter: 0.18

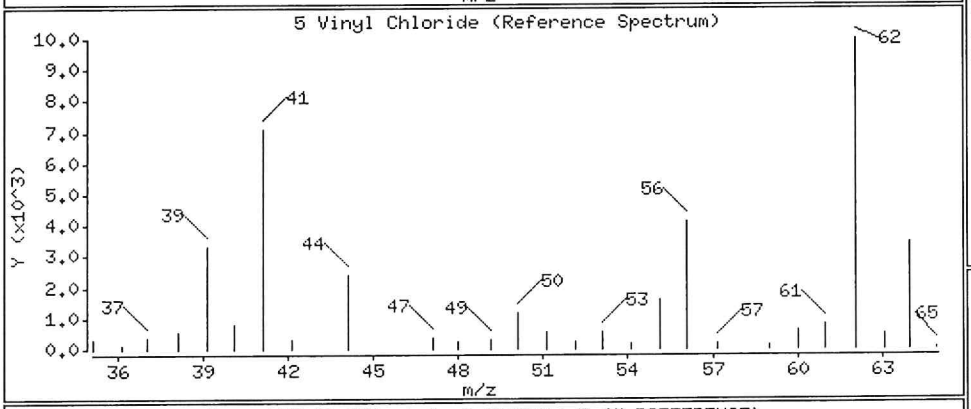
5 Vinyl Chloride Concentration: 5.53 ug/l Review Code:

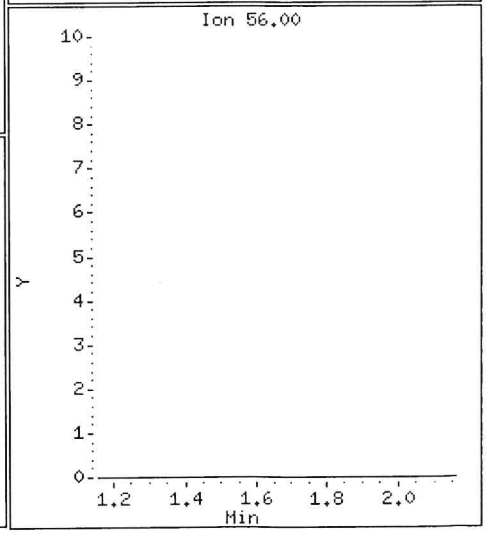


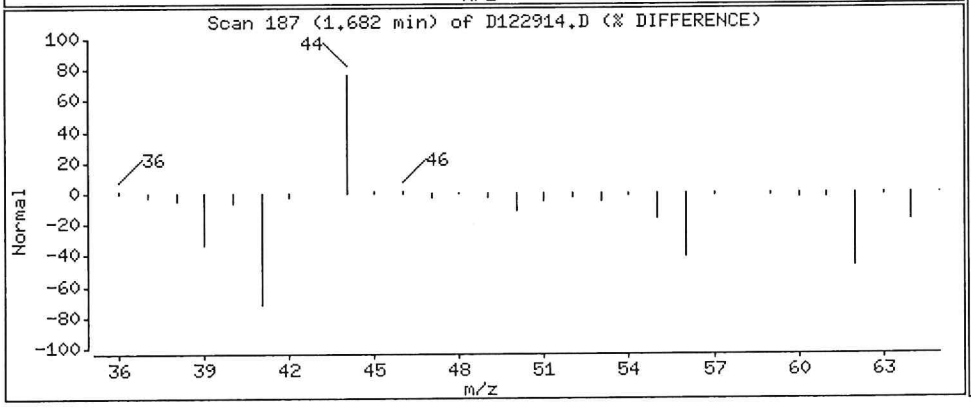












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D
Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D
Lab Smp Id: HS17121113-03 Client Smp ID: HS17121113-03
Inj Date : 29-DEC-2017 18:58
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-03;HS17121113-03;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.783	(1.000)	256338	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	115103	49.8382	49.83
*	36 1,4-Difluorobenzene	114	6.575	6.572	(1.000)	381093	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	130792	45.8530	45.85
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	344988	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.850)	430410	47.3190	47.31
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	163062	49.0922	49.09
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	156642	50.0000	
	53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	22222	10.5298	10.52
	33 1,2-Dichloroethane	62	6.142	6.145	(0.934)	136919	40.6724	40.67
	37 Benzene	78	6.097	6.094	(0.927)	31688	3.16025	3.16(a)
	28 Chloroform	83	5.490	5.497	(0.950)	56517	12.0933	12.09
	27 cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	217023	74.4171	74.41
	20 trans-1,2-Dichloroethene	96	3.664	3.674	(0.634)	16577	7.24384	7.24
	38 Trichloroethene	130	6.870	6.819	(1.045)	8636014	3059.53	3059.52(A)
	5 Vinyl Chloride	62	1.681	1.685	(0.291)	116078	36.9454	36.94

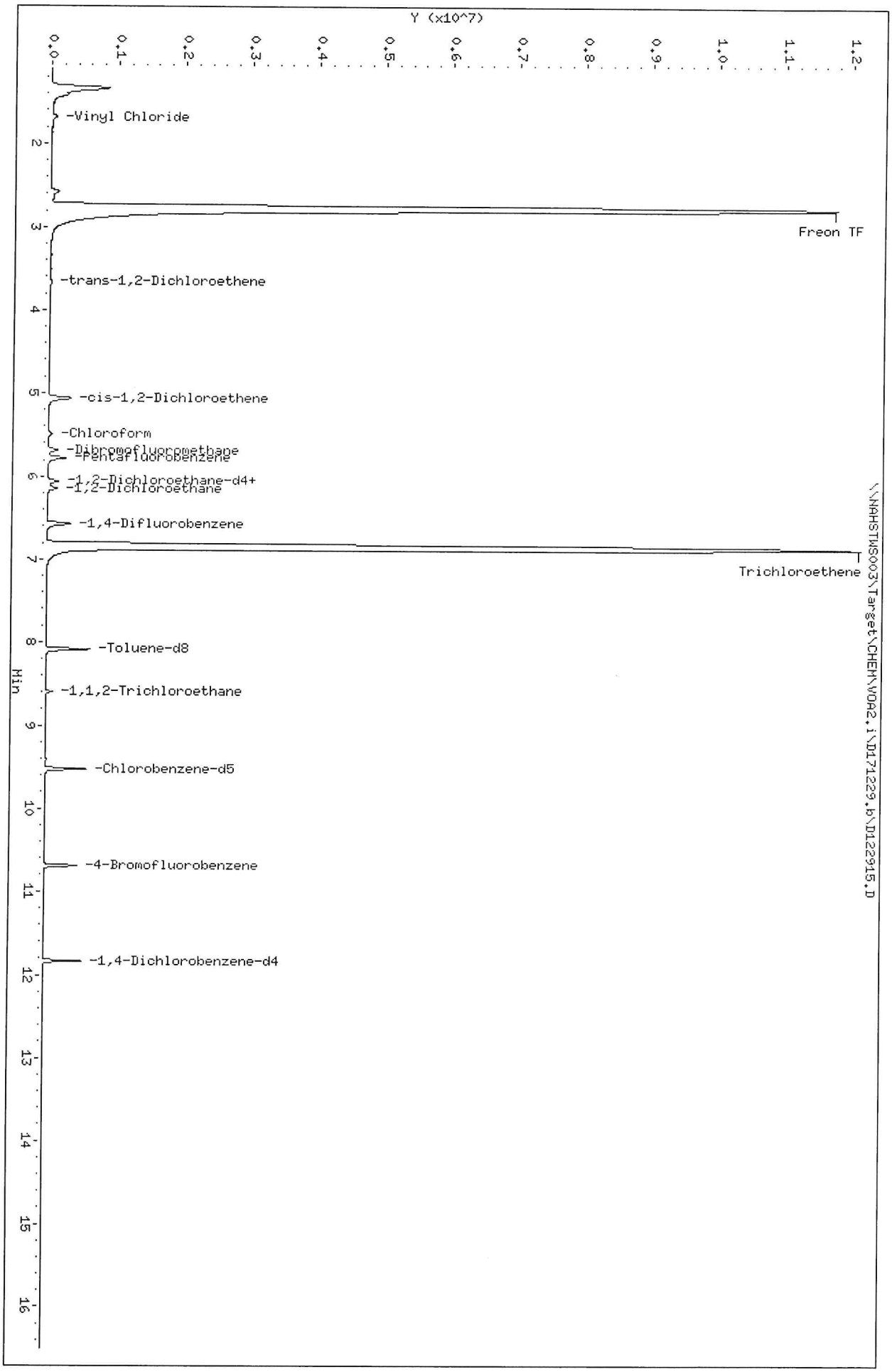
QC Flag Legend

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D
Report Date: 09-Feb-2018 18:17

QC Flag Legend

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


Y (x10^7)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
1.2
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
-Vinyl Chloride
Freon TF
-trans-1,2-Dichloroethene
-cis-1,2-Dichloroethene
-Chloroform
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4+
-1,2-Dichloroethane
-1,4-Difluorobenzene
Trichloroethene
-Toluene-d8
-1,1,2-Trichloroethane
-Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D
Date : 29-DEC-2017 18:58
Client ID: HS1712111 3-03
Sample Info: HS1712111 3-03;HS1712111 3-03;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D

Date : 29-DEC-2017 18:58

Client ID: HS17121113-03

Instrument: VOA2.i

Sample Info: HS17121113-03;HS17121113-03;;;

Purge Volume: 5.0

Operator: AP

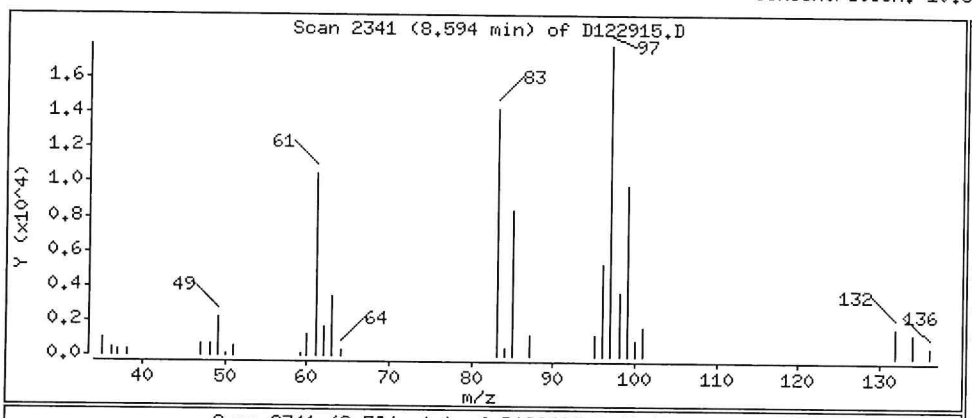
Column phase: DB624

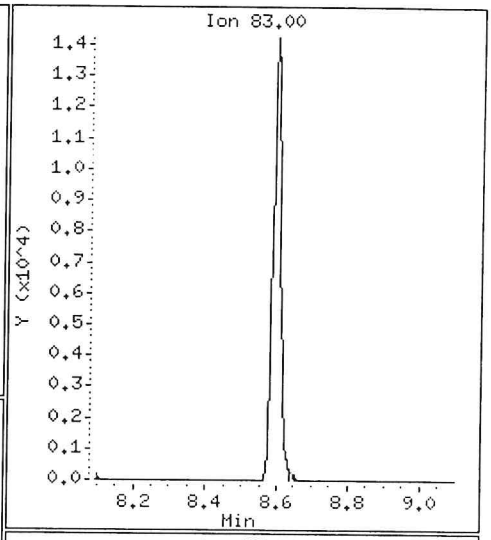
Column diameter: 0.18

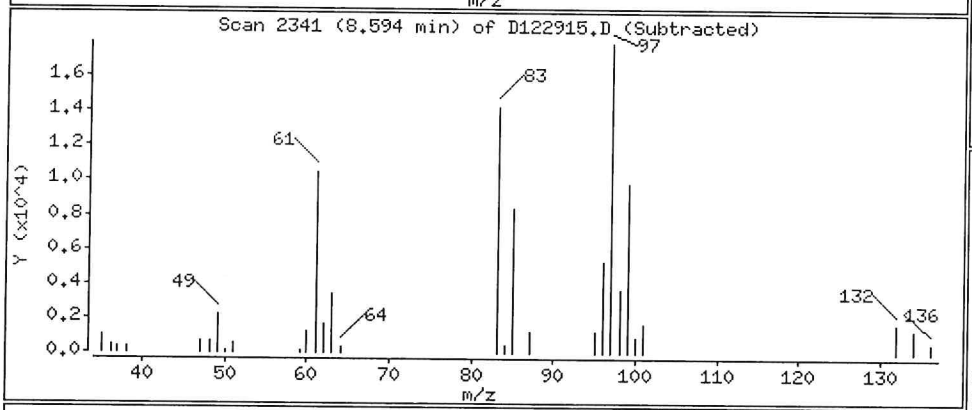
53 1,1,2-Trichloroethane

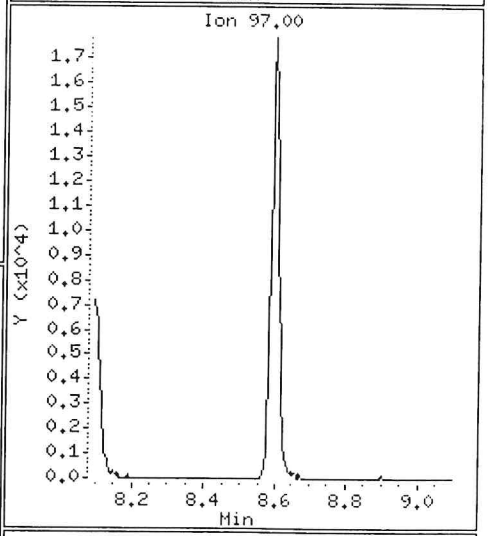
Concentration: 10.52 ug/l

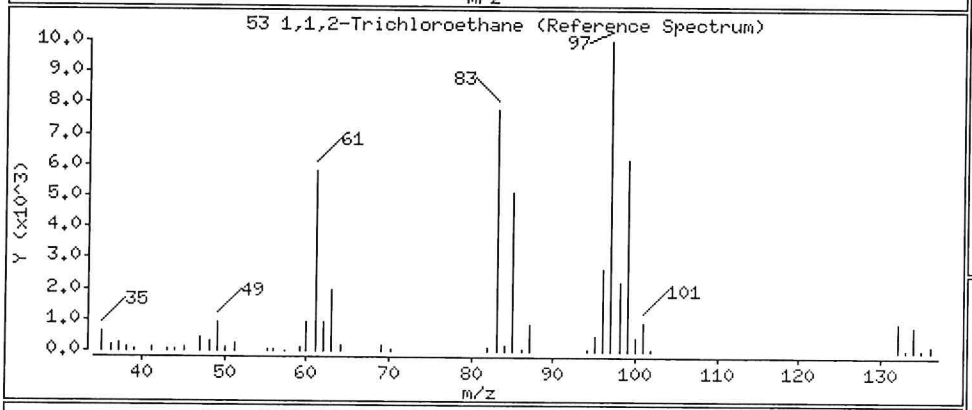
Review Code:

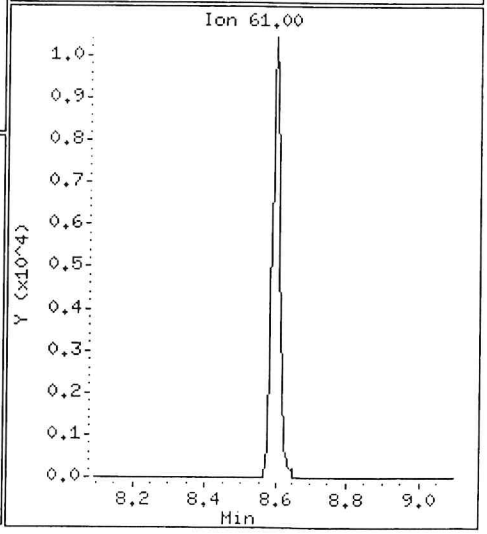


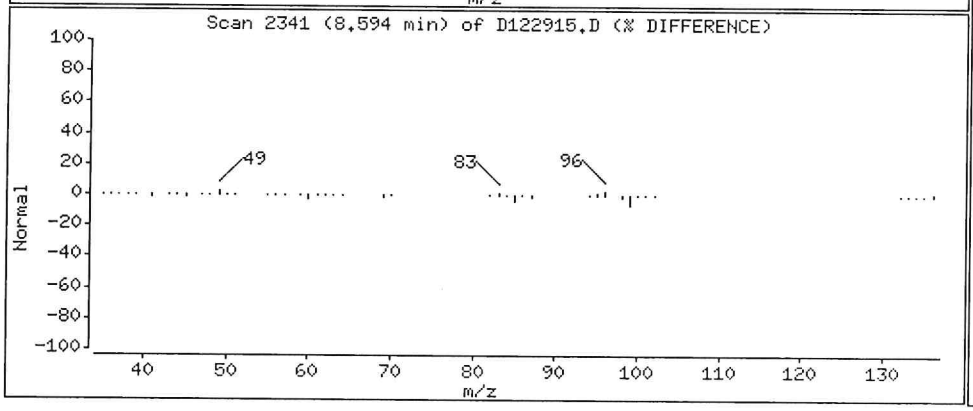












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D

Date : 29-DEC-2017 18:58

Client ID: HS17121113-03

Instrument: VOA2.i

Sample Info: HS17121113-03;HS17121113-03;;;

Purge Volume: 5.0

Operator: AP

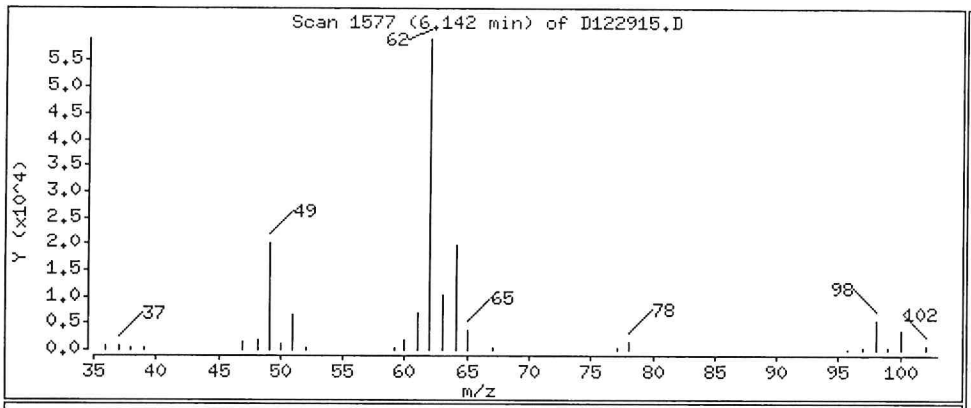
Column phase: DB624

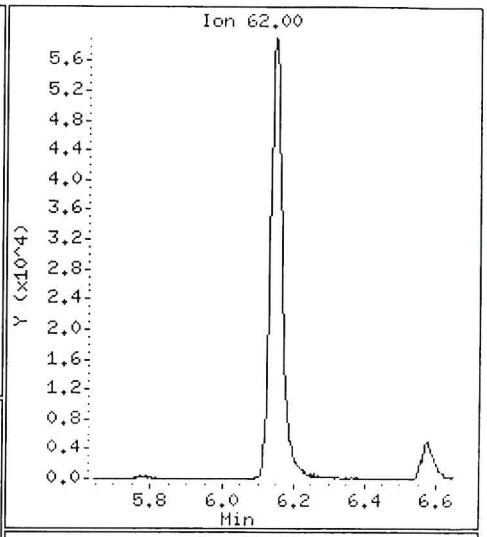
Column diameter: 0.18

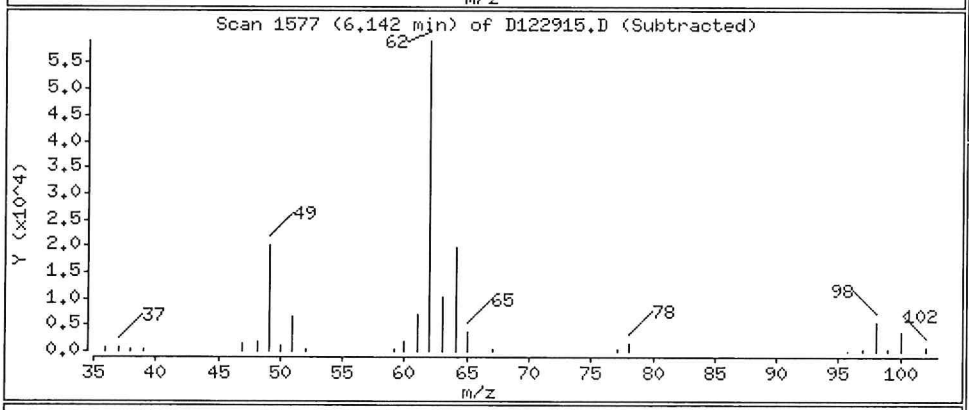
33 1,2-Dichloroethane

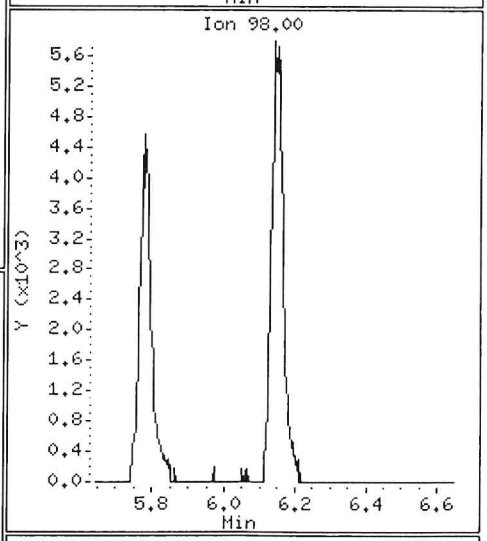
Concentration: 40.67 ug/l

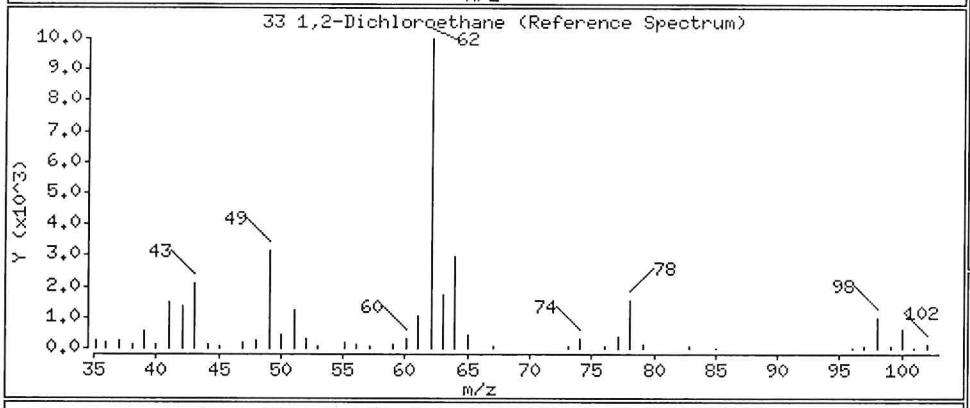
Review Code:

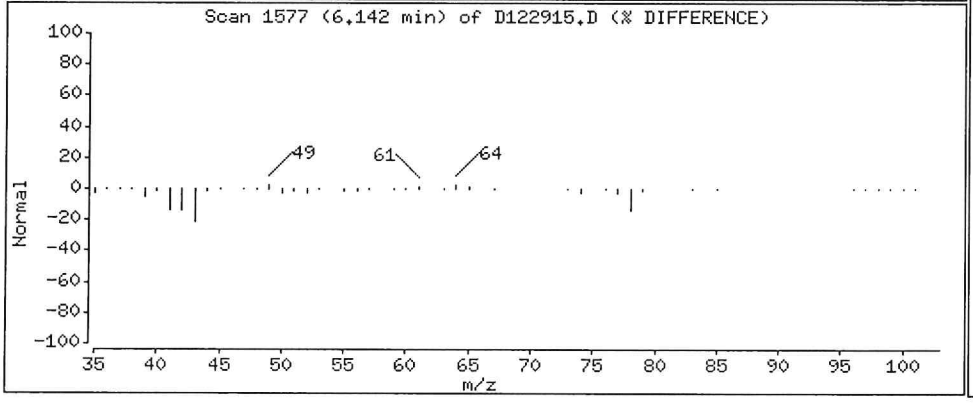


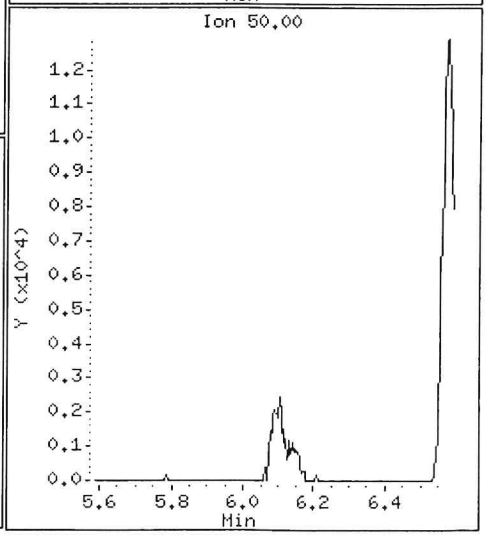












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D

Date : 29-DEC-2017 18:58

Client ID: HS17121113-03

Instrument: VOA2.i

Sample Info: HS17121113-03;HS17121113-03;;;

Purge Volume: 5.0

Operator: AP

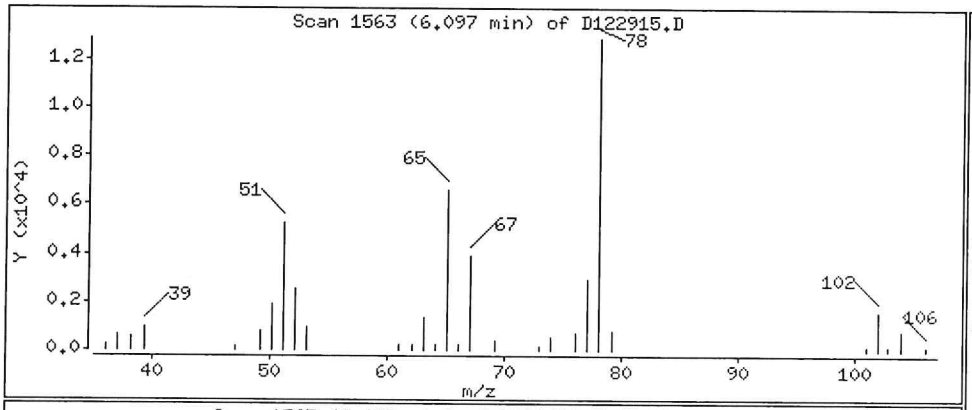
Column phase: DB624

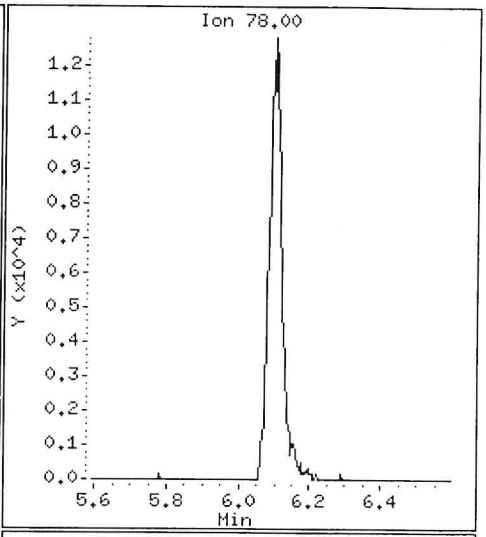
Column diameter: 0.18

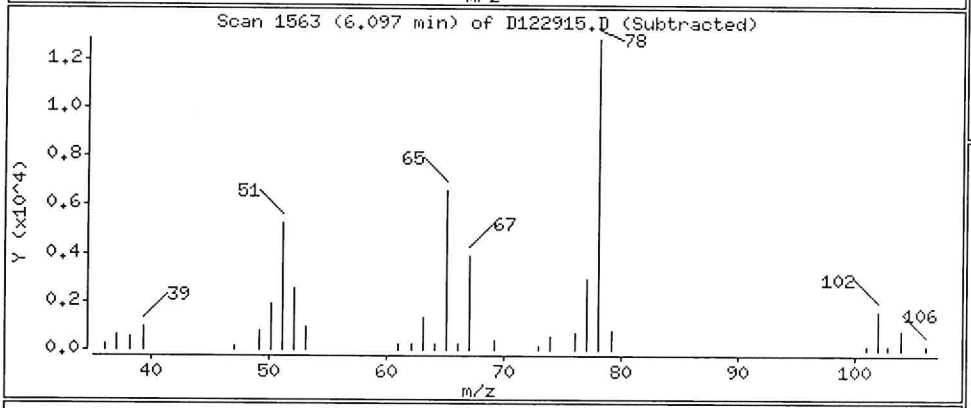
37 Benzene

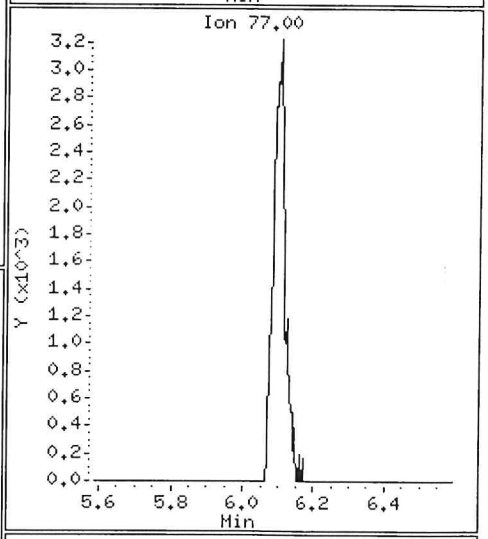
Concentration: 3.16 ug/l

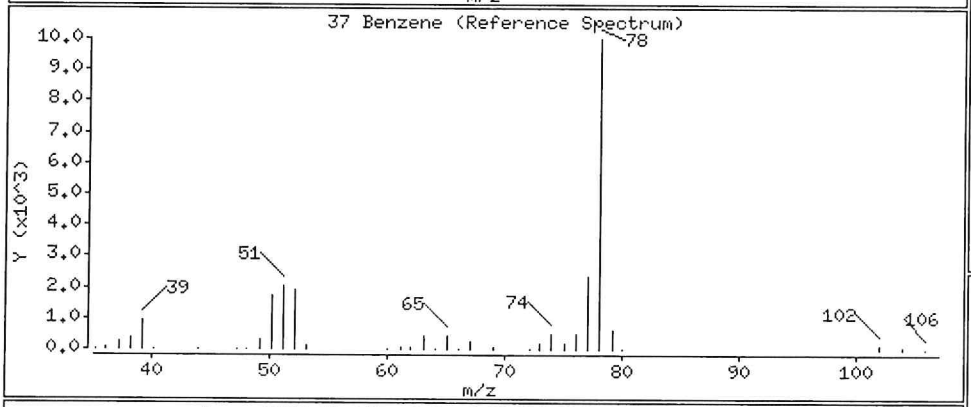
Review Code:

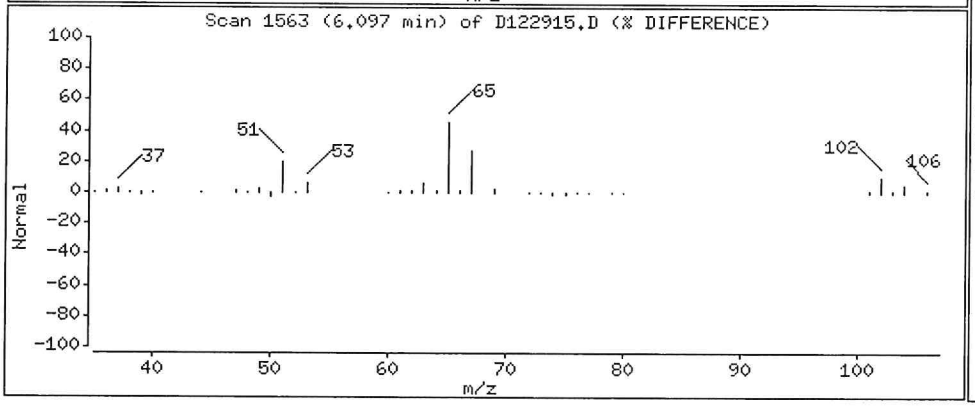


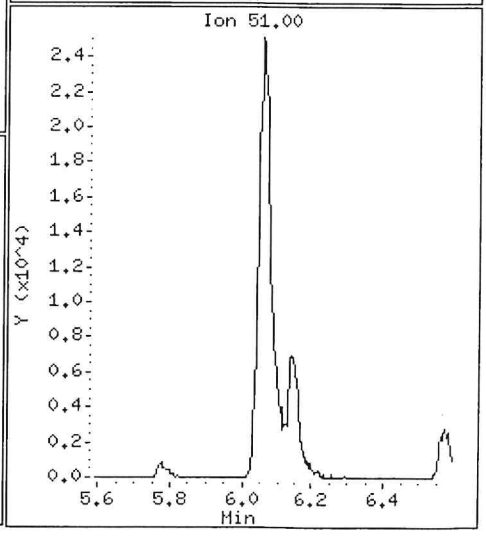












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D

Date : 29-DEC-2017 18:58

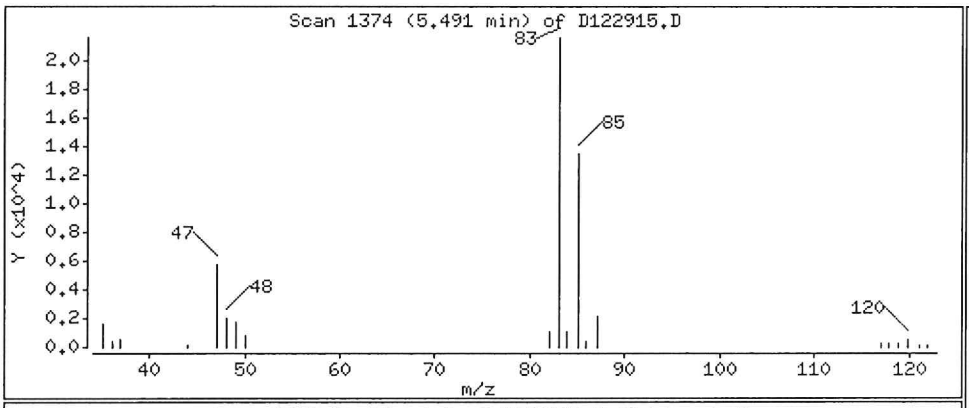
Client ID: HS17121113-03 Instrument: VOA2.i

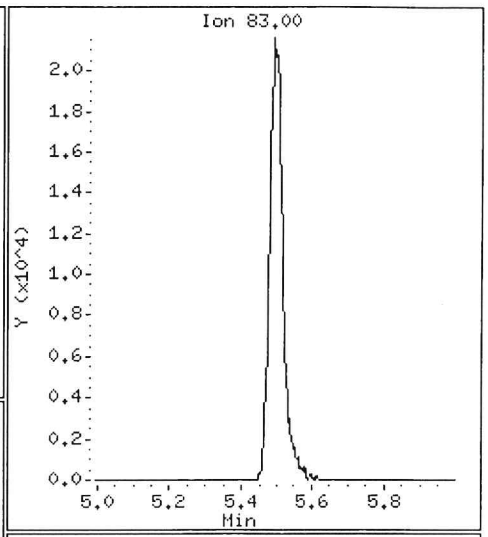
Sample Info: HS17121113-03;HS17121113-03;;;

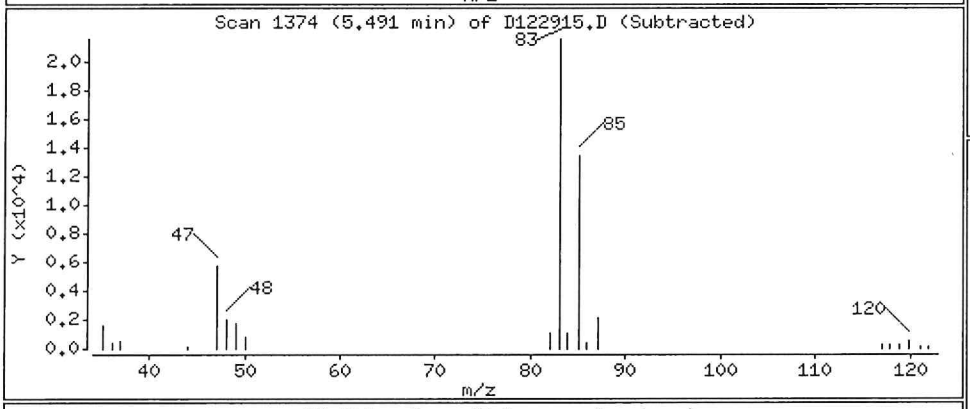
Purge Volume: 5.0 Operator: AP

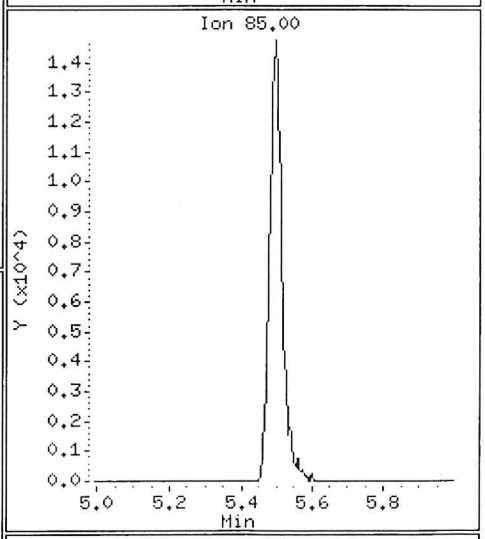
Column phase: DB624 Column diameter: 0.18

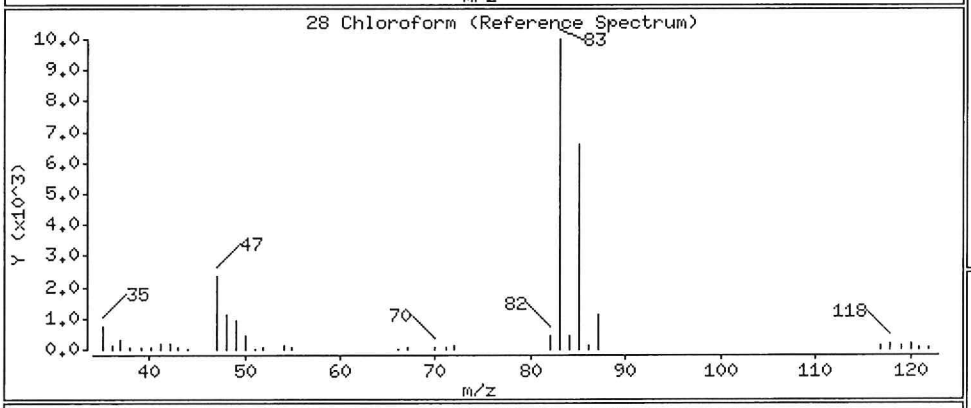
28 Chloroform Concentration: 12.09 ug/l Review Code:

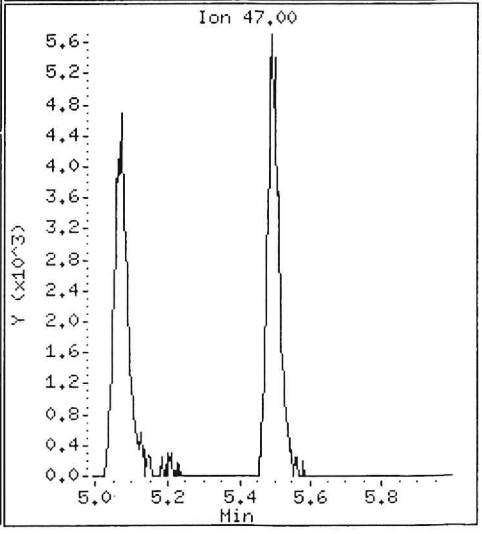


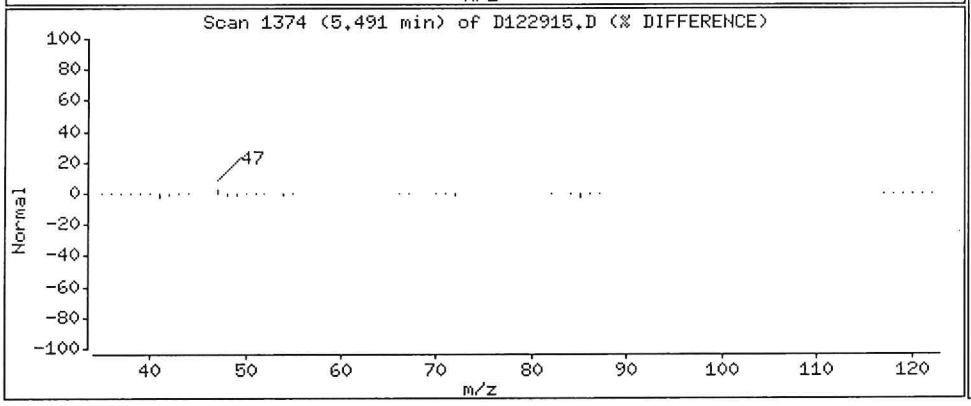












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D

Date : 29-DEC-2017 18:58

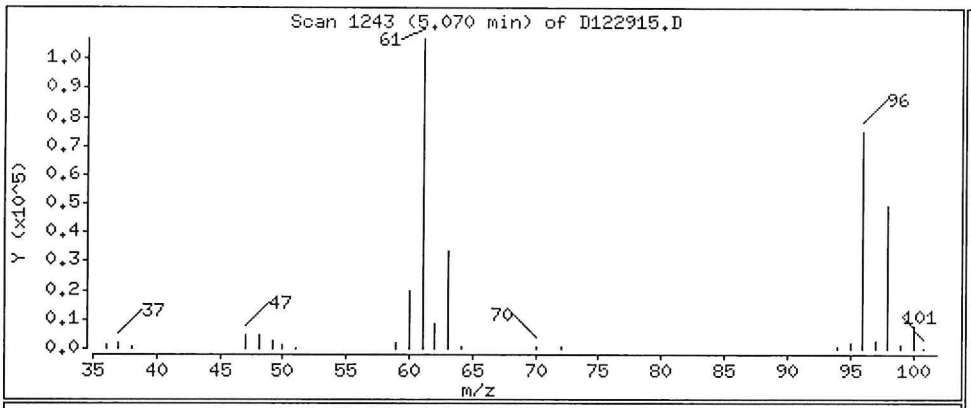
Client ID: HS17121113-03 Instrument: VOA2.i

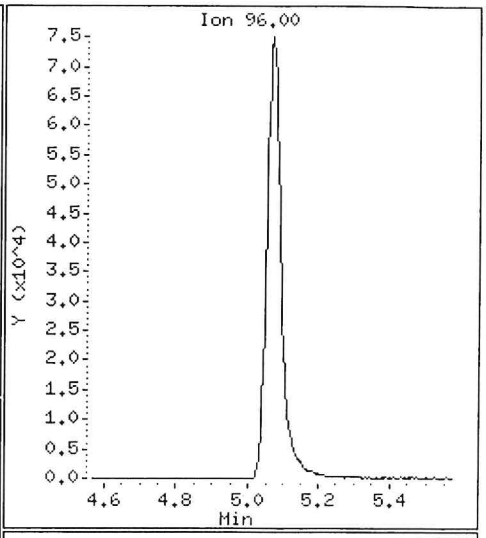
Sample Info: HS17121113-03;HS17121113-03;;;

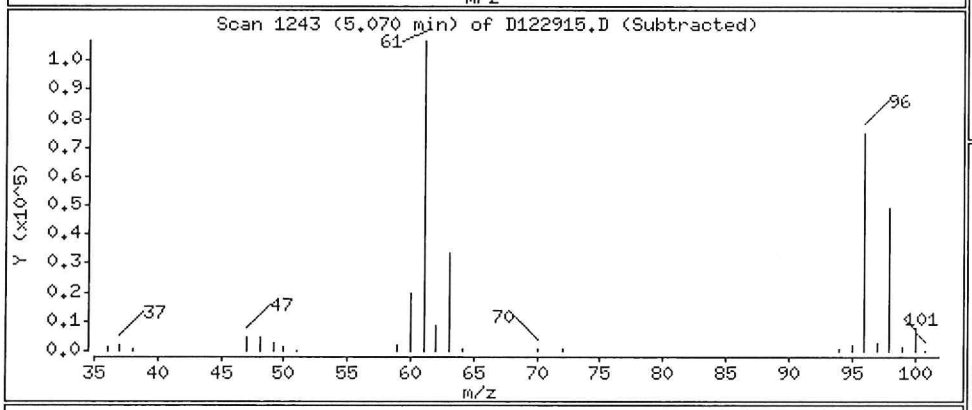
Purge Volume: 5.0 Operator: AP

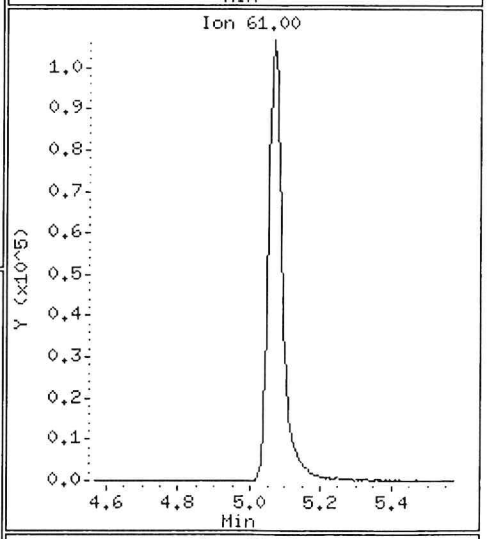
Column phase: DB624 Column diameter: 0.18

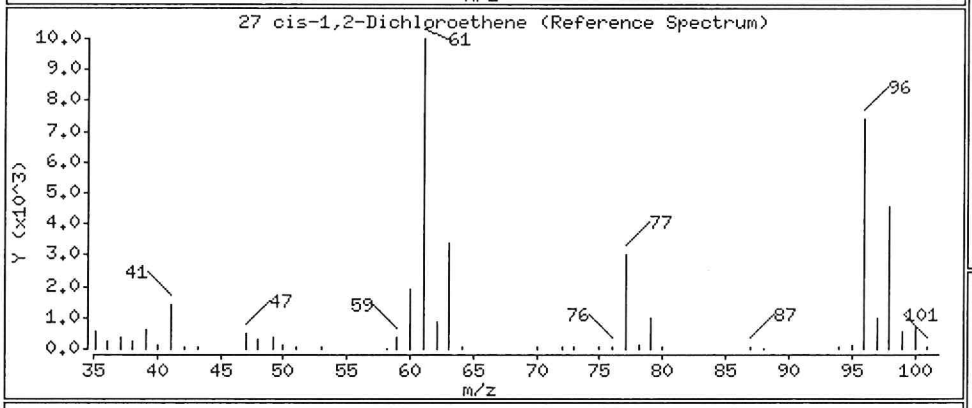
27 cis-1,2-Dichloroethene Concentration: 74.41 ug/l Review Code:

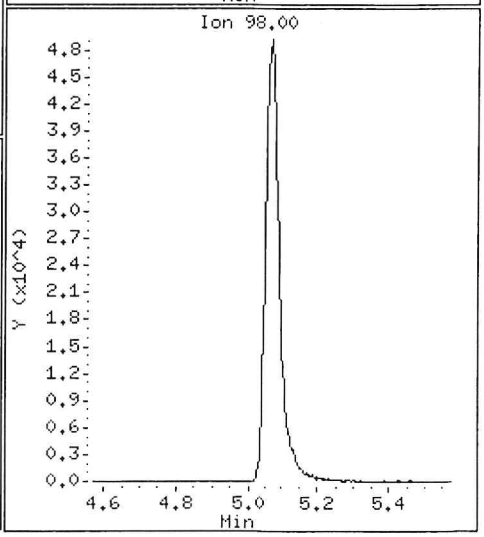


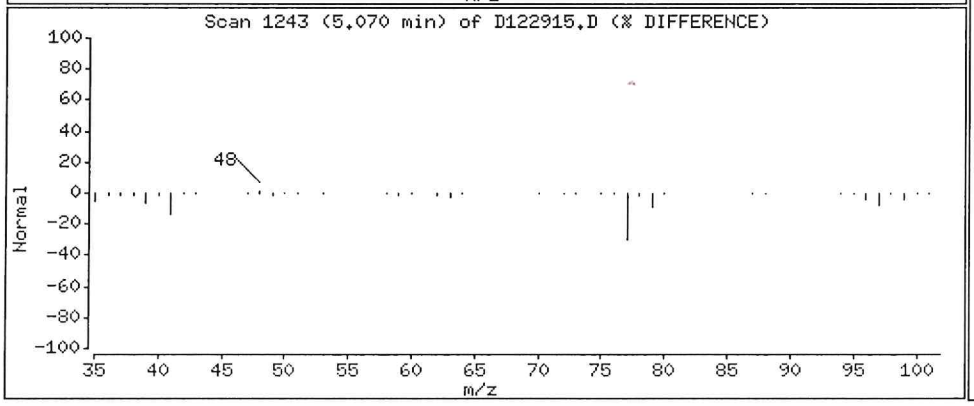












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D

Date : 29-DEC-2017 18:58

Client ID: HS17121113-03

Instrument: VOA2.i

Sample Info: HS17121113-03;HS17121113-03;;;

Purge Volume: 5.0

Operator: AP

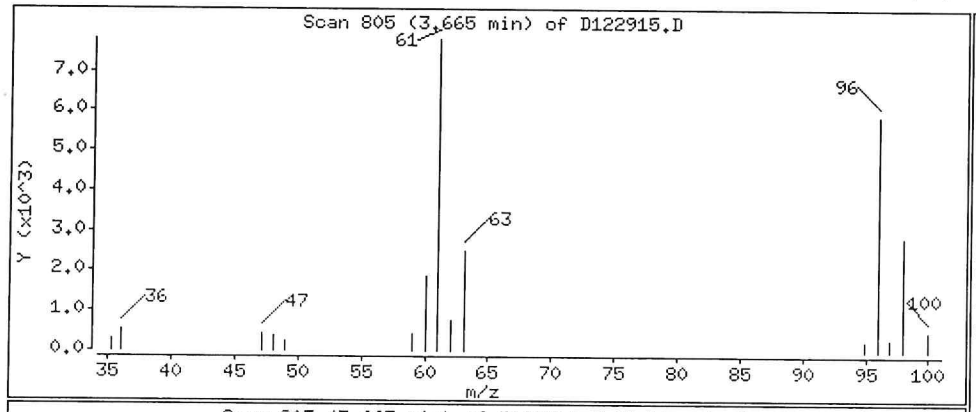
Column phase: DB624

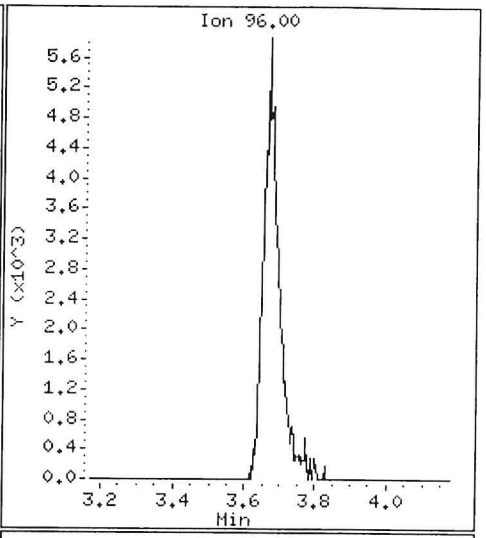
Column diameter: 0.18

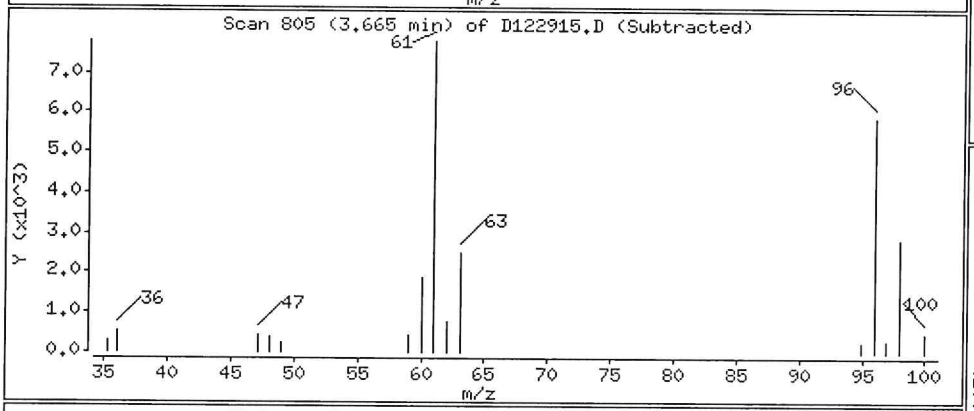
20 trans-1,2-Dichloroethene

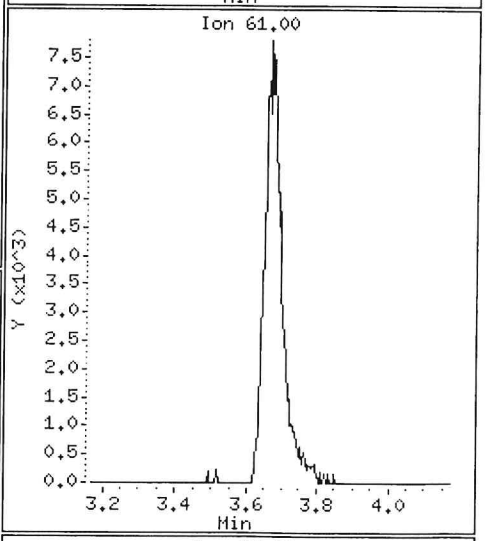
Concentration: 7.24 ug/l

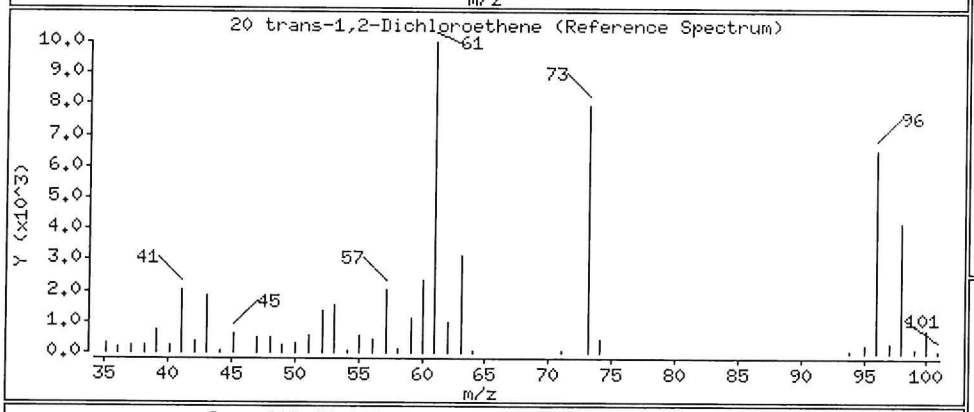
Review Code:

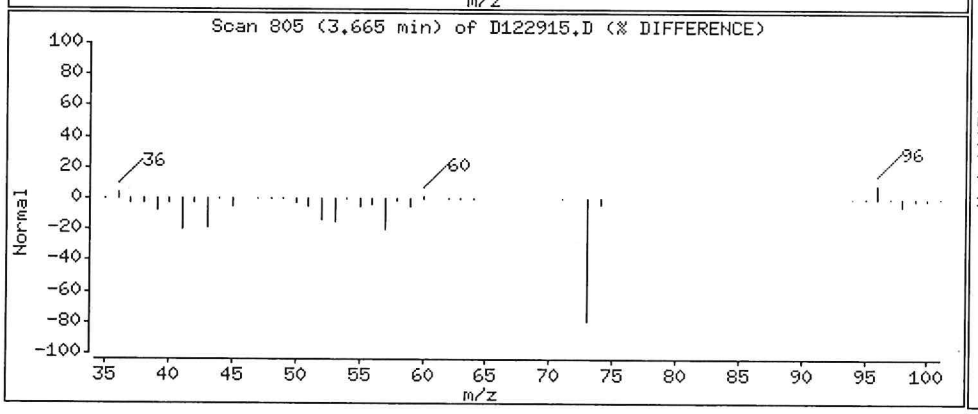


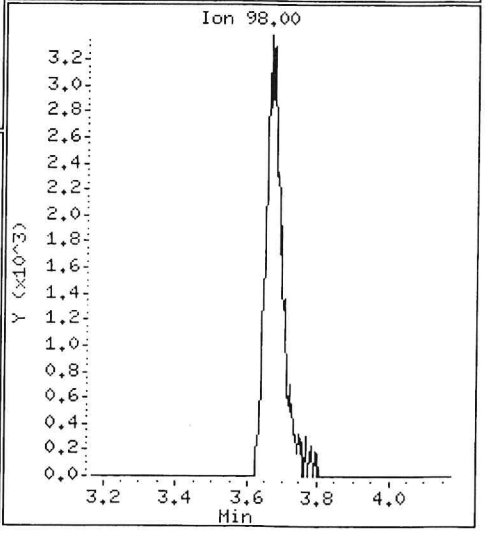












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D

Date : 29-DEC-2017 18:58

Client ID: HS17121113-03

Instrument: VOA2.i

Sample Info: HS17121113-03;HS17121113-03;;;

Purge Volume: 5.0

Operator: AP

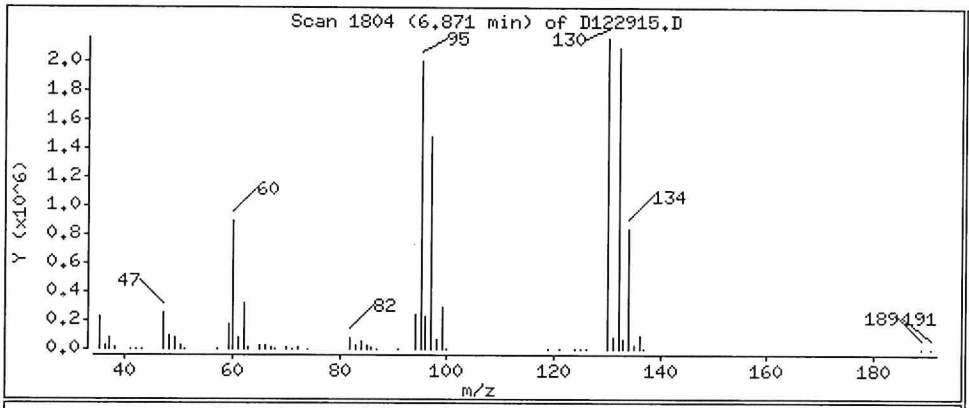
Column phase: DB624

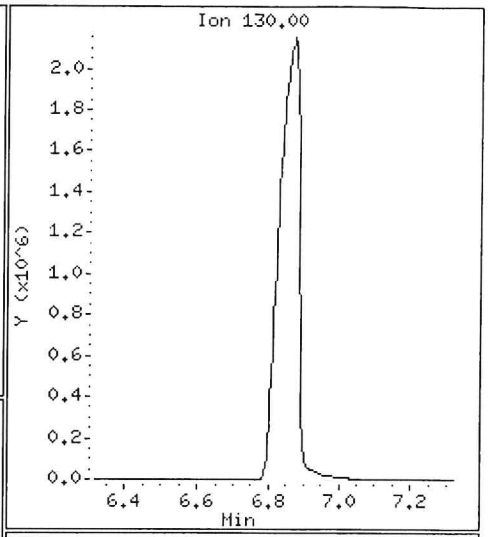
Column diameter: 0.18

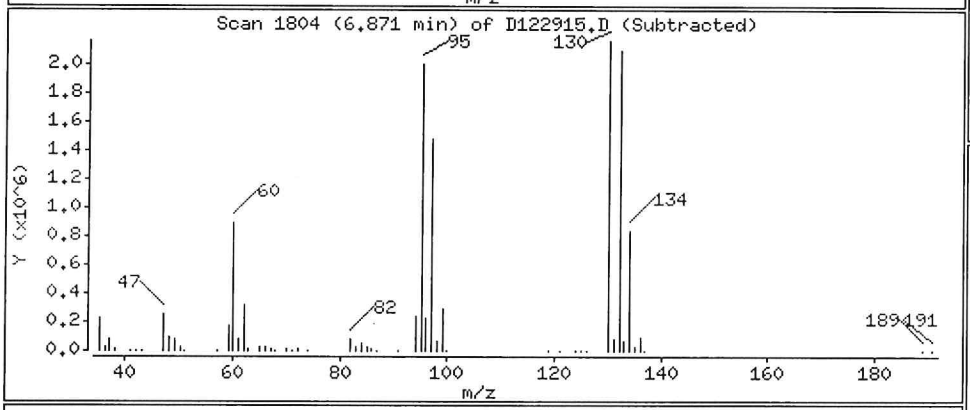
38 Trichloroethene

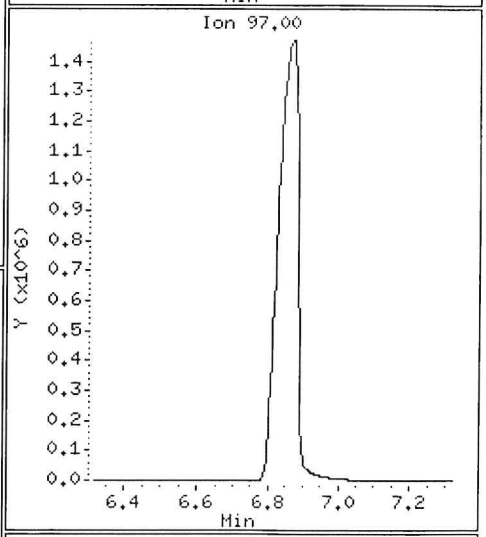
Concentration: 3059.52 ug/l

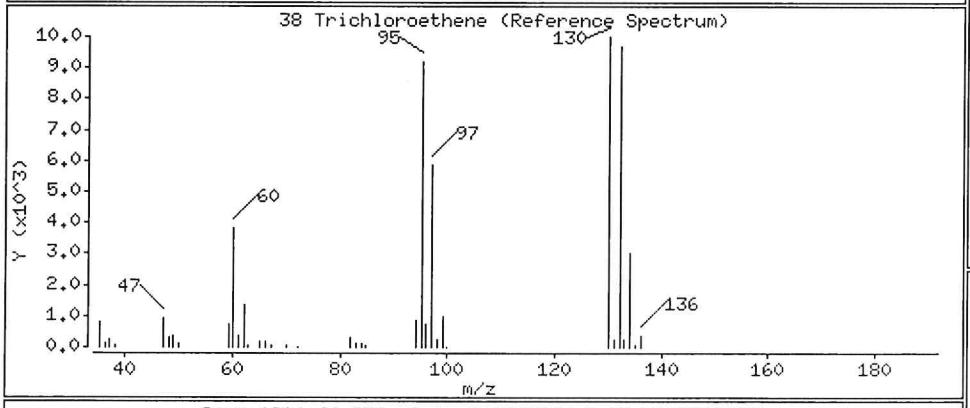
Review Code:

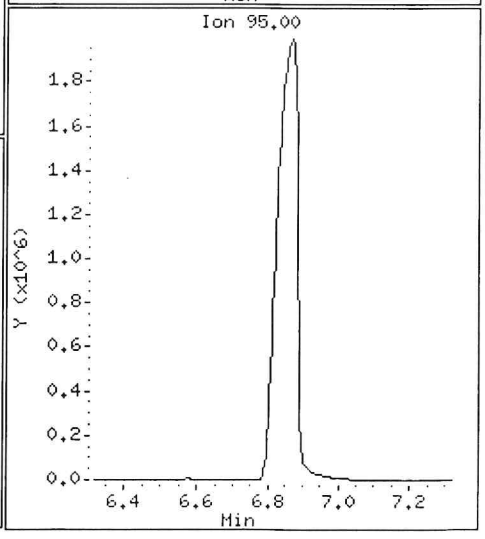


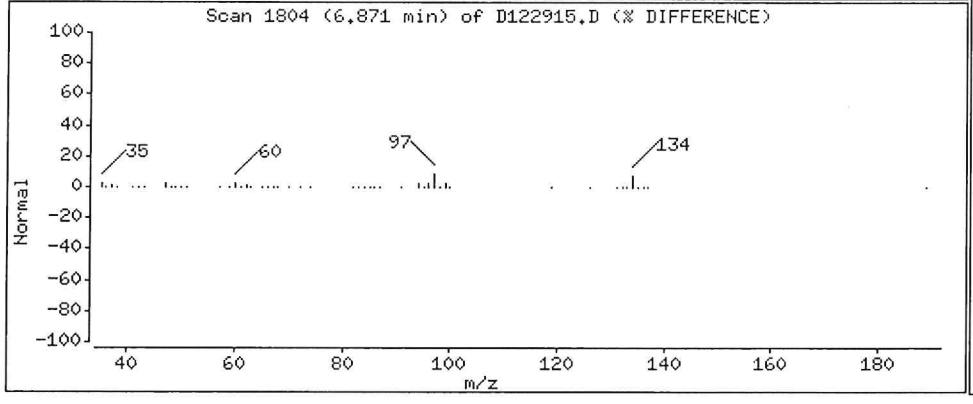












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122915.D

Date : 29-DEC-2017 18:58

Client ID: HS17121113-03

Instrument: VOA2.i

Sample Info: HS17121113-03;HS17121113-03;;;

Purge Volume: 5.0

Operator: AP

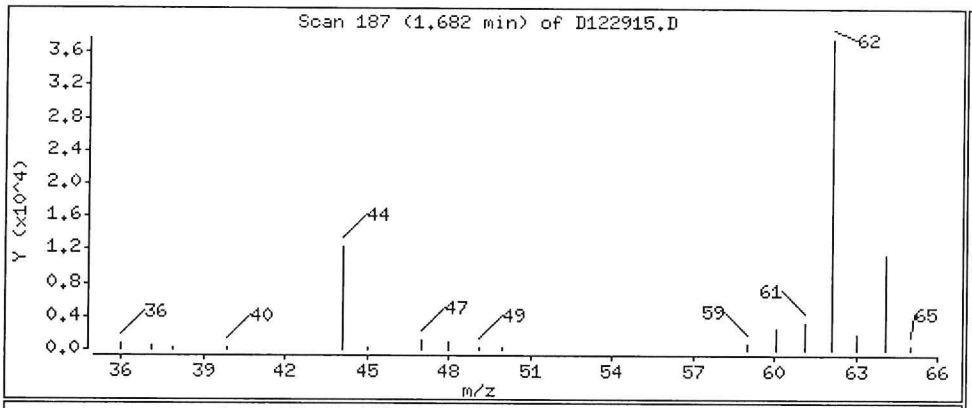
Column phase: DB624

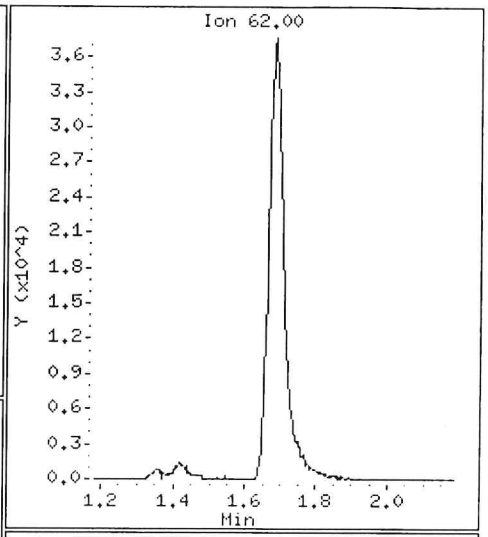
Column diameter: 0.18

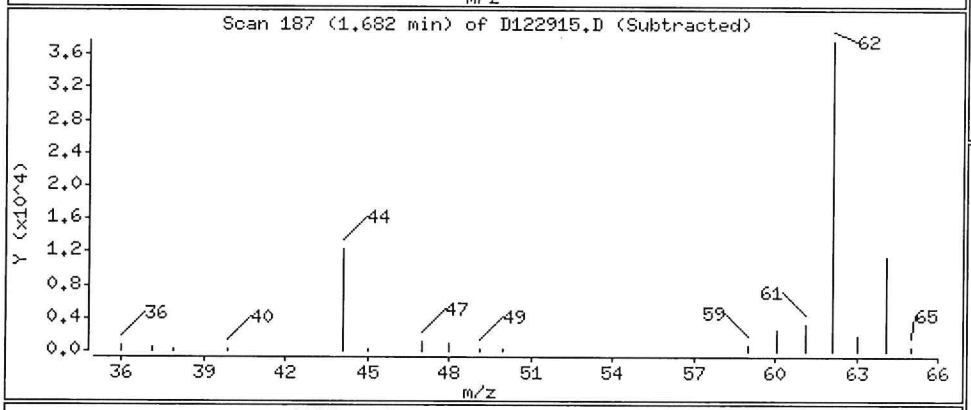
5 Vinyl Chloride

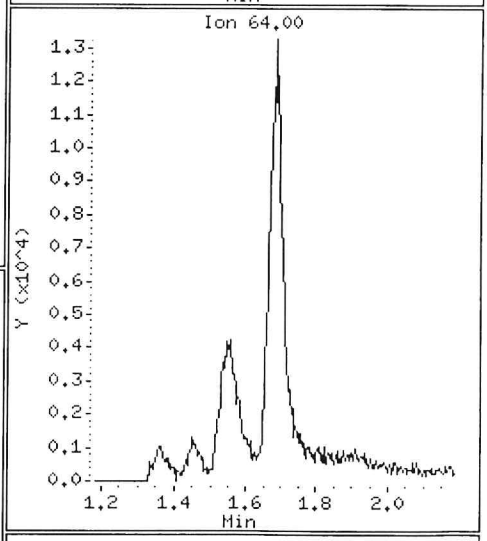
Concentration: 36.94 ug/l

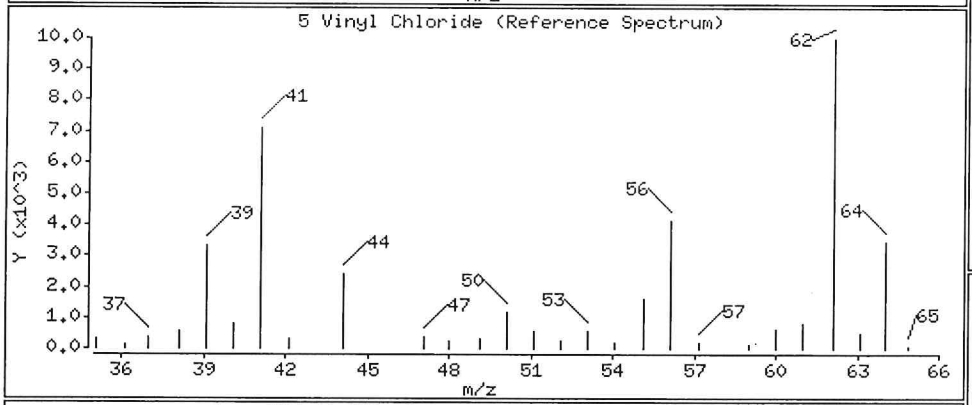
Review Code:

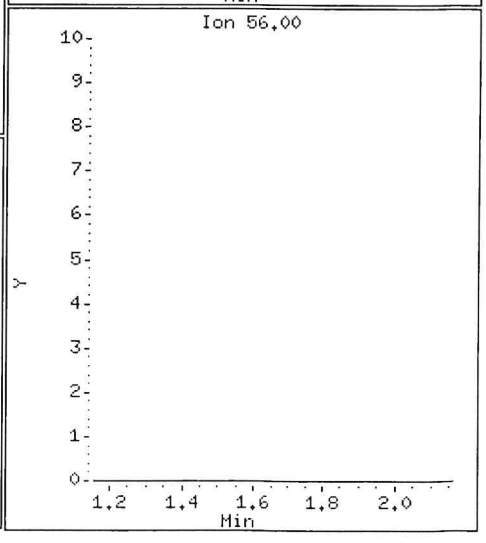


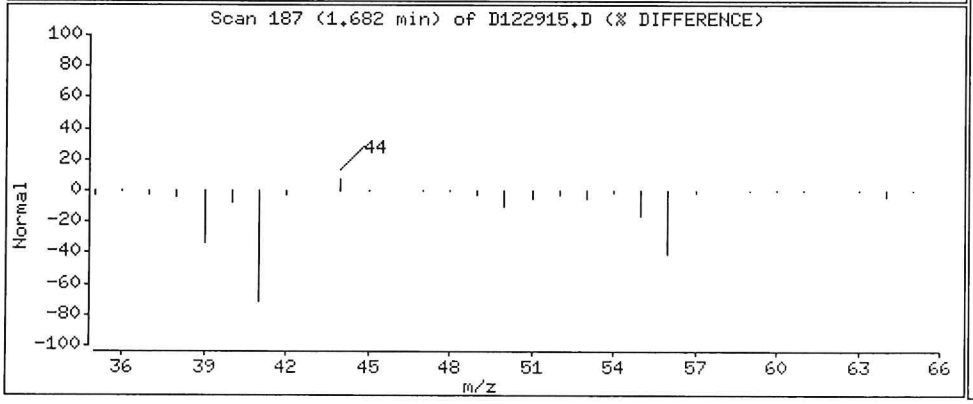












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122916.D
Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122916.D
Lab Smp Id: HS17121113-04 Client Smp ID: HS17121113-04
Inj Date : 29-DEC-2017 19:22
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-04;HS17121113-04;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.783	(1.000)	253930	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	112762	49.2875	49.28
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	361297	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.062	(1.048)	129868	45.9608	45.96
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	327279	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	416106	48.2218	48.22
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	154054	48.8898	48.88
* 70 1,4-Dichlorobenzene-d4	152	11.838	11.835	(1.000)	143389	50.0000	
33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	17414	5.36969	5.36(M)
37 Benzene	78	6.094	6.094	(0.928)	31240	3.28628	3.28(a)
28 Chloroform	83	5.497	5.497	(0.951)	18362	3.96628	3.96(a)
27 cis-1,2-Dichloroethene	96	5.076	5.070	(0.878)	17538	6.07080	6.07
38 Trichloroethene	130	6.822	6.819	(1.039)	1274375	476.217	476.21(A)
5 Vinyl Chloride	62	1.681	1.685	(0.291)	4531	1.45581	1.45(a)

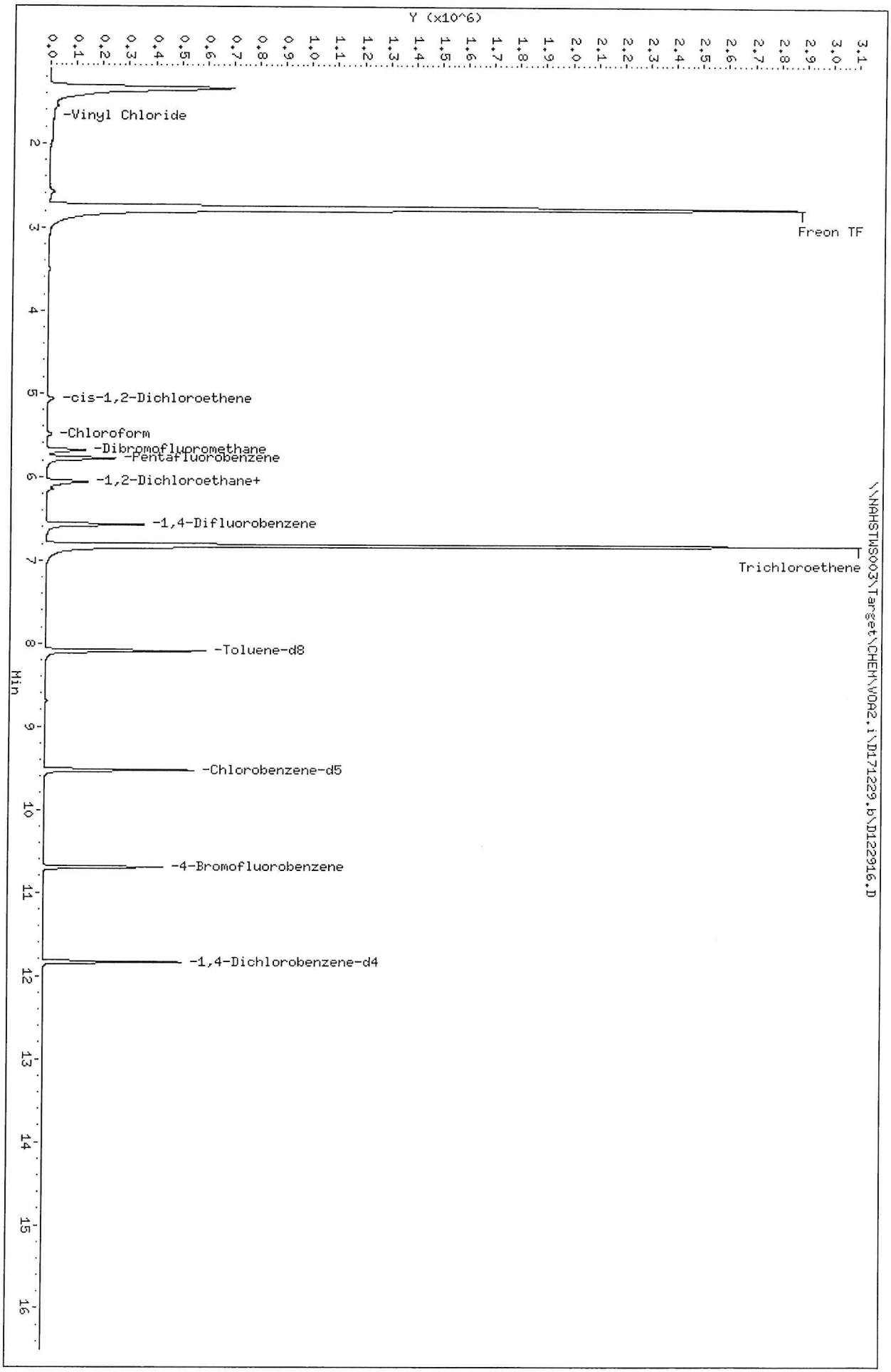
QC Flag Legend

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

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122916.D
Report Date: 09-Feb-2018 18:17

QC Flag Legend

M - Compound response manually integrated.



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122916.D
Date : 29-DEC-2017 19:22
Client ID: HS17121113-04
Sample Info: HS17121113-04;HS17121113-04;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122916.D

Date : 29-DEC-2017 19:22

Client ID: HS17121113-04

Instrument: VOA2.i

Sample Info: HS17121113-04;HS17121113-04;;;

Purge Volume: 5.0

Operator: AP

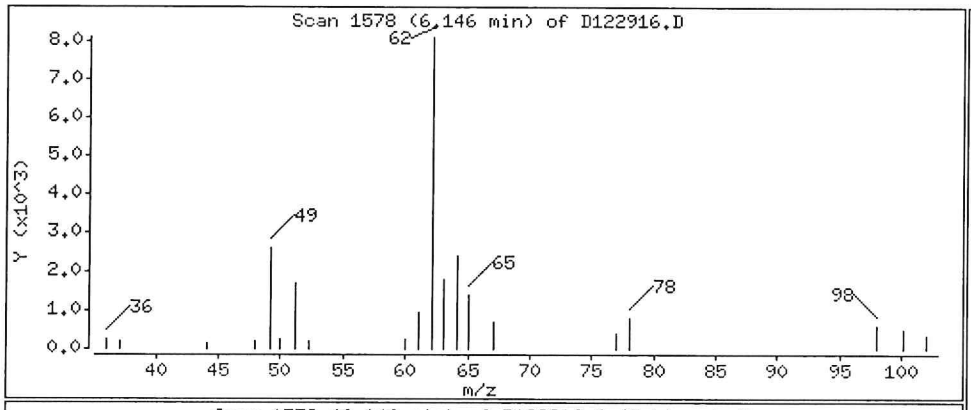
Column phase: DB624

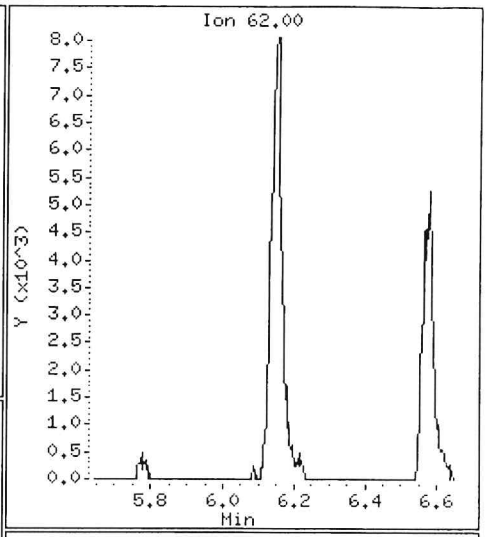
Column diameter: 0.18

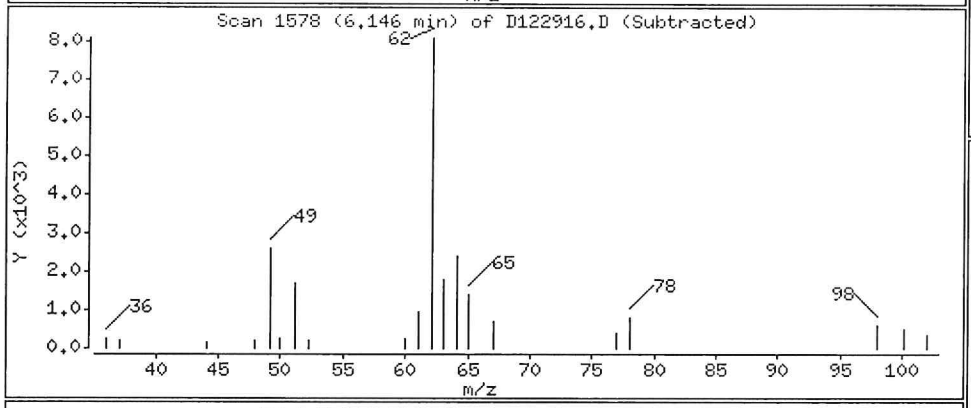
33 1,2-Dichloroethane

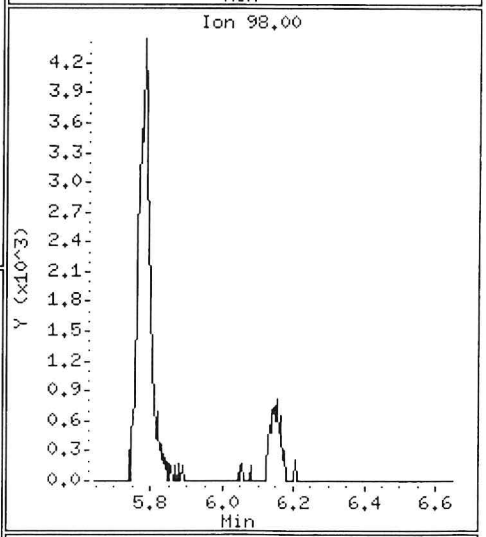
Concentration: 5.36 ug/l

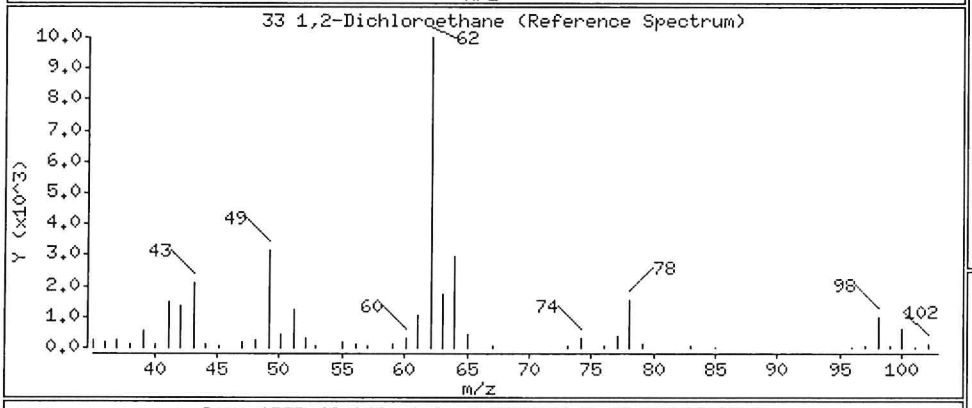
Review Code:

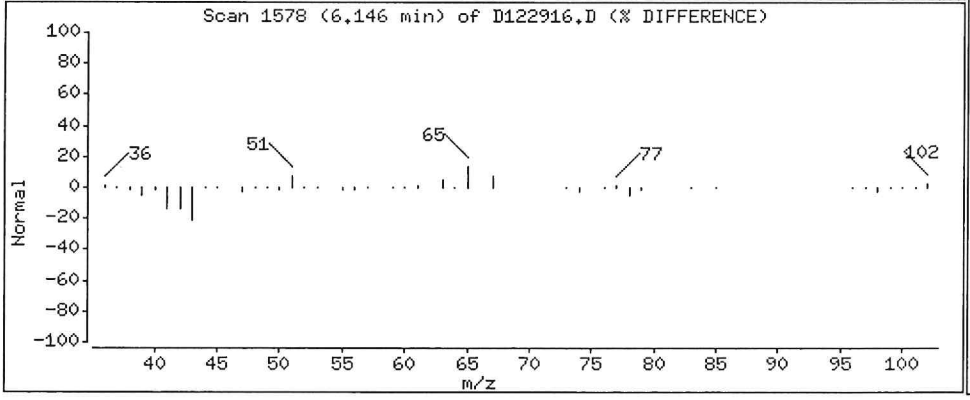


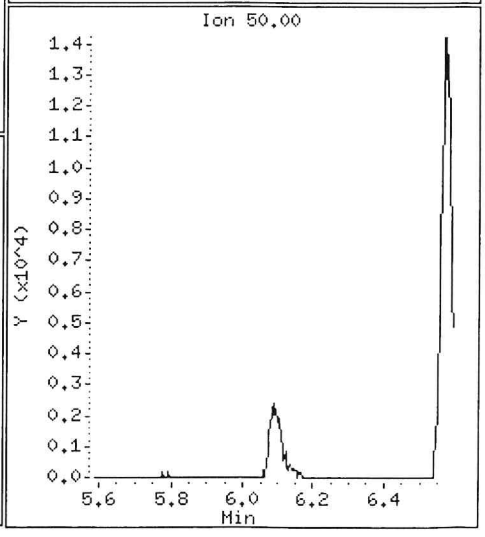












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Date : 29-DEC-2017 19:22

Client ID: HS17121113-04

Instrument: VOA2.i

Sample Info: HS17121113-04;HS17121113-04;;;

Purge Volume: 5.0

Operator: AP

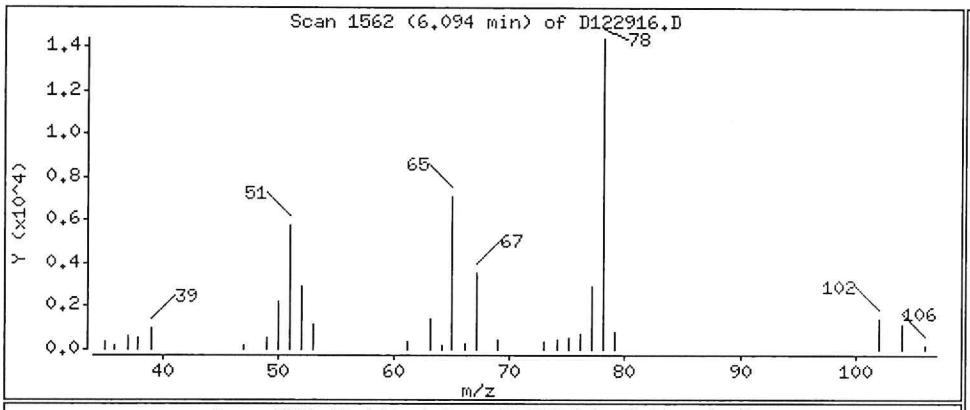
Column phase: DB624

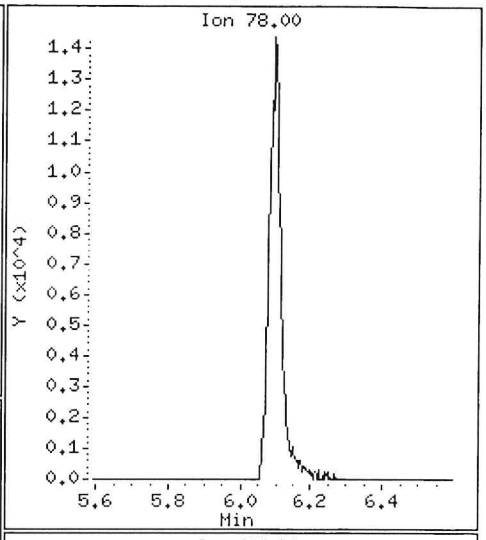
Column diameter: 0.18

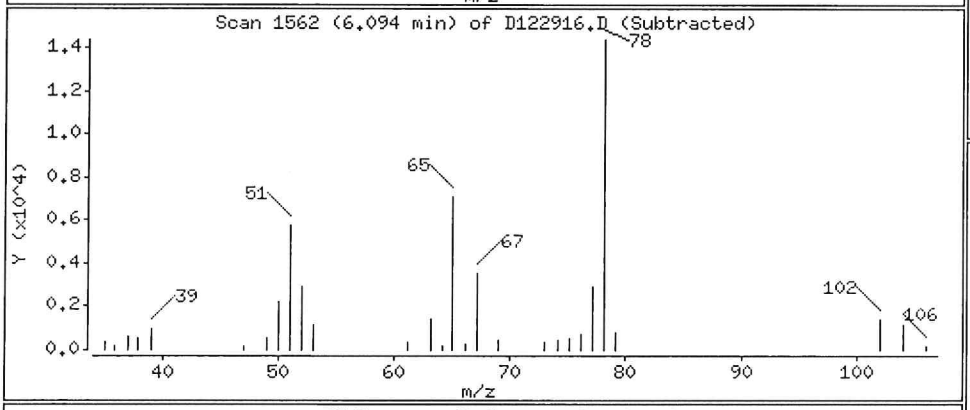
37 Benzene

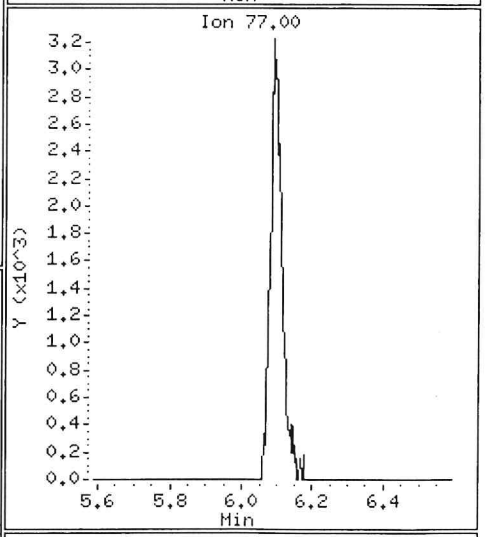
Concentration: 3.28 ug/l

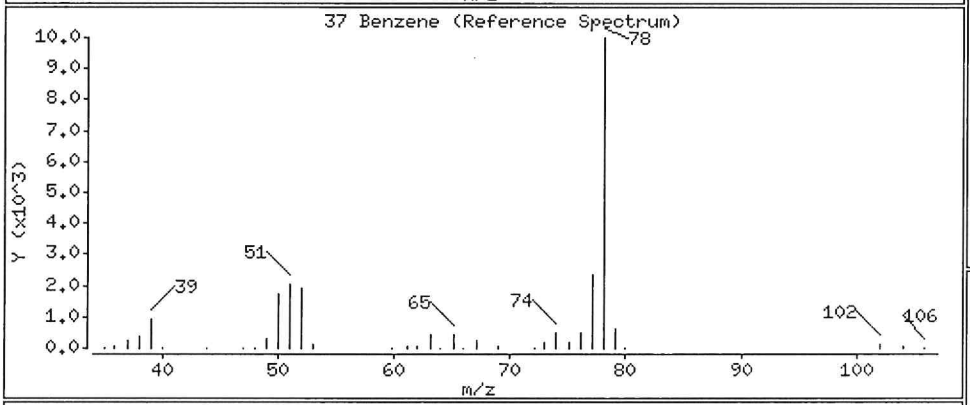
Review Code:

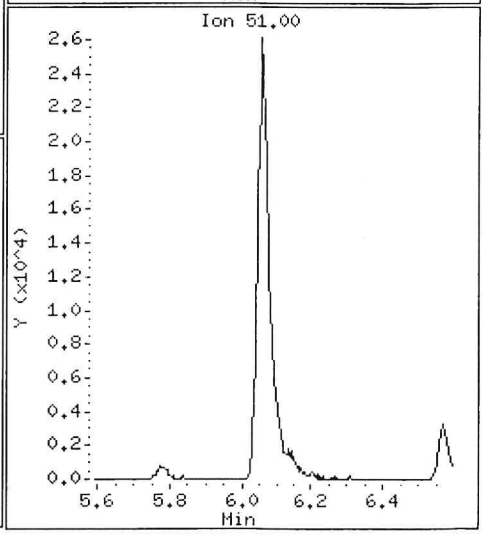


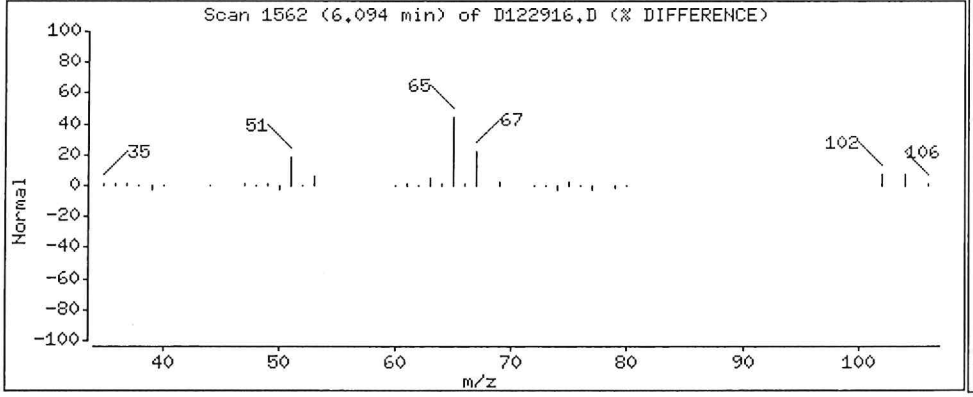












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122916.D

Date : 29-DEC-2017 19:22

Client ID: HS17121113-04

Instrument: VOA2.i

Sample Info: HS17121113-04;HS17121113-04;;;

Purge Volume: 5.0

Operator: AP

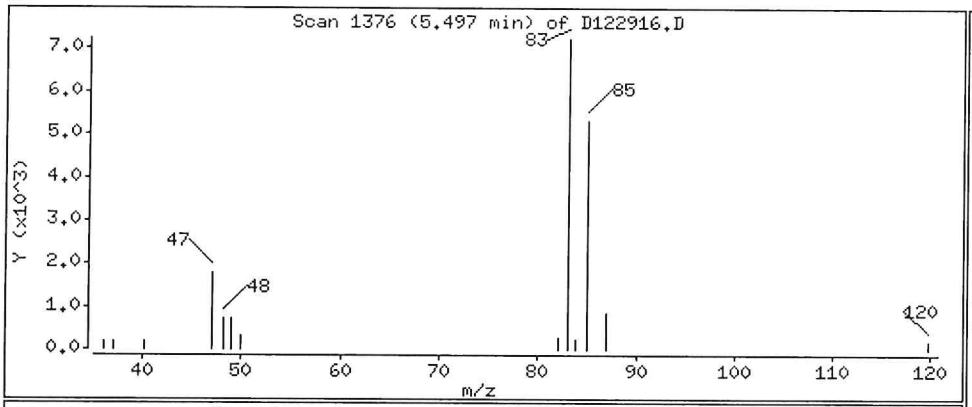
Column phase: DB624

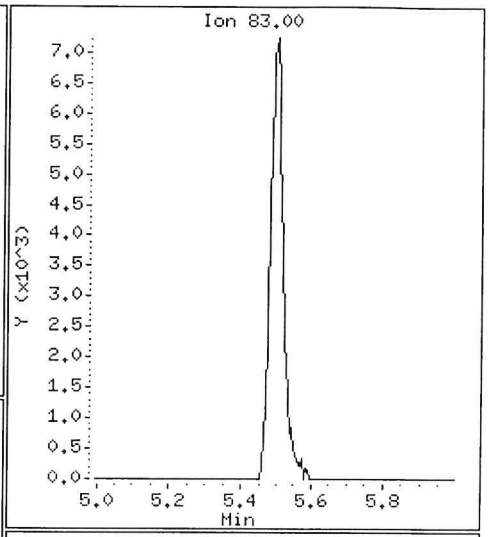
Column diameter: 0.18

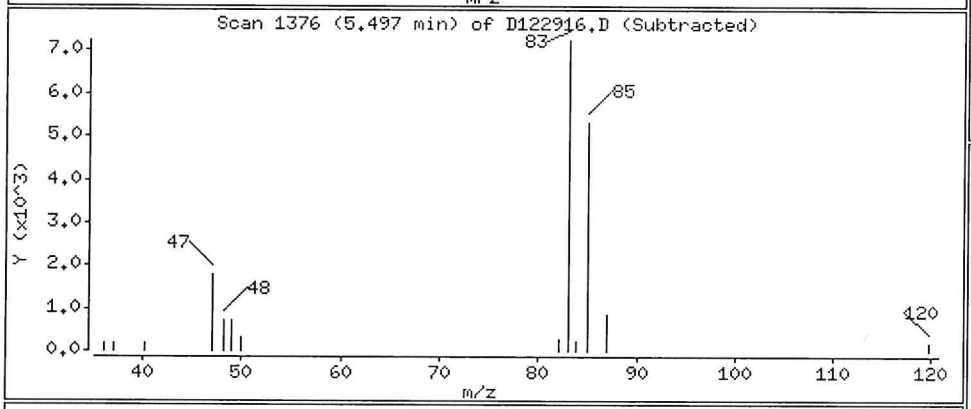
28 Chloroform

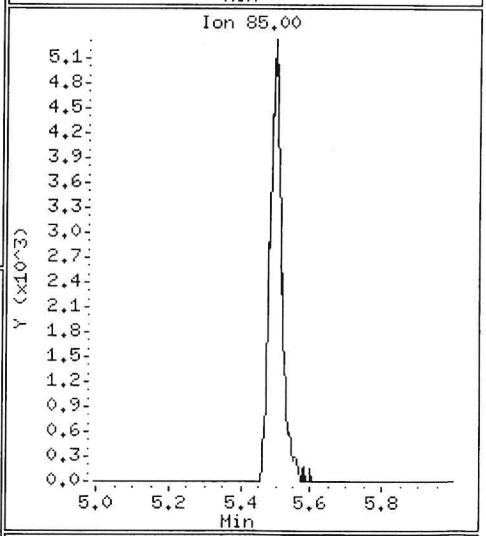
Concentration: 3.96 ug/l

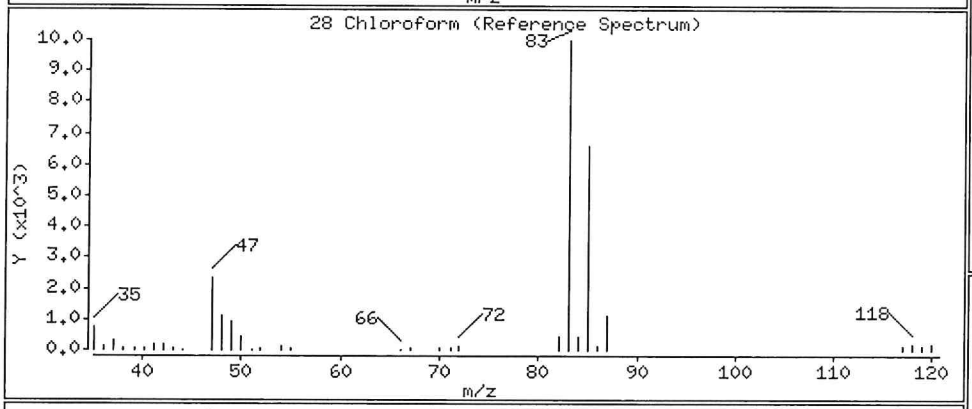
Review Code:

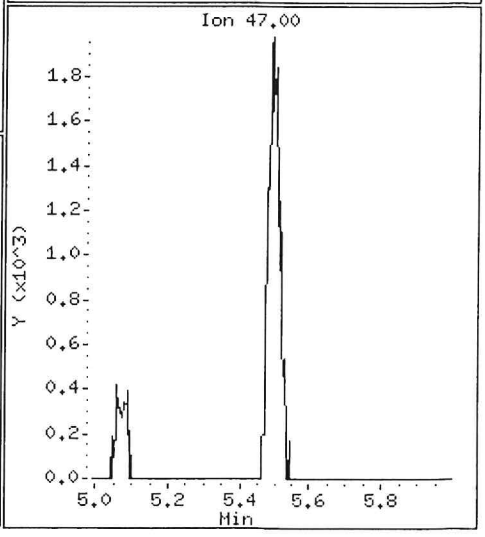


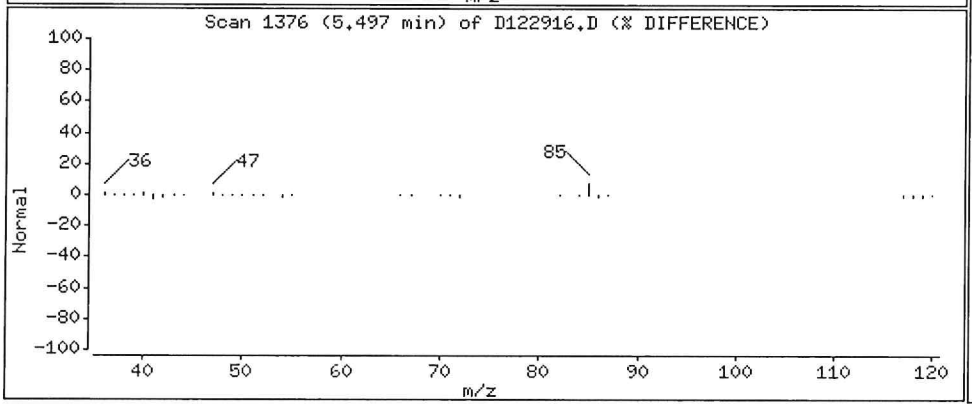












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Date : 29-DEC-2017 19:22

Client ID: HS17121113-04

Instrument: VOA2.i

Sample Info: HS17121113-04;HS17121113-04;;;

Purge Volume: 5.0

Operator: AP

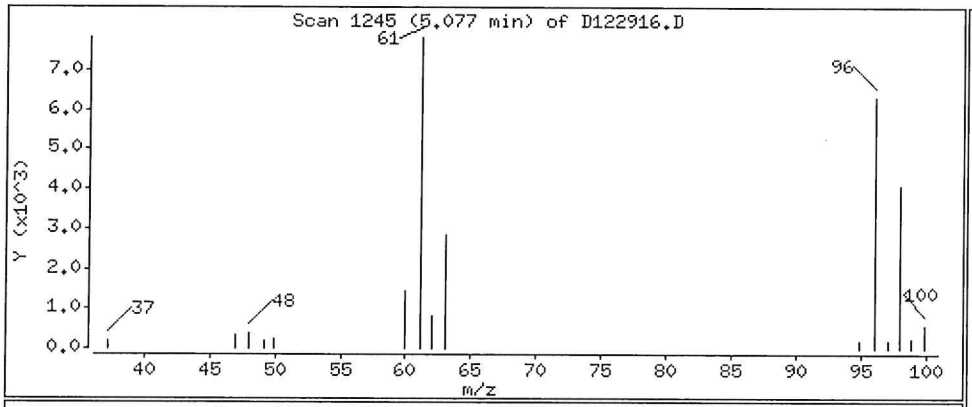
Column phase: DB624

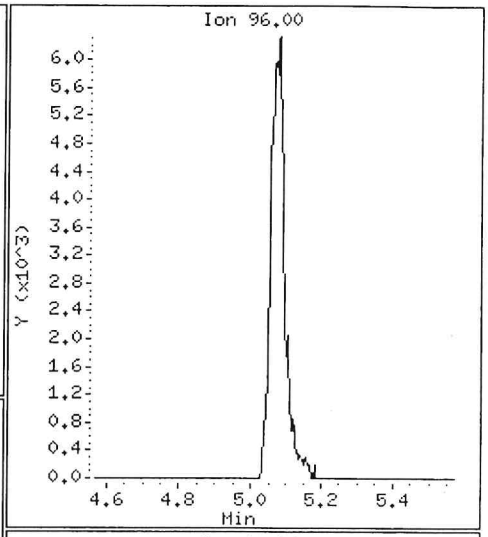
Column diameter: 0.18

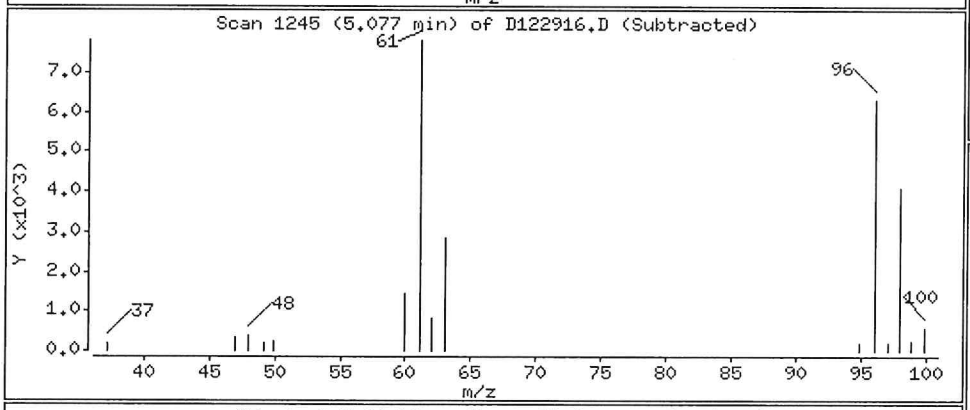
27 cis-1,2-Dichloroethene

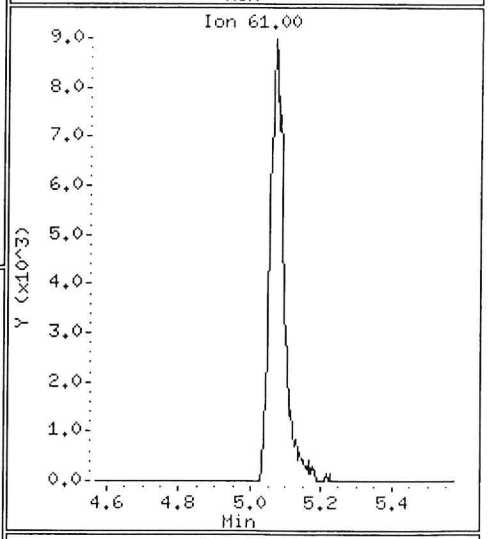
Concentration: 6.07 ug/l

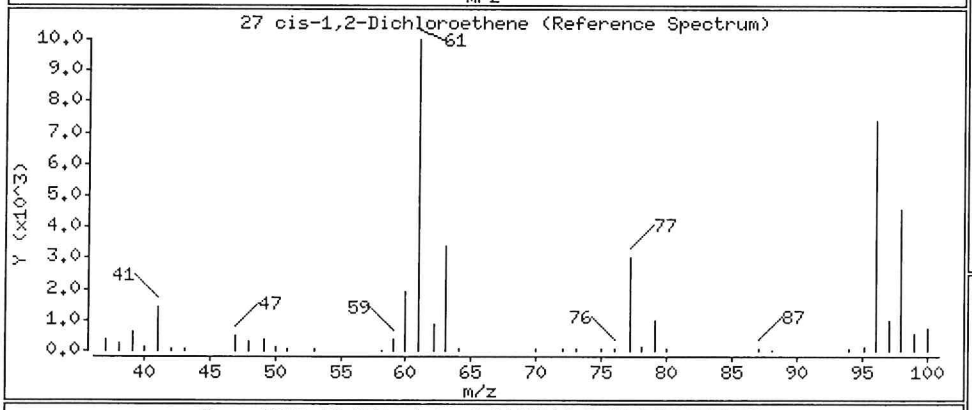
Review Code:

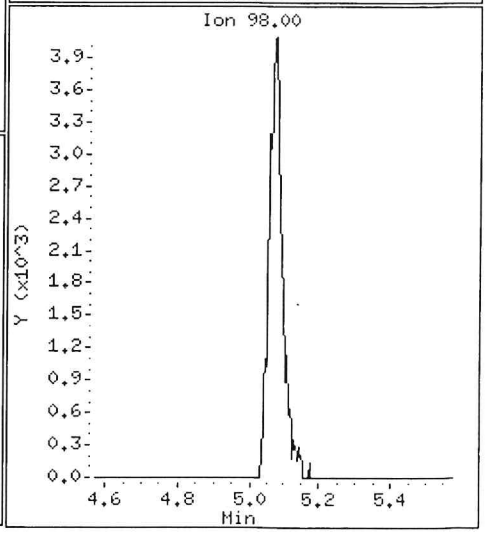


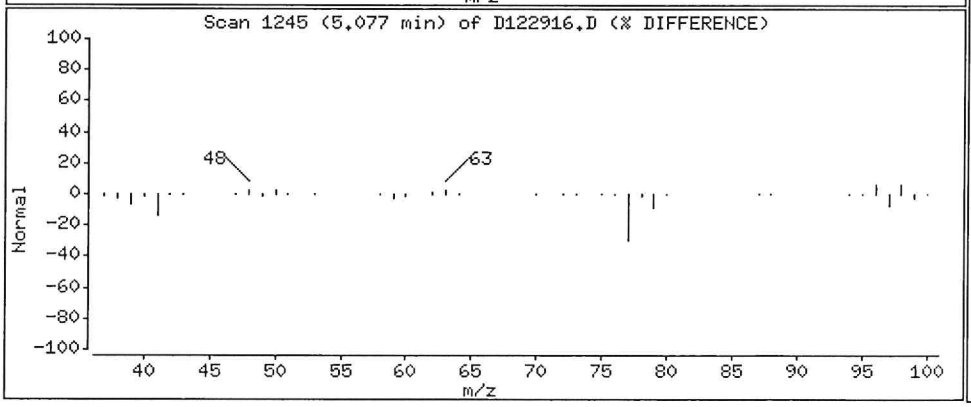












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122916.D

Date : 29-DEC-2017 19:22

Client ID: HS17121113-04

Instrument: VOA2.i

Sample Info: HS17121113-04;HS17121113-04;;;

Purge Volume: 5.0

Operator: AP

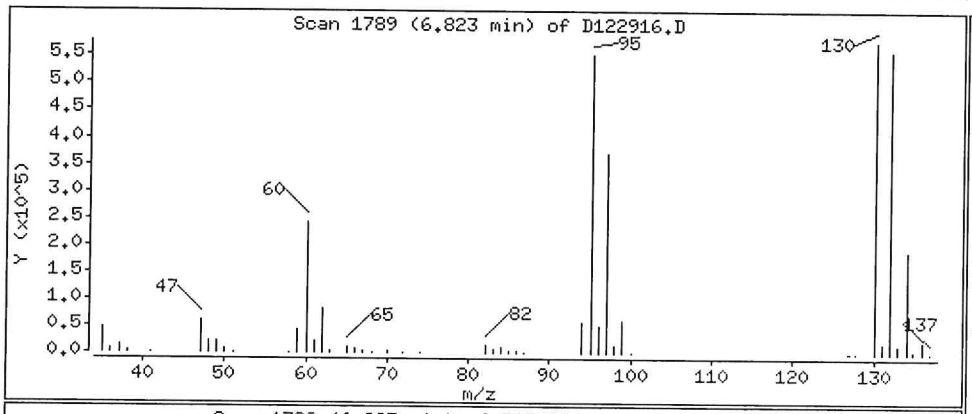
Column phase: DB624

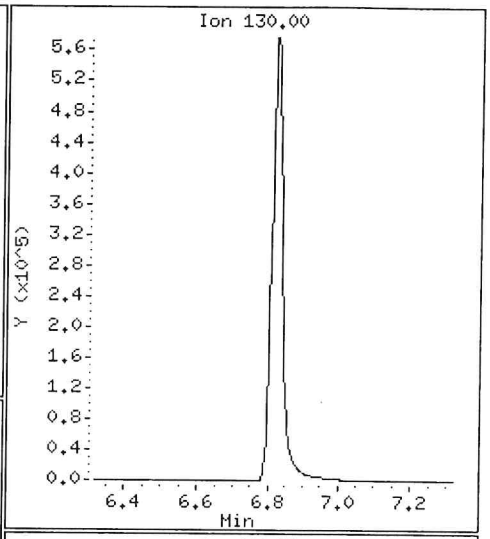
Column diameter: 0.18

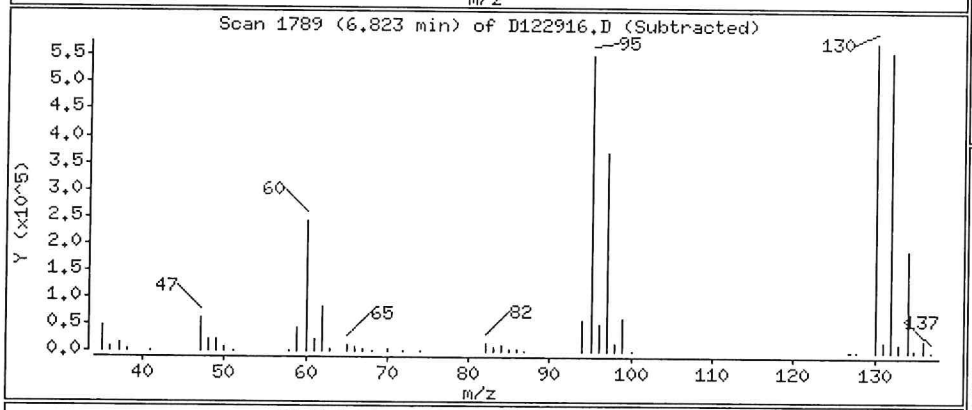
38 Trichloroethene

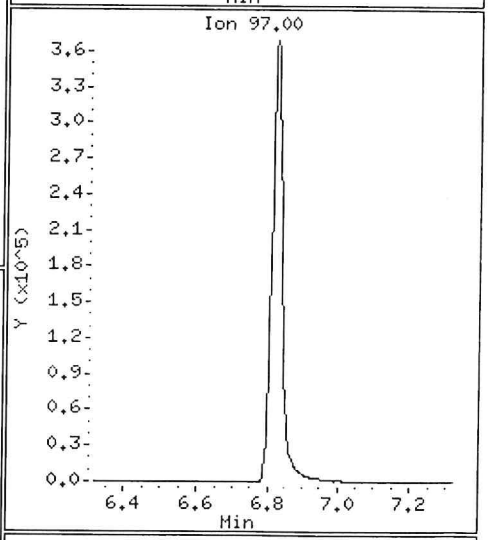
Concentration: 476.21 ug/l

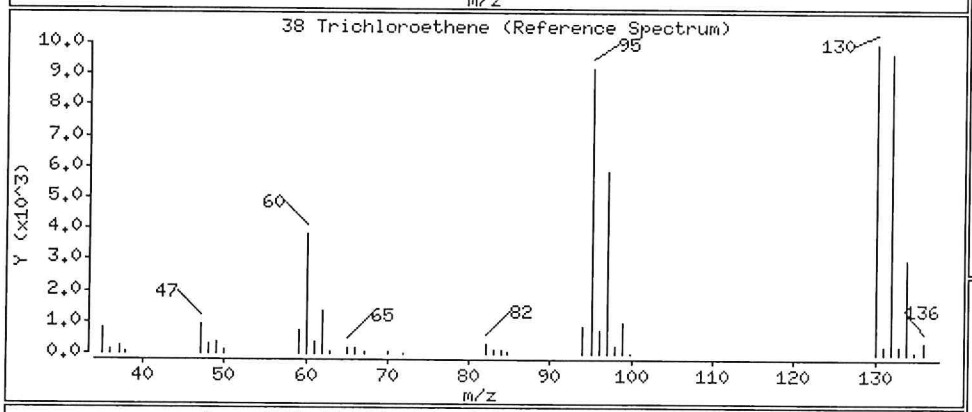
Review Code:

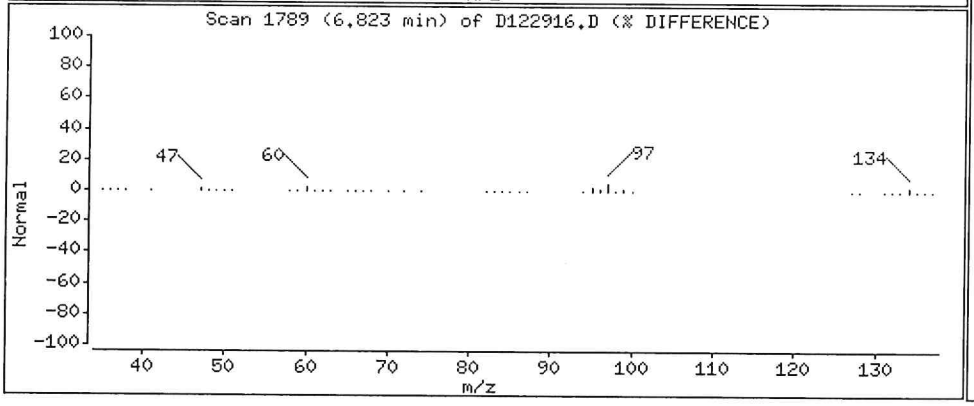


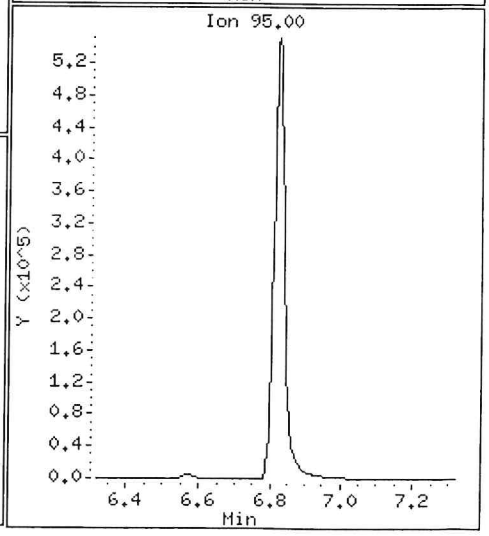












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122916.D

Date : 29-DEC-2017 19:22

Client ID: HS17121113-04

Instrument: VOA2.i

Sample Info: HS17121113-04;HS17121113-04;;;

Purge Volume: 5.0

Operator: AP

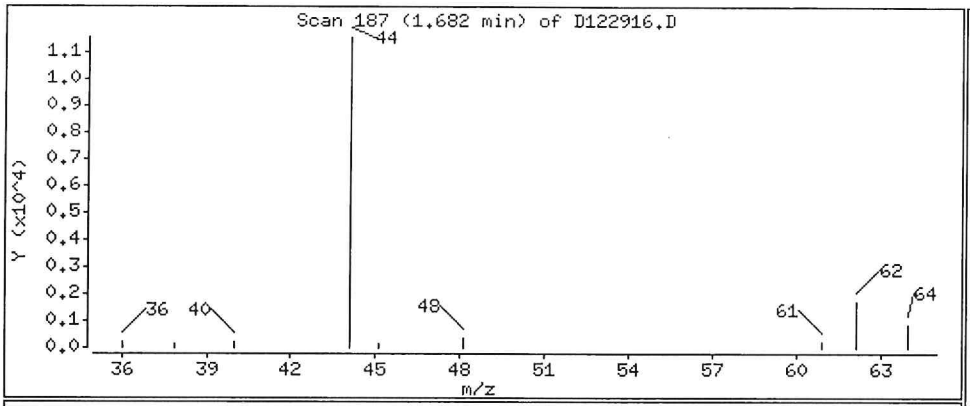
Column phase: DB624

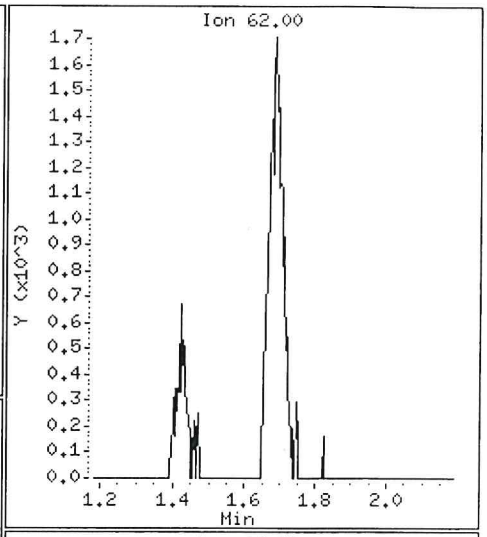
Column diameter: 0.18

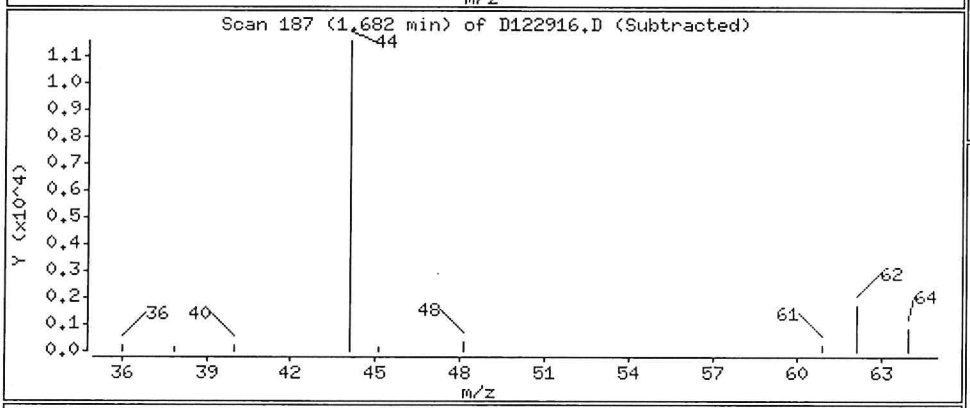
5 Vinyl Chloride

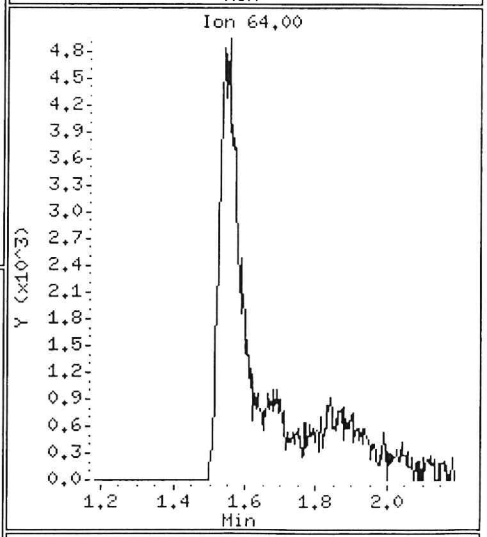
Concentration: 1.45 ug/l

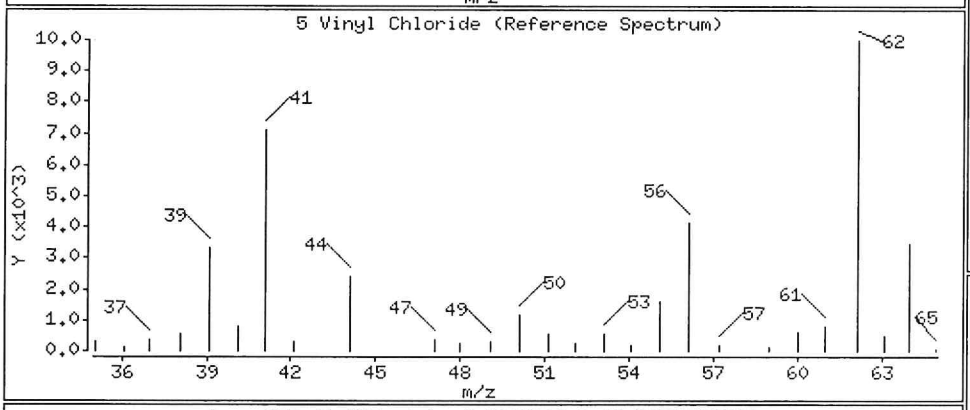
Review Code:

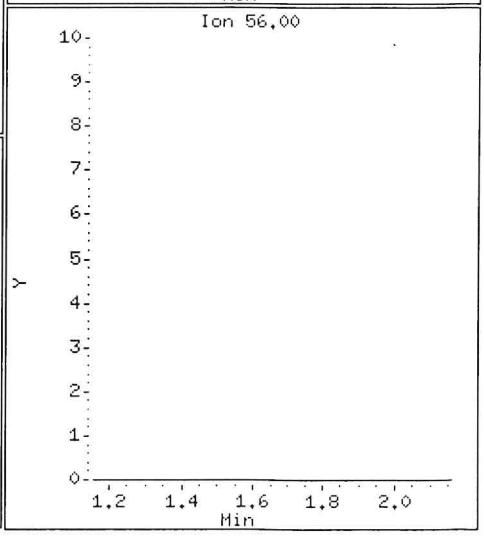


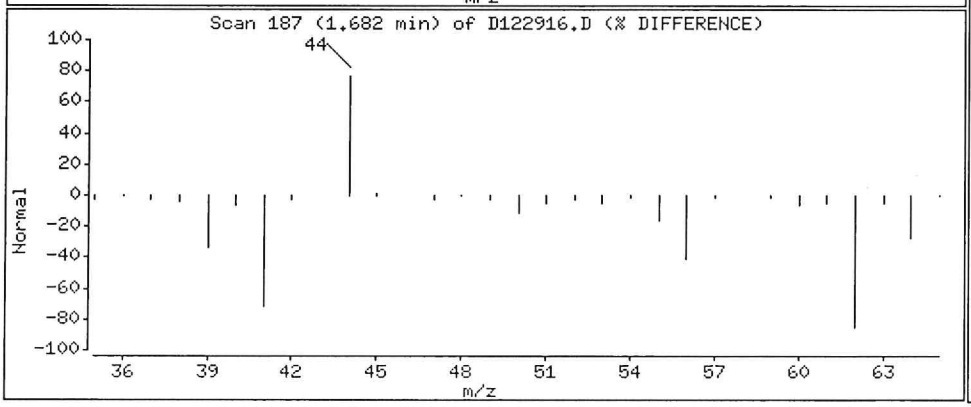












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Report Date: 09-Feb-2018 18:17

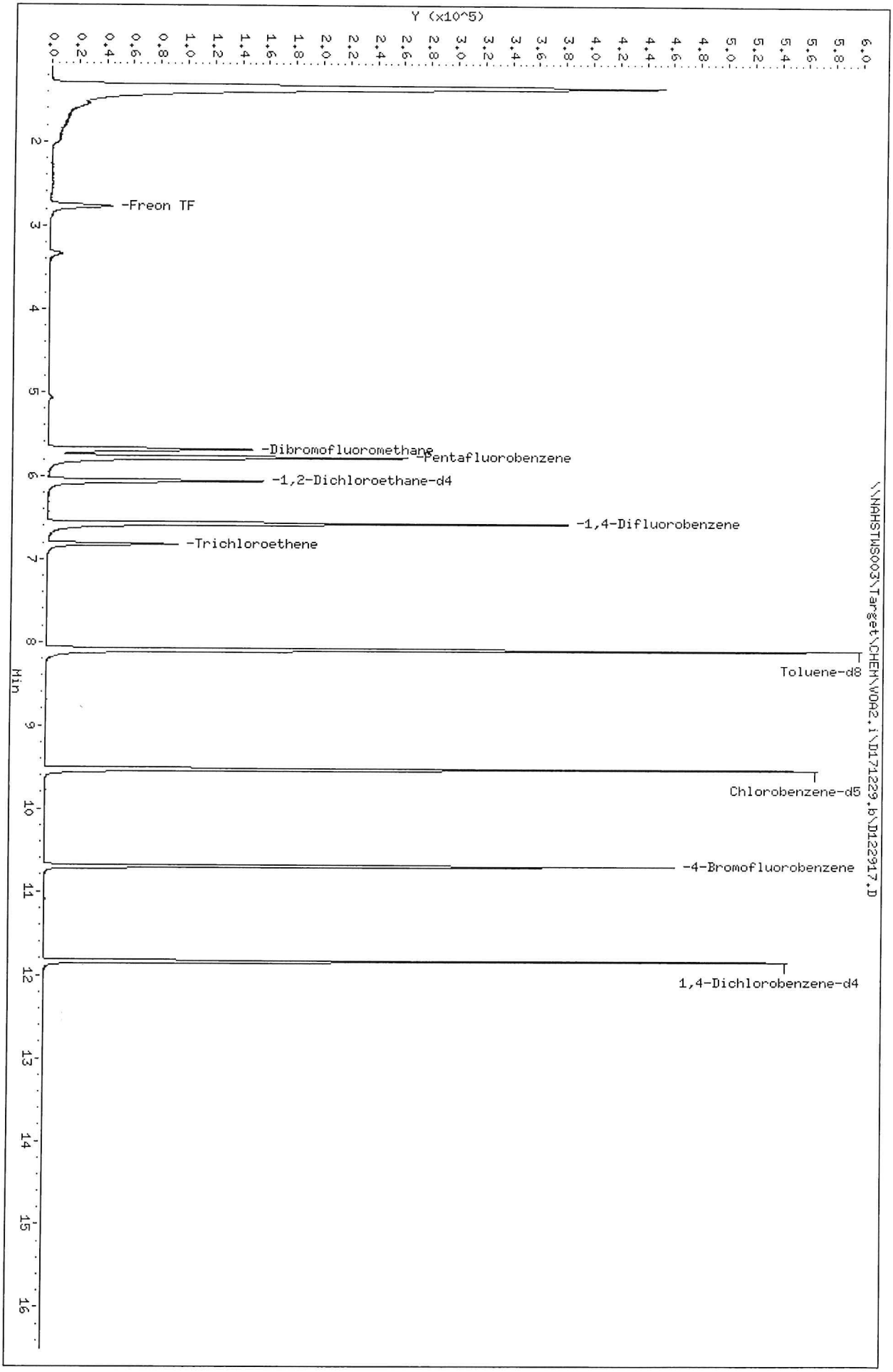
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122917.D
Lab Smp Id: HS17121113-05 Client Smp ID: HS17121113-05
Inj Date : 29-DEC-2017 19:47
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-05;HS17121113-05;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.782	5.783	(1.000)	261749	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	117901	49.9943	49.99
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	371361	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	133294	45.7641	45.76
*	47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	338132	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	428276	48.0391	48.03
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	155899	47.8873	47.88
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	145409	50.0000	
	38 Trichloroethene	130	6.819	6.819	(1.038)	37998	13.8145	13.81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Date : 29-DEC-2017 19:47
Client ID: HS171211113-05
Sample Info: HS171211113-05;HS171211113-05;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Freon TF
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
-Trichloroethene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122917.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122917.D

Date : 29-DEC-2017 19:47

Client ID: HS17121113-05

Instrument: VOA2.i

Sample Info: HS17121113-05;HS17121113-05;;;

Purge Volume: 5.0

Operator: AP

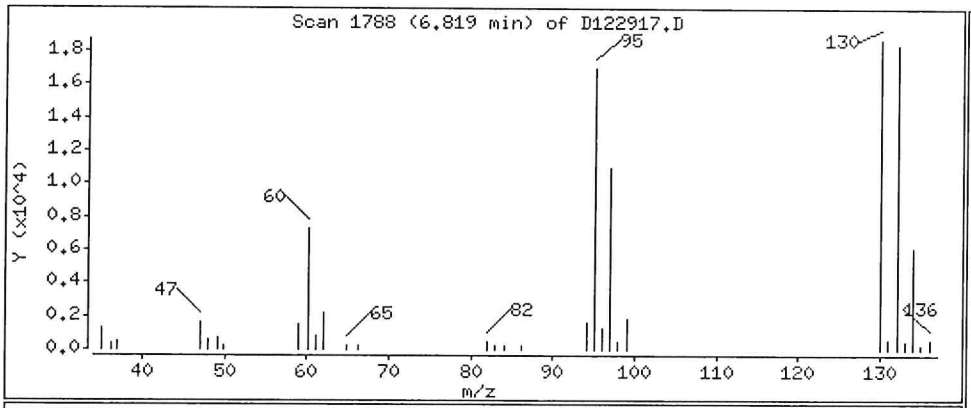
Column phase: DB624

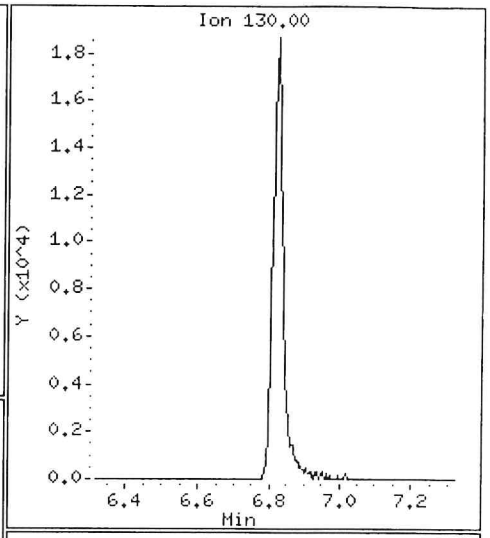
Column diameter: 0.18

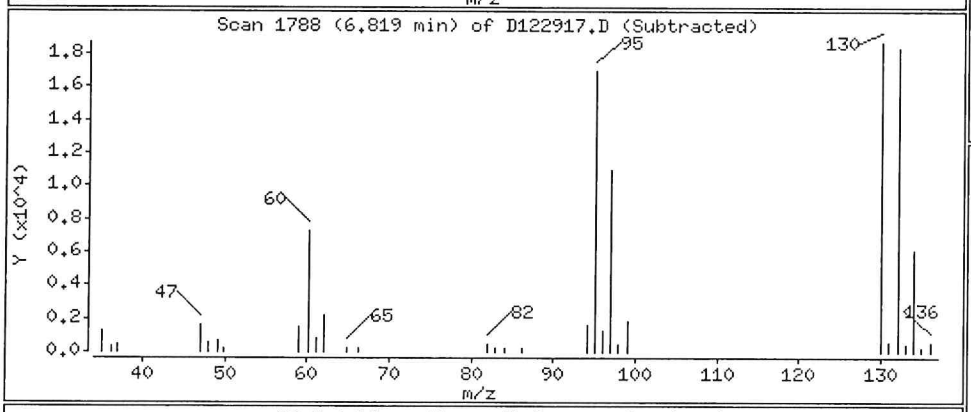
38 Trichloroethene

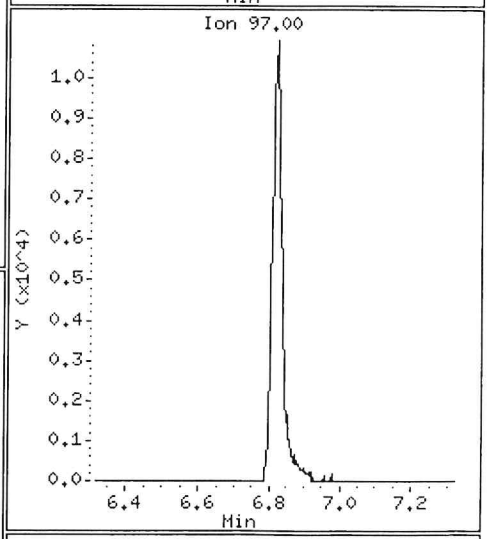
Concentration: 13.81 ug/l

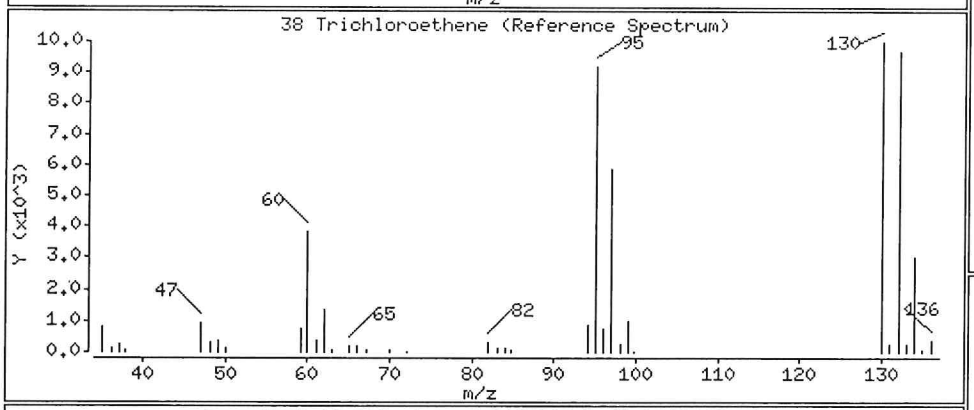
Review Code:

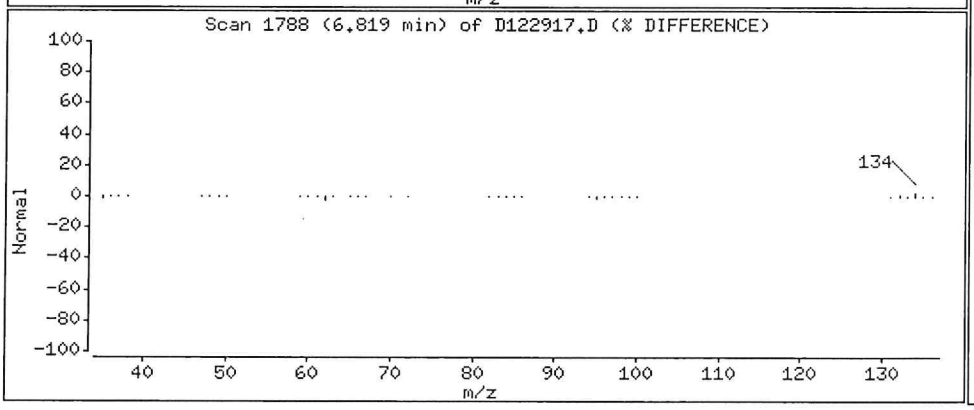


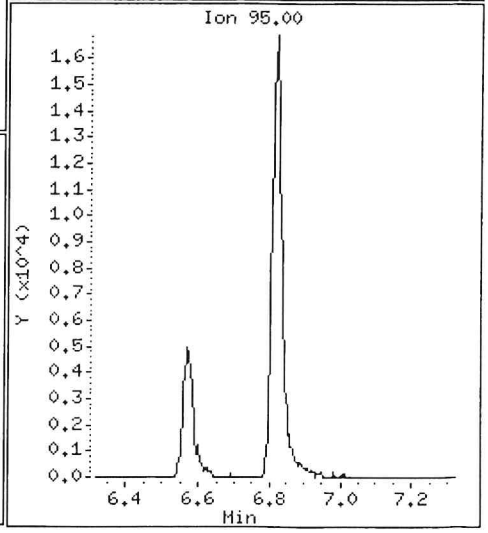












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122918.D
Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122918.D
Lab Smp Id: HS17121113-06 Client Smp ID: HS17121113-06
Inj Date : 29-DEC-2017 20:12
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-06;HS17121113-06;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

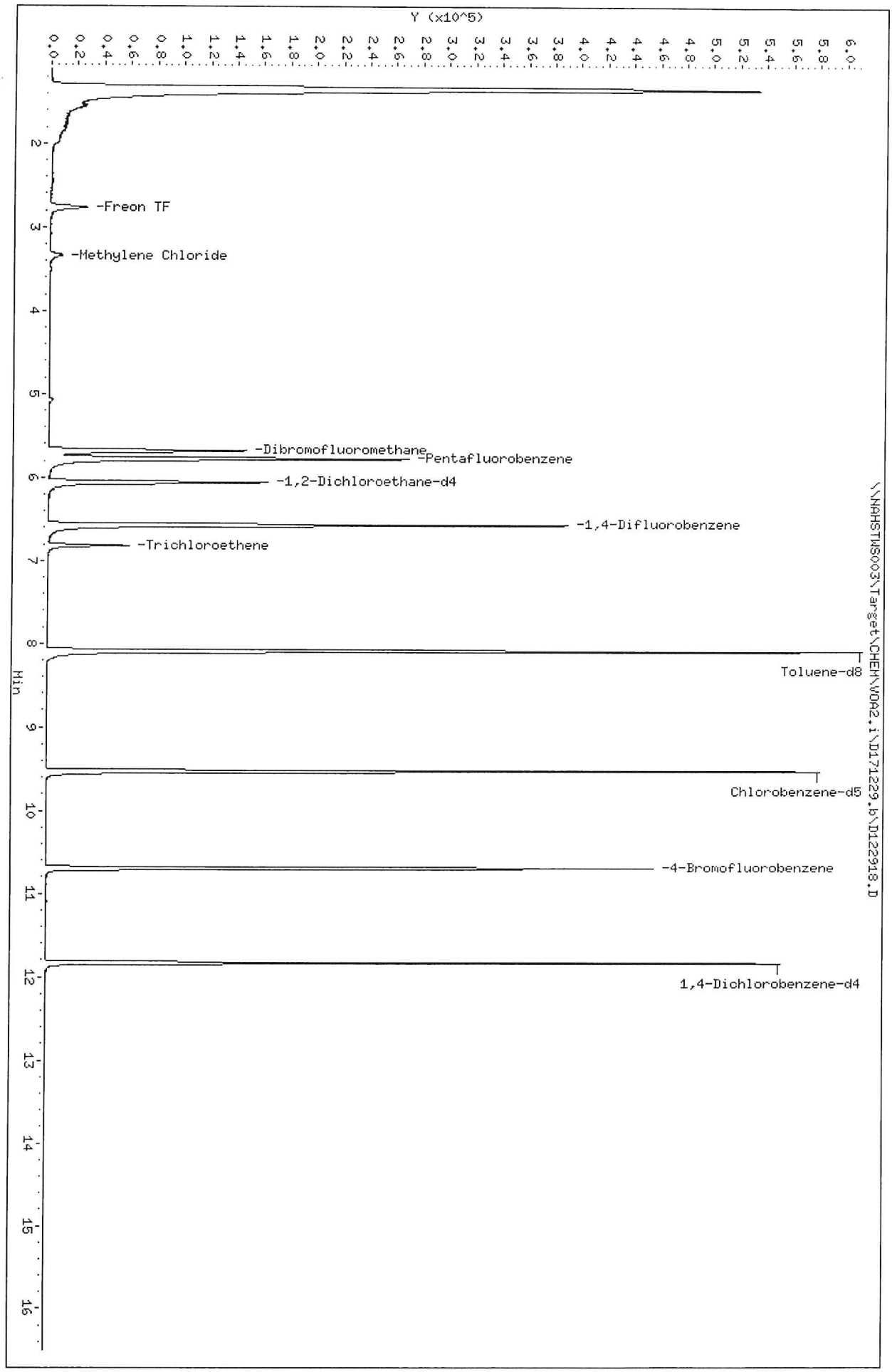
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.783	(1.000)	258378	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	114659	49.2539	49.25
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	372952	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.049)	131596	45.7706	45.77
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	334109	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	425239	48.2728	48.27
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	153802	47.8120	47.81
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	146596	50.0000	
17 Methylene Chloride	84	3.340	3.337	(0.578)	7013	2.47977	2.47(a)
38 Trichloroethene	130	6.816	6.819	(1.038)	23679	8.57201	8.57

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\WOA2,i\D171229,b\D122918.D
Date : 29-DEC-2017 20:12
Client ID: HS17121113-06
Sample Info: HS17121113-06;HS17121113-06;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: WOA2,i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122918.D

Date : 29-DEC-2017 20:12

Client ID: HS17121113-06

Instrument: VOA2.i

Sample Info: HS17121113-06;HS17121113-06;;;

Purge Volume: 5.0

Operator: AP

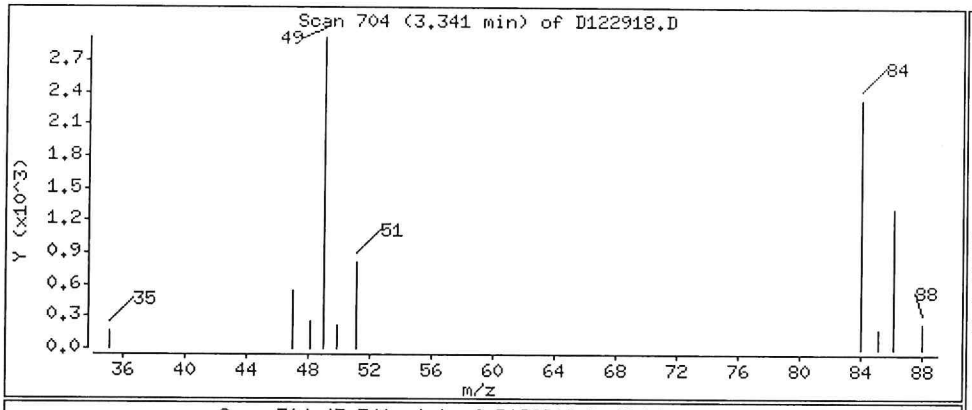
Column phase: DB624

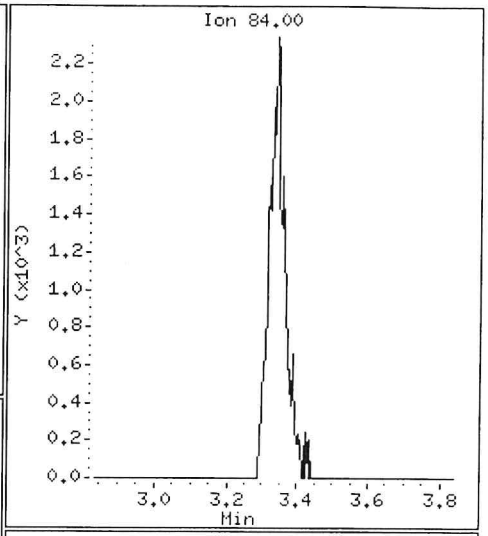
Column diameter: 0.18

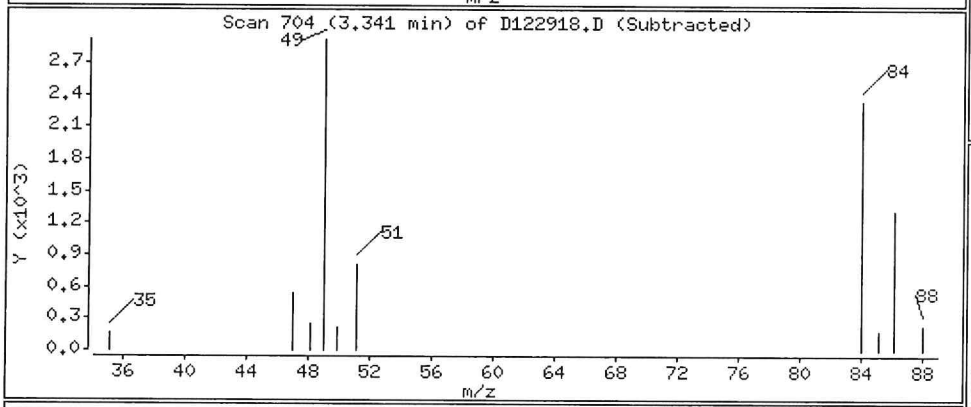
17 Methylene Chloride

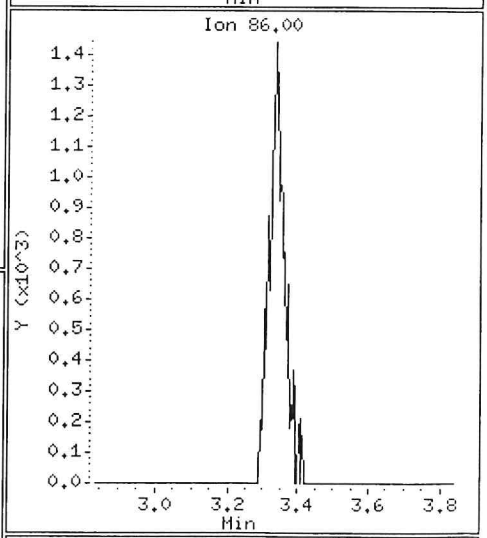
Concentration: 2.47 ug/l

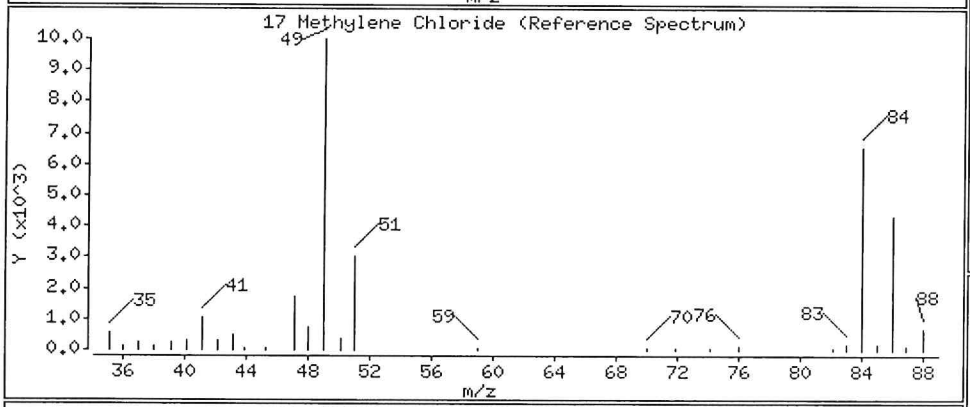
Review Code:

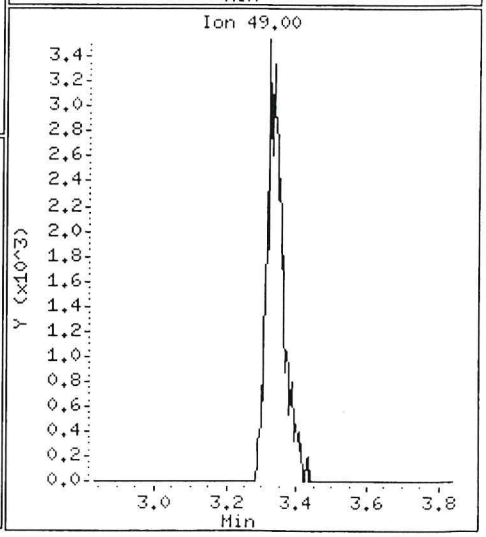


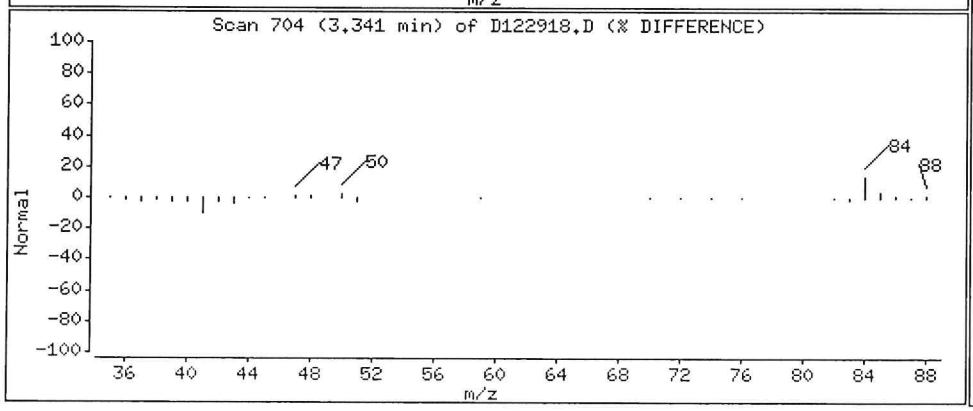












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Date : 29-DEC-2017 20:12

Client ID: HS17121113-06

Instrument: VOA2.i

Sample Info: HS17121113-06;HS17121113-06;;;

Purge Volume: 5.0

Operator: AP

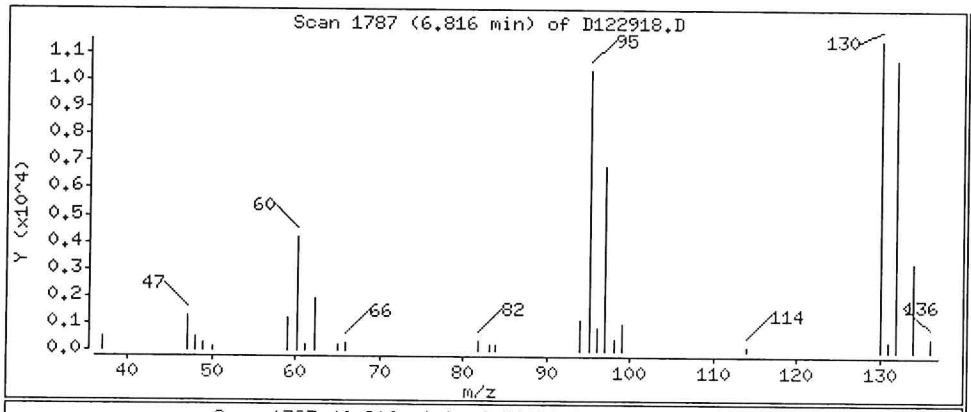
Column phase: DB624

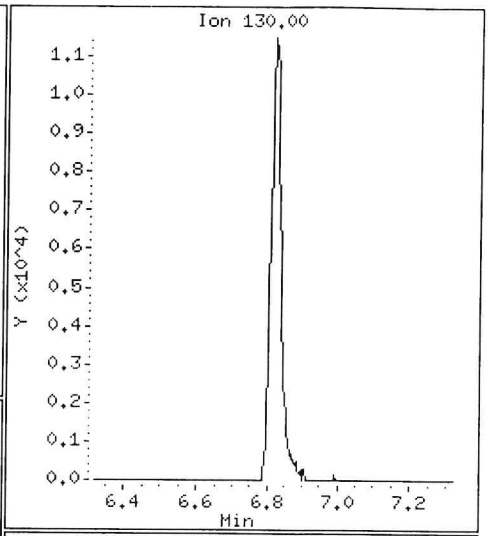
Column diameter: 0.18

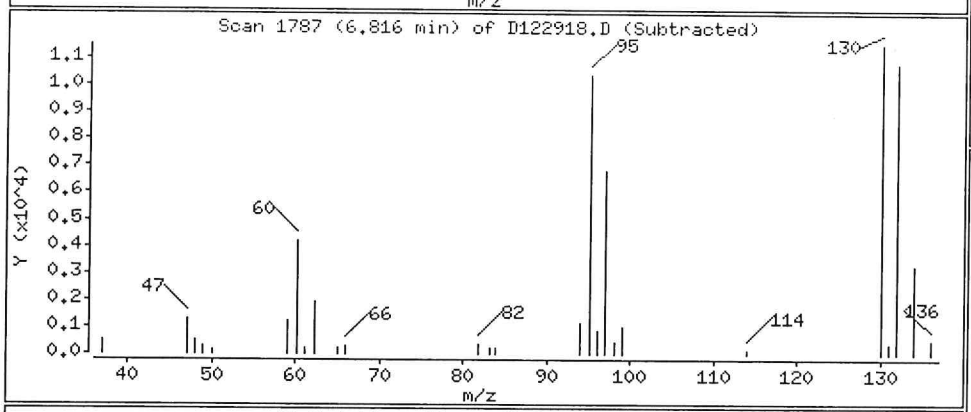
38 Trichloroethene

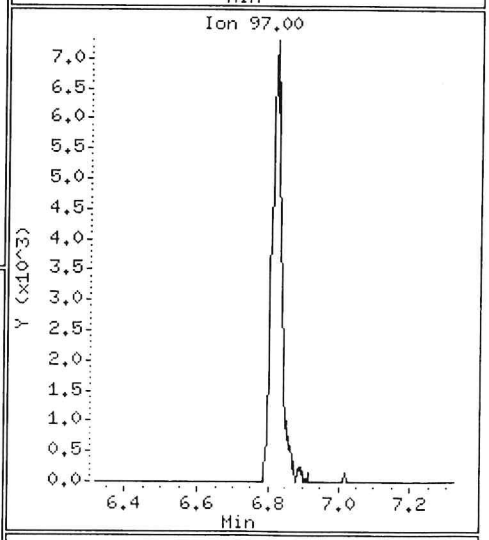
Concentration: 8.57 ug/l

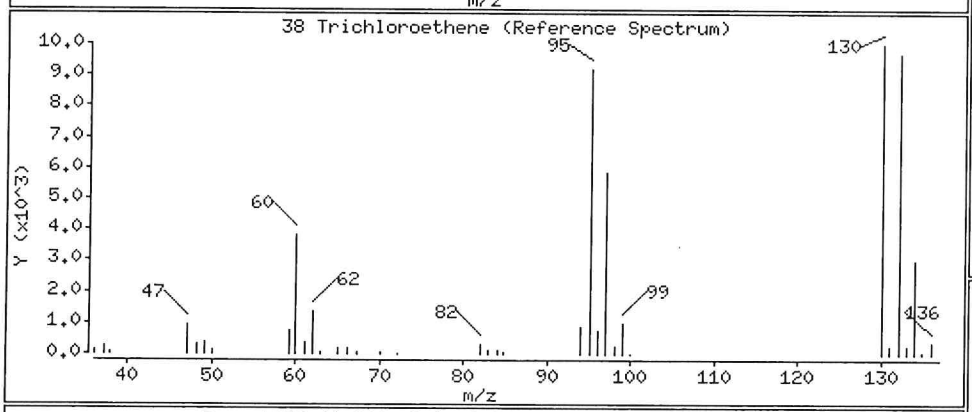
Review Code:

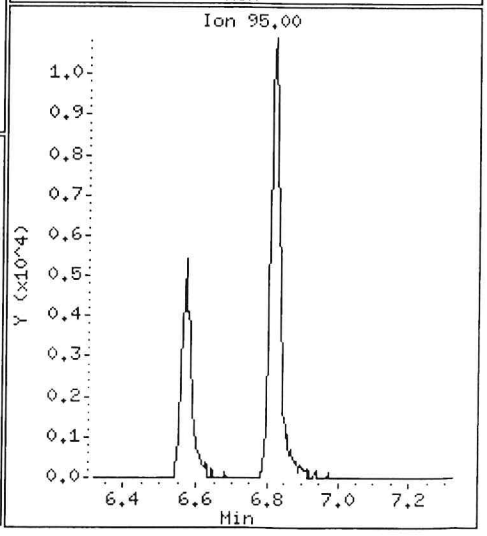


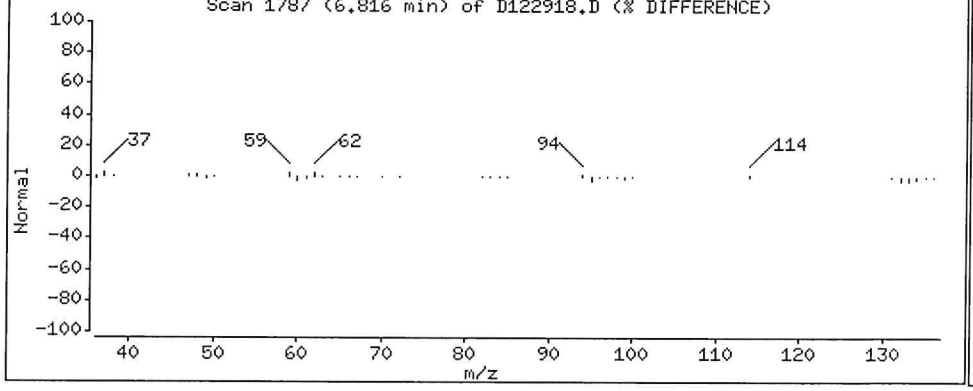












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Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122919.D
Lab Smp Id: HS17121113-08 Client Smp ID: HS17121113-08
Inj Date : 29-DEC-2017 20:36
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-08;HS17121113-08;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 19
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

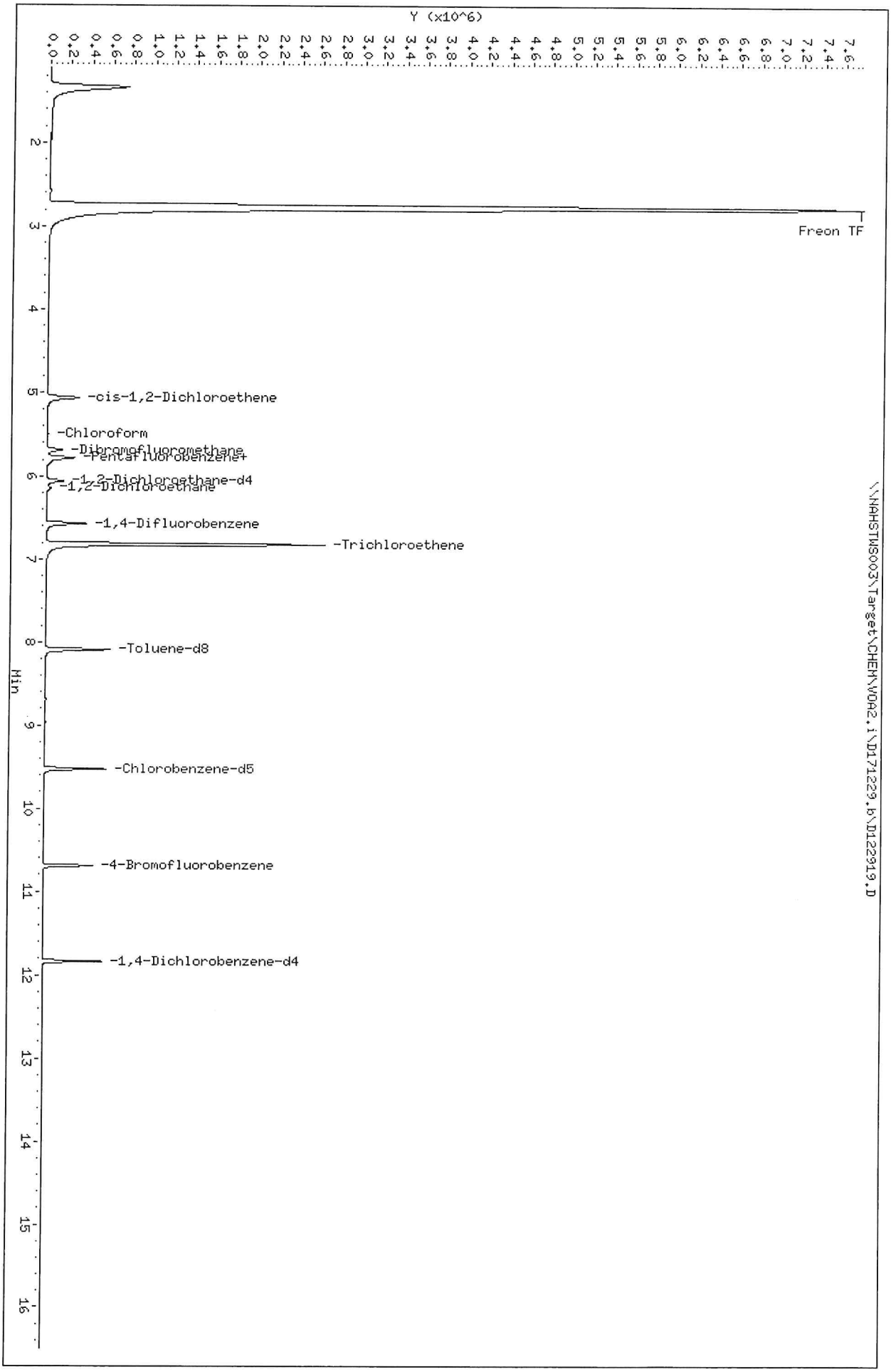
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.783	(1.000)	250369	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.686	(0.984)	111907	49.6095	49.60
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	365401	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.049)	132344	47.5032	47.50
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	335864	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	420855	47.5255	47.52
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	156810	48.4924	48.49
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	148595	50.0000	
33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	39712	12.2334	12.23
34 Carbon Tetrachloride	117	5.831	5.834	(0.887)	21225	6.11528	6.11(M)
28 Chloroform	83	5.490	5.497	(0.951)	6934	1.51908	1.51(a)
27 cis-1,2-Dichloroethene	96	5.067	5.070	(0.877)	193663	67.9901	67.99
38 Trichloroethene	130	6.822	6.819	(1.038)	1086970	401.624	401.62(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.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Date : 29-DEC-2017 20:36
Client ID: HS17121113-08
Sample Info: HS17121113-08;HS17121113-08;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122919.D
Freon TF
-cis-1,2-Dichloroethene
-Chloroform
-Dibromofluoromethane
-Pentafluorobenzene+
-1,2-Dichloroethane-d4
-1,2-Dichloroethane
-1,4-Difluorobenzene
-Trichloroethene
-Toluene-d8
-Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122919.D

Date : 29-DEC-2017 20:36

Client ID: HS17121113-08

Instrument: VOA2.i

Sample Info: HS17121113-08;HS17121113-08;;;

Purge Volume: 5.0

Operator: AP

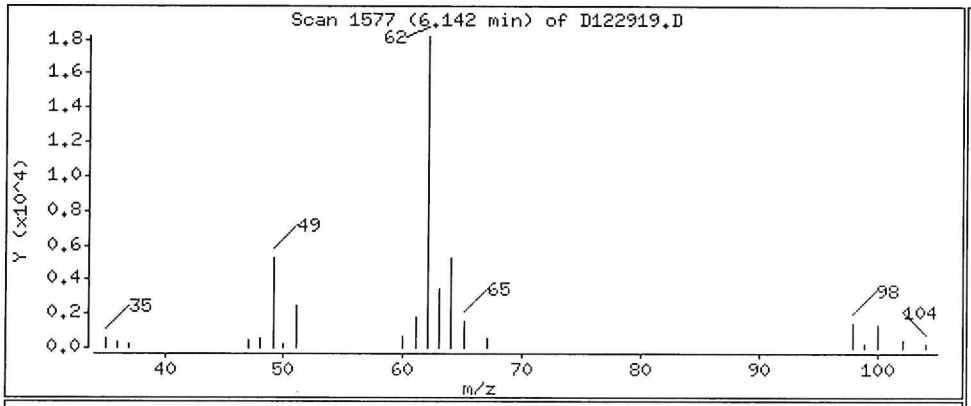
Column phase: DB624

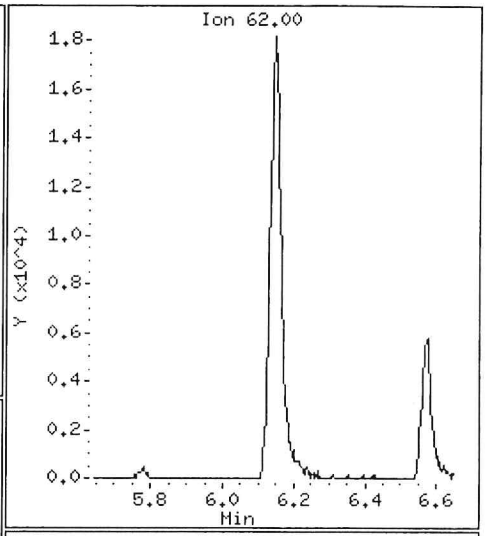
Column diameter: 0.18

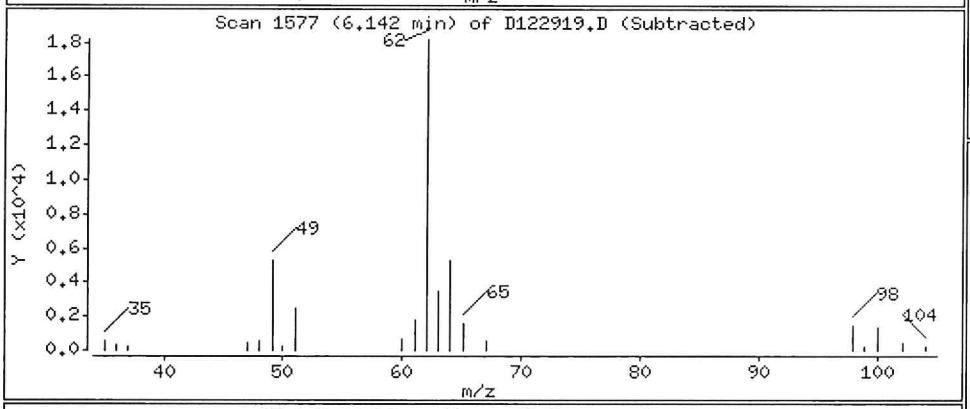
33 1,2-Dichloroethane

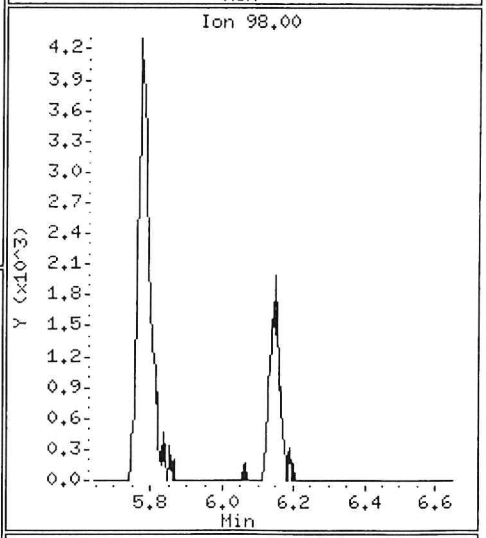
Concentration: 12.23 ug/l

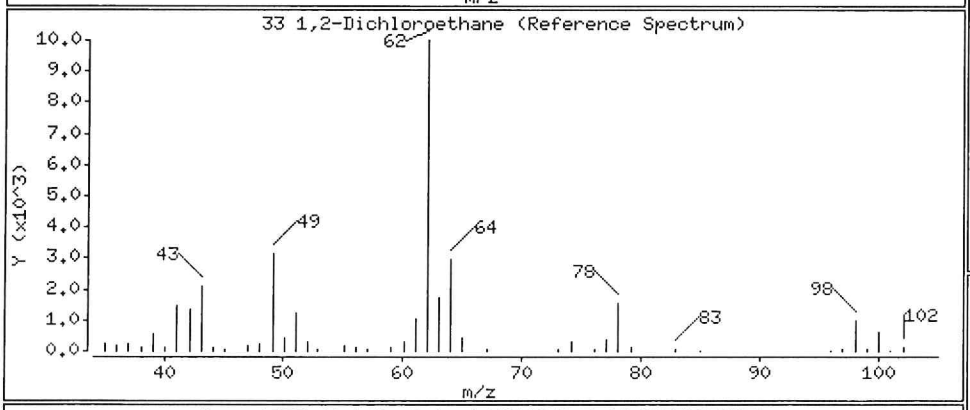
Review Code:

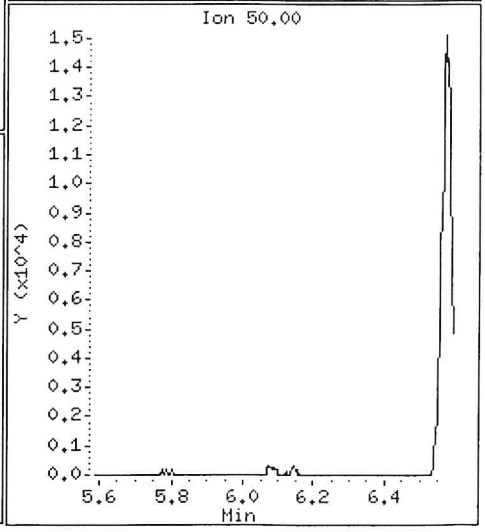


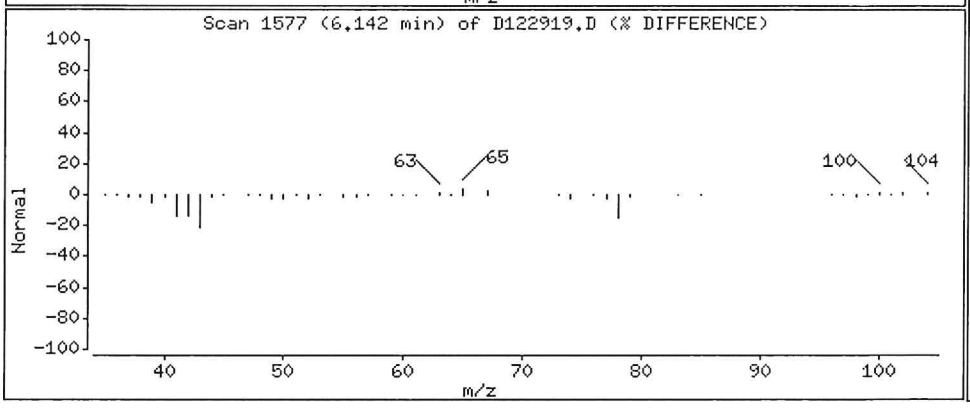












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122919.D

Date : 29-DEC-2017 20:36

Client ID: HS17121113-08

Instrument: VOA2.i

Sample Info: HS17121113-08;HS17121113-08;;;

Purge Volume: 5.0

Operator: AP

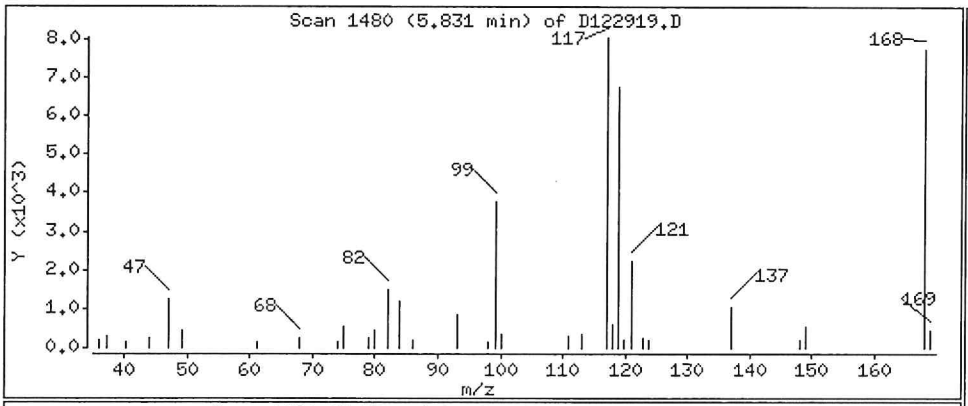
Column phase: DB624

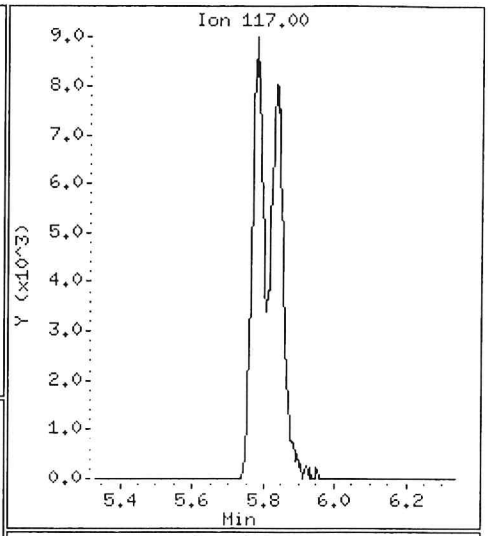
Column diameter: 0.18

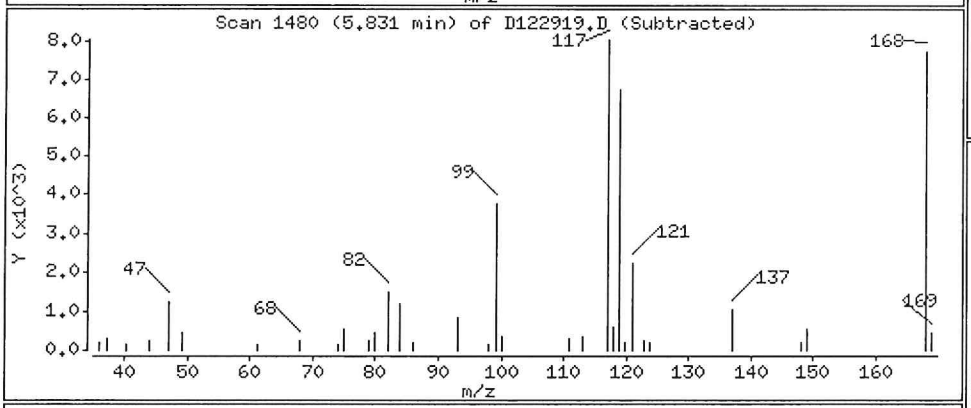
34 Carbon Tetrachloride

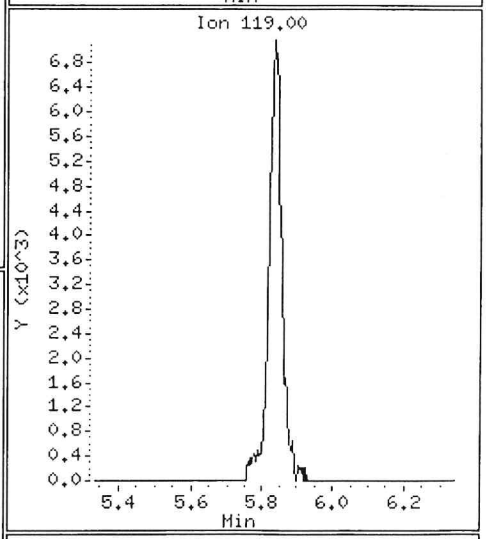
Concentration: 6.11 ug/l

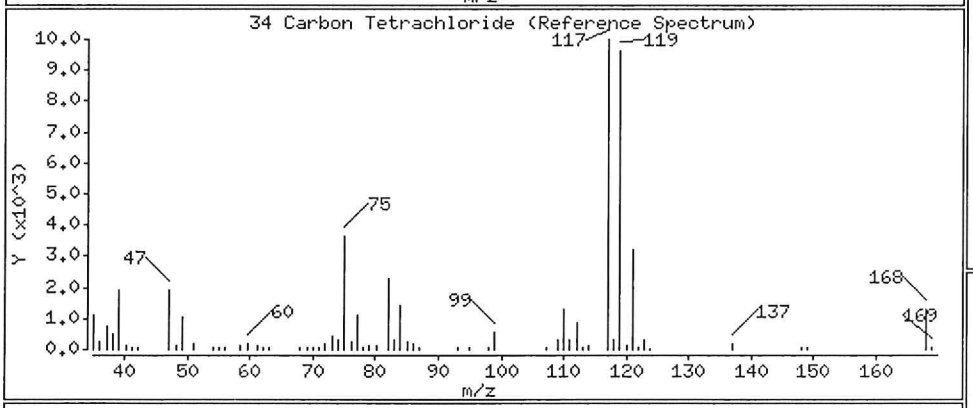
Review Code:

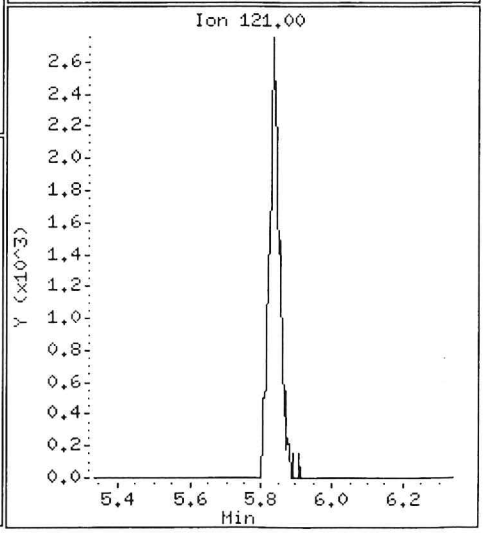


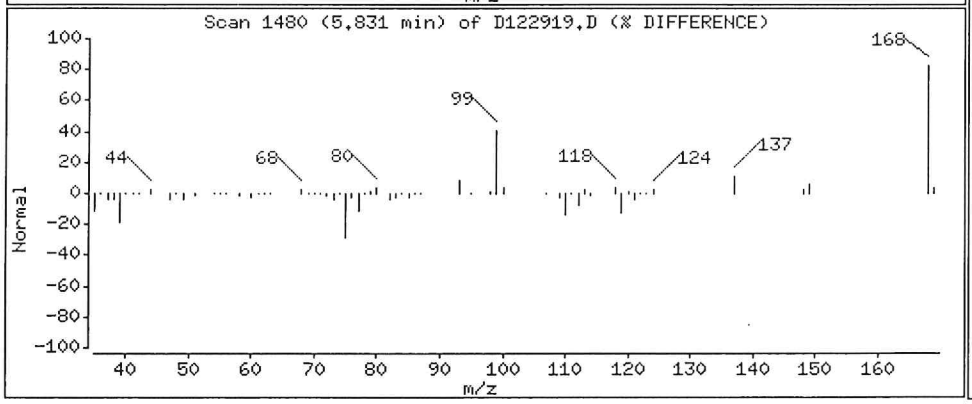












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122919.D

Date : 29-DEC-2017 20:36

Client ID: HS17121113-08

Instrument: VOA2.i

Sample Info: HS17121113-08;HS17121113-08;;;

Purge Volume: 5.0

Operator: AP

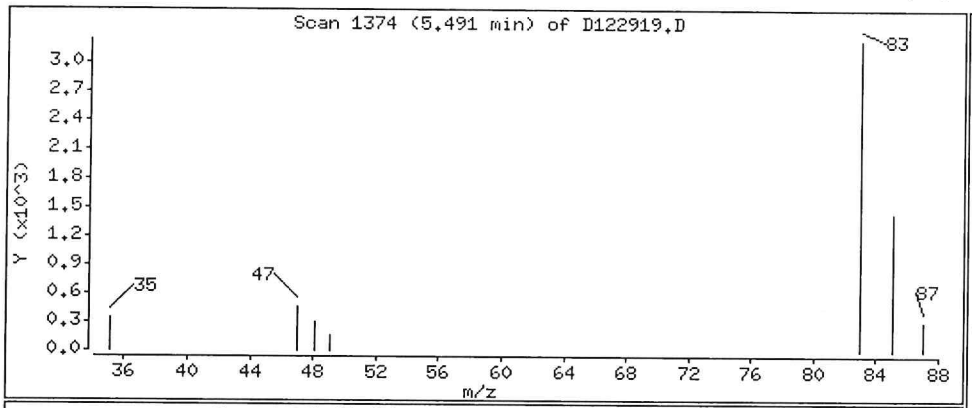
Column phase: DB624

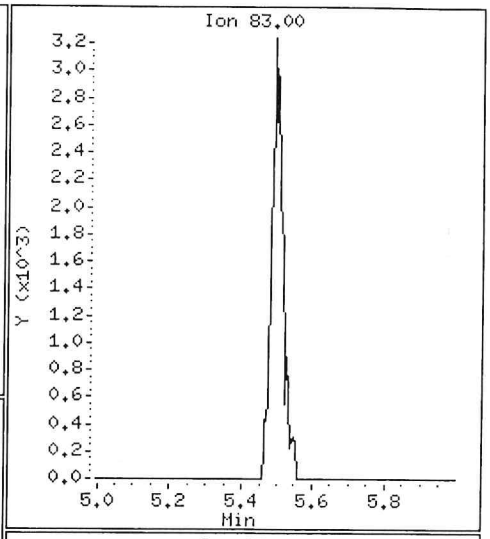
Column diameter: 0.18

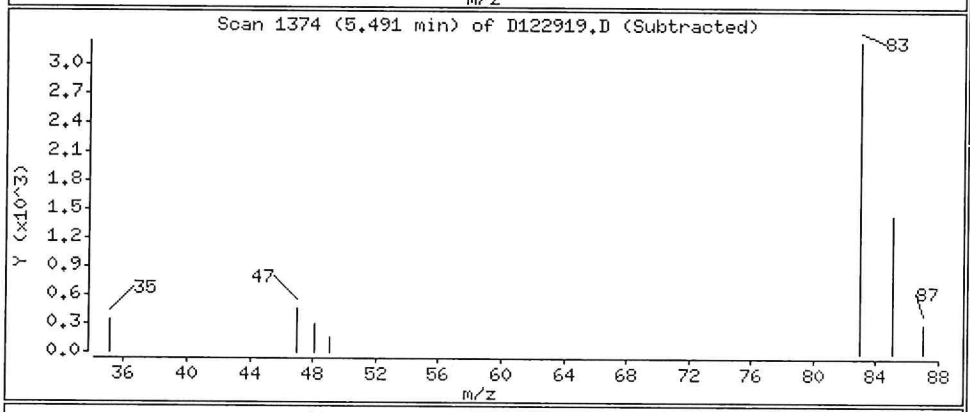
28 Chloroform

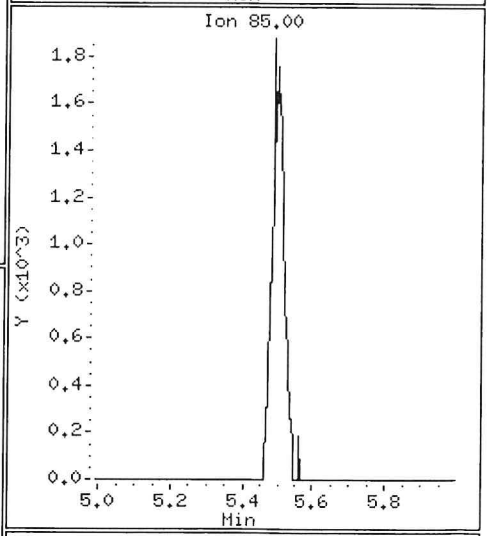
Concentration: 1.51 ug/l

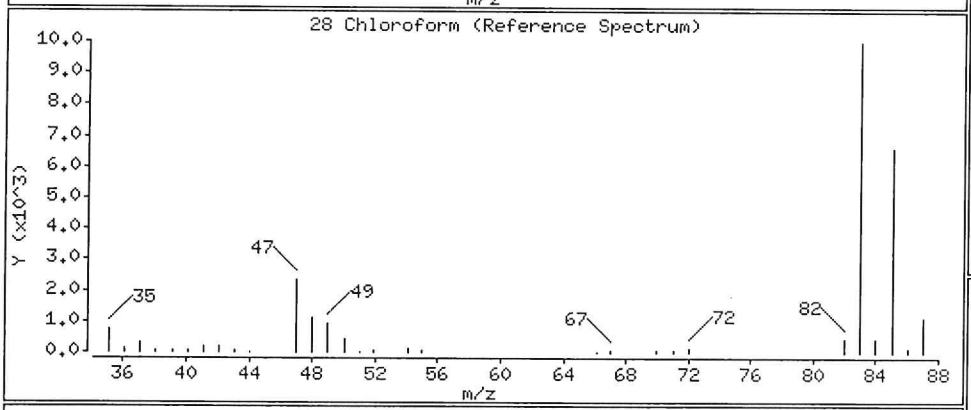
Review Code:

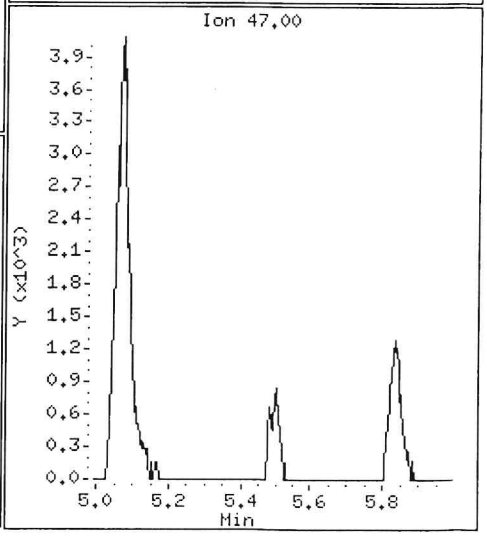


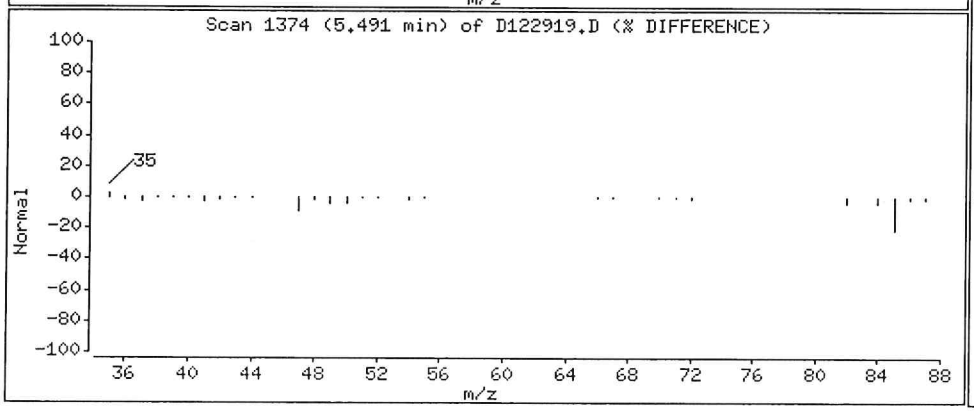












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122919.D

Date : 29-DEC-2017 20:36

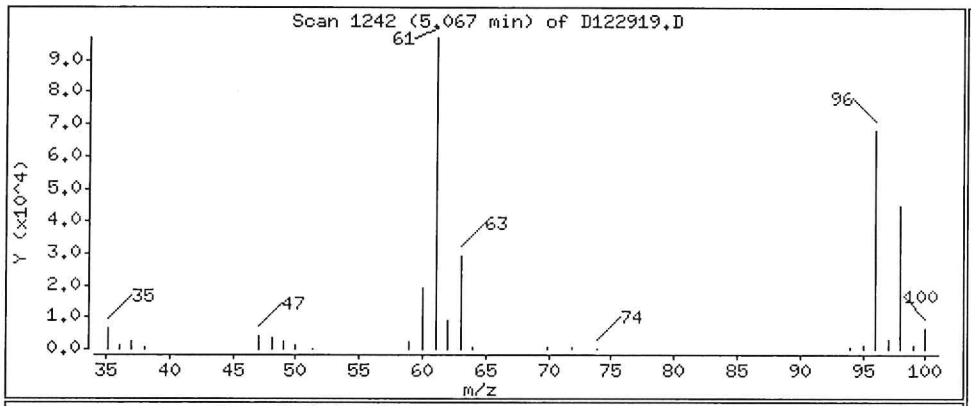
Client ID: HS17121113-08 Instrument: VOA2.i

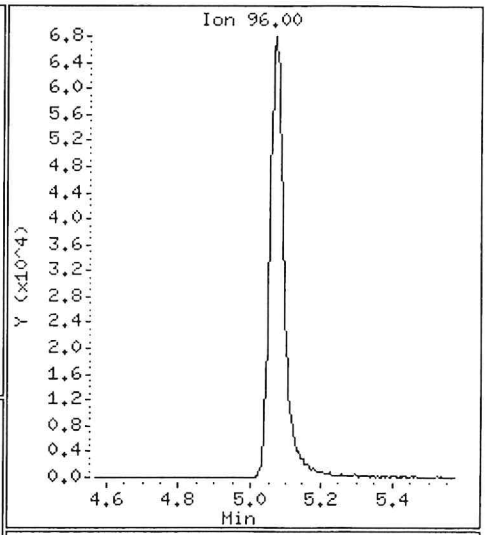
Sample Info: HS17121113-08;HS17121113-08;;;

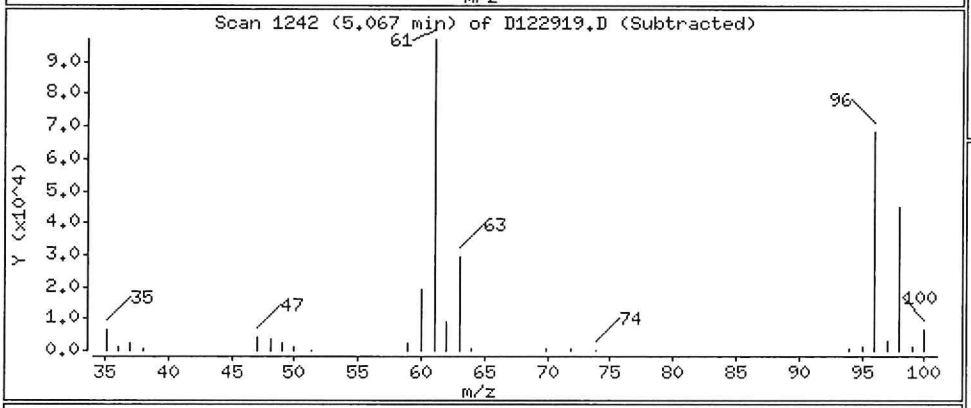
Purge Volume: 5.0 Operator: AP

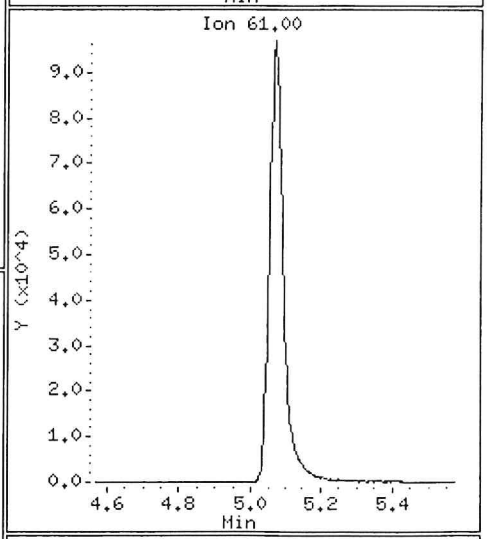
Column phase: DB624 Column diameter: 0.18

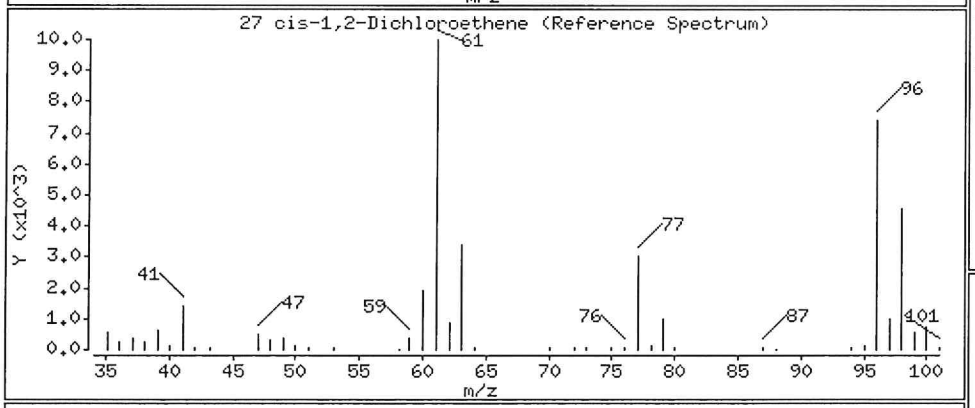
27 cis-1,2-Dichloroethene Concentration: 67.99 ug/l Review Code:

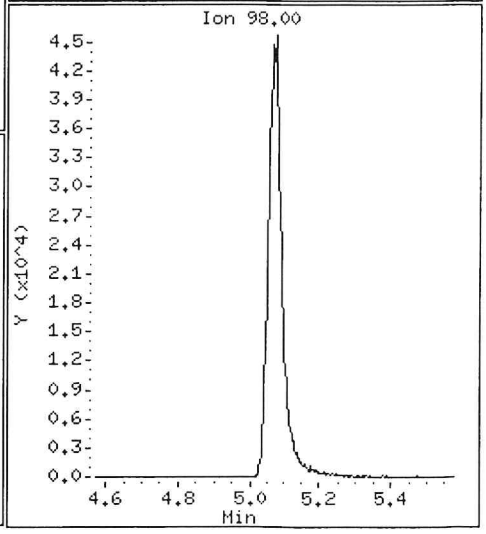


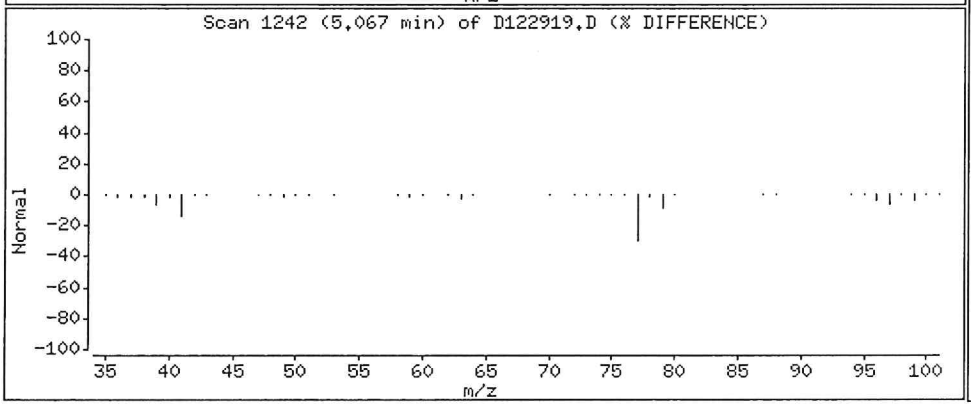












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Date : 29-DEC-2017 20:36

Client ID: HS17121113-08

Instrument: VOA2.i

Sample Info: HS17121113-08;HS17121113-08;;;

Purge Volume: 5.0

Operator: AP

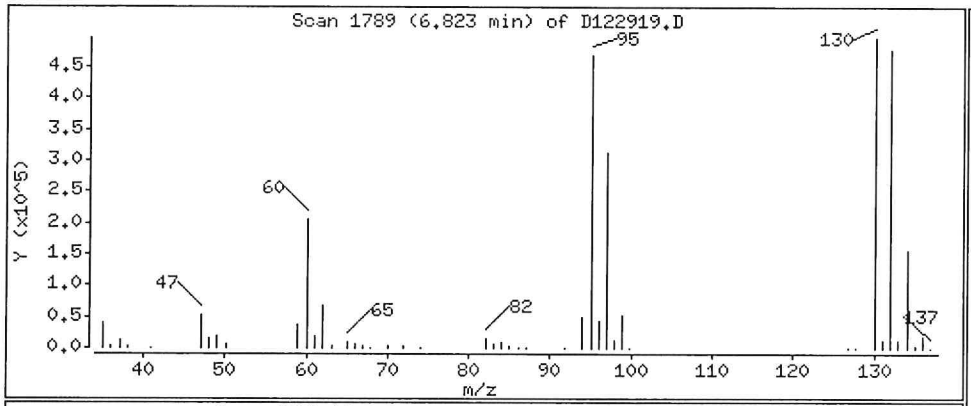
Column phase: DB624

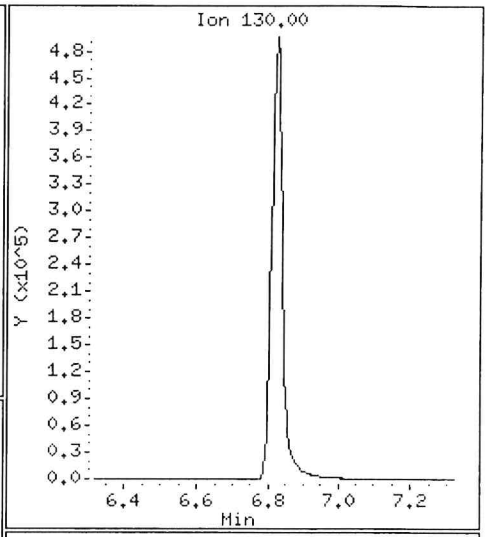
Column diameter: 0.18

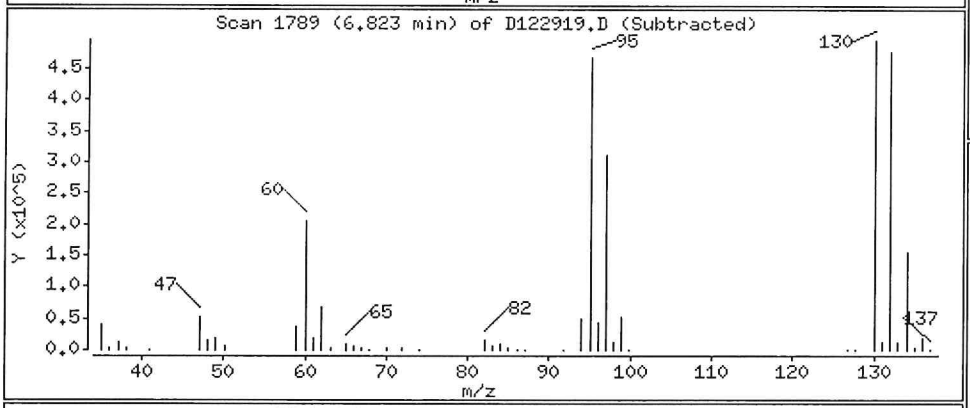
38 Trichloroethene

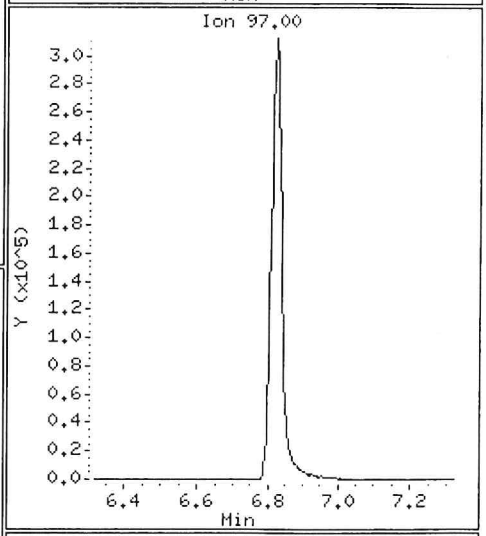
Concentration: 401.62 ug/l

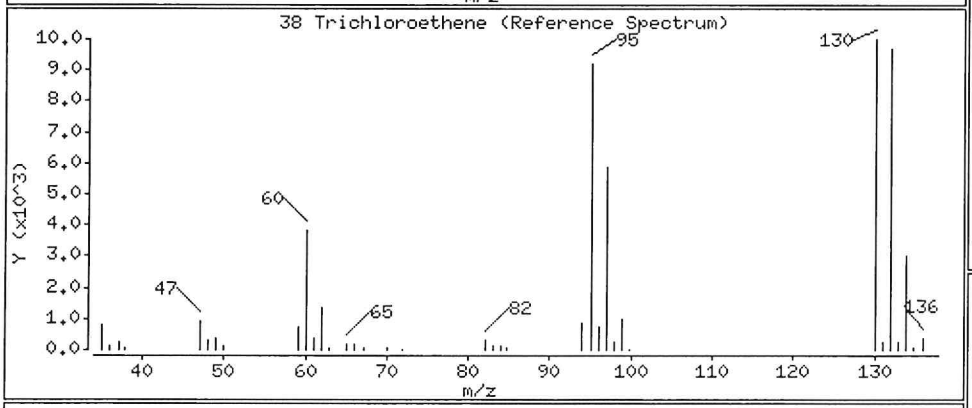
Review Code:

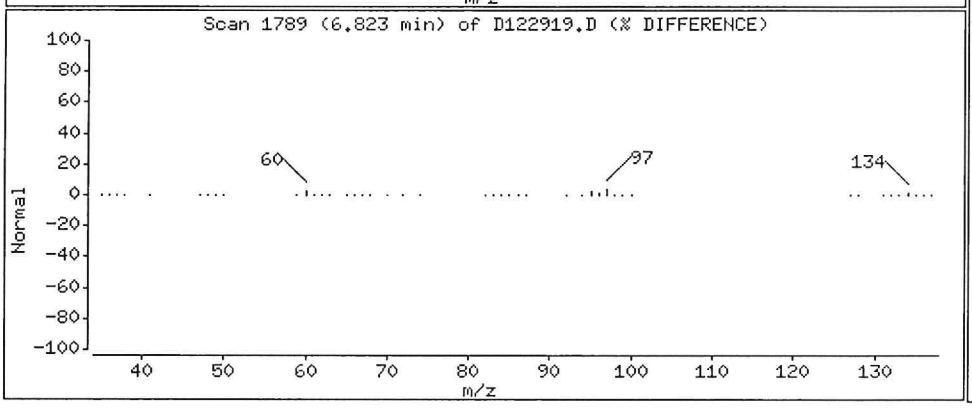


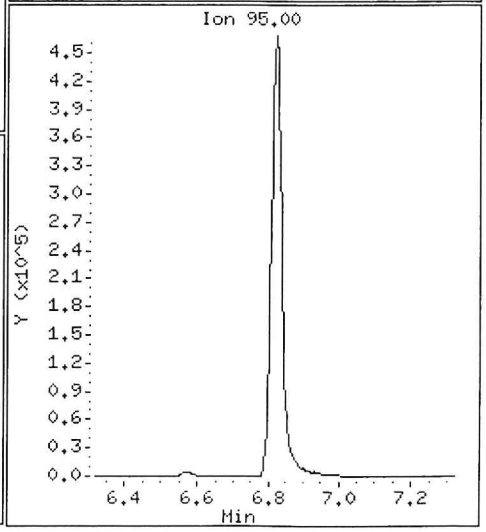












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122920.D
Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122920.D
Lab Smp Id: HS17121171-02MS Client Smp ID: HS17121171-02MS
Inj Date : 29-DEC-2017 21:00
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121171-02MS;HS17121171-02MS;3;;MS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 20 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

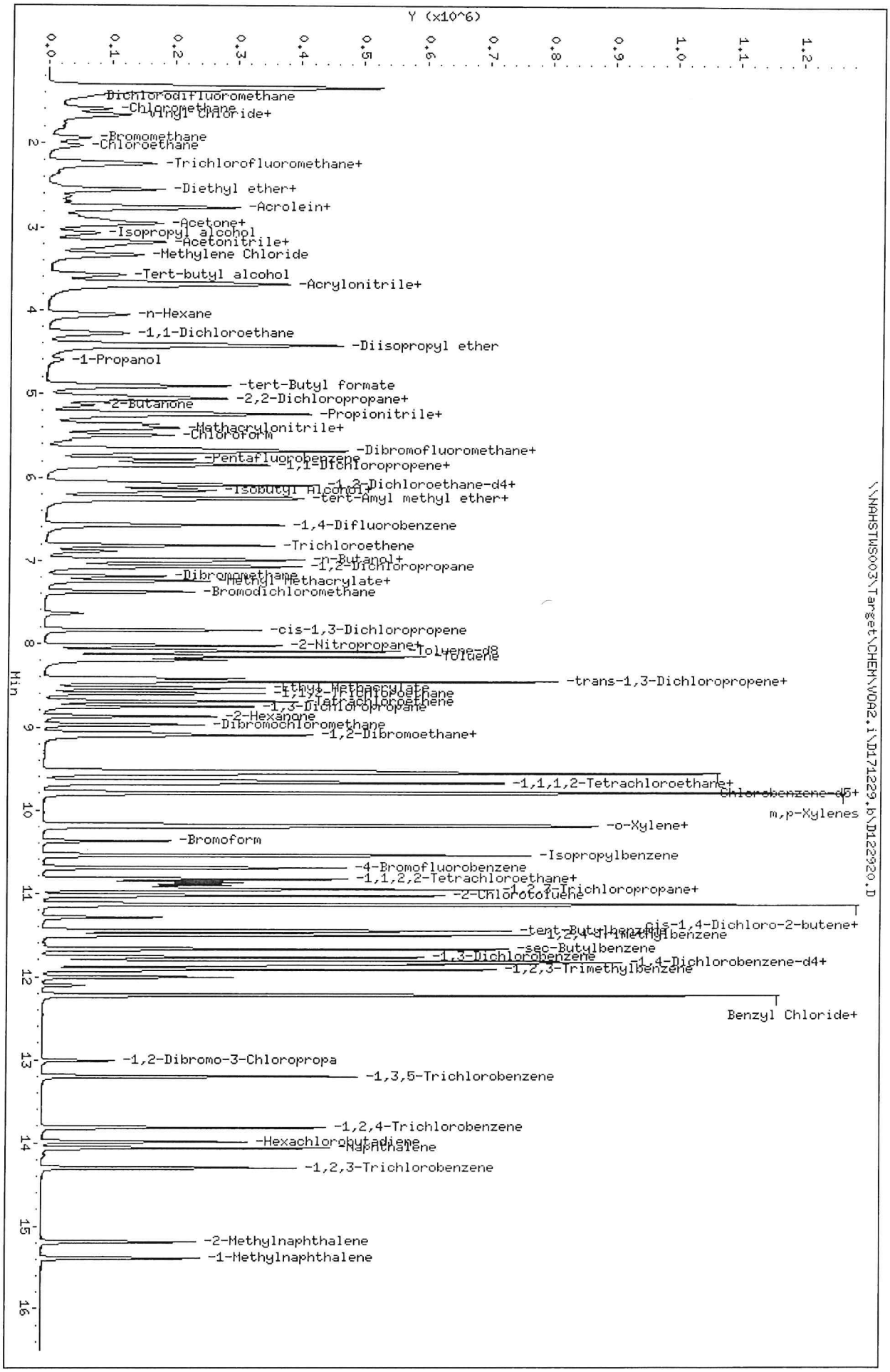
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.657	5.657	(0.978)	177973	49.1084	49.10
*	1 Pentafluorobenzene	168	5.786	5.783	(1.000)	234487	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.686	(0.982)	103927	49.1924	49.19
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	362701	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.062	6.062	(1.048)	125733	48.1870	48.18
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	322596	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	407001	47.8513	47.85
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	156215	50.2953	50.29
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	150864	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	145895	40.5390	40.53
	53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	89548	45.3771	45.37
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	143288	50.7060	50.70
	22 1,1-Dichloroethane	63	4.281	4.281	(0.740)	228114	46.5966	46.59
	11 1,1-Dichloroethene	96	2.753	2.760	(0.476)	95692	49.4452	49.44
	90 1,2,4-Trichlorobenzene	180	13.817	13.818	(1.168)	145589	48.9859	48.98
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	25826	41.6897	41.68
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	116395	47.0922	47.09
	88 1,2-Dichlorobenzene	146	12.223	12.226	(1.033)	228124	42.0689	42.06
	33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	153924	48.0605	48.06
	42 1,2-Dichloropropane	63	7.066	7.069	(1.075)	129860	45.4569	45.45
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	239937	42.5184	42.51

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122920.D
Report Date: 09-Feb-2018 18:17

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	84 1,4-Dichlorobenzene	146	11.857	11.860	(1.002)	226209	41.9105	41.91
	24 2-Butanone	43	5.141	5.141	(0.889)	112292	88.7475	88.74
	52 2-Hexanone	43	8.866	8.866	(0.931)	166118	87.8860	87.88
	45 4-Methyl-2-Pentanone	43	8.025	8.029	(0.842)	260151	88.8876	88.88
	10 Acetone	43	2.859	2.862	(0.494)	71154	91.3444	91.34
	37 Benzene	78	6.094	6.094	(0.927)	441795	46.2946	46.29
	39 Bromodichloromethane	83	7.380	7.377	(1.123)	155463	46.0253	46.02
	66 Bromoform	173	10.374	10.378	(1.089)	93146	48.6759	48.67
	6 Bromomethane	94	1.938	1.945	(0.335)	77151	47.9561	47.95
	19 Carbon Disulfide	76	2.955	2.959	(0.511)	417978	94.5725	94.57
	34 Carbon Tetrachloride	117	5.834	5.834	(0.888)	143889	41.7654	41.76
	59 Chlorobenzene	112	9.553	9.556	(1.003)	303062	45.6174	45.61
	7 Chloroethane	64	2.038	2.044	(0.352)	77139	40.6606	40.66
	28 Chloroform	83	5.497	5.497	(0.950)	195588	45.7510	45.75
	3 Chloromethane	50	1.598	1.601	(0.276)	165986	42.1764	42.17
	27 cis-1,2-Dichloroethene	96	5.067	5.070	(0.876)	126263	47.3301	47.33
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	188013	48.4689	48.46
	55 Dibromochloromethane	129	8.969	8.972	(0.941)	131624	47.2582	47.25
	2 Dichlorodifluoromethane	85	1.450	1.454	(0.251)	31067	15.4981	15.49
	61 Ethylbenzene	106	9.672	9.672	(1.015)	161456	45.4052	45.40
	67 Isopropylbenzene	105	10.544	10.548	(1.107)	521132	47.3738	47.37
	17 Methylene Chloride	84	3.331	3.337	(0.576)	114509	44.6154	44.61
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	103649	52.1727	52.17
	50 Toluene	91	8.160	8.157	(0.857)	468474	45.8232	45.82
	20 trans-1,2-Dichloroethene	96	3.671	3.674	(0.635)	105901	50.5891	50.58
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	161712	48.9925	48.99
	38 Trichloroethene	130	6.819	6.819	(1.038)	140794	52.4092	52.40
	8 Trichlorofluoromethane	101	2.253	2.259	(0.389)	140487	48.5910	48.59
	5 Vinyl Chloride	62	1.681	1.685	(0.291)	117186	40.7737	40.77
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	396444	91.1652	91.16
	63 o-Xylene	106	10.179	10.179	(1.068)	209784	46.1117	46.11
M	95 Xylenes (total)	106				606228	137.277	137.27
	71 1,2,3-Trichloropropane	75	10.901	10.904	(0.921)	150993	42.0143	42.01
	93 1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	124364	48.5628	48.56
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	412457	41.0451	41.04
	75 1,3,5-Trimethylbenzene	105	11.132	11.135	(0.941)	413490	42.2532	42.25
	26 2,2-Dichloropropane	77	5.041	5.045	(0.871)	160838	47.0818	47.08
	54 1,3-Dichloropropane	76	8.751	8.754	(0.918)	179603	45.1235	45.12
	76 2-Chlorotoluene	91	11.029	11.032	(0.932)	349904	40.8288	40.82
	77 4-Chlorotoluene	91	11.141	11.141	(0.941)	383608	41.1095	41.10
	82 p-Isopropyltoluene	119	11.818	11.819	(0.999)	408519	43.9918	43.99
	29 Bromochloromethane	128	5.365	5.372	(0.927)	61417	48.3777	48.37
	74 Bromobenzene	156	10.833	10.833	(0.915)	139161	41.5835	41.58
	44 Dibromomethane	93	7.191	7.191	(1.094)	70431	47.5742	47.57
	91 Hexachlorobutadiene	225	13.988	13.991	(1.182)	64275	46.4386	46.43
	73 n-Propylbenzene	91	10.955	10.955	(0.926)	549850	43.1075	43.10
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	313520	45.4274	45.42
	81 sec-Butylbenzene	105	11.667	11.671	(0.986)	485947	44.8128	44.81
	92 Naphthalene	128	14.065	14.065	(1.188)	353775	45.6632	45.66
	78 tert-Butylbenzene	119	11.449	11.453	(0.967)	357664	43.5691	43.56
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	120810	46.9301	46.93
	64 Styrene	104	10.198	10.198	(1.070)	337293	46.4845	46.48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14
15
16
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
-cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122920.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122920.D
Date : 29-DEC-2017 21:00
Client ID: HS17121171-02MS
Sample Info: HS17121171-02MS;HS17121171-02MS;3;;MS
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122921.D
Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122921.D
Lab Smp Id: HS17121171-02MSD Client Smp ID: HS17121171-02MSD
Inj Date : 29-DEC-2017 21:25
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121171-02MSD;HS17121171-02MSD;3;;MSD
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\chem\voa2.i\D171229.b\8260LL.m
Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 20 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

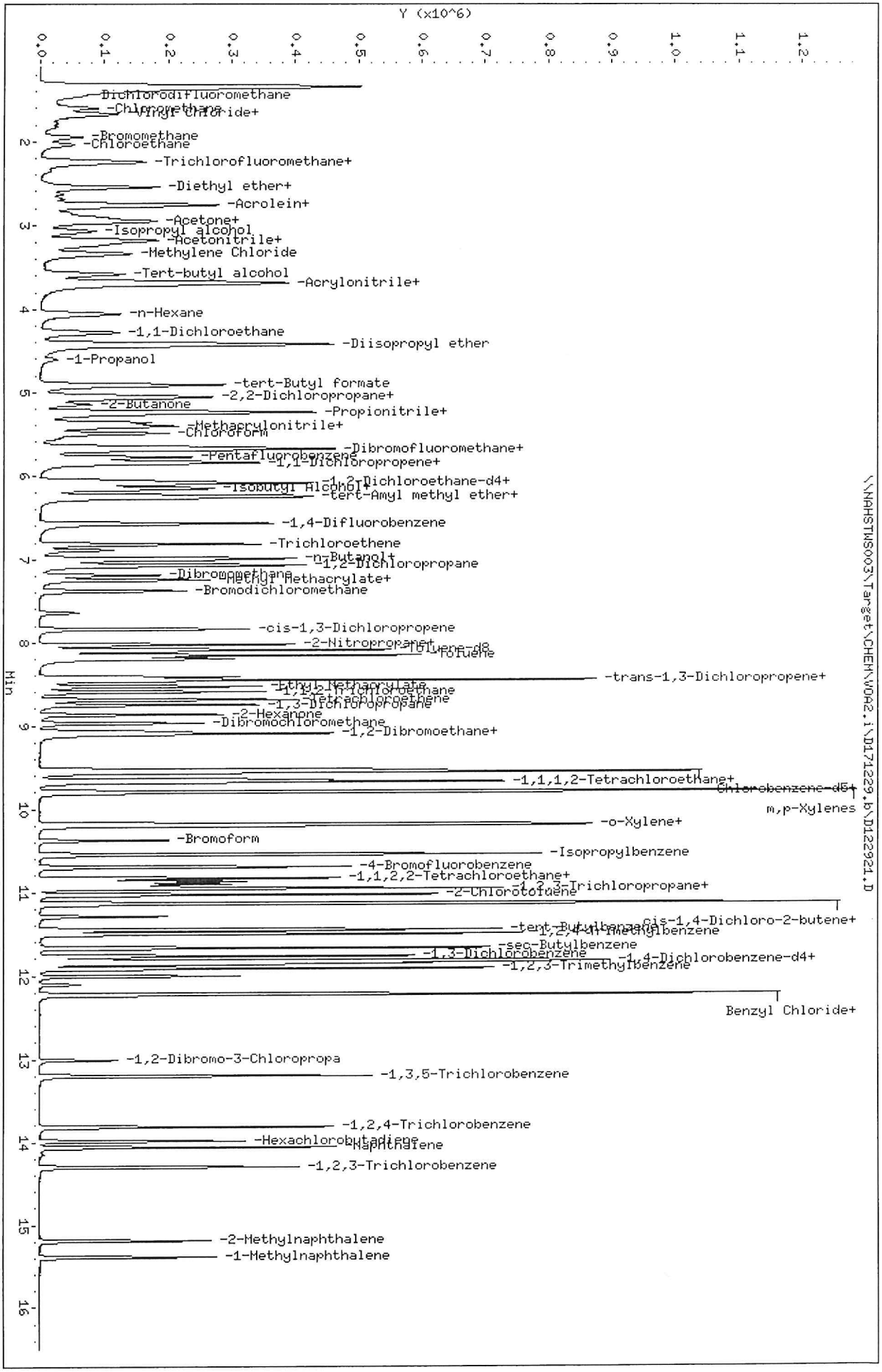
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.650	5.657	(0.977)	174391	46.8738	46.87
*	1 Pentafluorobenzene	168	5.782	5.783	(1.000)	240721	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	103855	47.8852	47.88
*	36 1,4-Difluorobenzene	114	6.571	6.572	(1.000)	356649	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.062	(1.048)	126927	47.3848	47.38
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	330374	50.0000	
$	48 Toluene-d8	98	8.092	8.093	(0.849)	408043	46.8444	46.84
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	156700	49.2637	49.26
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.835	(1.000)	154492	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.871	10.872	(0.919)	149277	40.5047	40.50
	53 1,1,2-Trichloroethane	83	8.596	8.597	(0.902)	89449	44.2598	44.25
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	143243	51.5658	51.56
	22 1,1-Dichloroethane	63	4.277	4.281	(0.740)	225939	44.9571	44.95
	11 1,1-Dichloroethene	96	2.756	2.760	(0.477)	94391	47.5099	47.50
	90 1,2,4-Trichlorobenzene	180	13.817	13.818	(1.168)	147713	48.5334	48.53
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.012	(1.100)	26792	42.2265	42.22
	57 1,2-Dibromoethane	107	9.065	9.068	(0.951)	117253	46.3225	46.32
	88 1,2-Dichlorobenzene	146	12.226	12.226	(1.033)	229025	41.2432	41.24
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	151709	48.1729	48.17
	42 1,2-Dichloropropane	63	7.066	7.069	(1.075)	127709	45.4625	45.46
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	241054	41.7132	41.71

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122921.D
Report Date: 09-Feb-2018 18:17

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	226981	41.0659	41.06
24	2-Butanone	43	5.147	5.141	(0.890)	118293	91.0691	91.06
52	2-Hexanone	43	8.866	8.866	(0.931)	175080	90.4467	90.44
45	4-Methyl-2-Pentanone	43	8.028	8.029	(0.843)	272005	90.7498	90.74
10	Acetone	43	2.862	2.862	(0.495)	77834	97.4861	97.48
37	Benzene	78	6.093	6.094	(0.927)	427089	45.5130	45.51
39	Bromodichloromethane	83	7.377	7.377	(1.123)	152122	45.8004	45.80
66	Bromoform	173	10.377	10.378	(1.089)	94303	48.1203	48.12
6	Bromomethane	94	1.941	1.945	(0.336)	74787	45.1434	45.14
19	Carbon Disulfide	76	2.955	2.959	(0.511)	413186	91.0672	91.06
34	Carbon Tetrachloride	117	5.837	5.834	(0.888)	143276	42.2932	42.29
59	Chlorobenzene	112	9.556	9.556	(1.003)	298649	43.8948	43.89
7	Chloroethane	64	2.037	2.044	(0.352)	73448	37.7125	37.71
28	Chloroform	83	5.493	5.497	(0.950)	194718	44.3679	44.36
3	Chloromethane	50	1.601	1.601	(0.277)	154446	38.1384	38.13
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	125474	45.8163	45.81
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	187318	49.1092	49.10
55	Dibromochloromethane	129	8.972	8.972	(0.942)	130684	45.8160	45.81
2	Dichlorodifluoromethane	85	1.450	1.454	(0.251)	30647	14.8927	14.89
61	Ethylbenzene	106	9.671	9.672	(1.015)	161957	44.4738	44.47
67	Isopropylbenzene	105	10.547	10.548	(1.107)	516256	45.8257	45.82
17	Methylene Chloride	84	3.337	3.337	(0.577)	113659	43.1374	43.13
56	Tetrachloroethene	164	8.693	8.690	(0.912)	100543	49.3274	49.32
50	Toluene	91	8.157	8.157	(0.856)	462618	44.1851	44.18
20	trans-1,2-Dichloroethene	96	3.667	3.674	(0.634)	107560	50.0510	50.05
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	160855	49.5598	49.55
38	Trichloroethene	130	6.819	6.819	(1.038)	133896	50.6872	50.68
8	Trichlorofluoromethane	101	2.259	2.259	(0.391)	136916	46.1295	46.12
5	Vinyl Chloride	62	1.681	1.685	(0.291)	114560	38.8278	38.82
62	m,p-Xylenes	106	9.790	9.790	(1.028)	392064	88.0354	88.03
63	o-Xylene	106	10.178	10.179	(1.068)	207594	44.5561	44.55
M 95	Xylenes (total)	106				599658	132.591	132.59
71	1,2,3-Trichloropropane	75	10.903	10.904	(0.921)	154725	42.0417	42.04
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	124441	47.4518	47.45
79	1,2,4-Trimethylbenzene	105	11.500	11.501	(0.972)	407632	39.6124	39.61
75	1,3,5-Trimethylbenzene	105	11.131	11.135	(0.941)	405111	40.4249	40.42
26	2,2-Dichloropropane	77	5.044	5.045	(0.872)	158340	45.1502	45.15
54	1,3-Dichloropropane	76	8.753	8.754	(0.919)	178966	43.9049	43.90
76	2-Chlorotoluene	91	11.029	11.032	(0.932)	347247	39.5672	39.56
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	381133	39.8851	39.88
82	p-Isopropyltoluene	119	11.818	11.819	(0.999)	399363	41.9959	41.99
29	Bromochloromethane	128	5.371	5.372	(0.929)	59400	45.5772	45.57
74	Bromobenzene	156	10.833	10.833	(0.915)	138186	40.3225	40.32
44	Dibromomethane	93	7.191	7.191	(1.094)	70291	48.2853	48.28
91	Hexachlorobutadiene	225	13.987	13.991	(1.182)	64706	45.6447	45.64
73	n-Propylbenzene	91	10.955	10.955	(0.926)	542745	41.5513	41.55
87	n-Butylbenzene	91	12.222	12.223	(1.033)	313339	44.3350	44.33
81	sec-Butylbenzene	105	11.667	11.671	(0.986)	477036	42.9580	42.95
92	Naphthalene	128	14.061	14.065	(1.188)	366426	46.1915	46.19
78	tert-Butylbenzene	119	11.449	11.453	(0.967)	351974	41.8691	41.86
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	120889	45.8552	45.85
64	Styrene	104	10.198	10.198	(1.070)	338126	45.5022	45.50



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Sample Info: HS171211171-02MSD;HS171211171-02MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

\\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122921.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122929.D
Report Date: 09-Feb-2018 18:17

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122929.D
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Inj Date : 30-DEC-2017 00:52
Operator : AP Inst ID: VOA2.i
Smp Info : CCV_END;CCV_END;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
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Meth Date : 09-Feb-2018 18:17 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 26 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	161430	50.0000	42.67
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	244759	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.983)	103659	50.0000	47.00
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	363125	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.061	6.061	(1.048)	126031	50.0000	46.27
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	332226	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	409499	50.0000	46.74
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	157521	50.0000	49.24
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	157457	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.872	(0.919)	155619	50.0000	41.43
	53 1,1,2-Trichloroethane	83	8.596	8.596	(0.902)	93337	50.0000	45.92
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	130132	50.0000	45.90
	22 1,1-Dichloroethane	63	4.280	4.280	(0.740)	223679	50.0000	43.77
	11 1,1-Dichloroethene	96	2.756	2.756	(0.477)	93475	50.0000	46.27
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.168)	143246	50.0000	46.17
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	27213	50.0000	42.08
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	123808	50.0000	48.63
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	233430	50.0000	41.24
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	160889	50.0000	50.18
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	131322	50.0000	45.91
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	239413	50.0000	40.64

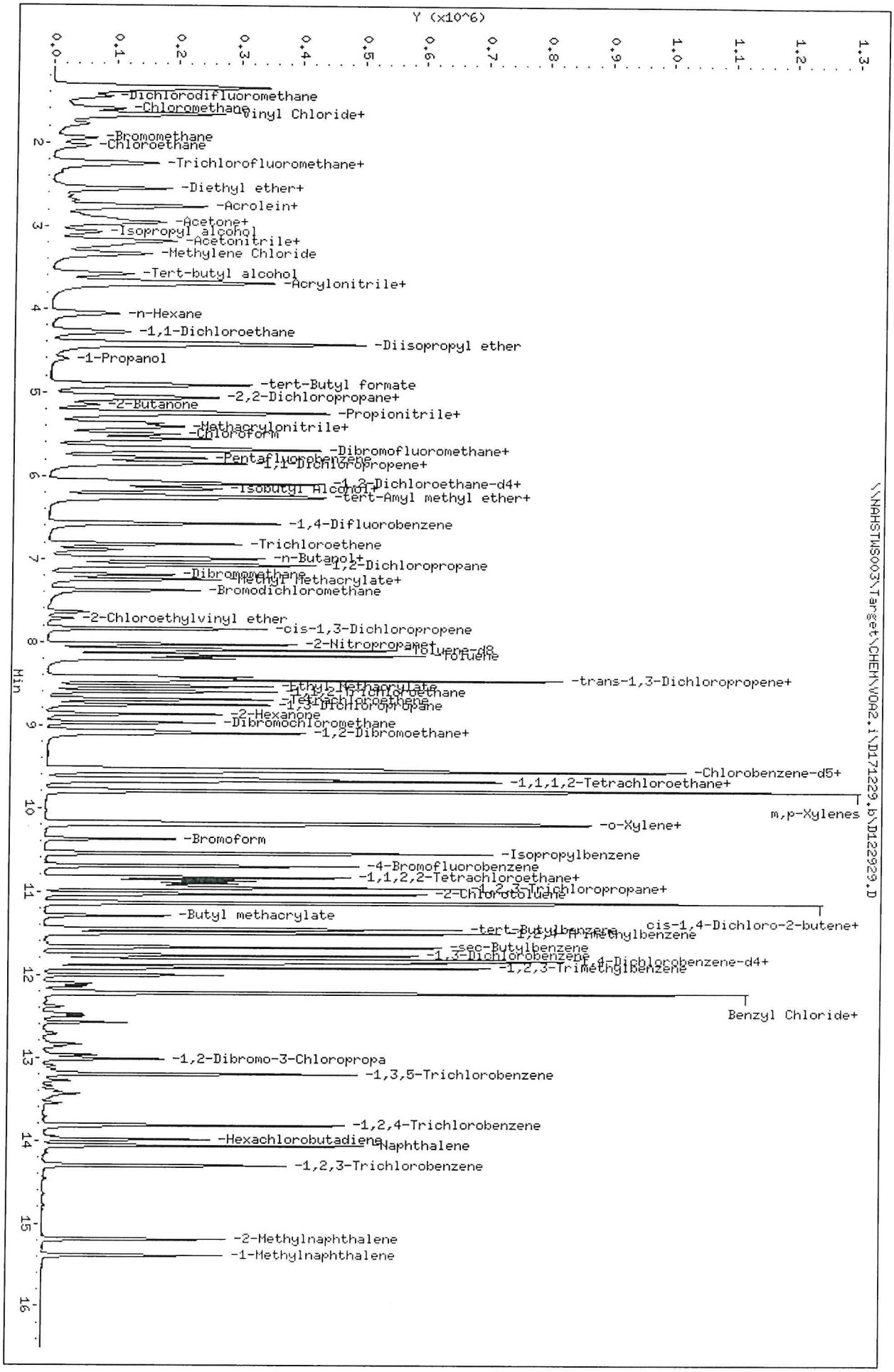
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122929.D
Report Date: 09-Feb-2018 18:17

	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	11.860	11.860	(1.002)	231302	50.0000	41.05	
24	2-Butanone	43	5.144	5.144	(0.890)	118295	100.000	89.56	
52	2-Hexanone	43	8.866	8.866	(0.931)	172813	100.000	88.77	
45	4-Methyl-2-Pentanone	43	8.028	8.028	(0.843)	271800	100.000	90.17	
10	Acetone	43	2.862	2.862	(0.495)	79009	100.000	97.32	
37	Benzene	78	6.090	6.090	(0.927)	440815	50.0000	46.13	
39	Bromodichloromethane	83	7.377	7.377	(1.123)	158829	50.0000	46.96	
66	Bromoform	173	10.377	10.377	(1.089)	97531	50.0000	49.49	
6	Bromomethane	94	1.938	1.938	(0.335)	78926	50.0000	46.95	
19	Carbon Disulfide	76	2.955	2.955	(0.511)	415454	100.000	90.05	
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	127366	50.0000	36.92	
59	Chlorobenzene	112	9.553	9.553	(1.003)	301217	50.0000	44.02	
7	Chloroethane	64	2.041	2.041	(0.353)	82967	50.0000	41.89	
28	Chloroform	83	5.497	5.497	(0.951)	197955	50.0000	44.36	
3	Chloromethane	50	1.595	1.595	(0.276)	210922	50.0000	51.55	
27	cis-1,2-Dichloroethene	96	5.070	5.070	(0.877)	128886	50.0000	46.28	
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	194778	50.0000	50.15	
55	Dibromochloromethane	129	8.969	8.969	(0.941)	137371	50.0000	47.89	
2	Dichlorodifluoromethane	85	1.450	1.450	(0.251)	90972	50.0000	43.47	
61	Ethylbenzene	106	9.671	9.671	(1.015)	159120	50.0000	43.45	
67	Isopropylbenzene	105	10.547	10.547	(1.107)	474415	50.0000	41.87	
17	Methylene Chloride	84	3.334	3.334	(0.577)	118492	50.0000	44.22	
56	Tetrachloroethene	164	8.690	8.690	(0.912)	91840	50.0000	44.64	
50	Toluene	91	8.157	8.157	(0.856)	456223	50.0000	43.33	
20	trans-1,2-Dichloroethene	96	3.671	3.671	(0.635)	107279	50.0000	49.09	
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	167864	50.0000	50.79	
38	Trichloroethene	130	6.819	6.819	(1.038)	126109	50.0000	46.88	
8	Trichlorofluoromethane	101	2.252	2.252	(0.390)	135315	50.0000	44.83	
5	Vinyl Chloride	62	1.678	1.678	(0.290)	138193	50.0000	46.06	
62	m,p-Xylenes	106	9.790	9.790	(1.028)	401017	100.000	89.54	
63	o-Xylene	106	10.178	10.178	(1.068)	208973	50.0000	44.60	
M 95	Xylenes (total)	106				609990	150.000	(a)	
71	1,2,3-Trichloropropane	75	10.904	10.904	(0.921)	161919	50.0000	43.16	
93	1,2,3-Trichlorobenzene	182	14.299	14.299	(1.208)	124505	50.0000	46.58	
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	400705	50.0000	38.20	
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	386001	50.0000	37.79	
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	139778	50.0000	39.19	
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	187160	50.0000	45.65	
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	340762	50.0000	38.09	
77	4-Chlorotoluene	91	11.141	11.141	(0.941)	380635	50.0000	39.08	
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	364606	50.0000	37.61	
29	Bromochloromethane	128	5.368	5.368	(0.928)	64760	50.0000	48.87	
74	Bromobenzene	156	10.833	10.833	(0.915)	144652	50.0000	41.41	
44	Dibromomethane	93	7.188	7.188	(1.094)	73747	50.0000	49.75	
91	Hexachlorobutadiene	225	13.987	13.987	(1.182)	54521	50.0000	37.65	
73	n-Propylbenzene	91	10.955	10.955	(0.926)	502453	50.0000	37.74	
87	n-Butylbenzene	91	12.223	12.223	(1.033)	290091	50.0000	40.27	
81	sec-Butylbenzene	105	11.667	11.667	(0.986)	429260	50.0000	37.92	
92	Naphthalene	128	14.061	14.061	(1.188)	394849	50.0000	48.86	
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	321542	50.0000	37.52	
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.012)	122807	50.0000	46.32	
64	Styrene	104	10.198	10.198	(1.070)	344445	50.0000	46.09	

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122929.D
Report Date: 09-Feb-2018 18:17

QC Flag Legend

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


Y (x10^6)
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-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
-1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
-1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-2-Chloroethylvinyl ether
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-Chlorobenzene-d5+
-1,1,1,2-Tetrachloroethane+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-Butyl methacrylate
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene
\\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122929.D
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171229.b\D122929.D
Date : 30-DEC-2017 00:52
Client ID: CCV_END
Sample Info: CCV_END;CCV_END;2;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Lab File ID: E123001 BFB Injection Date: 12/31/17

Instrument ID: VOA2 BFB Injection Time: 0125

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

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.1
75	30.0 - 60.0% of mass 95	44.5
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	7.2
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	89.1
175	5.0 - 9.0% of mass 174	6.7 (7.5)1
176	95.0 - 101.0% of mass 174	86.7 (97.4)1
177	5.0 - 9.0% of mass 176	6.6 (7.6)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	CCV	CCV	E123003	12/31/17	0214
02	VLCSW-171230	VLCSW-171230	E123004	12/31/17	0238
03	VBLKW-171230	VBLKW-171230	E123006	12/31/17	0328
04	HS17121134-0	HS17121134-06M	E123009	12/31/17	0441
05	HS17121134-0	HS17121134-06M	E123010	12/31/17	0506
06	HS17121113-0	HS17121113-05	E123012	12/31/17	0558
07	HS17121113-0	HS17121113-06	E123013	12/31/17	0622
08	HS17121113-0	HS17121113-04	E123014	12/31/17	0650
09	HS17121113-0	HS17121113-08	E123015	12/31/17	0717
10	HS17121113-0	HS17121113-01	E123016	12/31/17	0744
11	HS17121113-0	HS17121113-02	E123017	12/31/17	0811
12	HS17121113-0	HS17121113-03	E123018	12/31/17	0838
13	CCV_END	CCV_END	E123029	12/31/17	1309
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Instrument ID: VOA2 Calibration Date: 12/31/17 Time: 0214

Lab File ID: E123003 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7430461	0.7430461	0.1	-3.88	20.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3906973	0.3906973	0.1	-2.08	20.00	AVRG
tert-Butylbenzene	2.7210000	2.3715861	2.3715861	0.1	-12.84	20.00	AVRG
Naphthalene	51.181575	50.000000	2.6251399	0.2	2.36	20.00	LINR
sec-Butylbenzene	3.5940000	3.1618891	3.1618891	0.1	-12.02	20.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	1.0261657	1.0261657	0.3	-13.98	20.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2910346	0.2910346	0.1	-4.89	20.00	AVRG
1,1-Dichloropropene	50.393188	50.000000	0.3926649	0.1	0.79	20.00	LINR
1,1-Dichloroethane	1.0440000	0.9786010	0.9786010	0.2	-6.26	20.00	AVRG
1,1-Dichloroethene	0.4120000	0.4262056	0.4262056	0.1	3.45	20.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	1.0298498	1.0298498	0.2	4.55	20.00	AVRG
1,2-Dibromo-3-Chloropropane	46.212321	50.000000	0.1900010	0.05	-7.58	20.00	LINR
1,2-Dibromoethane	0.3830000	0.3812508	0.3812508	0.1	-0.46	20.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.5986032	1.5986032	0.4	-11.04	20.00	AVRG
1,2-Dichloroethane	51.428803	50.000000	0.4540635	0.1	2.86	20.00	LINR
1,2-Dichloropropane	0.3940000	0.3767392	0.3767392	0.1	-4.38	20.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.6501015	1.6501015	0.6	-11.76	20.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.5791351	1.5791351	0.4	-11.73	20.00	AVRG
2-Butanone	0.2700000	0.2628026	0.2628026	0.1	-2.66	20.00	AVRG
2-Hexanone	0.2930000	0.2806220	0.2806220	0.1	-4.22	20.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.4334077	0.4334077	0.1	-4.54	20.00	AVRG
Acetone	98.188034	100.00000	0.1628051	0.1	-1.81	20.00	LINR
Benzene	1.3160000	1.2690220	1.2690220	0.5	-3.57	20.00	AVRG
Bromodichloromethane	0.4660000	0.4535577	0.4535577	0.2	-2.67	20.00	AVRG
Bromoform	0.2970000	0.3114021	0.3114021	0.1	4.85	20.00	AVRG
Bromomethane	53.718562	50.000000	0.3665956	0.1	7.44	20.00	LINR
Carbon Disulfide	0.9420000	0.9397837	0.9397837	0.1	-0.24	20.00	AVRG
Carbon Tetrachloride	0.4750000	0.4038083	0.4038083	0.1	-14.99	20.00	AVRG
Chlorobenzene	1.0300000	0.9651816	0.9651816	0.5	-6.29	20.00	AVRG
Chloroethane	0.4040000	0.3586385	0.3586385	0.1	-11.23	20.00	AVRG
Chloroform	0.9120000	0.8561089	0.8561089	0.2	-6.13	20.00	AVRG
Chloromethane	49.742076	50.000000	0.8320334	0.1	-0.52	20.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5574377	0.5574377	0.1	-2.03	20.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5475381	0.5475381	0.2	2.34	20.00	AVRG
Dibromochloromethane	0.4320000	0.4293004	0.4293004	0.1	-0.62	20.00	AVRG
Dichlorodifluoromethane	0.4270000	0.3685827	0.3685827	0.1	-13.68	20.00	AVRG
Ethylbenzene	0.5510000	0.5151420	0.5151420	0.1	-6.51	20.00	AVRG
Isopropylbenzene	1.7050000	1.6188905	1.6188905	0.1	-5.05	20.00	AVRG
Methylene Chloride	0.5470000	0.4971640	0.4971640	0.1	-9.11	20.00	AVRG
Tetrachloroethene	50.797192	50.000000	0.3130948	0.2	1.59	20.00	LINR
Toluene	1.5840000	1.4711936	1.4711936	0.4	-7.12	20.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4540894	0.4540894	0.1	1.81	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712111

Instrument ID: VOA2 Calibration Date: 12/31/17 Time: 0214

Lab File ID: E123003 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4756226	0.4756226	0.1	4.53	20.00	AVRG
Trichloroethene	0.3700000	0.3644803	0.3644803	0.2	-1.49	20.00	AVRG
Trichlorofluoromethane	0.6160000	0.6320215	0.6320215	0.1	2.60	20.00	AVRG
Vinyl Chloride	0.6130000	0.6045887	0.6045887	0.1	-1.37	20.00	AVRG
m,p-Xylenes	0.6740000	0.6259331	0.6259331	0.1	-7.13	20.00	AVRG
o-Xylene	0.7050000	0.6667650	0.6667650	0.3	-5.42	20.00	AVRG
Xylenes (total)	0.6190000	0.5849414	0.5849414	0.1	-5.50	20.00	AVRG
1,2,3-Trichloropropane	1.1910000	1.0803848	1.0803848	0.1	-9.29	20.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.8864524	0.8864524	0.1	4.41	20.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.7950871	2.7950871	0.1	-16.06	20.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.7553113	2.7553113	0.1	-15.04	20.00	AVRG
2,2-Dichloropropane	0.7280000	0.6104012	0.6104012	0.1	-16.15	20.00	AVRG
1,3-Dichloropropane	0.6170000	0.5815807	0.5815807	0.1	-5.74	20.00	AVRG
2-Chlorotoluene	2.8400000	2.3688328	2.3688328	0.1	-16.59	20.00	AVRG
4-Chlorotoluene	3.0920000	2.6171665	2.6171665	0.1	-15.36	20.00	AVRG
p-Isopropyltoluene	3.0780000	2.6981306	2.6981306	0.1	-12.34	20.00	AVRG
Bromochloromethane	0.2700000	0.2735914	0.2735914	0.1	1.33	20.00	AVRG
Bromobenzene	1.1090000	0.9626650	0.9626650	0.1	-13.20	20.00	AVRG
Dibromomethane	0.2040000	0.2087361	0.2087361	0.1	2.32	20.00	AVRG
Hexachlorobutadiene	45.530526	50.000000	0.4177927	0.1	-8.94	20.00	LINR
n-Propylbenzene	4.2270000	3.6486501	3.6486501	0.1	-13.68	20.00	AVRG
n-Butylbenzene	2.2870000	2.0825783	2.0825783	0.05	-8.94	20.00	AVRG
Styrene	1.1240000	1.0971651	1.0971651	0.3	-2.39	20.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5238180	0.5238180	0.1	-5.79	20.00	AVRG
Dibromofluoromethane	0.4500000	0.4295118	0.4295118	0.1	-4.55	20.00	AVRG
Toluene-d8	1.3180000	1.2299258	1.2299258	0.1	-6.68	20.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4720507	0.4720507	0.1	-1.86	20.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Instrument ID: VOA2 Calibration Date: 12/31/17 Time: 1309

Lab File ID: E123029 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
1,1,1-Trichloroethane	0.7730000	0.7023289	0.7023289	0.1	-9.14	50.00	AVRG
1,1,1,2-Tetrachloroethane	0.3990000	0.3536018	0.3536018	0.1	-11.38	50.00	AVRG
tert-Butylbenzene	2.7210000	2.2671246	2.2671246	0.1	-16.68	50.00	AVRG
Naphthalene	42.929573	50.000000	2.2062147	0.2	-14.14	50.00	LINR
sec-Butylbenzene	3.5940000	3.0611788	3.0611788	0.1	-14.82	50.00	AVRG
1,1,2,2-Tetrachloroethane	1.1930000	0.8775281	0.8775281	0.3	-26.44	50.00	AVRG
1,1,2-Trichloroethane	0.3060000	0.2566099	0.2566099	0.1	-16.14	50.00	AVRG
1,1-Dichloropropene	48.867048	50.000000	0.3809895	0.1	-2.26	50.00	LINR
1,1-Dichloroethane	1.0440000	0.8990253	0.8990253	0.2	-13.89	50.00	AVRG
1,1-Dichloroethene	0.4120000	0.4007223	0.4007223	0.1	-2.74	50.00	AVRG
1,2,4-Trichlorobenzene	0.9850000	0.9183476	0.9183476	0.2	-6.77	50.00	AVRG
1,2-Dibromo-3-Chloropropane	38.713958	50.000000	0.1588081	0.05	-22.57	50.00	LINR
1,2-Dibromoethane	0.3830000	0.3364033	0.3364033	0.1	-12.17	50.00	AVRG
1,2-Dichlorobenzene	1.7970000	1.4391203	1.4391203	0.4	-19.92	50.00	AVRG
1,2-Dichloroethane	46.716894	50.000000	0.4125429	0.1	-6.57	50.00	LINR
1,2-Dichloropropane	0.3940000	0.3479512	0.3479512	0.1	-11.69	50.00	AVRG
1,3-Dichlorobenzene	1.8700000	1.5142462	1.5142462	0.6	-19.02	50.00	AVRG
1,4-Dichlorobenzene	1.7890000	1.4525095	1.4525095	0.4	-18.81	50.00	AVRG
2-Butanone	0.2700000	0.2126174	0.2126174	0.1	-21.25	50.00	AVRG
2-Hexanone	0.2930000	0.2283370	0.2283370	0.1	-22.07	50.00	AVRG
4-Methyl-2-Pentanone	0.4540000	0.3598233	0.3598233	0.1	-20.74	50.00	AVRG
Acetone	80.638520	100.00000	0.1343856	0.1	-19.36	50.00	LINR
Benzene	1.3160000	1.1770092	1.1770092	0.5	-10.56	50.00	AVRG
Bromodichloromethane	0.4660000	0.4158032	0.4158032	0.2	-10.77	50.00	AVRG
Bromoform	0.2970000	0.2651951	0.2651951	0.1	-10.71	50.00	AVRG
Bromomethane	49.995923	50.000000	0.3423214	0.1	-0.01	50.00	LINR
Carbon Disulfide	0.9420000	0.8836651	0.8836651	0.1	-6.19	50.00	AVRG
Carbon Tetrachloride	0.4750000	0.3868620	0.3868620	0.1	-18.56	50.00	AVRG
Chlorobenzene	1.0300000	0.8783952	0.8783952	0.5	-14.72	50.00	AVRG
Chloroethane	0.4040000	0.3347361	0.3347361	0.1	-17.14	50.00	AVRG
Chloroform	0.9120000	0.7798315	0.7798315	0.2	-14.49	50.00	AVRG
Chloromethane	47.108174	50.000000	0.7888067	0.1	-5.78	50.00	LINR
cis-1,2-Dichloroethene	0.5690000	0.5006779	0.5006779	0.1	-12.01	50.00	AVRG
cis-1,3-Dichloropropene	0.5350000	0.5123029	0.5123029	0.2	-4.24	50.00	AVRG
Dibromochloromethane	0.4320000	0.3811277	0.3811277	0.1	-11.78	50.00	AVRG
Dichlorodifluoromethane	0.4270000	0.3820981	0.3820981	0.1	-10.52	50.00	AVRG
Ethylbenzene	0.5510000	0.4799716	0.4799716	0.1	-12.89	50.00	AVRG
Isopropylbenzene	1.7050000	1.5487220	1.5487220	0.1	-9.16	50.00	AVRG
Methylene Chloride	0.5470000	0.4562409	0.4562409	0.1	-16.59	50.00	AVRG
Tetrachloroethene	49.917250	50.000000	0.3078478	0.2	-0.16	50.00	LINR
Toluene	1.5840000	1.3672000	1.3672000	0.4	-13.69	50.00	AVRG
trans-1,2-Dichloroethene	0.4460000	0.4325940	0.4325940	0.1	-3.00	50.00	AVRG

FORM 7B
VOLATILE CALIBRATION VERIFICATION SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS1712111

Instrument ID: VOA2 Calibration Date: 12/31/17 Time: 1309

Lab File ID: E123029 Init. Calib. Date(s): 12/19/17 12/19/17

Init. Calib. Times: 1010 1327

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
trans-1,3-Dichloropropene	0.4550000	0.4337607	0.4337607	0.1	-4.67	50.00	AVRG
Trichloroethene	0.3700000	0.3512811	0.3512811	0.2	-5.06	50.00	AVRG
Trichlorofluoromethane	0.6160000	0.6177612	0.6177612	0.1	0.28	50.00	AVRG
Vinyl Chloride	0.6130000	0.5895691	0.5895691	0.1	-3.82	50.00	AVRG
m,p-Xylenes	0.6740000	0.5843653	0.5843653	0.1	-13.30	50.00	AVRG
o-Xylene	0.7050000	0.6205956	0.6205956	0.3	-11.97	50.00	AVRG
Xylenes (total)	0.6190000	0.5521213	0.5521213	0.1	-10.80	50.00	AVRG
1,2,3-Trichloropropane	1.1910000	0.9365224	0.9365224	0.1	-21.37	50.00	AVRG
1,2,3-Trichlorobenzene	0.8490000	0.7815791	0.7815791	0.1	-7.94	50.00	AVRG
1,2,4-Trimethylbenzene	3.3300000	2.6084408	2.6084408	0.1	-21.67	50.00	AVRG
1,3,5-Trimethylbenzene	3.2430000	2.6055909	2.6055909	0.1	-19.65	50.00	AVRG
2,2-Dichloropropane	0.7280000	0.6522636	0.6522636	0.1	-10.40	50.00	AVRG
1,3-Dichloropropane	0.6170000	0.5104262	0.5104262	0.1	-17.27	50.00	AVRG
2-Chlorotoluene	2.8400000	2.2288190	2.2288190	0.1	-21.52	50.00	AVRG
4-Chlorotoluene	3.0920000	2.4417954	2.4417954	0.1	-21.03	50.00	AVRG
p-Isopropyltoluene	3.0780000	2.5765878	2.5765878	0.1	-16.29	50.00	AVRG
Bromochloromethane	0.2700000	0.2422165	0.2422165	0.1	-10.29	50.00	AVRG
Bromobenzene	1.1090000	0.8832951	0.8832951	0.1	-20.35	50.00	AVRG
Dibromomethane	0.2040000	0.1839539	0.1839539	0.1	-9.83	50.00	AVRG
Hexachlorobutadiene	44.282952	50.000000	0.4064540	0.1	-11.43	50.00	LINR
n-Propylbenzene	4.2270000	3.4855052	3.4855052	0.1	-17.54	50.00	AVRG
n-Butylbenzene	2.2870000	1.9849775	1.9849775	0.05	-13.21	50.00	AVRG
Styrene	1.1240000	1.0015193	1.0015193	0.3	-10.90	50.00	AVRG
1,2-Dichloroethane-d4	0.5560000	0.5146162	0.5146162	0.1	-7.44	50.00	AVRG
Dibromofluoromethane	0.4500000	0.4115779	0.4115779	0.1	-8.54	50.00	AVRG
Toluene-d8	1.3180000	1.2268052	1.2268052	0.1	-6.92	50.00	AVRG
4-Bromofluorobenzene	0.4810000	0.4795384	0.4795384	0.1	-0.30	50.00	AVRG

FORM 8
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Lab File ID (Standard): E123003 Date Analyzed: 12/31/17

Instrument ID: VOA2 Time Analyzed: 0214

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

		IS1 AREA #	IS1 RT #	IS2(DFB) AREA #	IS2(DFB) RT #	IS3(CBZ) AREA #	IS3(CBZ) RT #
	12 HOUR STD	235011	5.78	355904	6.57	325518	9.53
	UPPER LIMIT	470022	6.28	711808	7.07	651036	10.03
	LOWER LIMIT	117506	5.28	177952	6.07	162759	9.03
	CLIENT SAMPLE NO.						
01	VLCSW-171230	232961	5.78	351815	6.57	324217	9.53
02	VBLKW-171230	246394	5.78	349850	6.57	317330	9.53
03	HS17121134-06	229756	5.78	351717	6.57	318328	9.53
04	HS17121134-06	229495	5.78	349320	6.57	317919	9.53
05	HS17121113-05	246796	5.78	350592	6.57	320035	9.53
06	HS17121113-06	247173	5.78	351630	6.57	323877	9.52
07	HS17121113-04	243470	5.78	343370	6.57	300977	9.52
08	HS17121113-08	258258	5.77	355229	6.57	306495	9.52
09	HS17121113-01	257495	5.78	365813	6.57	320760	9.52
10	HS17121113-02	253880	5.78	363416	6.57	316037	9.52
11	HS17121113-03	251632	5.78	356488	6.57	317473	9.52
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: Contract:

Lab Code: Case No.: SAS No.: SDG No.: HS17121113

Lab File ID (Standard): E123003 Date Analyzed: 12/31/17

Instrument ID: VOA2 Time Analyzed: 0214

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

		IS4 (DCB) AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	153636	11.83				
	UPPER LIMIT	307272	12.33				
	LOWER LIMIT	76818	11.33				
	CLIENT SAMPLE NO.						
01	VLCSW-171230	151494	11.84				
02	VBLKW-171230	140329	11.83				
03	HS17121134-06	151550	11.84				
04	HS17121134-06	150120	11.84				
05	HS17121113-05	144011	11.84				
06	HS17121113-06	145411	11.84				
07	HS17121113-04	132622	11.83				
08	HS17121113-08	138361	11.83				
09	HS17121113-01	137653	11.83				
10	HS17121113-02	136307	11.84				
11	HS17121113-03	137026	11.84				
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.

MSVOA02 -Logbook

Batch: 30340
Date: 12-30-2017
Method: 8260
Comments:

Analyst: Anjana Poluri
Reviewer:
Laboratory: Houston

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
1	BFB	TUNE	12-30-2017 01:58 pm	1.00	50 mL	50 mL	D123001.D	Liquid	Y	NA
2	*Auto find/purged* CCV	CCV	12-30-2017 02:22 pm	1.00	50 mL	50 mL	D123002.D	Liquid	Y	NA
3	*10 uL cal std/50 mL DI* CCV	CCV	12-30-2017 02:47 pm	1.00	50 mL	50 mL	D123003.D	Liquid	Y	NA
4	*10 uL cal std/50 mL DI* VLCSW-171230	LCS	12-30-2017 03:11 pm	1.00	50 mL	50 mL	D123004.D	Liquid	Y	NA
5	*10 uL cal std/50 mL DI* BLK	SAMP	12-30-2017 03:36 pm	1.00	50 mL	50 mL	D123005.D	Liquid	Y	NA
6	VBLKW-171230	MBLK	12-30-2017 04:01 pm	1.00	50 mL	50 mL	D123006.D	Liquid	Y	NA
7	HS17121217-05	SAMP	12-30-2017 04:25 pm	1.00	50 mL	50 mL	D123007.D	Liquid	Y	<2
8	HS17121126-06	SAMP	12-30-2017 04:49 pm	1.00	50 mL	50 mL	D123008.D	Liquid	Y	<2
9	HS17121062-06	SAMP	12-30-2017 05:14 pm	1.00	50 mL	50 mL	D123009.D	Liquid	Y	<2
10	HS17121062-06MS	MS	12-30-2017 05:39 pm	1.00	50 mL	50 mL	D123010.D	Liquid	Y	<2
11	*8uL cal std/40 mL sample* HS17121062-06MSD	MSD	12-30-2017 06:03 pm	1.00	50 mL	50 mL	D123011.D	Liquid	Y	<2
12	*8uL cal std/40 mL sample* HS17121037-01	SAMP	12-30-2017 06:28 pm	1.00	50 mL	50 mL	D123012.D	Liquid	Y	<2
13	HS17121062-07	SAMP	12-30-2017 06:52 pm	1.00	50 mL	50 mL	D123013.D	Liquid	Y	<2
14	HS17121062-08	SAMP	12-30-2017 07:17 pm	1.00	50 mL	50 mL	D123014.D	Liquid	Y	<2
15	HS17121062-09	SAMP	12-30-2017 07:41 pm	1.00	50 mL	50 mL	D123015.D	Liquid	Y	<2
16	HS17121062-10	SAMP	12-30-2017 08:06 pm	1.00	50 mL	50 mL	D123016.D	Liquid	Y	<2
17	HS17121062-11	SAMP	12-30-2017 08:30 pm	1.00	50 mL	50 mL	D123017.D	Liquid	Y	<2
18	HS17121062-12	SAMP	12-30-2017 08:55 pm	1.00	50 mL	50 mL	D123018.D	Liquid	Y	<2
19	HS17121126-01	SAMP	12-30-2017 09:19 pm	1.00	50 mL	50 mL	D123019.D	Liquid	Y	<2
20	HS17121126-02	SAMP	12-30-2017 09:44 pm	1.00	50 mL	50 mL	D123020.D	Liquid	Y	<2
21	HS17121126-03	SAMP	12-30-2017 10:08 pm	1.00	50 mL	50 mL	D123021.D	Liquid	Y	<2
22	HS17121126-04	SAMP	12-30-2017 10:33 pm	1.00	50 mL	50 mL	D123022.D	Liquid	Y	<2
23	HS17121126-05	SAMP	12-30-2017 10:58 pm	1.00	50 mL	50 mL	D123023.D	Liquid	Y	<2
24	HS17121219-01	SAMP	12-30-2017 11:22 pm	1.00	50 mL	50 mL	D123024.D	Liquid	Y	<2
25	HS17121219-02	SAMP	12-30-2017 11:47 pm	1.00	50 mL	50 mL	D123025.D	Liquid	Y	<2
26	HS17121219-03	SAMP	12-31-2017 12:11 am	1.00	50 mL	50 mL	D123026.D	Liquid	Y	<2
27	HS17121219-04	SAMP	12-31-2017 12:36 am	1.00	50 mL	50 mL	D123027.D	Liquid	Y	<2
28	HS17121217-04	SAMP	12-31-2017 01:00 am	1.00	50 mL	50 mL	D123028.D	Liquid	Y	<2
29	BFB	TUNE	12-31-2017 01:25 am	1.00	50 mL	50 mL	E123001.D	Liquid	Y	NA
30	*Auto find/purged* CCV	CCV	12-31-2017 01:49 am	1.00	50 mL	50 mL	E123002.D	Liquid	Y	NA
31	*10 uL cal std/50 mL DI* CCV	CCV	12-31-2017 02:14 am	1.00	50 mL	50 mL	E123003.D	Liquid	Y	NA
32	*10 uL cal std/50 mL DI* VLCSW-171230	LCS	12-31-2017 02:38 am	1.00	50 mL	50 mL	E123004.D	Liquid	Y	NA
33	*10 uL cal std/50 mL DI* BLK	SAMP	12-31-2017 03:03 am	1.00	50 mL	50 mL	E123005.D	Liquid	Y	NA
34	*Cleanup blk* VBLKW-171230	MBLK	12-31-2017 03:28 am	1.00	50 mL	50 mL	E123006.D	Liquid	Y	NA
35	HS17121134-14	SAMP	12-31-2017 03:52 am	1.00	50 mL	50 mL	E123007.D	Liquid	Y	<2

MSVOA02 -Logbook

#	Samp ID	Type	Analyzed	DF	Init Wt/Vol	Final Vol	File ID	Matrix	Status	pH
36	HS17121134-06	SAMP	12-31-2017 04:17 am	1.00	50 mL	50 mL	E123008.D	Liquid	Y	<2
37	HS17121134-06MS	MS	12-31-2017 04:41 am	1.00	50 mL	50 mL	E123009.D	Liquid	Y	<2
	8uL cal std/40 mL sample									
38	HS17121134-06MSD	MSD	12-31-2017 05:06 am	1.00	50 mL	50 mL	E123010.D	Liquid	Y	<2
	8uL cal std/40 mL sample									
39	HS17121136-02	SAMP	12-31-2017 05:33 am	100.0(	500 µL	50 mL	E123011.D	Liquid	Y	<2
40	HS17121113-05	SAMP	12-31-2017 05:58 am	1.00	50 mL	50 mL	E123012.D	Liquid	Y	<2
41	HS17121113-06	SAMP	12-31-2017 06:22 am	1.00	50 mL	50 mL	E123013.D	Liquid	Y	<2
42	HS17121113-04	SAMP	12-31-2017 06:50 am	10.00	5 mL	50 mL	E123014.D	Liquid	Y	<2
43	HS17121113-08	SAMP	12-31-2017 07:17 am	10.00	5 mL	50 mL	E123015.D	Liquid	Y	<2
44	HS17121113-01	SAMP	12-31-2017 07:44 am	100.0(	500 µL	50 mL	E123016.D	Liquid	Y	<2
45	HS17121113-02	SAMP	12-31-2017 08:11 am	100.0(	500 µL	50 mL	E123017.D	Liquid	Y	<2
46	HS17121113-03	SAMP	12-31-2017 08:38 am	100.0(	500 µL	50 mL	E123018.D	Liquid	Y	<2
47	HS17121037-02	SAMP	12-31-2017 09:03 am	1.00	50 mL	50 mL	E123019.D	Liquid	Y	<2
48	HS17121037-03	SAMP	12-31-2017 09:28 am	1.00	50 mL	50 mL	E123020.D	Liquid	Y	<2
49	HS17121134-01	SAMP	12-31-2017 09:52 am	1.00	50 mL	50 mL	E123021.D	Liquid	Y	<2
50	HS17121134-02	SAMP	12-31-2017 10:17 am	1.00	50 mL	50 mL	E123022.D	Liquid	Y	<2
51	HS17121134-03	SAMP	12-31-2017 10:41 am	1.00	50 mL	50 mL	E123023.D	Liquid	Y	<2
52	HS17121134-04	SAMP	12-31-2017 11:06 am	1.00	50 mL	50 mL	E123024.D	Liquid	Y	<2
53	HS17121134-05	SAMP	12-31-2017 11:30 am	1.00	50 mL	50 mL	E123025.D	Liquid	Y	<2
54	HS17121134-07	SAMP	12-31-2017 11:55 am	1.00	50 mL	50 mL	E123026.D	Liquid	Y	<2
55	HS17121134-08	SAMP	12-31-2017 12:19 pm	1.00	50 mL	50 mL	E123027.D	Liquid	Y	<2
56	HS17121134-09	SAMP	12-31-2017 12:44 pm	1.00	50 mL	50 mL	E123028.D	Liquid	Y	<2
57	CCV_END	CCV_END	12-31-2017 01:09 pm	1.00	50 mL	50 mL	E123029.D	Liquid	Y	NA
	10 uL cal std/50 mL DI									

Chemical	Value
SURR ID	29814-95-03
IS ID	29814-95-04
LCS/MS ID	29814-98-01
CAL STD ID	29814-98-01
BFB ID	29814-95-03
pH Paper	634-37-03

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123001.D

Date : 31-DEC-2017 01:25

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

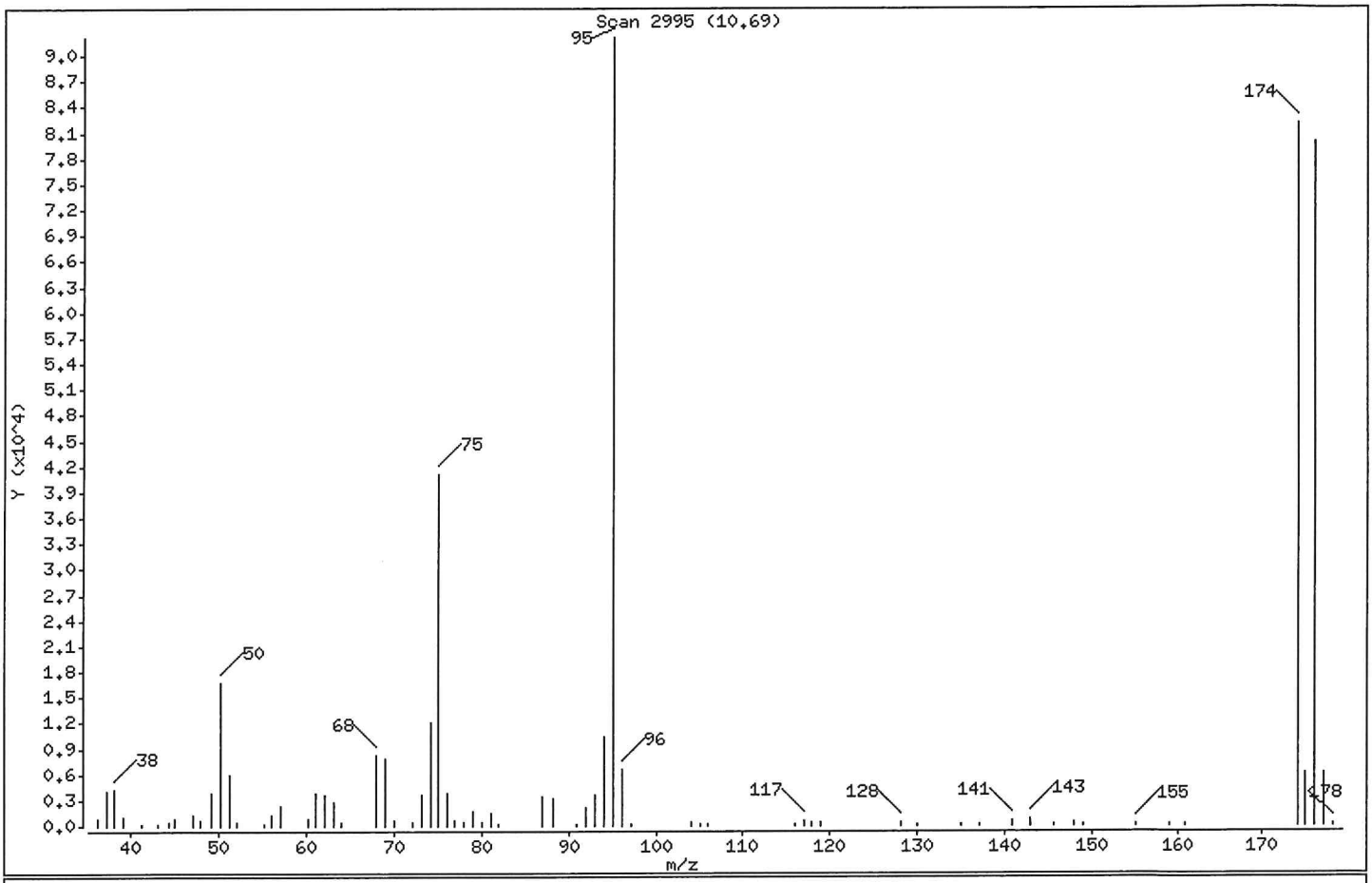
Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

1 bfb



m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
95	Base Peak, 100% relative abundance	100.00
50	15.00 - 40.00% of mass 95	18.07
75	30.00 - 60.00% of mass 95	44.52
96	5.00 - 9.00% of mass 95	7.20
173	Less than 2.00% of mass 174	0.00 (0.00)
174	Greater than 50.00% of mass 95	89.05
175	5.00 - 9.00% of mass 174	6.66 (7.48)
176	95.00 - 101.00% of mass 174	86.71 (97.38)
177	5.00 - 9.00% of mass 176	6.55 (7.56)

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123001.D

Date : 31-DEC-2017 01:25

Client ID: BFB

Instrument: VOA2.i

Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18

Data File: E123001.D
Spectrum: Scan 2995 (10.69)
Location of Maximum: 95.10
Number of points: 69

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.10	762	61.10	3792	87.00	3424	135.00	187
37.10	4051	62.10	3615	88.10	3088	137.00	174
38.10	4193	63.10	2827	90.90	258	140.90	727
39.10	1077	64.00	323	92.00	2184	143.00	750
41.10	154	68.00	8338	93.00	3550	145.60	156
43.10	222	69.00	7752	94.10	10398	147.90	355
44.20	445	70.10	662	95.10	92128	149.00	158
45.00	914	72.10	395	96.10	6630	155.00	227
47.10	1217	73.10	3611	97.10	152	159.00	196
47.90	622	74.10	12097	104.00	379	161.00	220
49.10	3747	75.10	41016	105.10	171	174.00	82040
50.10	16648	76.10	3907	106.00	185	175.00	6137
51.10	5865	76.90	535	116.00	265	176.00	79888
52.00	319	77.90	392	117.00	631	177.00	6037
55.10	285	79.00	1738	117.90	371	178.10	290
56.10	1172	80.00	510	118.90	355		
57.10	2255	81.00	1539	128.00	528		
60.10	792	81.90	263	129.90	292		

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123001.D

Date : 31-DEC-2017 01:25

Client ID: BFB

Instrument: VOA2.i

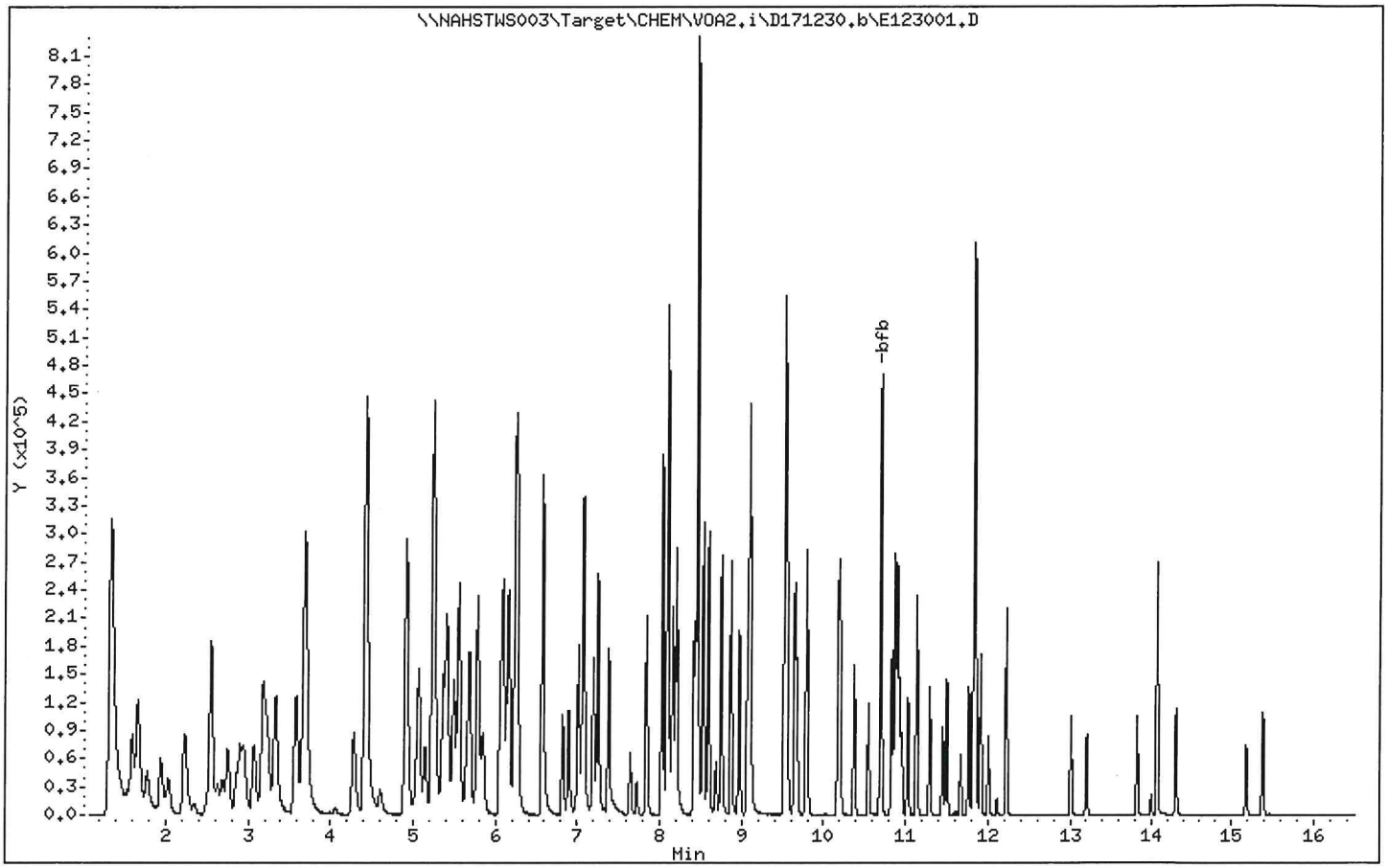
Sample Info: BFB;BFB;3;;BFB

Volume Injected (uL): 2.0

Operator: AP

Column phase: DB624

Column diameter: 0.18



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123003.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123003.D
Lab Smp Id: CCV Client Smp ID: CCV
Inj Date : 31-DEC-2017 02:14
Operator : AP Inst ID: VOA2.i
Smp Info : CCV;CCV;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	174624	50.0000	48.07
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	235011	50.0000	
$	30 Dibromofluoromethane	113	5.689	5.689	(0.984)	100940	50.0000	47.67
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	355904	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	123103	50.0000	47.07
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	325518	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	400363	50.0000	46.64
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	153661	50.0000	49.02
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	153636	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.868	10.868	(0.918)	157656	50.0000	43.01
	53 1,1,2-Trichloroethane	83	8.597	8.597	(0.902)	94737	50.0000	47.57
	32 1,1-Dichloropropene	75	5.850	5.850	(0.890)	139751	50.0000	50.39
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	229982	50.0000	46.87
	11 1,1-Dichloroethene	96	2.756	2.756	(0.477)	100163	50.0000	51.64
	90 1,2,4-Trichlorobenzene	180	13.817	13.817	(1.168)	158222	50.0000	52.27
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	29191	50.0000	46.21
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	124104	50.0000	49.76
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	245603	50.0000	44.47
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	161603	50.0000	51.42
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	134083	50.0000	47.83
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	253515	50.0000	44.11

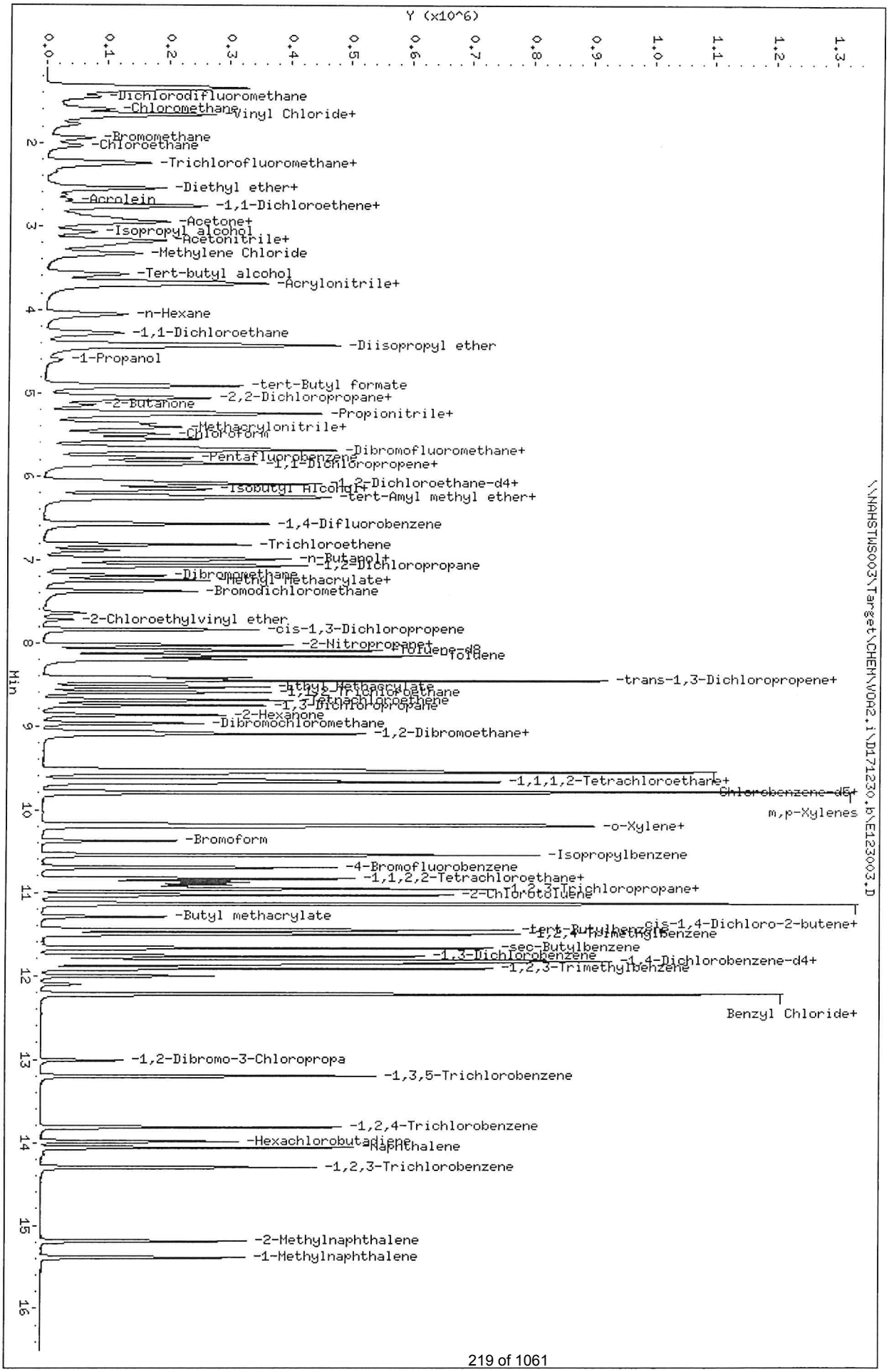
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123003.D
Report Date: 09-Feb-2018 18:30

	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	11.857	11.857	(1.002)	242612	50.0000	44.13
24	2-Butanone	43	5.141	5.141	(0.889)	123523	100.000	97.40
52	2-Hexanone	43	8.866	8.866	(0.931)	182695	100.000	95.78
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	282164	100.000	95.54
10	Acetone	43	2.862	2.862	(0.495)	76522	100.000	98.18
37	Benzene	78	6.094	6.094	(0.927)	451650	50.0000	48.23
39	Bromodichloromethane	83	7.377	7.377	(1.123)	161423	50.0000	48.70
66	Bromoform	173	10.374	10.374	(1.089)	101367	50.0000	52.49
6	Bromomethane	94	1.938	1.938	(0.335)	86154	50.0000	53.71
19	Carbon Disulfide	76	2.952	2.952	(0.511)	441719	100.000	99.72
34	Carbon Tetrachloride	117	5.837	5.837	(0.888)	143717	50.0000	42.51
59	Chlorobenzene	112	9.553	9.553	(1.003)	314184	50.0000	46.86
7	Chloroethane	64	2.034	2.034	(0.352)	84284	50.0000	44.32
28	Chloroform	83	5.494	5.494	(0.950)	201195	50.0000	46.95
3	Chloromethane	50	1.595	1.595	(0.276)	195537	50.0000	49.74
27	cis-1,2-Dichloroethene	96	5.067	5.067	(0.876)	131004	50.0000	48.99
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	194871	50.0000	51.19
55	Dibromochloromethane	129	8.969	8.969	(0.941)	139745	50.0000	49.72
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	86621	50.0000	43.11
61	Ethylbenzene	106	9.672	9.672	(1.015)	167688	50.0000	46.73
67	Isopropylbenzene	105	10.548	10.548	(1.107)	526978	50.0000	47.47
17	Methylene Chloride	84	3.334	3.334	(0.577)	116839	50.0000	45.42
56	Tetrachloroethene	164	8.690	8.690	(0.912)	101918	50.0000	50.79
50	Toluene	91	8.157	8.157	(0.856)	478900	50.0000	46.42
20	trans-1,2-Dichloroethene	96	3.661	3.661	(0.633)	106716	50.0000	50.86
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	169276	50.0000	52.26
38	Trichloroethene	130	6.819	6.819	(1.038)	129720	50.0000	49.20
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	148532	50.0000	51.25
5	Vinyl Chloride	62	1.678	1.678	(0.290)	142085	50.0000	49.32
62	m,p-Xylenes	106	9.790	9.790	(1.028)	407505	100.000	92.86
63	o-Xylene	106	10.179	10.179	(1.068)	217044	50.0000	47.27
M 95	Xylenes (total)	106				624549	150.000	(a)
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	165986	50.0000	45.35
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	136191	50.0000	52.22
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	429426	50.0000	41.96
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.941)	423315	50.0000	42.47
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	143451	50.0000	41.89
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	189315	50.0000	47.13
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	363938	50.0000	41.70
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	402091	50.0000	42.31
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	414530	50.0000	43.83
29	Bromochloromethane	128	5.368	5.368	(0.928)	64297	50.0000	50.53
74	Bromobenzene	156	10.833	10.833	(0.915)	147900	50.0000	43.39
44	Dibromomethane	93	7.191	7.191	(1.094)	74290	50.0000	51.13
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	64188	50.0000	45.53
73	n-Propylbenzene	91	10.955	10.955	(0.926)	560564	50.0000	43.15
87	n-Butylbenzene	91	12.223	12.223	(1.033)	319959	50.0000	45.52
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	485780	50.0000	43.98
92	Naphthalene	128	14.065	14.065	(1.188)	403316	50.0000	51.18
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	364361	50.0000	43.58
60	1,1,1,2-Tetrachloroethane	131	9.643	9.643	(1.012)	127179	50.0000	48.96
64	Styrene	104	10.198	10.198	(1.070)	357147	50.0000	48.77

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123003.D
Report Date: 09-Feb-2018 18:30

QC Flag Legend

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



Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123003.D

Date : 31-DEC-2017 02:14

Client ID: CCV

Sample Info: CCV;CCV;2;;

Purge Volume: 5.0

Column phase: DB624

\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123003.D

Instrument: VOA2.i

Operator: AP

Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123004.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123004.D
Lab Smp Id: VLCSW-171230 Client Smp ID: VLCSW-171230
Inj Date : 31-DEC-2017 02:38
Operator : AP Inst ID: VOA2.i
Smp Info : VLCSW-171230;VLCSW-171230;3;;LCS
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 7 QC Sample: LCS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

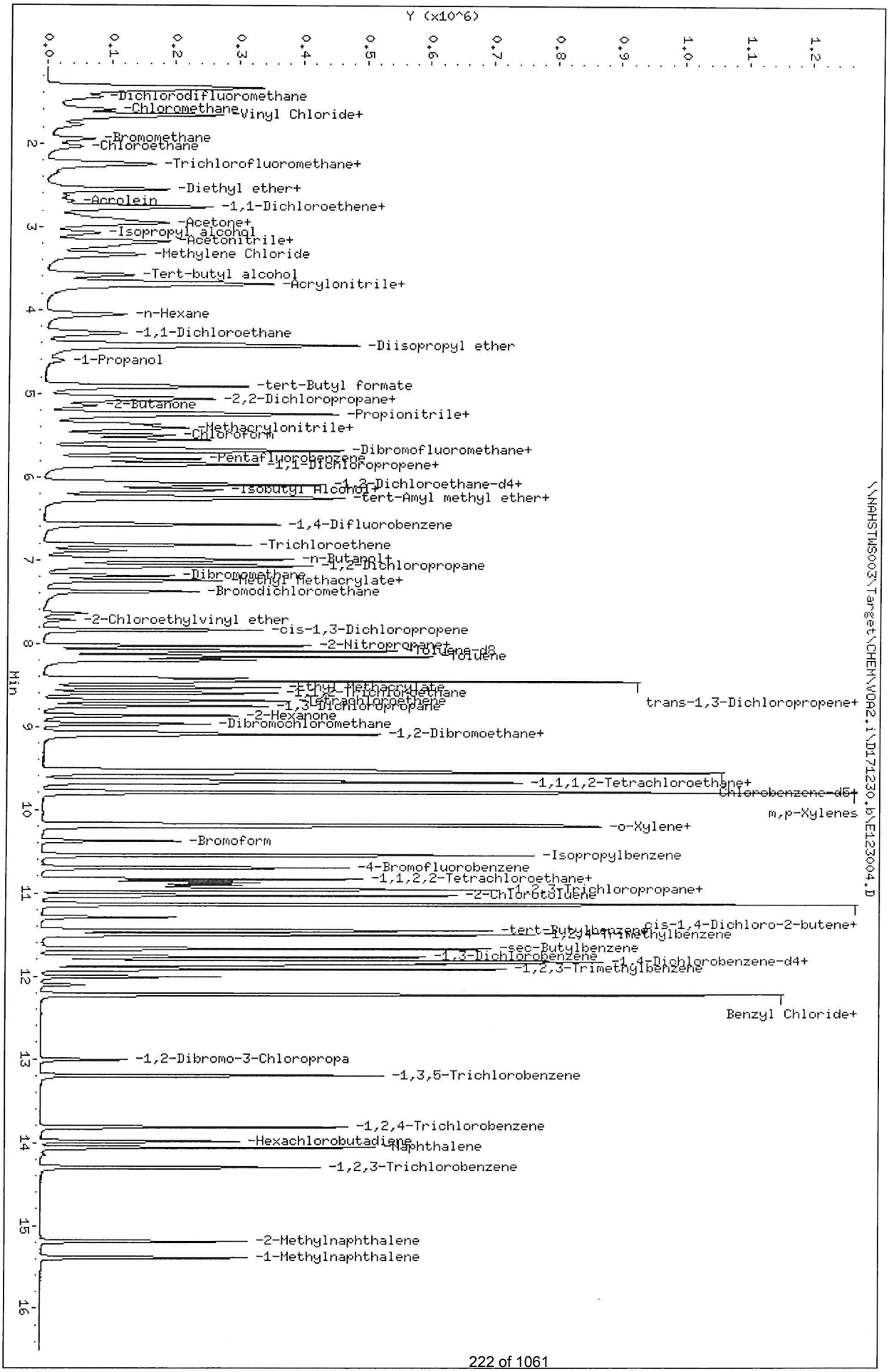
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.654	(0.978)	167707	46.5788	46.57
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	232961	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.689	(0.984)	100426	47.8466	47.84
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	351815	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	125094	48.2561	48.25
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	324217	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	398605	46.6299	46.62
$	69 4-Bromofluorobenzene	95	10.698	10.695	(1.123)	153922	49.3092	49.30
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.834	(1.000)	151494	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.868	(0.918)	157265	43.5166	43.51
	53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	93223	47.0032	47.00
	32 1,1-Dichloropropene	75	5.856	5.850	(0.891)	131090	47.7718	47.77
	22 1,1-Dichloroethane	63	4.277	4.277	(0.740)	224488	46.1563	46.15
	11 1,1-Dichloroethene	96	2.756	2.756	(0.477)	96001	49.9298	49.92
	90 1,2,4-Trichlorobenzene	180	13.818	13.817	(1.167)	153429	51.4091	51.40
	89 1,2-Dibromo-3-Chloropropane	75	13.012	13.009	(1.099)	29510	47.3643	47.36
	57 1,2-Dibromoethane	107	9.068	9.068	(0.952)	122801	49.4356	49.43
	88 1,2-Dichlorobenzene	146	12.226	12.223	(1.033)	238465	43.7930	43.79
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	155396	50.0255	50.02
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	129387	46.6927	46.69
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	245993	43.4103	43.41

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123004.D
Report Date: 09-Feb-2018 18:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	84 1,4-Dichlorobenzene	146	11.860	11.857	(1.002)	236763	43.6834	43.68
	24 2-Butanone	43	5.147	5.141	(0.891)	123741	98.4366	98.43
	52 2-Hexanone	43	8.866	8.866	(0.931)	183509	96.6014	96.60
	45 4-Methyl-2-Pentanone	43	8.029	8.025	(0.843)	279760	95.1097	95.10
	10 Acetone	43	2.856	2.862	(0.494)	81361	105.486	105.48
	37 Benzene	78	6.090	6.094	(0.927)	435015	46.9946	46.99
	39 Bromodichloromethane	83	7.377	7.377	(1.123)	158510	48.3794	48.37
	66 Bromoform	173	10.378	10.374	(1.089)	99039	51.4967	51.49
	6 Bromomethane	94	1.941	1.938	(0.336)	80817	50.7000	50.69
	19 Carbon Disulfide	76	2.952	2.952	(0.511)	422043	96.1178	96.11
	34 Carbon Tetrachloride	117	5.834	5.837	(0.888)	139043	41.6076	41.60
	59 Chlorobenzene	112	9.556	9.553	(1.003)	303477	45.4515	45.45
	7 Chloroethane	64	2.034	2.034	(0.352)	81152	43.0561	43.05
	28 Chloroform	83	5.494	5.494	(0.951)	194981	45.9078	45.90
	3 Chloromethane	50	1.595	1.595	(0.276)	188989	48.4755	48.47
	27 cis-1,2-Dichloroethene	96	5.073	5.067	(0.878)	125022	47.1719	47.17
	46 cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	190542	50.6408	50.64
	55 Dibromochloromethane	129	8.969	8.969	(0.941)	136718	48.8417	48.84
	2 Dichlorodifluoromethane	85	1.450	1.447	(0.251)	85873	43.1193	43.11
	61 Ethylbenzene	106	9.672	9.672	(1.015)	158545	44.3636	44.36
	67 Isopropylbenzene	105	10.544	10.548	(1.107)	505738	45.7446	45.74
	17 Methylene Chloride	84	3.331	3.334	(0.576)	114586	44.9378	44.93
	56 Tetrachloroethene	164	8.690	8.690	(0.912)	97251	48.5939	48.59
	50 Toluene	91	8.157	8.157	(0.856)	460994	44.8661	44.86
	20 trans-1,2-Dichloroethene	96	3.665	3.661	(0.634)	106957	51.4282	51.42
	51 trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	166360	51.9602	51.96
	38 Trichloroethene	130	6.819	6.819	(1.038)	124235	47.6762	47.67
	8 Trichlorofluoromethane	101	2.253	2.256	(0.390)	144777	50.4028	50.40
	5 Vinyl Chloride	62	1.678	1.678	(0.290)	136151	47.6827	47.68
	62 m,p-Xylenes	106	9.790	9.790	(1.028)	390587	89.3693	89.36
	63 o-Xylene	106	10.179	10.179	(1.068)	209572	45.8348	45.83
M	95 Xylenes (total)	106				600159	135.204	135.20
	71 1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	165510	45.8622	45.86
	93 1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	134564	52.3273	52.32
	79 1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	410888	40.7190	40.71
	75 1,3,5-Trimethylbenzene	105	11.135	11.132	(0.941)	404923	41.2057	41.20
	26 2,2-Dichloropropane	77	5.044	5.041	(0.873)	137788	40.5986	40.59
	54 1,3-Dichloropropane	76	8.751	8.754	(0.918)	186317	46.5763	46.57
	76 2-Chlorotoluene	91	11.029	11.029	(0.932)	351726	40.8707	40.87
	77 4-Chlorotoluene	91	11.138	11.138	(0.941)	388925	41.5060	41.50
	82 p-Isopropyltoluene	119	11.818	11.818	(0.998)	394528	42.3085	42.30
	29 Bromochloromethane	128	5.368	5.368	(0.929)	62669	49.6872	49.68
	74 Bromobenzene	156	10.833	10.833	(0.915)	144330	42.9488	42.94
	44 Dibromomethane	93	7.191	7.191	(1.094)	72043	50.1688	50.16
	91 Hexachlorobutadiene	225	13.984	13.988	(1.181)	64009	46.0505	46.05
	73 n-Propylbenzene	91	10.955	10.955	(0.925)	534500	41.7299	41.72
	87 n-Butylbenzene	91	12.223	12.223	(1.033)	304228	43.8977	43.89
	81 sec-Butylbenzene	105	11.668	11.668	(0.986)	467807	42.9606	42.96
	92 Naphthalene	128	14.061	14.065	(1.188)	401099	51.6244	51.62
	78 tert-Butylbenzene	119	11.449	11.449	(0.967)	350017	42.4603	42.46
	60 1,1,1,2-Tetrachloroethane	131	9.646	9.643	(1.012)	124758	48.2215	48.22
	64 Styrene	104	10.198	10.198	(1.070)	346005	47.4467	47.44



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Date : 31-DEC-2017 02:38
Client ID: VLCSW-171230
Sample Info: VLCSW-171230;VLCSW-171230;3;;LCS
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123004.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123006.D
Report Date: 09-Feb-2018 18:30

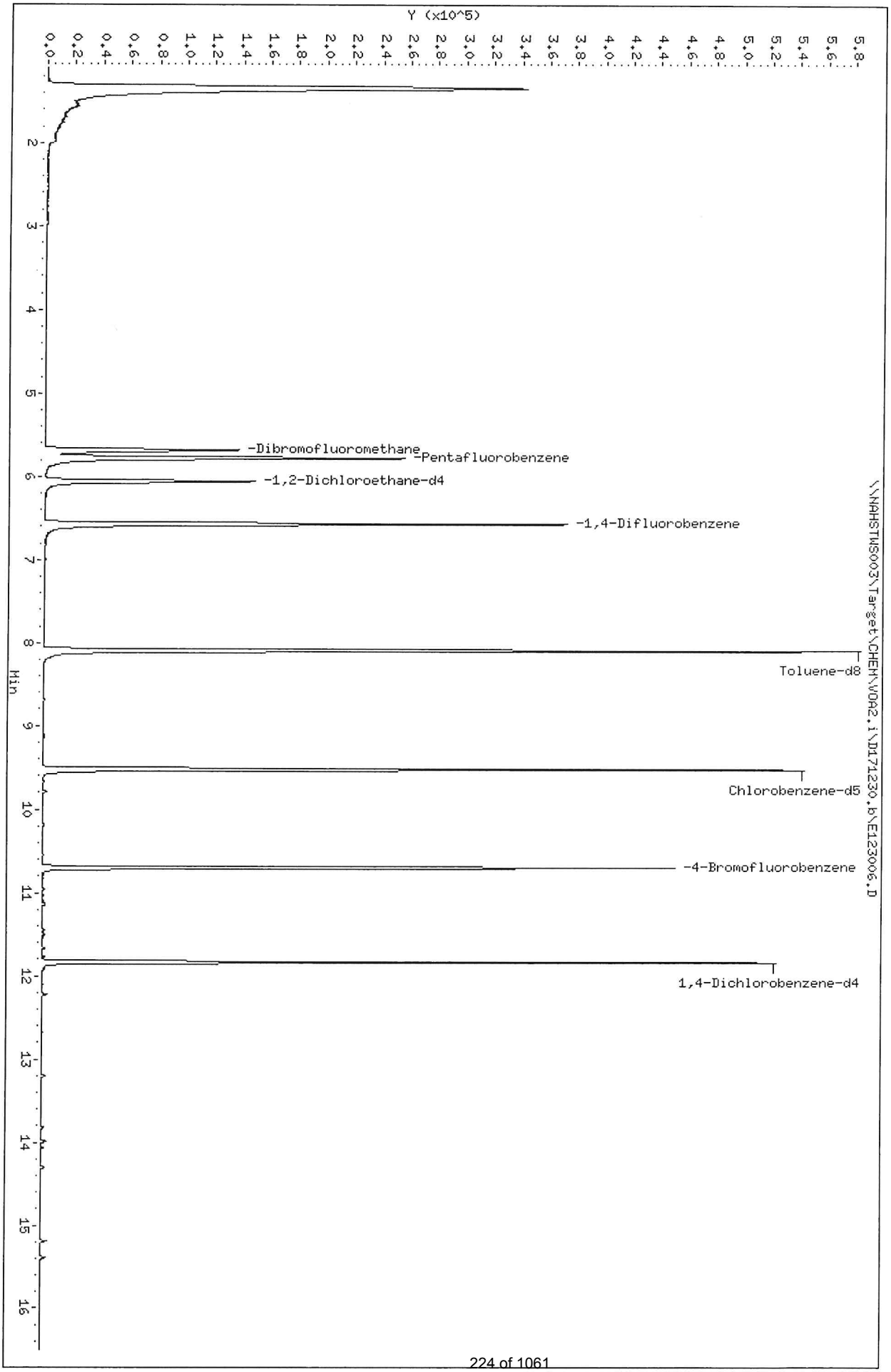
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123006.D
Lab Smp Id: VBLKW-171230 Client Smp ID: VBLKW-171230
Inj Date : 31-DEC-2017 03:28
Operator : AP Inst ID: VOA2.i
Smp Info : VBLKW-171230;VBLKW-171230;3;;BLANK
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 9 QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.782	5.782	(1.000)	246394	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.689	(0.983)	107877	48.5945	48.59
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	349850	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.047)	125999	45.9554	45.95
* 47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	317330	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	405638	48.4825	48.48
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	148765	48.6915	48.69
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	140329	50.0000	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Date : 31-DEC-2017 03:28
Client ID: VBLKW-171230
Sample Info: VBLKW-171230;VBLKW-171230;3;;BLANK
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123006.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123009.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123009.D
Lab Smp Id: HS17121134-06MS Client Smp ID: HS17121134-06MS
Inj Date : 31-DEC-2017 04:41
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121134-06MS;HS17121134-06MS;3;;MS
Misc Info : HS15080001;WATER;0;1;
Comment :
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Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 12 QC Sample: MS
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

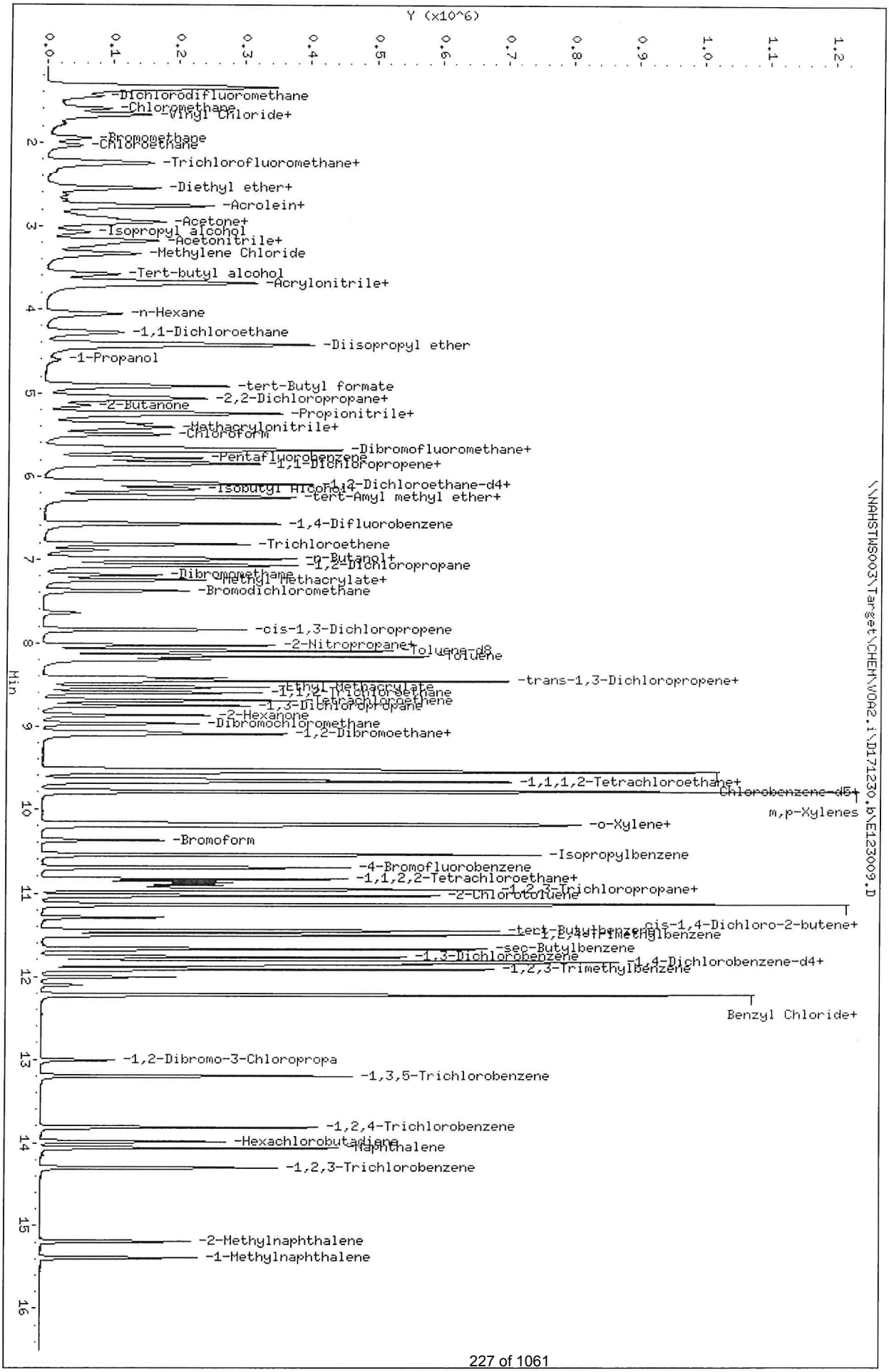
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	166441	46.8720	46.87
*	1 Pentafluorobenzene	168	5.779	5.782	(1.000)	229756	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.689	(0.984)	100993	48.7880	48.78
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	351717	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	120813	47.2548	47.25
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	318328	50.0000	
$	48 Toluene-d8	98	8.093	8.093	(0.849)	390808	46.5635	46.56
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	153305	50.0201	50.02
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.834	(1.000)	151550	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.869	10.868	(0.918)	135248	37.4105	37.41
	53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	85116	43.7096	43.70
	32 1,1-Dichloropropene	75	5.856	5.850	(0.891)	134655	49.1103	49.11
	22 1,1-Dichloroethane	63	4.284	4.277	(0.741)	213076	44.4211	44.42
	11 1,1-Dichloroethene	96	2.753	2.756	(0.476)	92627	48.8470	48.84
	90 1,2,4-Trichlorobenzene	180	13.818	13.817	(1.167)	132650	44.4303	44.43
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	24299	39.0814	39.08
	57 1,2-Dibromoethane	107	9.065	9.068	(0.952)	109134	44.7465	44.74
	88 1,2-Dichlorobenzene	146	12.223	12.223	(1.033)	216181	39.6860	39.68
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	142065	45.7382	45.73
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	121206	43.7526	43.75
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	225603	39.7973	39.79

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123009.D
Report Date: 09-Feb-2018 18:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.857	(1.002)	213202	39.3218	39.32
24	2-Butanone	43	5.147	5.141	(0.891)	101881	82.1774	82.17
52	2-Hexanone	43	8.866	8.866	(0.931)	153023	82.0434	82.04
45	4-Methyl-2-Pentanone	43	8.026	8.025	(0.842)	236227	81.7955	81.79
10	Acetone	43	2.859	2.862	(0.495)	65689	85.9295	85.92
37	Benzene	78	6.094	6.094	(0.927)	412073	44.5286	44.52
39	Bromodichloromethane	83	7.381	7.377	(1.123)	145032	44.2781	44.27
66	Bromoform	173	10.374	10.374	(1.089)	86599	45.8613	45.86
6	Bromomethane	94	1.945	1.938	(0.337)	76247	48.3917	48.39
19	Carbon Disulfide	76	2.952	2.952	(0.511)	397342	91.7546	91.75
34	Carbon Tetrachloride	117	5.834	5.837	(0.888)	138556	41.4734	41.47
59	Chlorobenzene	112	9.553	9.553	(1.003)	284976	43.4702	43.47
7	Chloroethane	64	2.041	2.034	(0.353)	74137	39.8829	39.88
28	Chloroform	83	5.494	5.494	(0.951)	184198	43.9739	43.97
3	Chloromethane	50	1.595	1.595	(0.276)	164069	42.5562	42.55
27	cis-1,2-Dichloroethene	96	5.073	5.067	(0.878)	118623	45.3818	45.38
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	171887	45.6955	45.69
55	Dibromochloromethane	129	8.969	8.969	(0.941)	123179	44.8190	44.81
2	Dichlorodifluoromethane	85	1.450	1.447	(0.251)	77328	39.3703	39.37
61	Ethylbenzene	106	9.672	9.672	(1.015)	154662	44.0777	44.07
67	Isopropylbenzene	105	10.544	10.548	(1.107)	495928	45.6871	45.68
17	Methylene Chloride	84	3.337	3.334	(0.577)	106865	42.4945	42.49
56	Tetrachloroethene	164	8.690	8.690	(0.912)	95244	48.4671	48.46
50	Toluene	91	8.157	8.157	(0.856)	438170	43.4337	43.43
20	trans-1,2-Dichloroethene	96	3.671	3.661	(0.635)	98687	48.1137	48.11
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	145729	45.5291	45.52
38	Trichloroethene	130	6.819	6.819	(1.038)	118896	45.6400	45.64
8	Trichlorofluoromethane	101	2.256	2.256	(0.390)	136910	48.3289	48.32
5	Vinyl Chloride	62	1.681	1.678	(0.291)	130911	46.4871	46.48
62	m,p-Xylenes	106	9.790	9.790	(1.028)	374104	87.1814	87.18
63	o-Xylene	106	10.179	10.179	(1.068)	196804	43.8386	43.83
M 95	Xylenes (total)	106				570908	131.020	131.02
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	139453	38.6276	38.62
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.208)	113103	43.9656	43.96
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	384703	38.1100	38.10
75	1,3,5-Trimethylbenzene	105	11.135	11.132	(0.941)	387690	39.4375	39.43
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	127779	38.1747	38.17
54	1,3-Dichloropropane	76	8.754	8.754	(0.919)	165735	42.1976	42.19
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	330254	38.3615	38.36
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	363050	38.7303	38.73
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	379855	40.7199	40.71
29	Bromochloromethane	128	5.369	5.368	(0.929)	56848	45.7008	45.70
74	Bromobenzene	156	10.833	10.833	(0.915)	132673	39.4654	39.46
44	Dibromomethane	93	7.191	7.191	(1.094)	65475	45.6078	45.60
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	57821	41.5407	41.54
73	n-Propylbenzene	91	10.955	10.955	(0.925)	512579	40.0036	40.00
87	n-Butylbenzene	91	12.223	12.223	(1.033)	286381	41.3072	41.30
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	452926	41.5786	41.57
92	Naphthalene	128	14.061	14.065	(1.188)	334834	42.9922	42.99
78	tert-Butylbenzene	119	11.453	11.449	(0.967)	340652	41.3090	41.30
60	1,1,1,2-Tetrachloroethane	131	9.646	9.643	(1.012)	114040	44.8942	44.89
64	Styrene	104	10.198	10.198	(1.070)	314954	43.9878	43.98



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Sample Info: HS171211134-06MS;HS171211134-06MS;3;;MS
Purge Volume: 5.0
Column phase: DB624

\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123009.D

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123010.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123010.D
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Inj Date : 31-DEC-2017 05:06
Operator : AP Inst ID: VOA2.i
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Misc Info : HS15080001;WATER;0;1;
Comment :
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Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 12 QC Sample: MSD
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

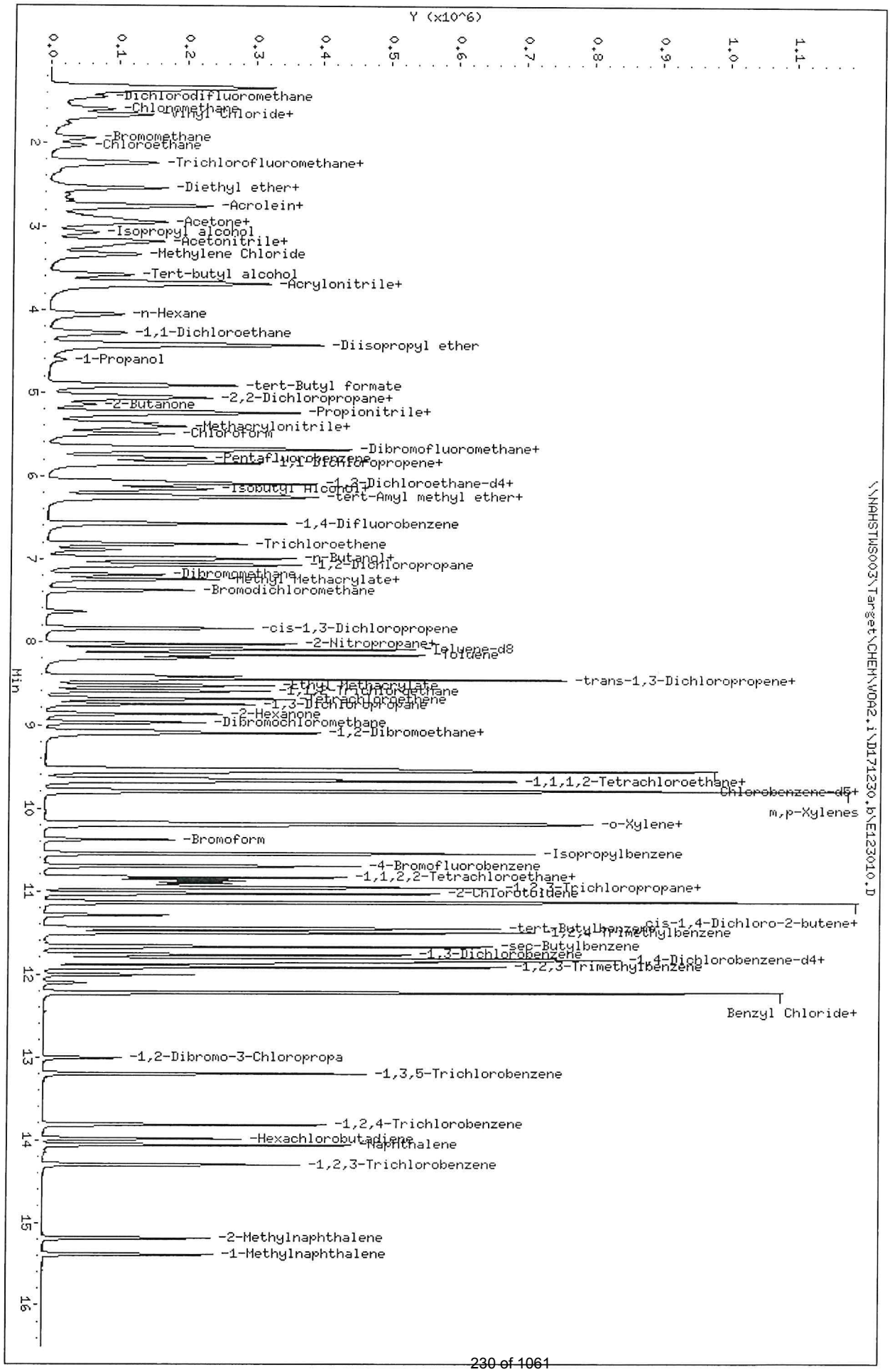
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
	31 1,1,1-Trichloroethane	97	5.651	5.654	(0.977)	161746	45.6016	45.60
*	1 Pentafluorobenzene	168	5.782	5.782	(1.000)	229495	50.0000	
$	30 Dibromofluoromethane	113	5.683	5.689	(0.983)	98736	47.7519	47.75
*	36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	349320	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	119295	46.7141	46.71
*	47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	317919	50.0000	
$	48 Toluene-d8	98	8.090	8.093	(0.849)	391687	46.7283	46.72
$	69 4-Bromofluorobenzene	95	10.698	10.695	(1.123)	151903	49.6265	49.62
*	70 1,4-Dichlorobenzene-d4	152	11.838	11.834	(1.000)	150120	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.872	10.868	(0.918)	137862	38.4968	38.49
	53 1,1,2-Trichloroethane	83	8.593	8.597	(0.902)	83794	43.0860	43.08
	32 1,1-Dichloropropene	75	5.853	5.850	(0.891)	129096	47.3735	47.37
	22 1,1-Dichloroethane	63	4.281	4.277	(0.740)	206439	43.0864	43.08
	11 1,1-Dichloroethene	96	2.750	2.756	(0.476)	89792	47.4058	47.40
	90 1,2,4-Trichlorobenzene	180	13.818	13.817	(1.167)	133496	45.1396	45.13
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	24600	39.9305	39.93
	57 1,2-Dibromoethane	107	9.065	9.068	(0.952)	107966	44.3245	44.32
	88 1,2-Dichlorobenzene	146	12.226	12.223	(1.033)	213687	39.6018	39.60
	33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	144403	46.8122	46.81
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	117635	42.7549	42.75
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	221471	39.4406	39.44

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123010.D
Report Date: 09-Feb-2018 18:30

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ug/l)	CONCENTRATIONS FINAL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.857	(1.002)	208452	38.8120	38.81
24	2-Butanone	43	5.144	5.141	(0.890)	106138	85.7085	85.70
52	2-Hexanone	43	8.866	8.866	(0.931)	157689	84.6539	84.65
45	4-Methyl-2-Pentanone	43	8.025	8.025	(0.842)	245850	85.2371	85.23
10	Acetone	43	2.859	2.862	(0.494)	68411	89.6920	89.69
37	Benzene	78	6.090	6.094	(0.927)	397072	43.2020	43.20
39	Bromodichloromethane	83	7.377	7.377	(1.123)	141794	43.5865	43.58
66	Bromoform	173	10.374	10.374	(1.089)	87064	46.1669	46.16
6	Bromomethane	94	1.941	1.938	(0.336)	69610	44.0145	44.01
19	Carbon Disulfide	76	2.952	2.952	(0.511)	382771	88.4904	88.49
34	Carbon Tetrachloride	117	5.834	5.837	(0.888)	133424	40.2113	40.21
59	Chlorobenzene	112	9.553	9.553	(1.003)	280820	42.8913	42.89
7	Chloroethane	64	2.034	2.034	(0.352)	71720	38.6266	38.62
28	Chloroform	83	5.490	5.494	(0.950)	178942	42.7677	42.76
3	Chloromethane	50	1.595	1.595	(0.276)	160499	41.6578	41.65
27	cis-1,2-Dichloroethene	96	5.070	5.067	(0.877)	113316	43.4008	43.40
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.193)	168915	45.2136	45.21
55	Dibromochloromethane	129	8.972	8.969	(0.942)	121644	44.3175	44.31
2	Dichlorodifluoromethane	85	1.447	1.447	(0.250)	77712	39.6108	39.61
61	Ethylbenzene	106	9.672	9.672	(1.015)	149607	42.6919	42.69
67	Isopropylbenzene	105	10.548	10.548	(1.107)	476631	43.9659	43.96
17	Methylene Chloride	84	3.334	3.334	(0.577)	103568	41.2303	41.23
56	Tetrachloroethene	164	8.690	8.690	(0.912)	91326	46.4649	46.46
50	Toluene	91	8.157	8.157	(0.856)	427488	42.4294	42.42
20	trans-1,2-Dichloroethene	96	3.665	3.661	(0.634)	98690	48.1699	48.16
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.281)	145668	45.8223	45.82
38	Trichloroethene	130	6.819	6.819	(1.038)	115403	44.6032	44.60
8	Trichlorofluoromethane	101	2.253	2.256	(0.390)	133411	47.1473	47.14
5	Vinyl Chloride	62	1.678	1.678	(0.290)	124392	44.2224	44.22
62	m,p-Xylenes	106	9.790	9.790	(1.028)	363646	84.8533	84.85
63	o-Xylene	106	10.179	10.179	(1.068)	193450	43.1470	43.14
M 95	Xylenes (total)	106				557096	128.000	128.00
71	1,2,3-Trichloropropane	75	10.901	10.901	(0.921)	141699	39.6236	39.62
93	1,2,3-Trichlorobenzene	182	14.299	14.302	(1.208)	116325	45.6488	45.64
79	1,2,4-Trimethylbenzene	105	11.501	11.501	(0.972)	376126	37.6152	37.61
75	1,3,5-Trimethylbenzene	105	11.132	11.132	(0.940)	375750	38.5870	38.58
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	120749	36.1155	36.11
54	1,3-Dichloropropane	76	8.751	8.754	(0.918)	164553	41.9505	41.95
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	321698	37.7236	37.72
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	349987	37.6924	37.69
82	p-Isopropyltoluene	119	11.818	11.818	(0.998)	373031	40.3693	40.36
29	Bromochloromethane	128	5.365	5.368	(0.928)	55179	44.4095	44.40
74	Bromobenzene	156	10.830	10.833	(0.915)	129857	38.9957	38.99
44	Dibromomethane	93	7.191	7.191	(1.094)	65144	45.6886	45.68
91	Hexachlorobutadiene	225	13.988	13.988	(1.182)	56722	41.1351	41.13
73	n-Propylbenzene	91	10.955	10.955	(0.925)	499159	39.3274	39.32
87	n-Butylbenzene	91	12.223	12.223	(1.033)	278588	40.5660	40.56
81	sec-Butylbenzene	105	11.668	11.668	(0.986)	443048	41.0592	41.05
92	Naphthalene	128	14.061	14.065	(1.188)	341643	44.3003	44.30
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	329200	40.3005	40.30
60	1,1,1,2-Tetrachloroethane	131	9.646	9.643	(1.012)	111826	44.0792	44.07
64	Styrene	104	10.198	10.198	(1.070)	308898	43.1975	43.19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Date : 31-DEC-2017 05:06
Client ID: HS171211134-06MSD
Sample Info: HS171211134-06MSD;HS171211134-06MSD;3;;MSD
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123010.D
Y (x10^6)
Min
-Dichlorodifluoromethane
-Chloromethane
-Vinyl Chloride+
-Bromomethane
-Chloroethane
-Trichlorofluoromethane+
-Diethyl ether+
-Acrolein+
-Acetone+
-Isopropyl alcohol
-Acetonitrile+
-Methylene Chloride
-Tert-butyl alcohol
-Acrylonitrile+
-n-Hexane
-1,1-Dichloroethane
-Diisopropyl ether
-1-Propanol
-tert-Butyl formate
-2,2-Dichloropropane+
-2-Butanone
-Propionitrile+
-Methacrylonitrile+
-Chloroform
-Dibromofluoromethane+
-Pentafluorobenzene
1,1-Dichloropropene+
-1,2-Dichloroethane-d4+
-Isobutyl Alcohol+
-tert-Amyl methyl ether+
-1,4-Difluorobenzene
-Trichloroethene
-n-Butanol+
1,2-Dichloropropane
-Dibromomethane
-Methyl Methacrylate+
-Bromodichloromethane
-cis-1,3-Dichloropropene
-2-Nitropropane+
-Toluene-d8
-Toluene
-trans-1,3-Dichloropropene+
-Ethyl Methacrylate
-1,1,2-Trichloroethane
-Tetrachloroethene
-1,3-Dichloropropane
-2-Hexanone
-Dibromochloromethane
-1,2-Dibromoethane+
-1,1,1,2-Tetrachloroethane+
Chlorobenzene-d5+
m,p-Xylenes
-o-Xylene+
-Bromoform
-Isopropylbenzene
-4-Bromofluorobenzene
-1,1,2,2-Tetrachloroethane+
-1,2,3-Trichloropropane+
-2-Chlorotoluene
-tert-Butylbenzene
cis-1,4-Dichloro-2-butene+
1,2,4-Trimethylbenzene
-sec-Butylbenzene
-1,3-Dichlorobenzene
-1,4-Dichlorobenzene-d4+
-1,2,3-Trimethylbenzene
Benzyl Chloride+
-1,2-Dibromo-3-Chloropropa
-1,3,5-Trichlorobenzene
-1,2,4-Trichlorobenzene
-Hexachlorobutadiene
-Naphthalene
-1,2,3-Trichlorobenzene
-2-Methylnaphthalene
-1-Methylnaphthalene

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123012.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123012.D
Lab Smp Id: HS17121113-05 Client Smp ID: HS17121113-05
Inj Date : 31-DEC-2017 05:58
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-05;HS17121113-05;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 14
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

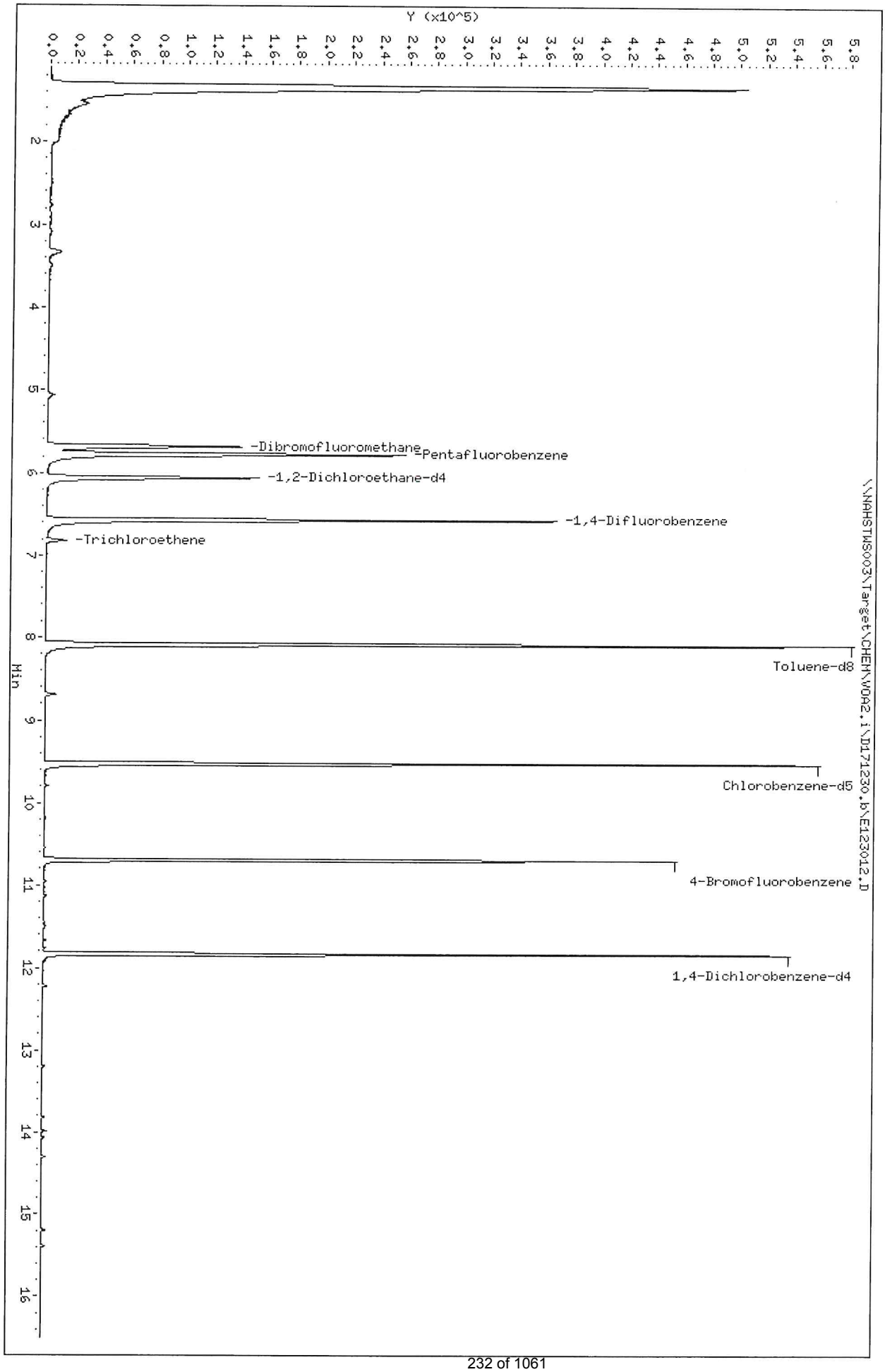
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	246796	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.689	(0.984)	109768	49.3658	49.36
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	350592	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	127349	46.3721	46.37
* 47 Chlorobenzene-d5	117	9.527	9.527	(1.000)	320035	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	403512	47.8207	47.82
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	151927	49.3061	49.30
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	144011	50.0000	
38 Trichloroethene	130	6.816	6.819	(1.038)	5593	2.15385	2.15(a)

QC Flag Legend

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



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Date : 31-DEC-2017 05:58
Client ID: HS17121113-05
Sample Info: HS17121113-05;HS17121113-05;;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123012.D

Date : 31-DEC-2017 05:58

Client ID: HS17121113-05

Instrument: VOA2.i

Sample Info: HS17121113-05;HS17121113-05;;;

Purge Volume: 5.0

Operator: AP

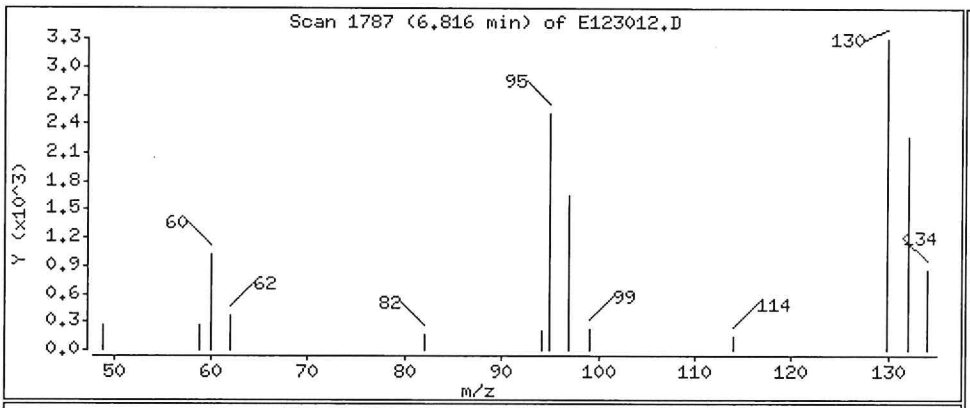
Column phase: DB624

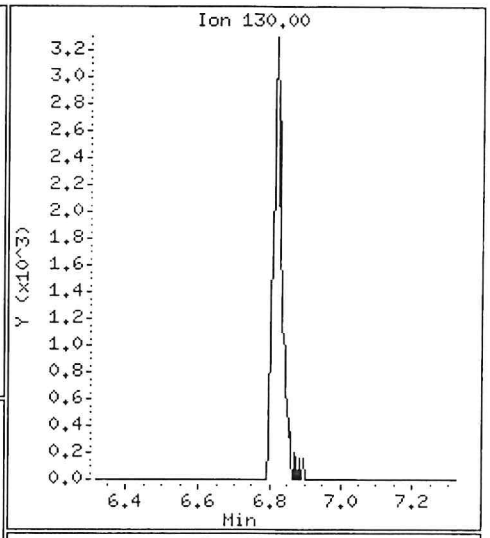
Column diameter: 0.18

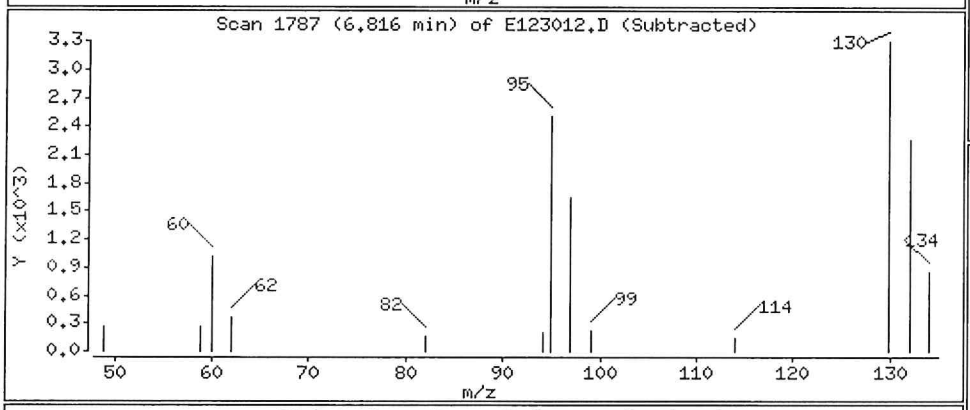
38 Trichloroethene

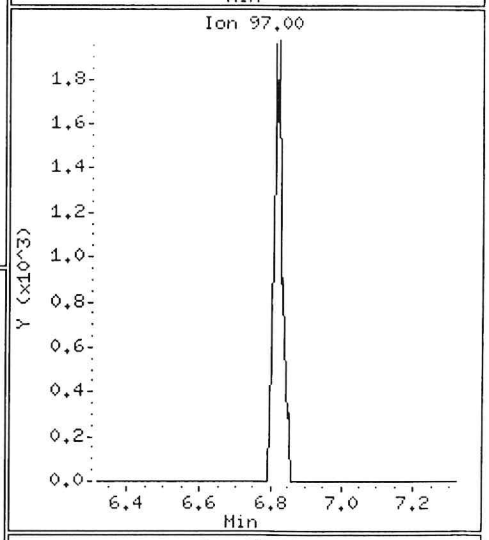
Concentration: 2.15 ug/l

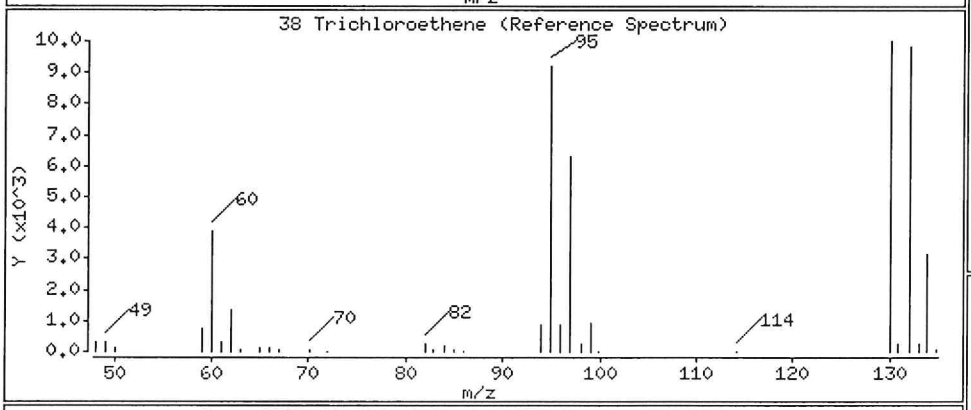
Review Code:

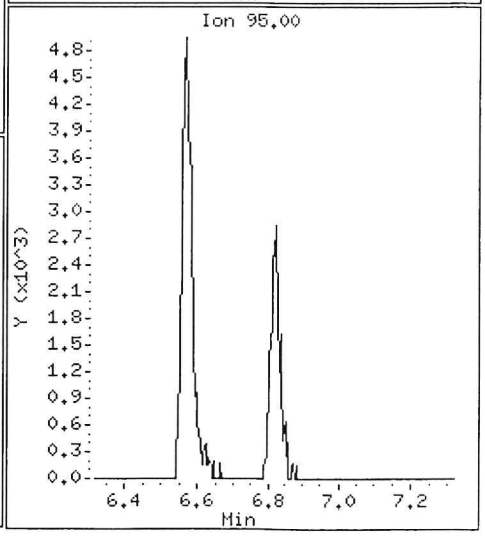


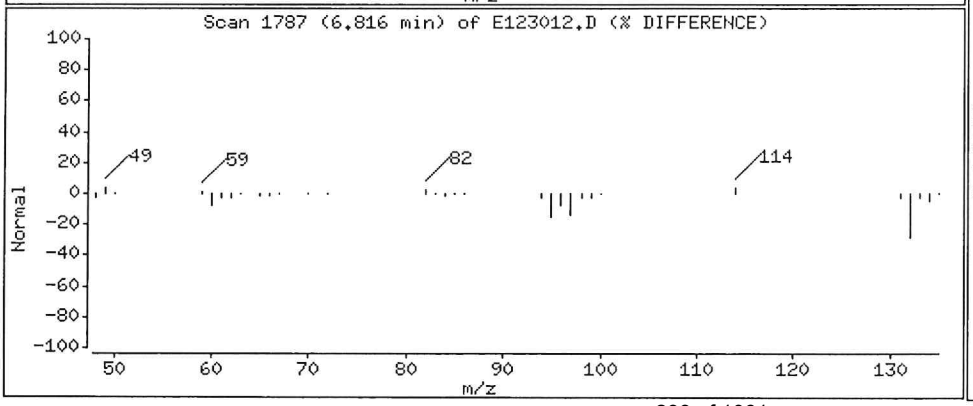












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123013.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123013.D
Lab Smp Id: HS17121113-06 Client Smp ID: HS17121113-06
Inj Date : 31-DEC-2017 06:22
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-06;HS17121113-06;;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 15
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

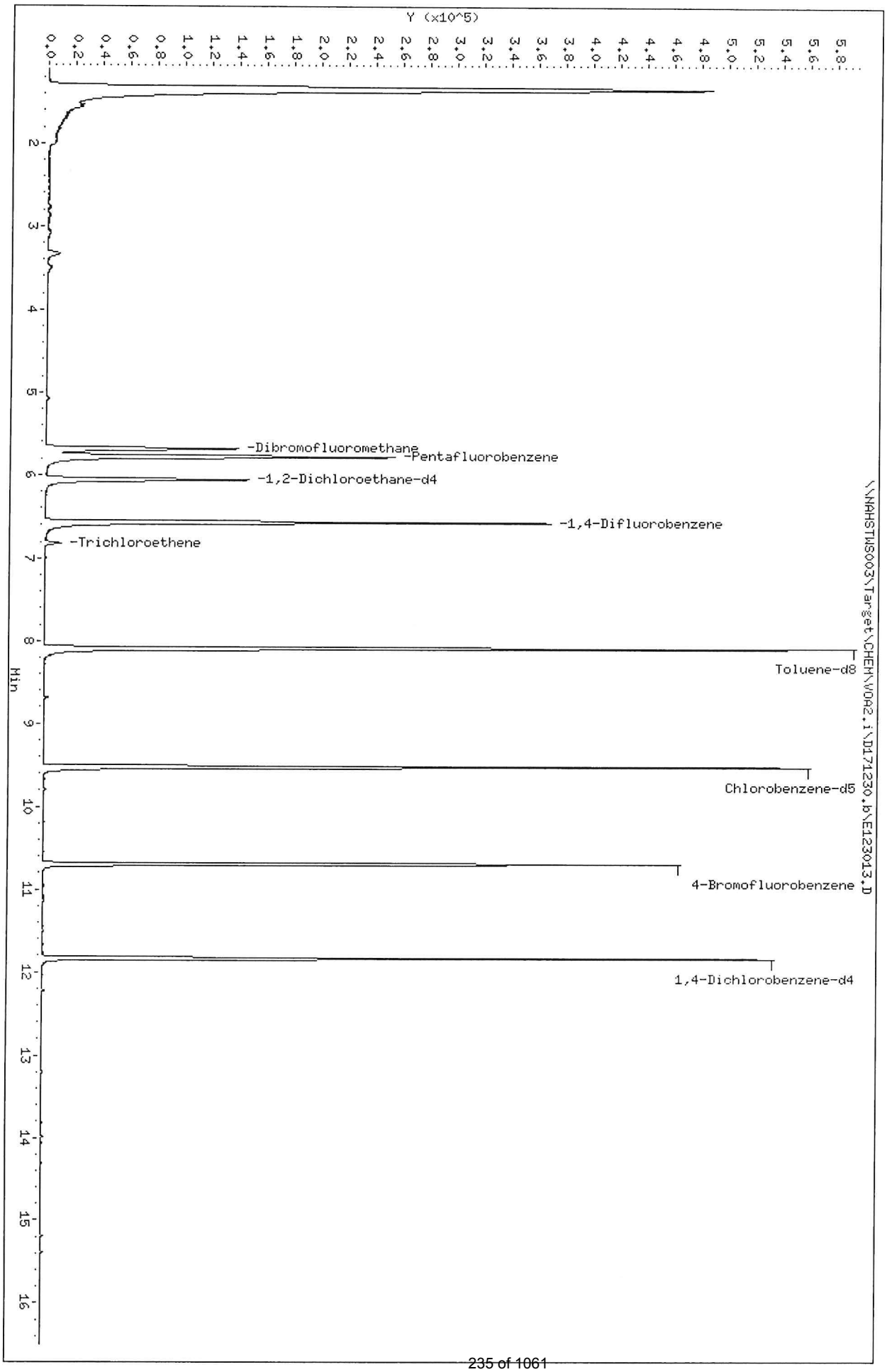
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	247173	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.689	(0.984)	109077	48.9802	48.98
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	351630	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.059	6.058	(1.048)	125928	45.7847	45.78
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	323877	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	409826	47.9929	47.99
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	150787	48.3557	48.35
* 70 1,4-Dichlorobenzene-d4	152	11.835	11.834	(1.000)	145411	50.0000	
38 Trichloroethene	130	6.819	6.819	(1.038)	4528	1.73857	1.73(a)

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).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Date : 31-DEC-2017 06:22
Client ID: HS17121113-06
Sample Info: HS17121113-06;HS17121113-06;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
Min
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
-Trichloroethene
Toluene-d8
Chlorobenzene-d5
4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123013.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123013.D

Date : 31-DEC-2017 06:22

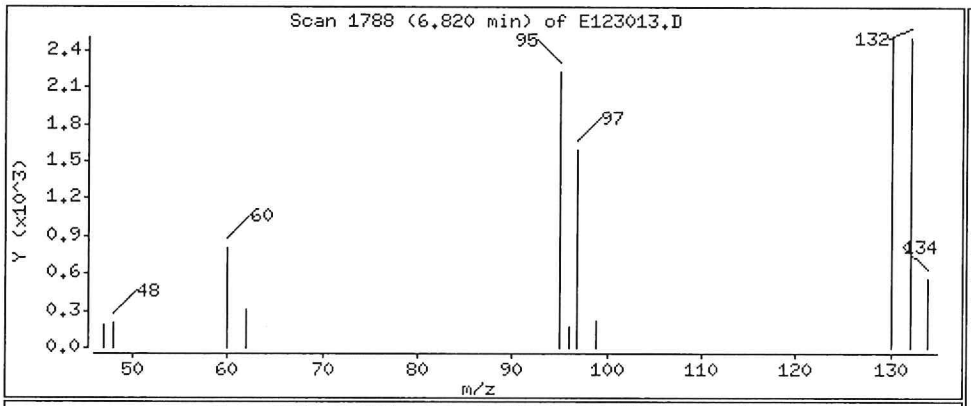
Client ID: HS17121113-06 Instrument: VOA2.i

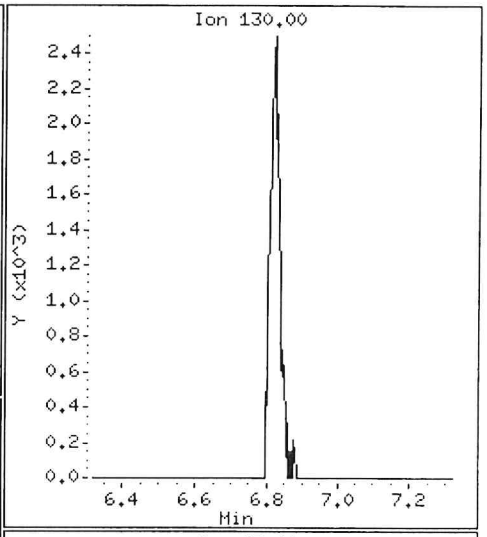
Sample Info: HS17121113-06;HS17121113-06;;;

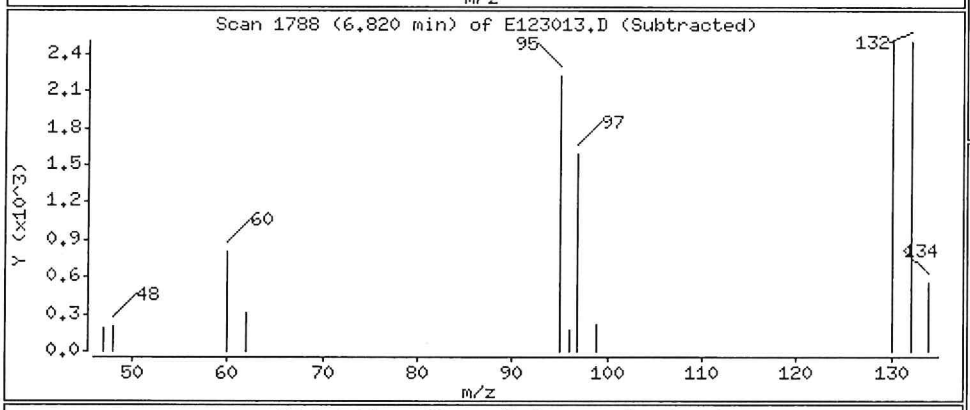
Purge Volume: 5.0 Operator: AP

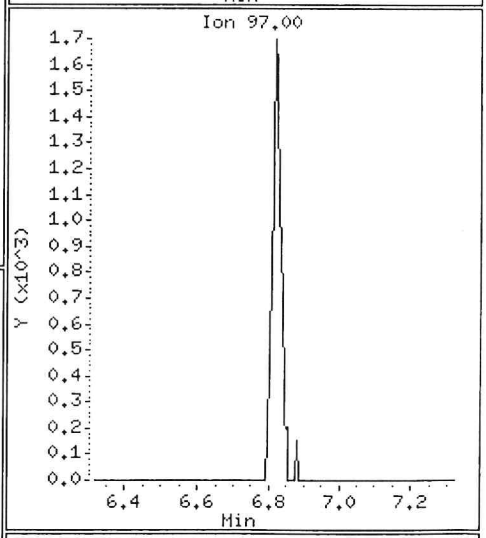
Column phase: DB624 Column diameter: 0.18

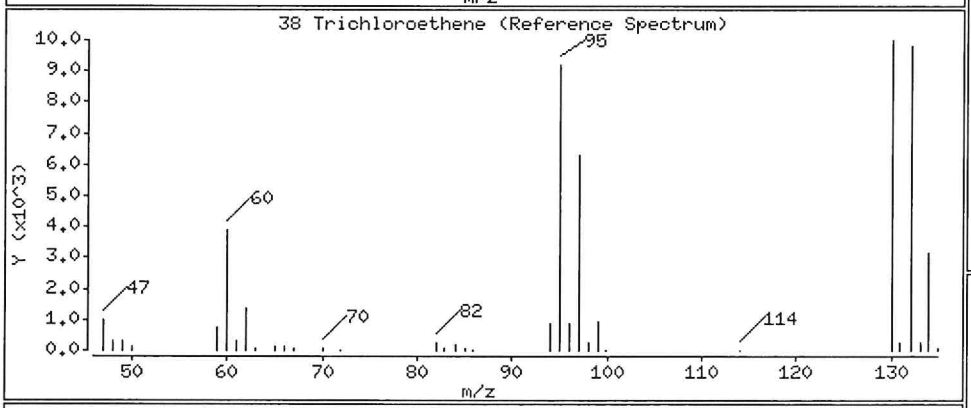
38 Trichloroethene Concentration: 1.73 ug/l Review Code:

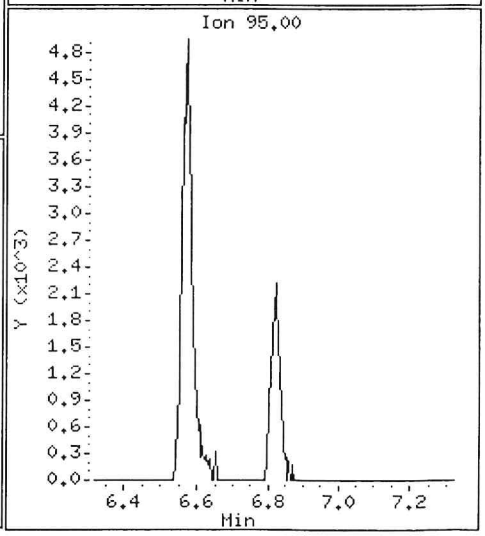


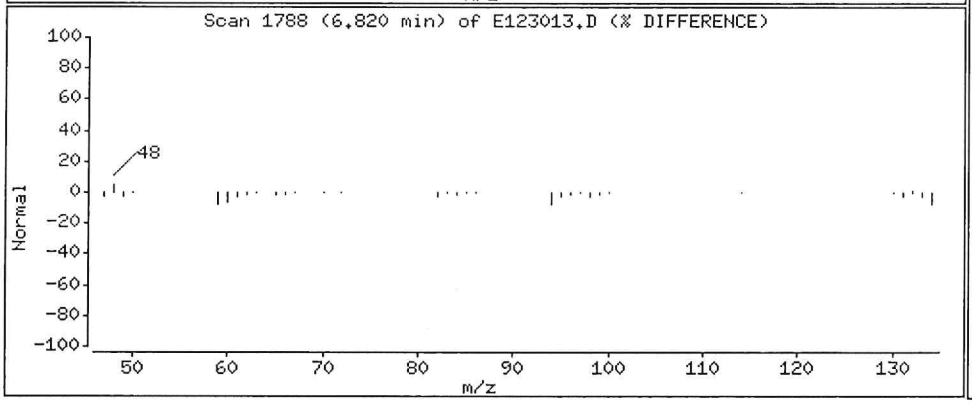












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123014.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123014.D
Lab Smp Id: HS17121113-04 Client Smp ID: HS17121113-04
Inj Date : 31-DEC-2017 06:50
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-04;HS17121113-04;;;
Misc Info : HS15080001;WATER;0;10;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 16
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

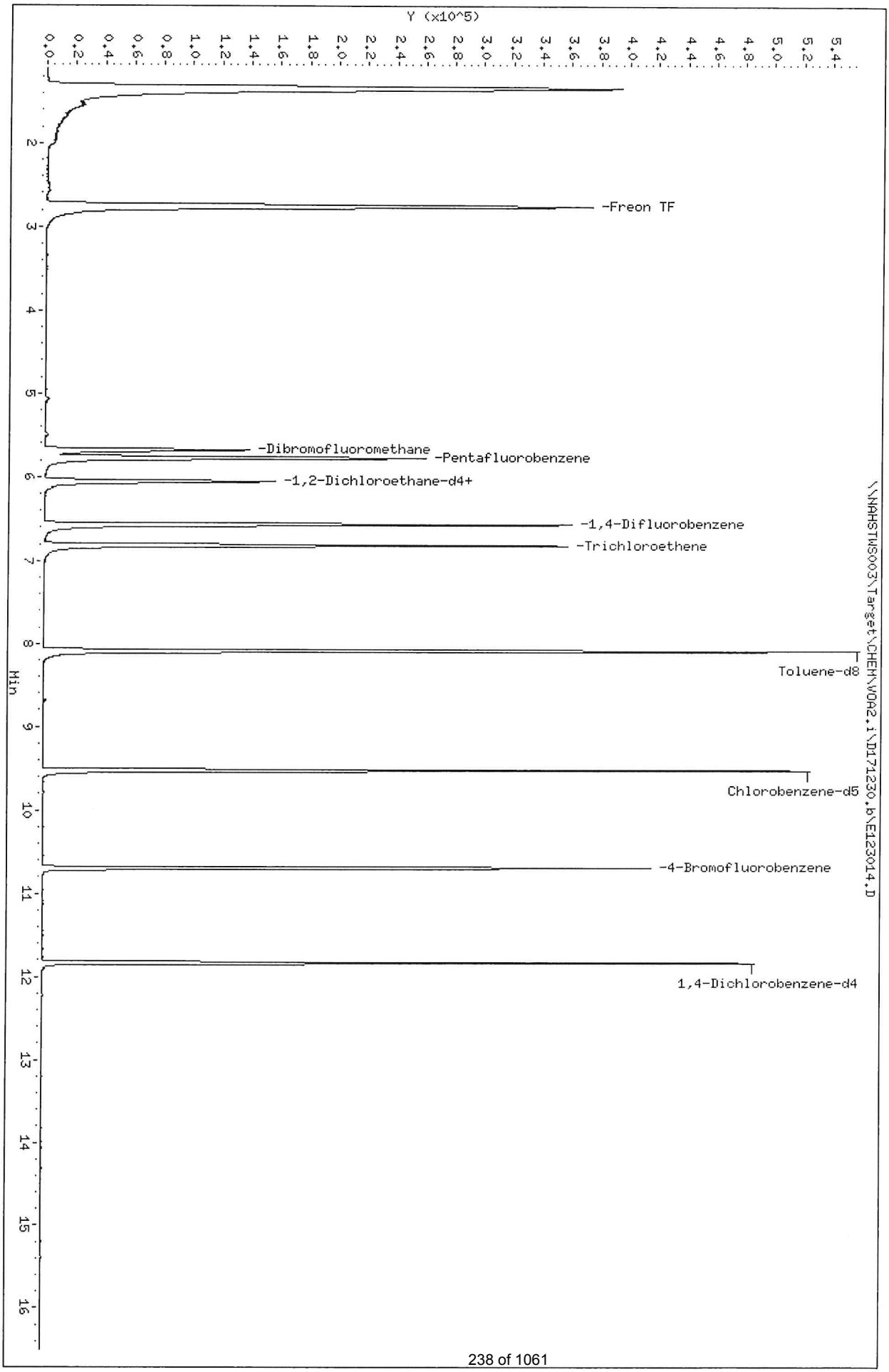
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.782	(1.000)	243470	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.689	(0.984)	106016	48.3297	48.32
* 36 1,4-Difluorobenzene	114	6.565	6.572	(1.000)	343370	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.048)	128045	47.2625	47.26
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	300977	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	386108	48.6556	48.65
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	140595	48.5177	48.51
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	132622	50.0000	
37 Benzene	78	6.084	6.094	(0.927)	3112	0.34446	3.44(a)
38 Trichloroethene	130	6.816	6.819	(1.038)	141019	55.4482	554.48

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).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Date : 31-DEC-2017 06:50
Client ID: HS17121113-04
Sample Info: HS17121113-04;HS17121113-04;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Freon TF
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4+
-1,4-Difluorobenzene
-Trichloroethene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123014.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123014.D

Date : 31-DEC-2017 06:50

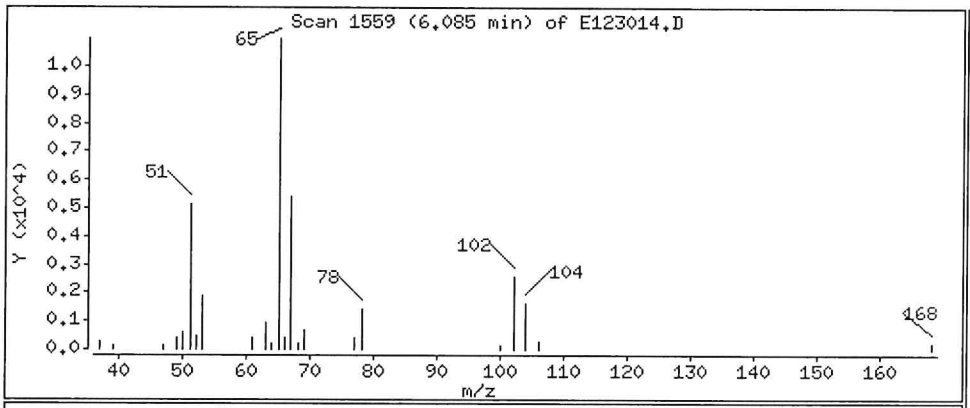
Client ID: HS17121113-04 Instrument: VOA2.i

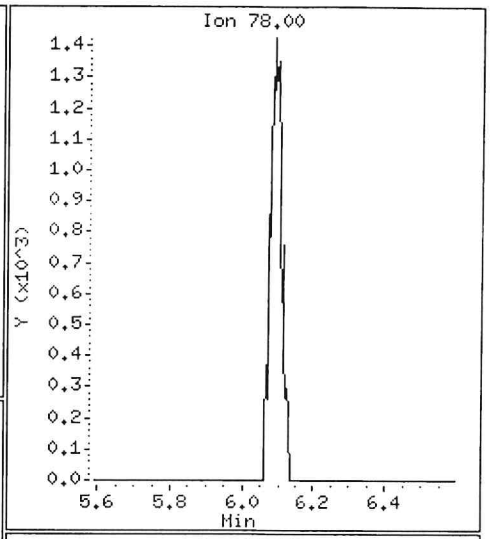
Sample Info: HS17121113-04;HS17121113-04;;;

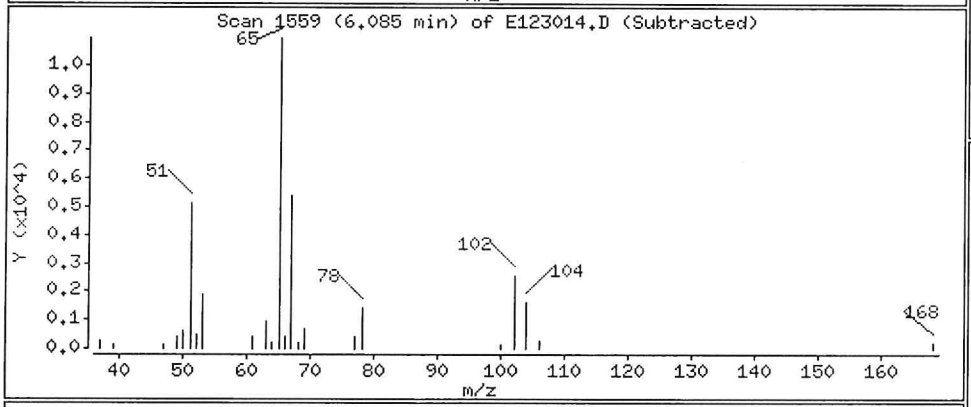
Purge Volume: 5.0 Operator: AP

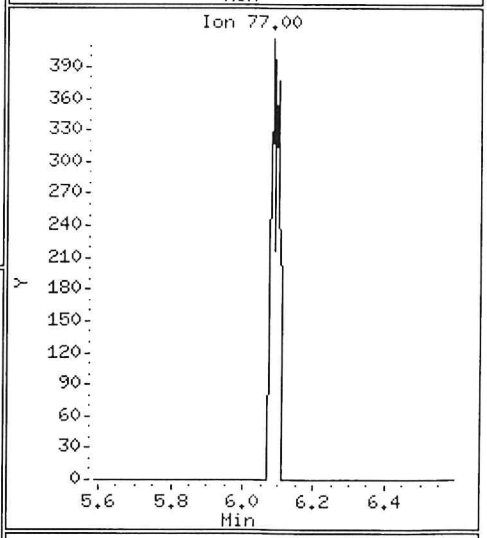
Column phase: DB624 Column diameter: 0.18

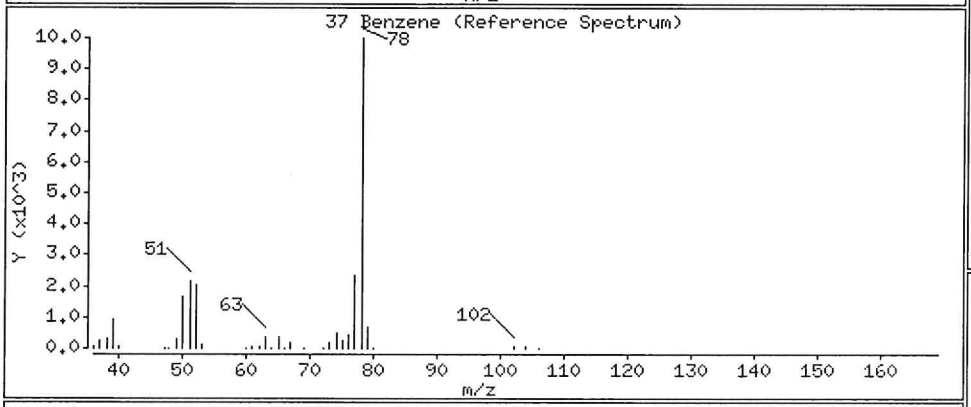
37 Benzene Concentration: 3.44 ug/l Review Code:

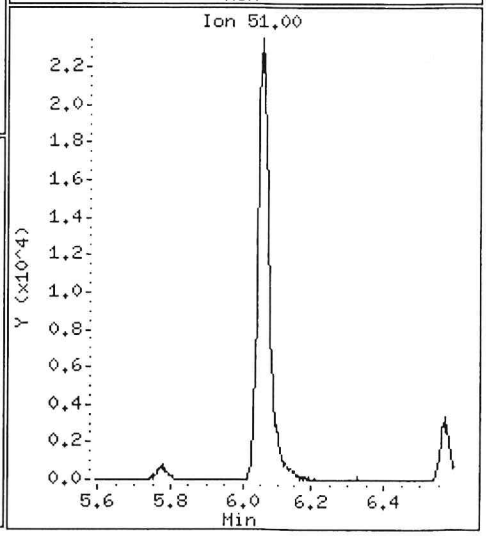


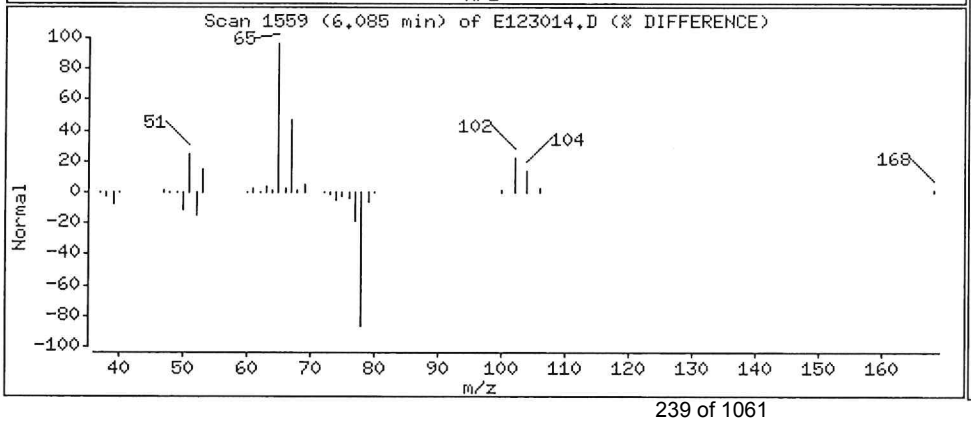












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123014.D

Date : 31-DEC-2017 06:50

Client ID: HS17121113-04

Instrument: VOA2.i

Sample Info: HS17121113-04;HS17121113-04;;;

Purge Volume: 5.0

Operator: AP

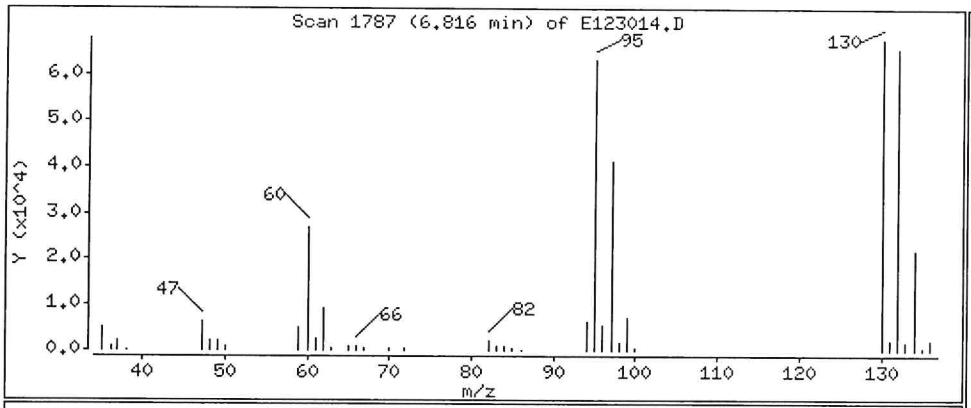
Column phase: DB624

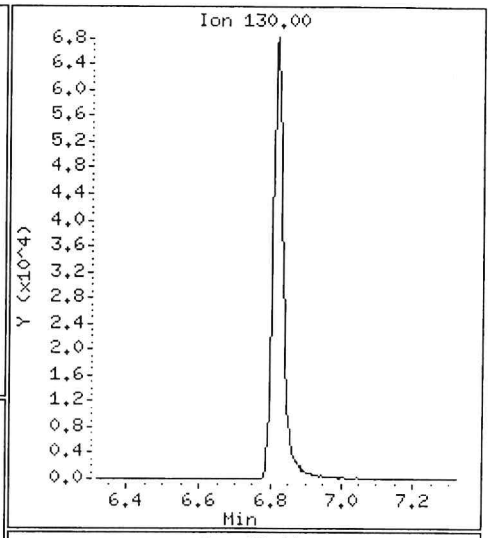
Column diameter: 0.18

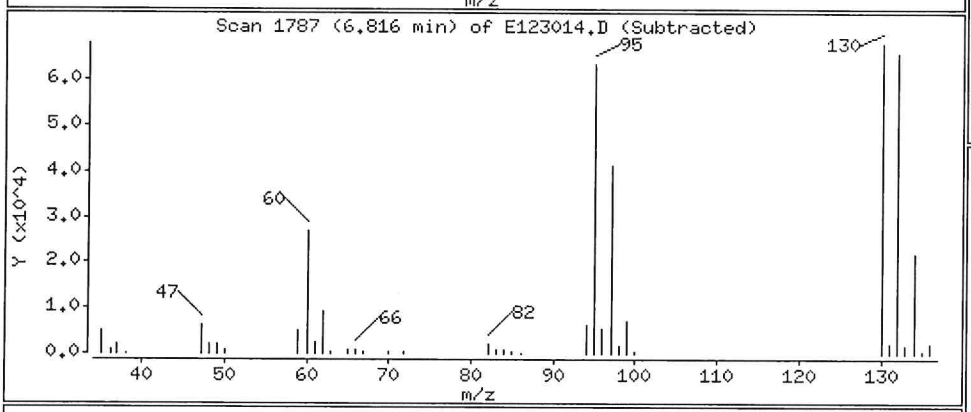
38 Trichloroethene

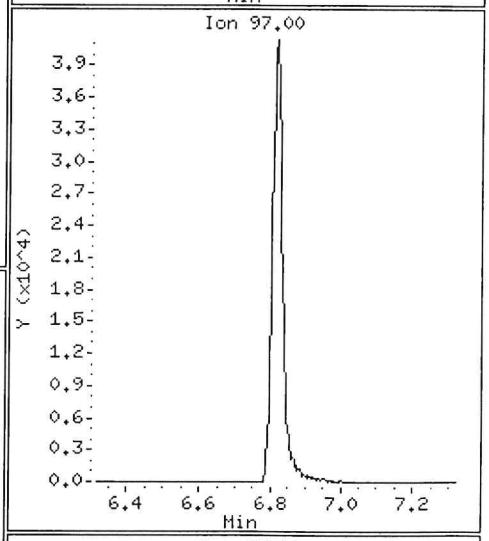
Concentration: 554.48 ug/l

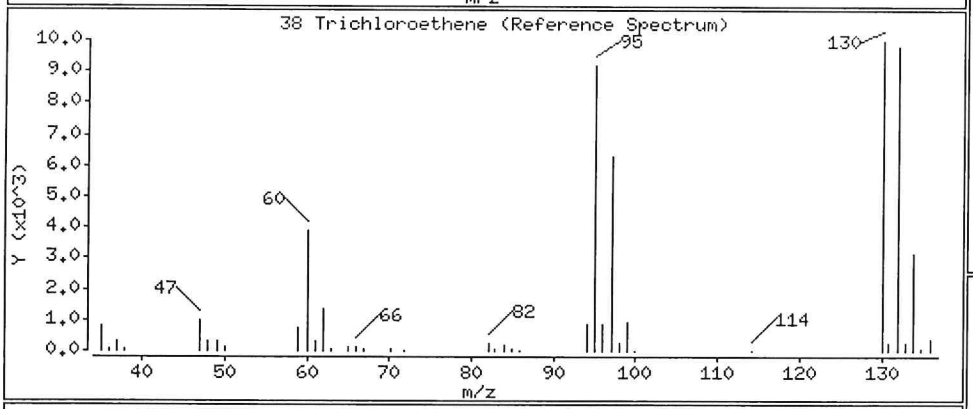
Review Code:

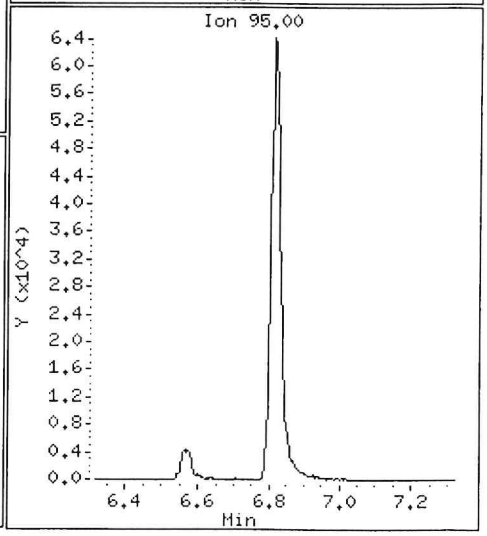


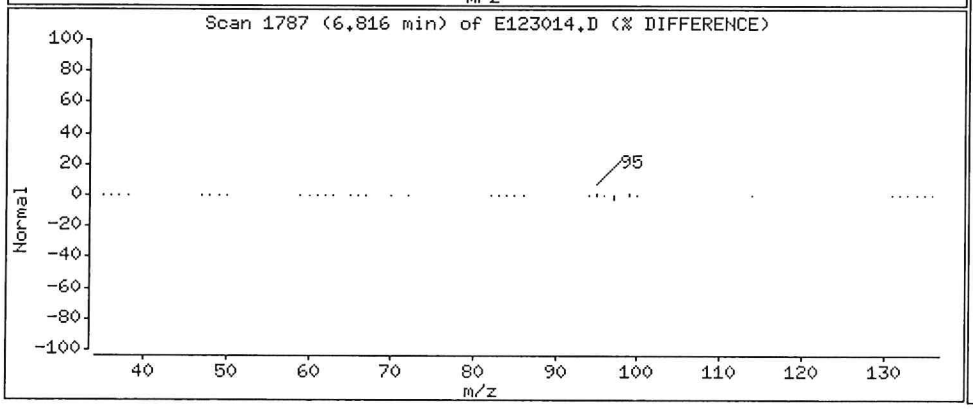












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123015.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123015.D
Lab Smp Id: HS17121113-08 Client Smp ID: HS17121113-08
Inj Date : 31-DEC-2017 07:17
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-08;HS17121113-08;;;
Misc Info : HS15080001;WATER;0;10;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 17
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

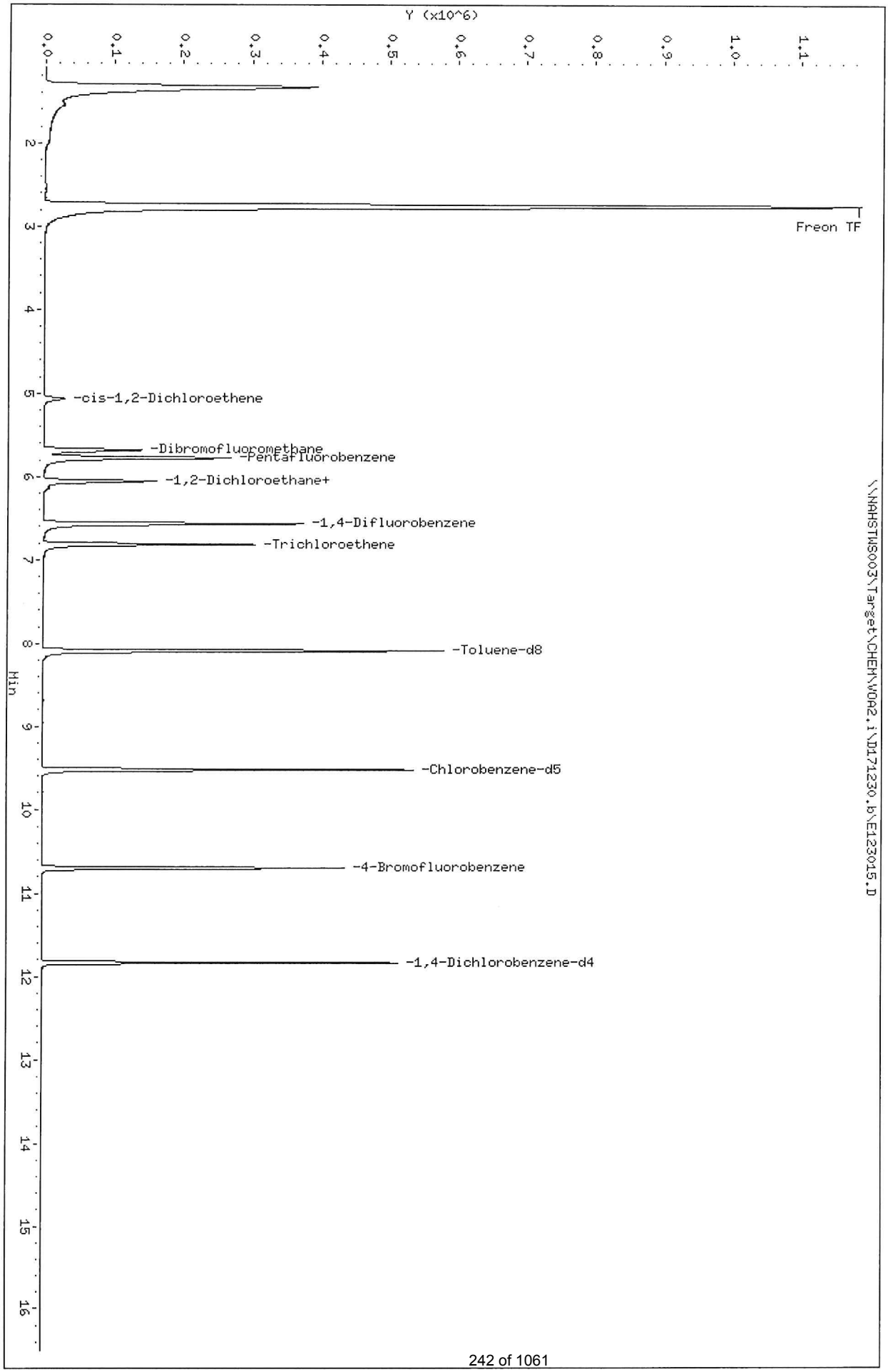
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	10.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.773	5.782	(1.000)	258258	50.0000	
$ 30 Dibromofluoromethane	113	5.683	5.689	(0.984)	109856	47.2126	47.21
* 36 1,4-Difluorobenzene	114	6.568	6.572	(1.000)	355229	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.055	6.058	(1.049)	129620	45.1043	45.10
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	306495	50.0000	
$ 48 Toluene-d8	98	8.089	8.093	(0.849)	397269	49.1608	49.16
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	142579	48.3165	48.31
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	138361	50.0000	
33 1,2-Dichloroethane	62	6.145	6.145	(0.936)	4523	1.34488	13.44(aM)
27 cis-1,2-Dichloroethene	96	5.063	5.067	(0.877)	19091	6.49763	64.97
38 Trichloroethene	130	6.816	6.819	(1.038)	123317	46.8691	468.69

QC Flag Legend

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


Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123015.D
Date : 31-DEC-2017 07:17
Client ID: HS171211113-08
Sample Info: HS171211113-08;HS171211113-08;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123015.D
Y (x10^6)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
1.1
Min
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Freon TF
-cis-1,2-Dichloroethene
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane+
-1,4-Difluorobenzene
-Trichloroethene
-Toluene-d8
-Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123015.D

Date : 31-DEC-2017 07:17

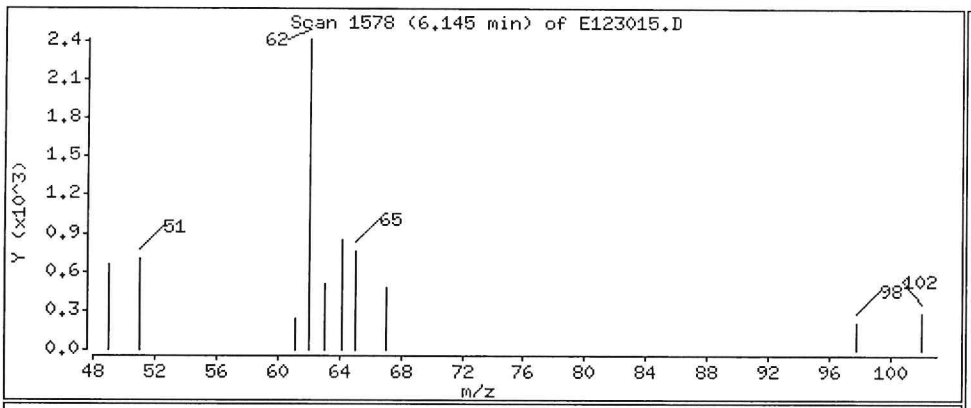
Client ID: HS17121113-08 Instrument: VOA2.i

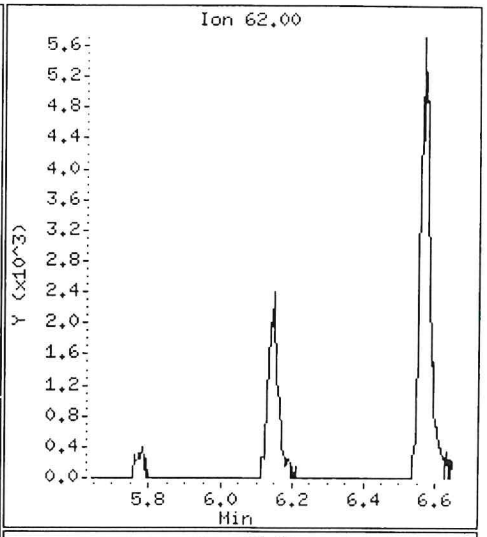
Sample Info: HS17121113-08;HS17121113-08;;;

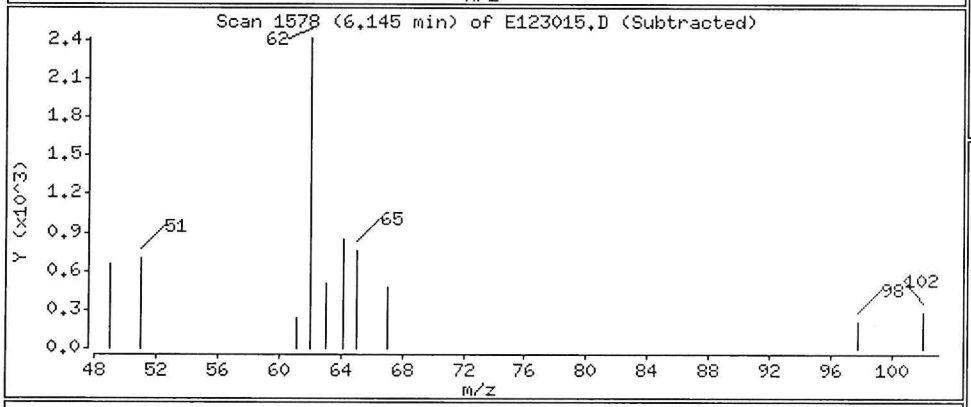
Purge Volume: 5.0 Operator: AP

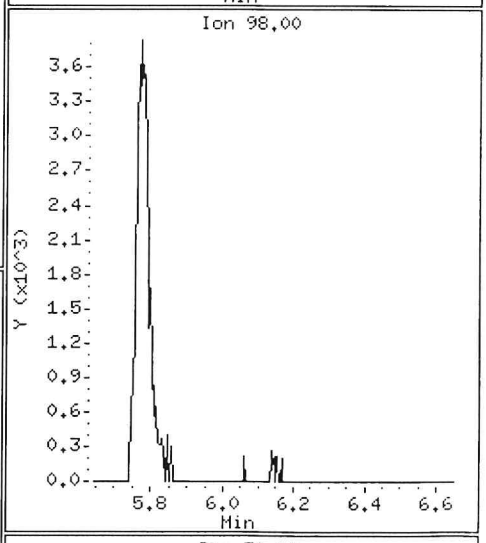
Column phase: DB624 Column diameter: 0.18

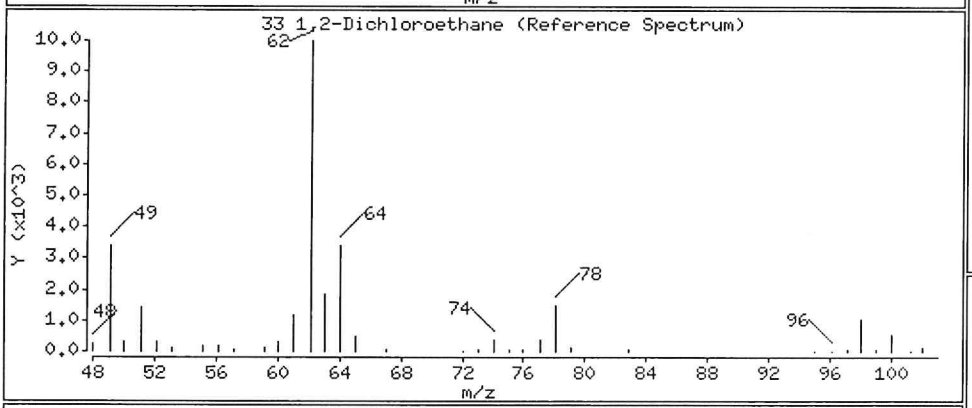
33 1,2-Dichloroethane Concentration: 13.44 ug/l Review Code:

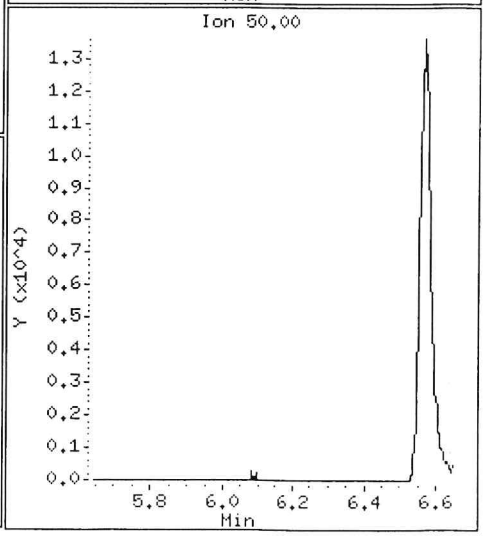


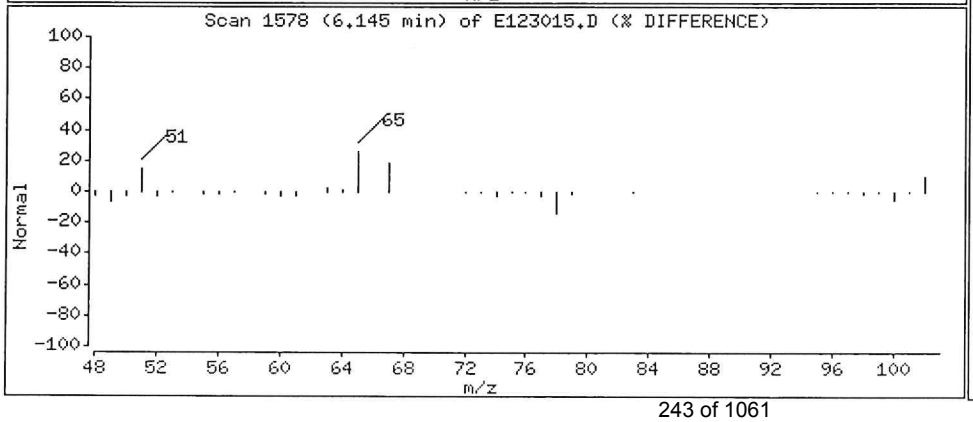












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123015.D

Date : 31-DEC-2017 07:17

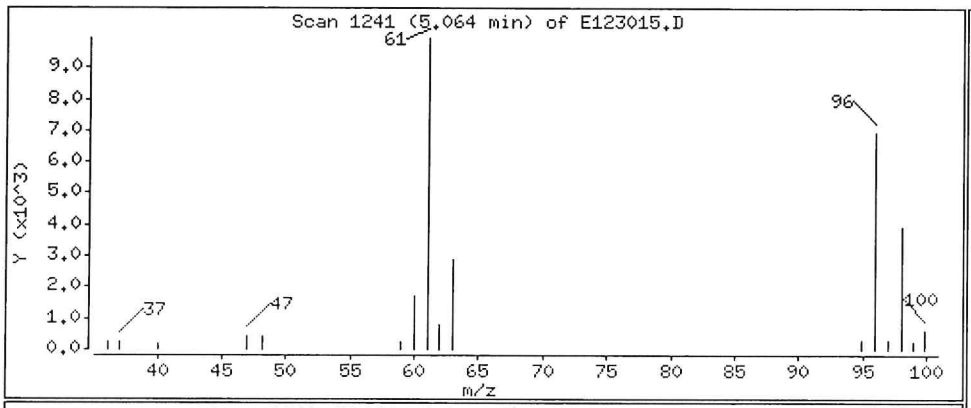
Client ID: HS17121113-08 Instrument: VOA2.i

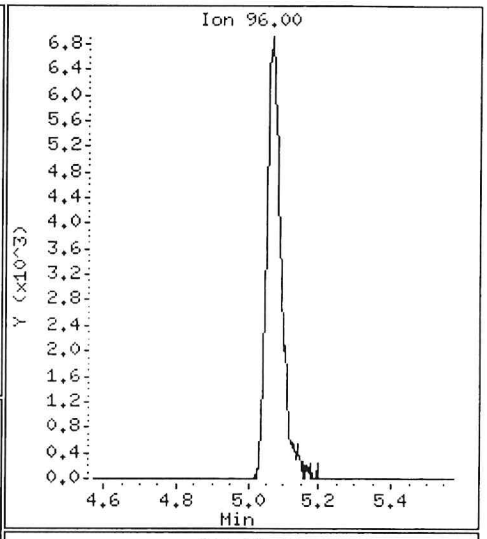
Sample Info: HS17121113-08;HS17121113-08;;;

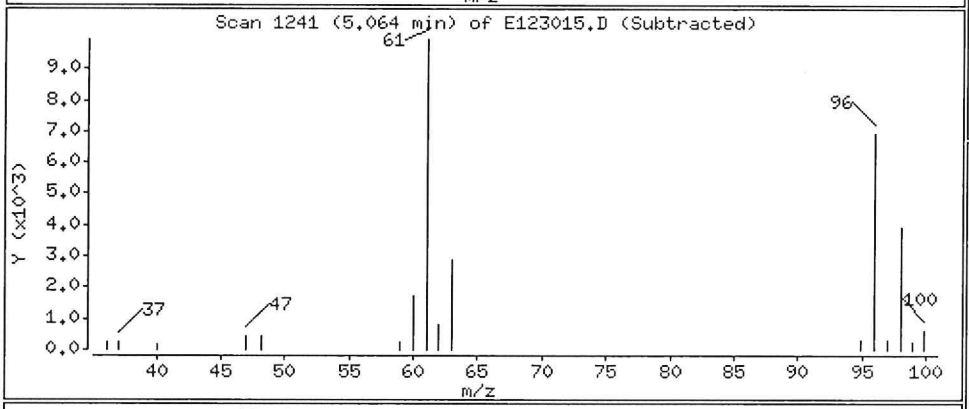
Purge Volume: 5.0 Operator: AP

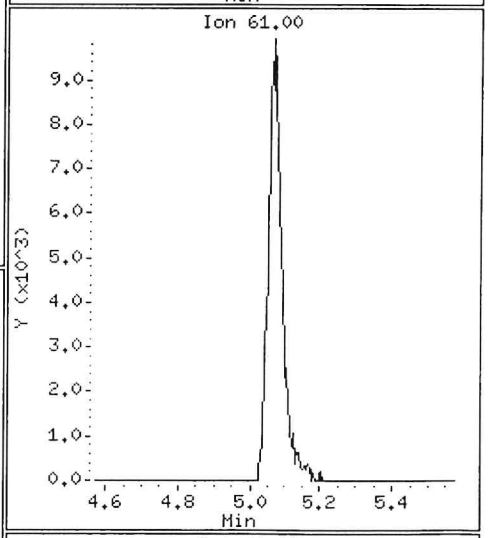
Column phase: DB624 Column diameter: 0.18

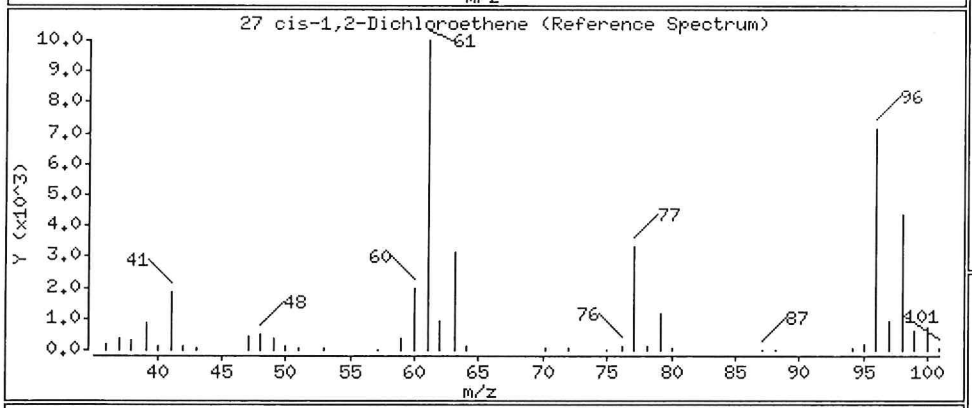
27 cis-1,2-Dichloroethene Concentration: 64.97 ug/l Review Code:

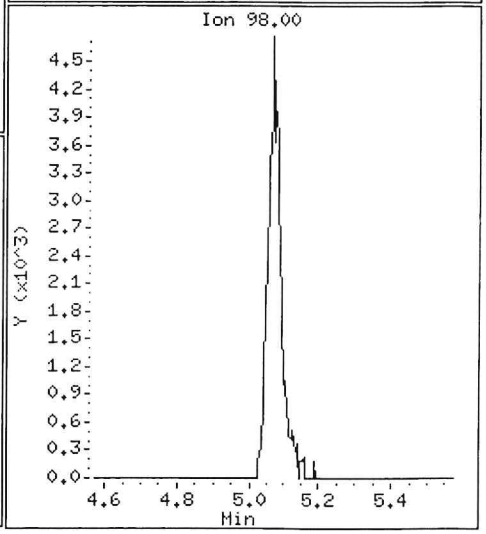


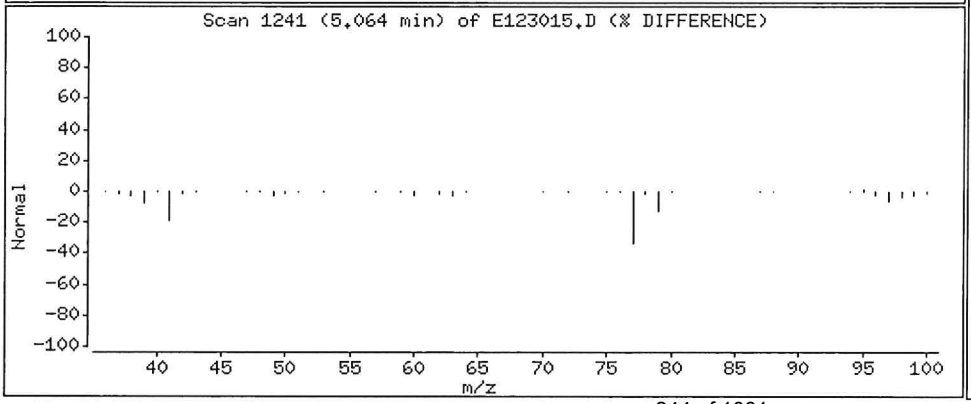












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Date : 31-DEC-2017 07:17

Client ID: HS17121113-08

Instrument: VOA2.i

Sample Info: HS17121113-08;HS17121113-08;;;

Purge Volume: 5.0

Operator: AP

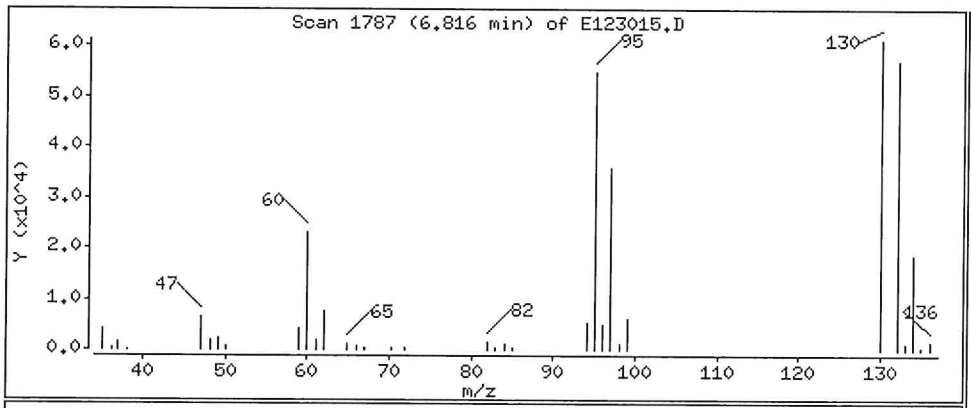
Column phase: DB624

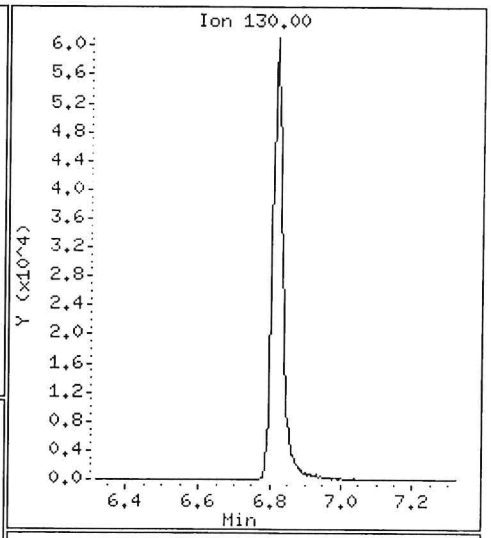
Column diameter: 0.18

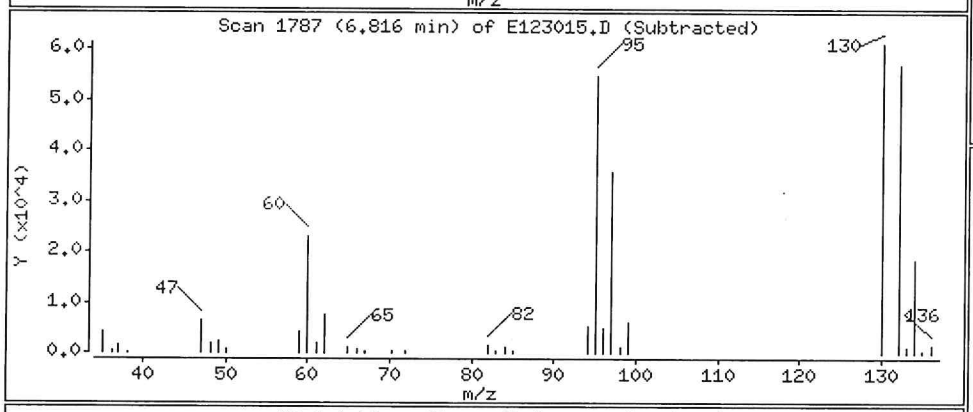
38 Trichloroethene

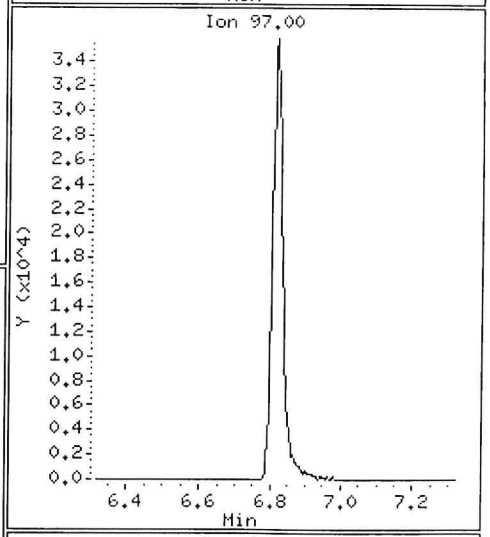
Concentration: 468.69 ug/l

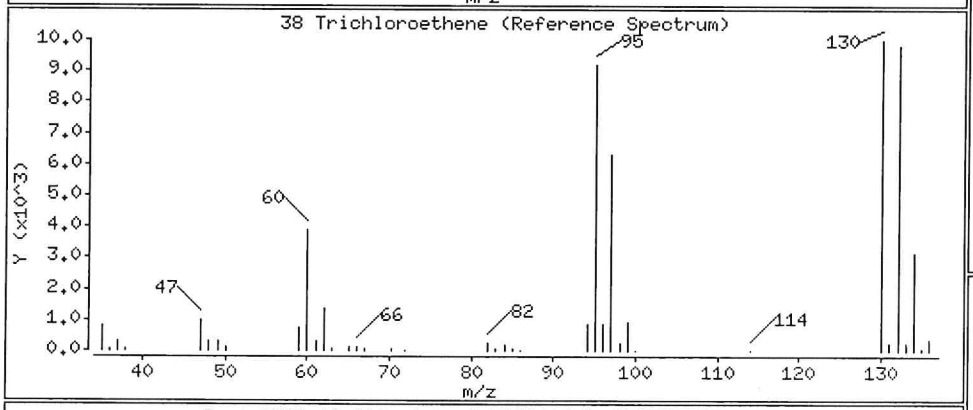
Review Code:

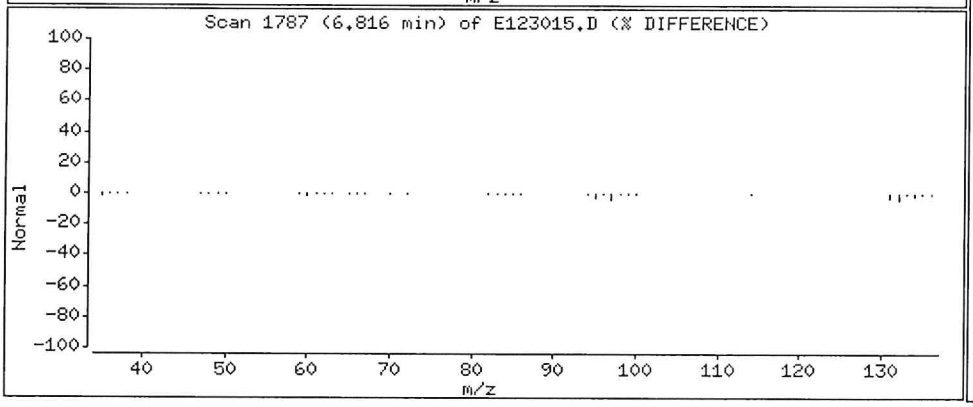


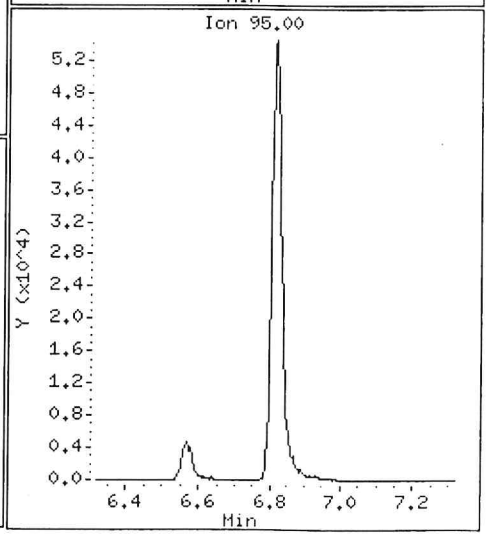












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123016.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123016.D
Lab Smp Id: HS17121113-01 Client Smp ID: HS17121113-01
Inj Date : 31-DEC-2017 07:44
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-01;HS17121113-01;;;
Misc Info : HS15080001;WATER;0;100;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 18
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

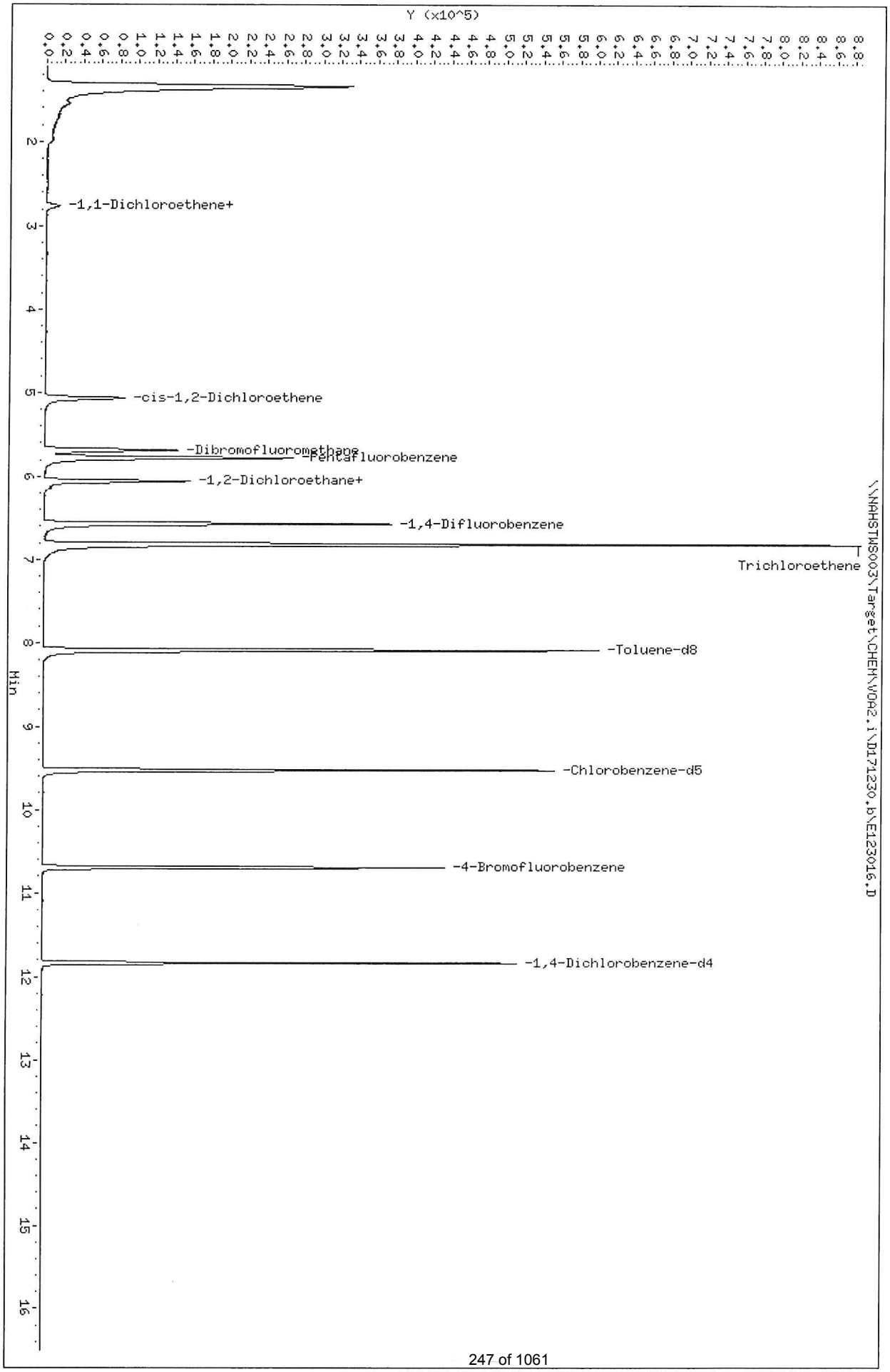
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	257495	50.0000	
$ 30 Dibromofluoromethane	113	5.679	5.689	(0.983)	110682	47.7086	47.70
* 36 1,4-Difluorobenzene	114	6.572	6.572	(1.000)	365813	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	130101	45.4058	45.40
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	320760	50.0000	
$ 48 Toluene-d8	98	8.089	8.093	(0.849)	414868	49.0554	49.05
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	146318	47.3785	47.37
* 70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	137653	50.0000	
11 1,1-Dichloroethene	96	2.753	2.756	(0.476)	3228	1.51891	151.89(a)
33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	3292	0.92119	92.11(aM)
27 cis-1,2-Dichloroethene	96	5.067	5.067	(0.877)	57140	19.5052	1950.52(M)
38 Trichloroethene	130	6.815	6.819	(1.037)	356584	131.606	13160.57

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 : 31-DEC-2017 07:44
Client ID: HS17121113-01
Sample Info: HS17121113-01;HS17121113-01;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-1,1-Dichloroethene+
-cis-1,2-Dichloroethene
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane+
-1,4-Difluorobenzene
Trichloroethene
-Toluene-d8
-Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4
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Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123016.D

Date : 31-DEC-2017 07:44

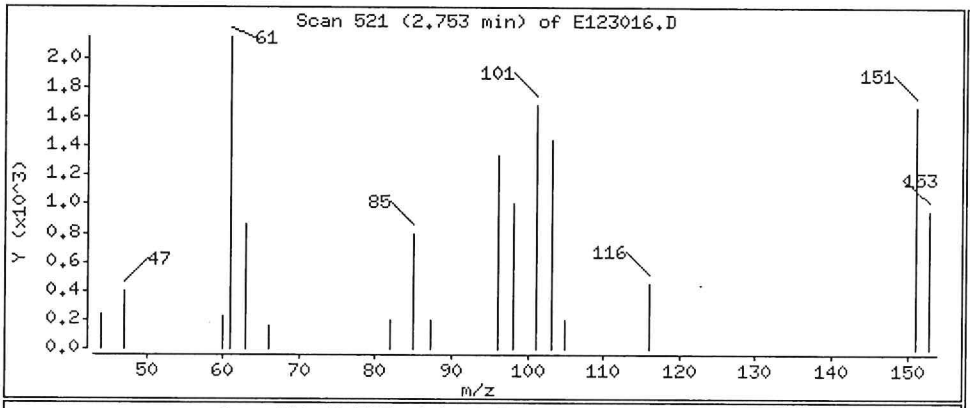
Client ID: HS17121113-01 Instrument: VOA2.i

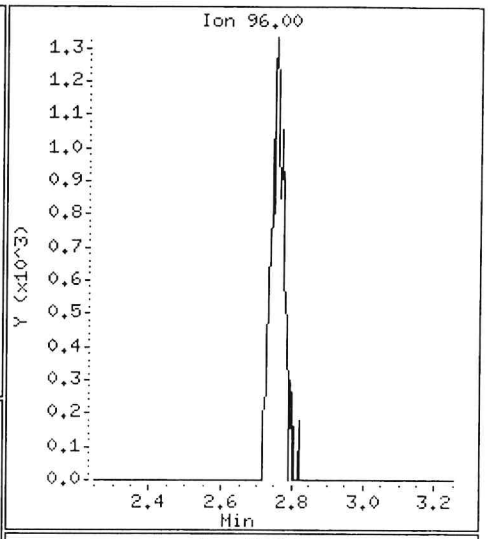
Sample Info: HS17121113-01;HS17121113-01;;;

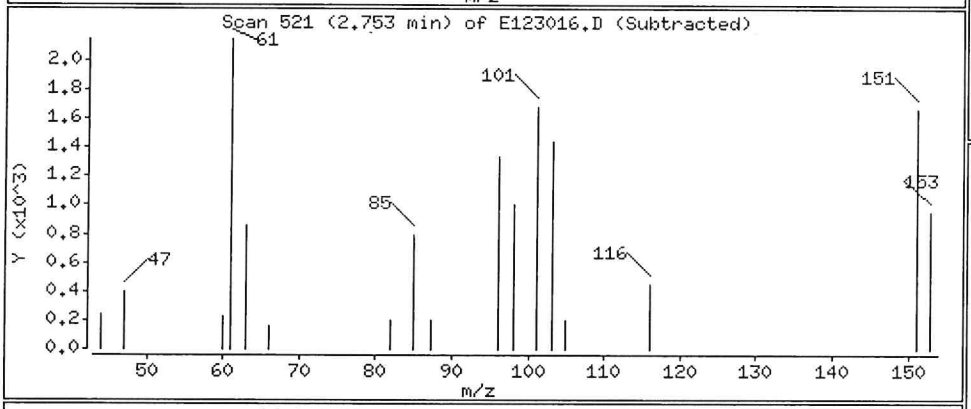
Purge Volume: 5.0 Operator: AP

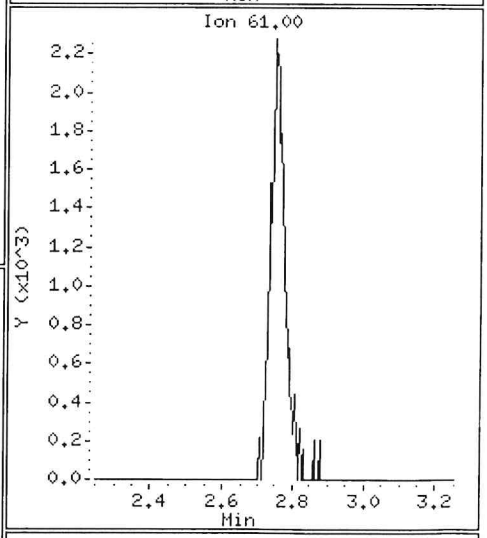
Column phase: DB624 Column diameter: 0.18

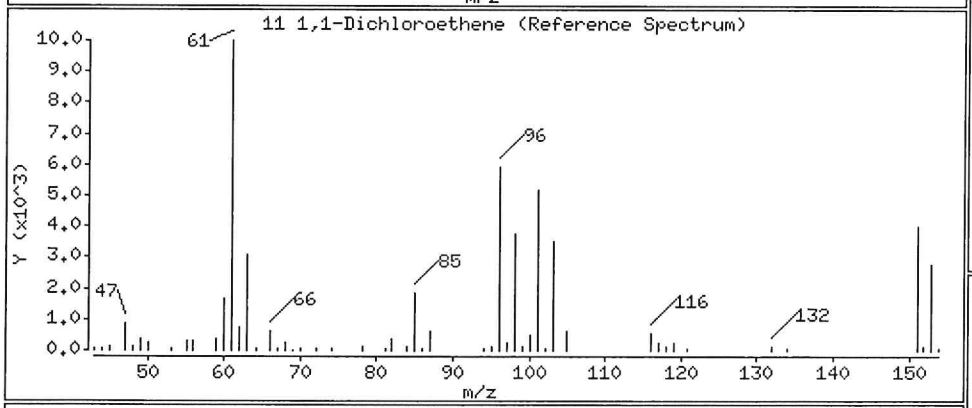
11 1,1-Dichloroethene Concentration: 151.89 ug/l Review Code:

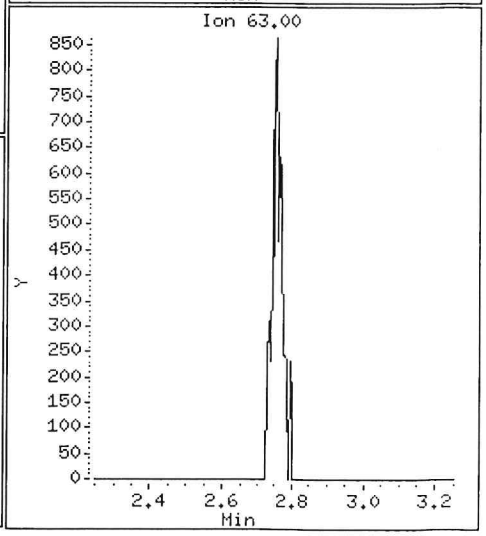


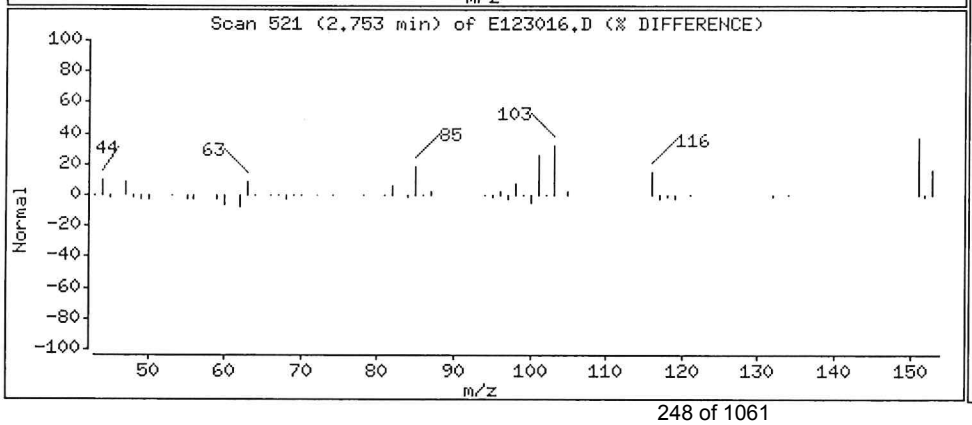












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123016.D

Date : 31-DEC-2017 07:44

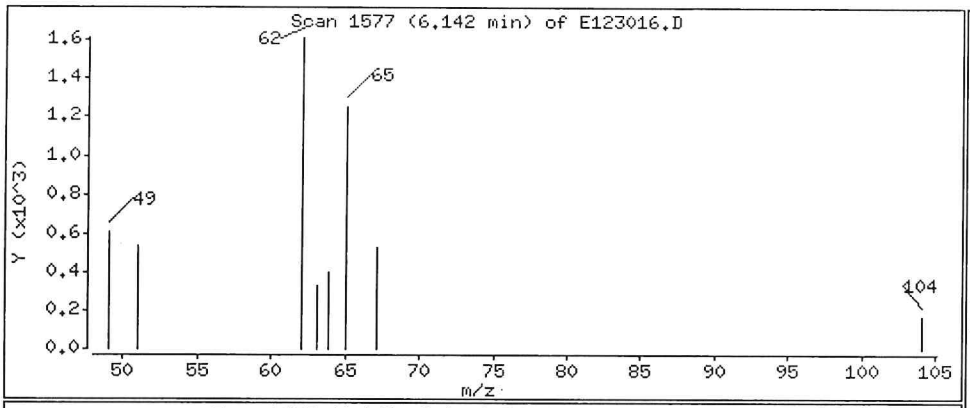
Client ID: HS17121113-01 Instrument: VOA2.i

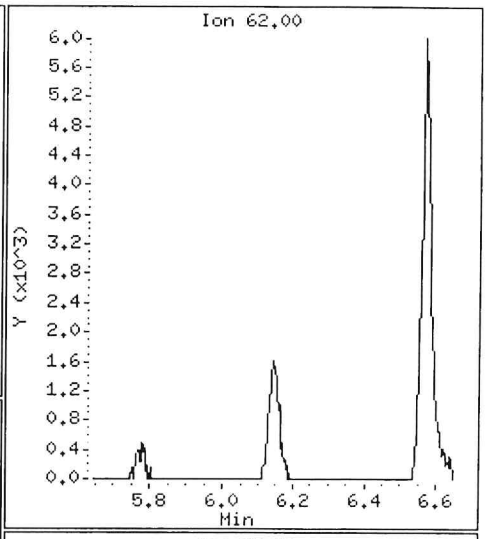
Sample Info: HS17121113-01;HS17121113-01;;;

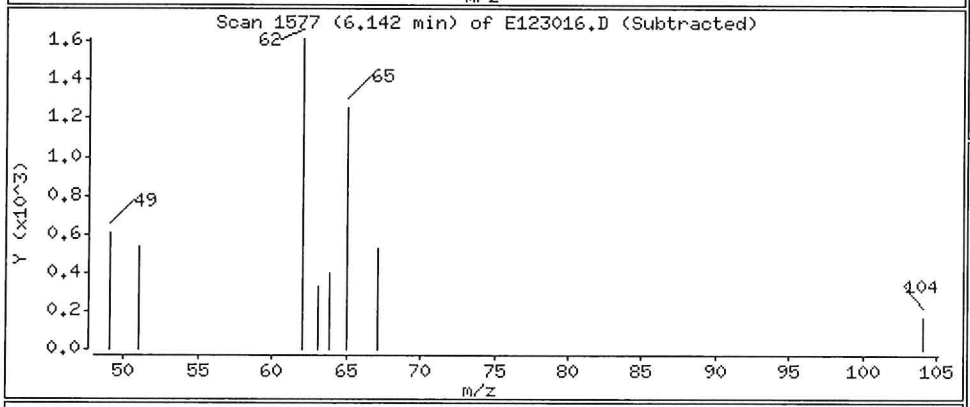
Purge Volume: 5.0 Operator: AP

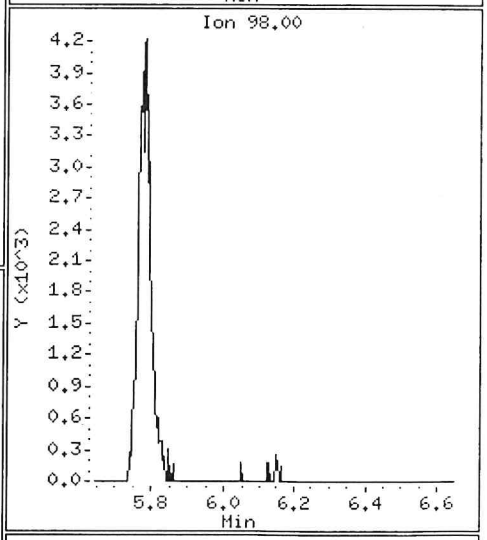
Column phase: DB624 Column diameter: 0.18

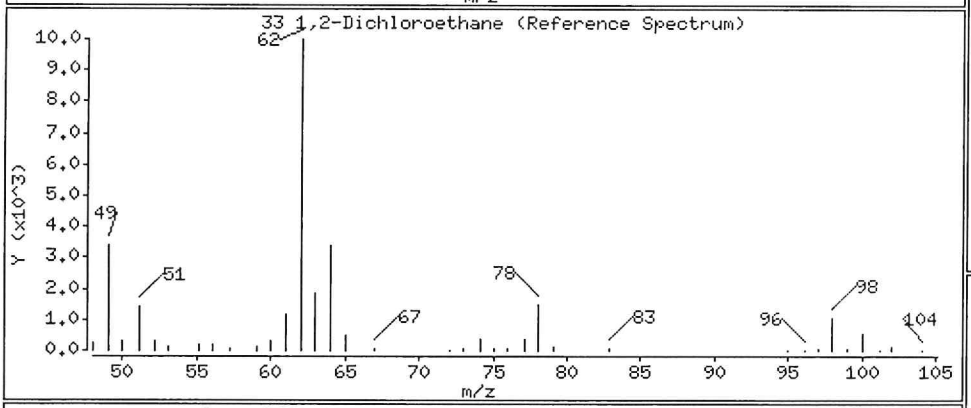
33 1,2-Dichloroethane Concentration: 92.11 ug/l Review Code:

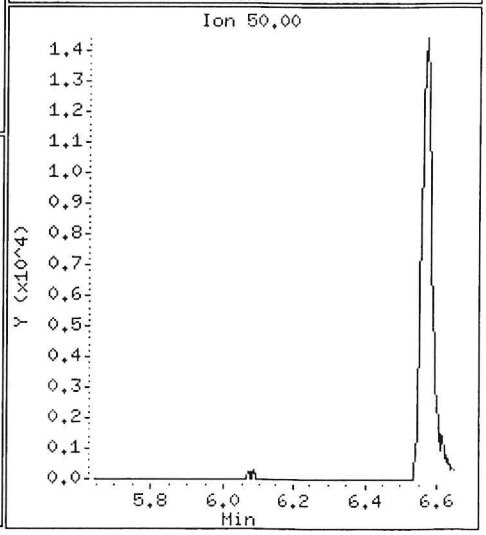


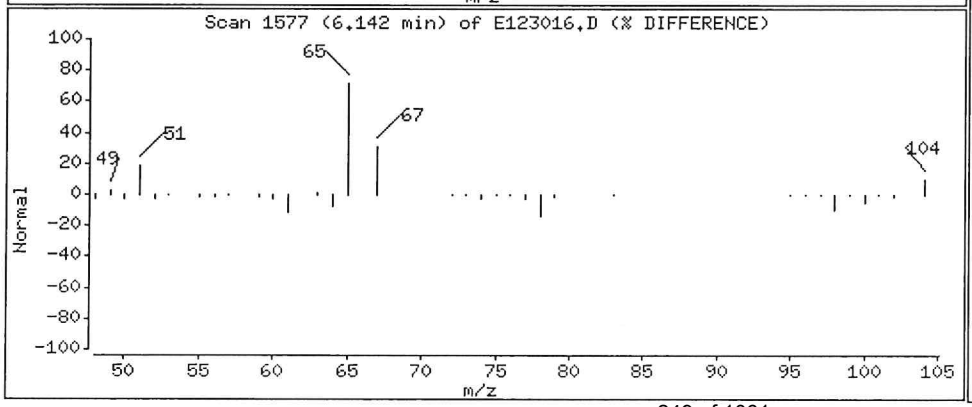












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123016.D

Date : 31-DEC-2017 07:44

Client ID: HS17121113-01

Instrument: VOA2.i

Sample Info: HS17121113-01;HS17121113-01;;;

Purge Volume: 5.0

Operator: AP

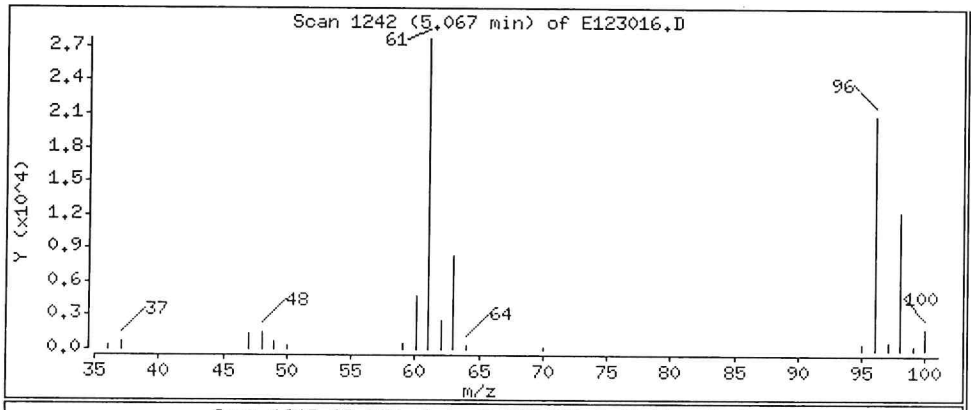
Column phase: DB624

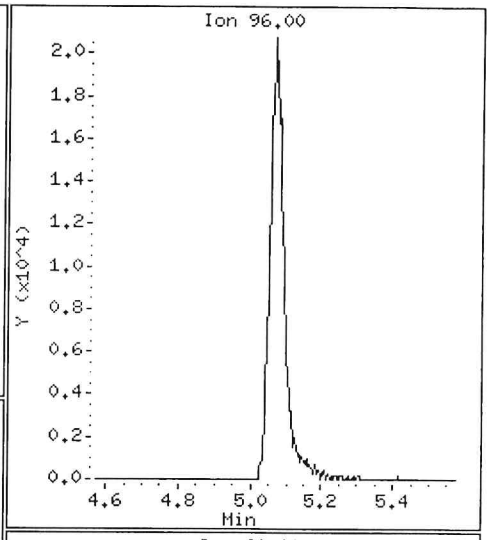
Column diameter: 0.18

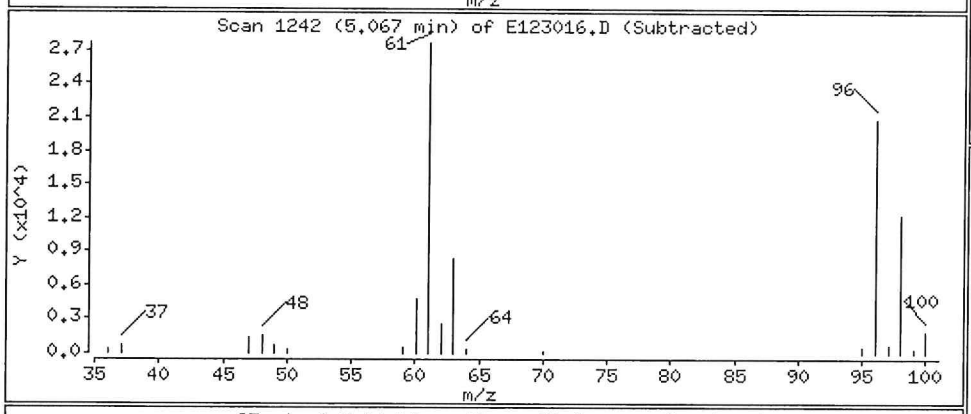
27 cis-1,2-Dichloroethene

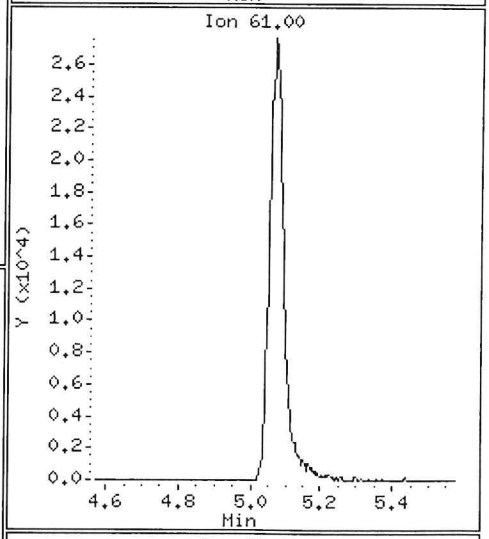
Concentration: 1950.52 ug/l

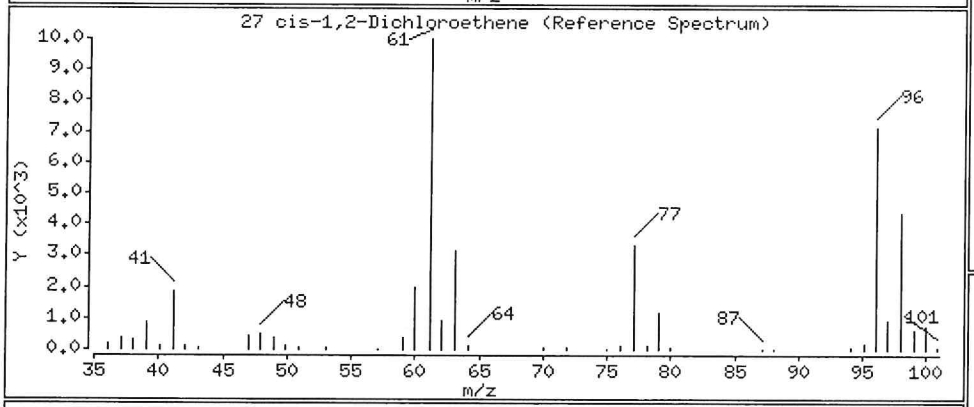
Review Code:

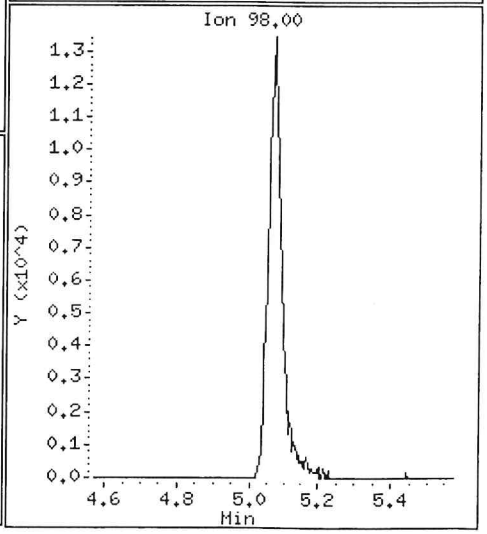


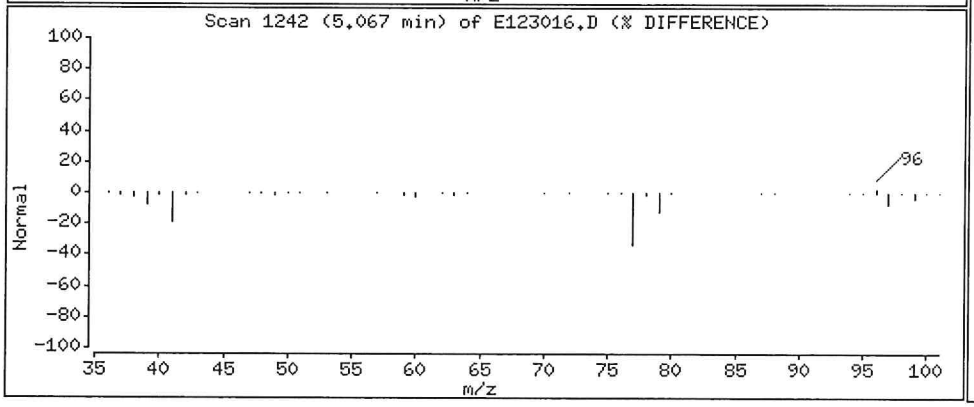












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123016.D

Date : 31-DEC-2017 07:44

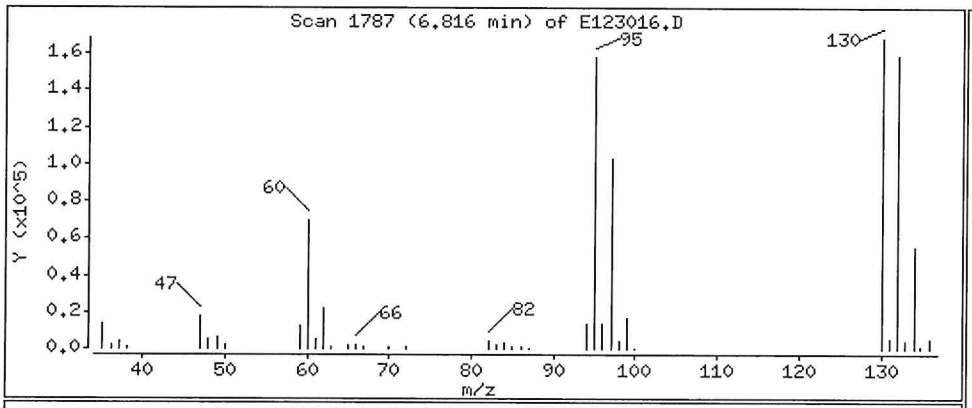
Client ID: HS17121113-01 Instrument: VOA2.i

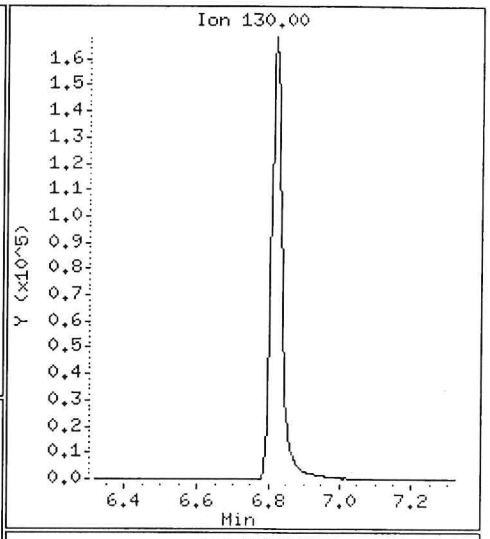
Sample Info: HS17121113-01;HS17121113-01;;;

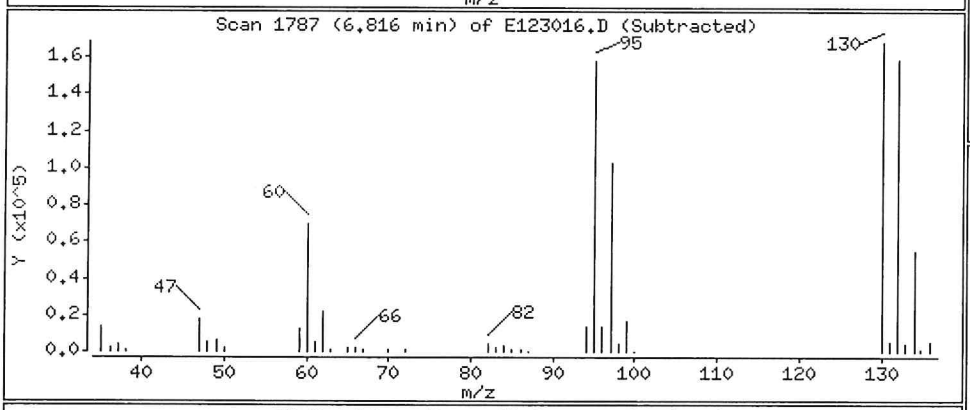
Purge Volume: 5.0 Operator: AP

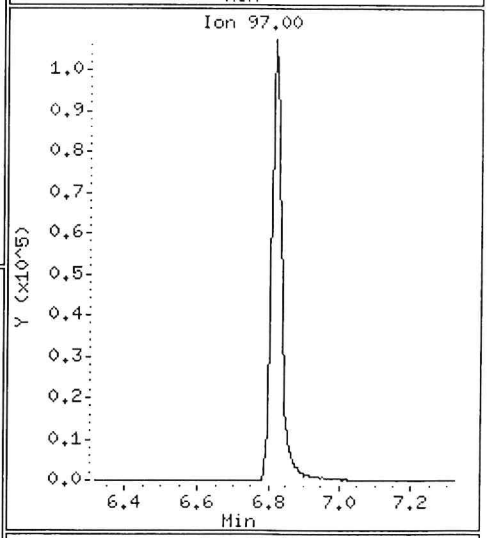
Column phase: DB624 Column diameter: 0.18

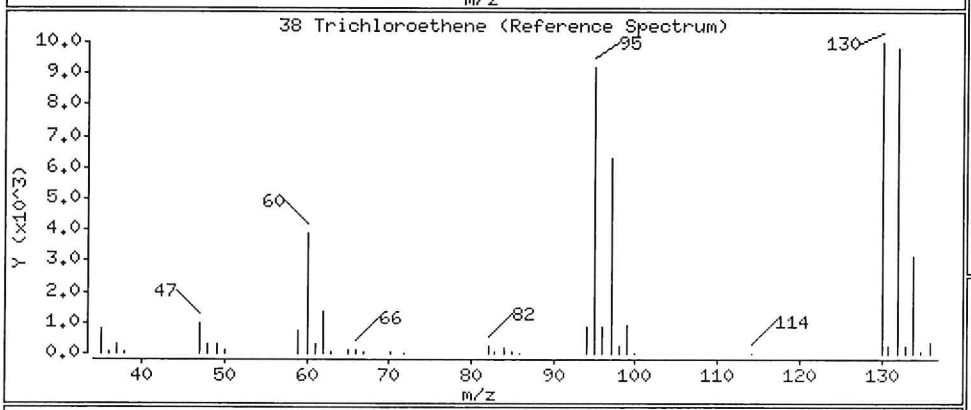
38 Trichloroethene Concentration: 13160.57 ug/l Review Code:

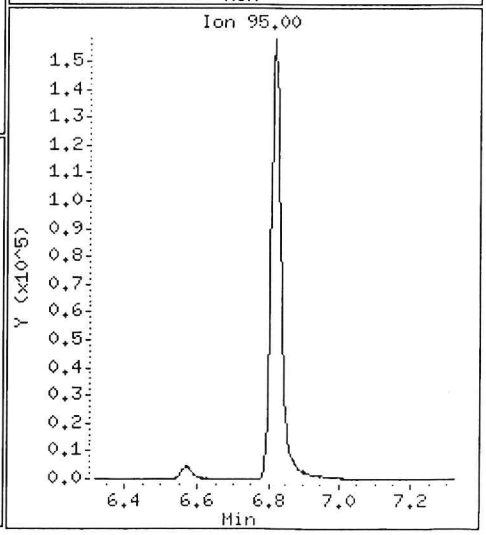


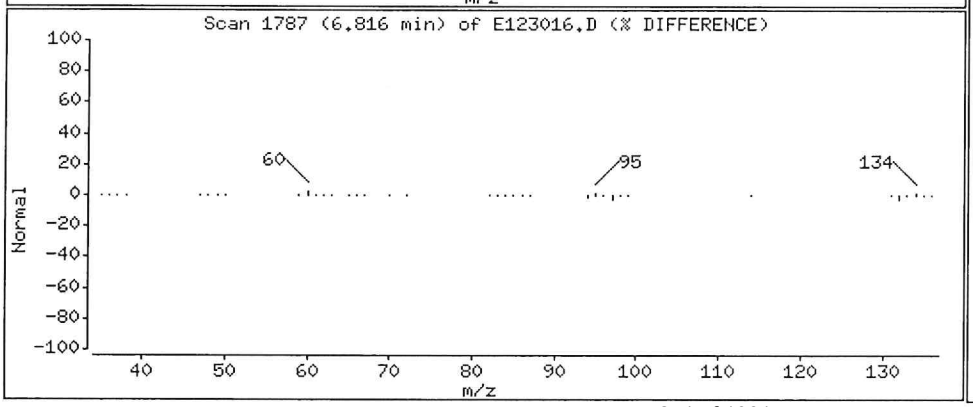












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123017.D
Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123017.D
Lab Smp Id: HS17121113-02 Client Smp ID: HS17121113-02
Inj Date : 31-DEC-2017 08:11
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-02;HS17121113-02;;;
Misc Info : HS15080001;WATER;0;100;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 19
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

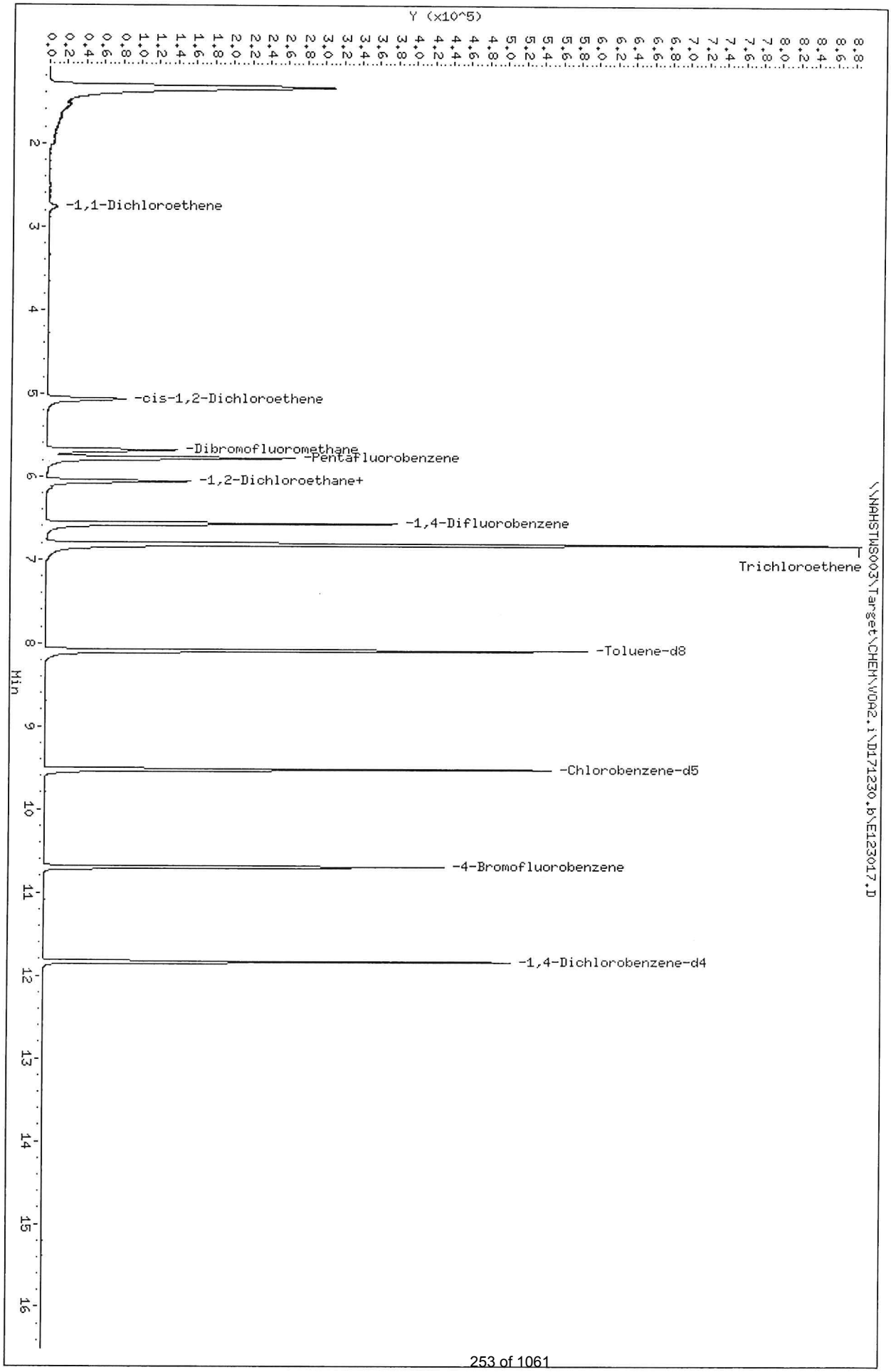
Concentration Formula: Amt * DF * (Uf/Vo)*1 * CpndVariable

Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.779	5.782	(1.000)	253880	50.0000	
$ 30 Dibromofluoromethane	113	5.680	5.689	(0.983)	112540	49.2002	49.20
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	363416	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	129107	45.7005	45.70
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	316037	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	412298	49.4801	49.48
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	144758	47.5738	47.57
* 70 1,4-Dichlorobenzene-d4	152	11.838	11.834	(1.000)	136307	50.0000	
11 1,1-Dichloroethene	96	2.756	2.756	(0.477)	3582	1.70948	170.94(a)
33 1,2-Dichloroethane	62	6.142	6.145	(0.935)	3231	0.90887	90.88(a)
27 cis-1,2-Dichloroethene	96	5.070	5.067	(0.877)	56685	19.6254	1962.54
38 Trichloroethene	130	6.816	6.819	(1.038)	356801	132.554	13255.43

QC Flag Legend

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


Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123017.D
Date : 31-DEC-2017 08:11
Client ID: HS171211113-02
Sample Info: HS171211113-02;HS171211113-02;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-1,1-Dichloroethene
-cis-1,2-Dichloroethene
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane+
-1,4-Difluorobenzene
Trichloroethene
-Toluene-d8
-Chlorobenzene-d5
-4-Bromofluorobenzene
-1,4-Dichlorobenzene-d4
Min
\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123017.D

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123017.D

Date : 31-DEC-2017 08:11

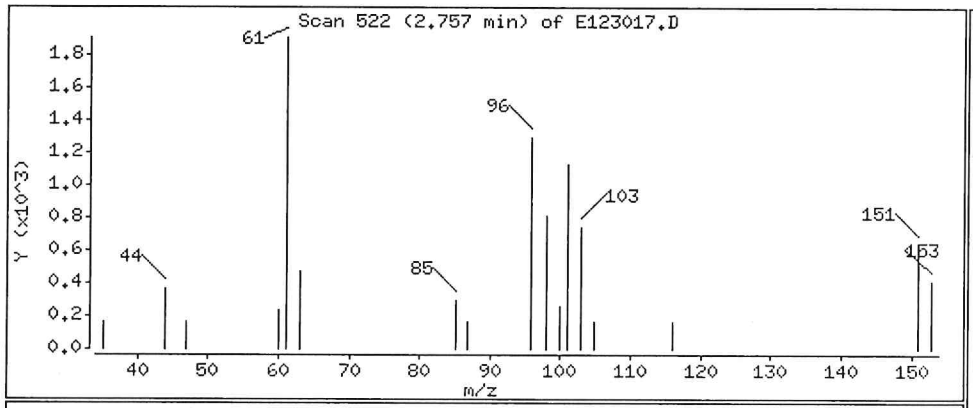
Client ID: HS17121113-02 Instrument: VOA2.i

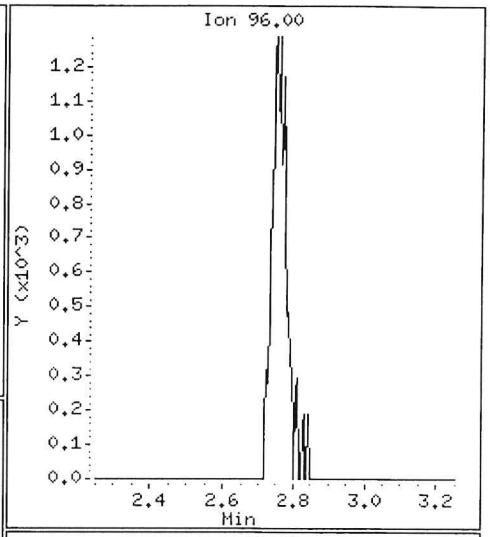
Sample Info: HS17121113-02;HS17121113-02;;;

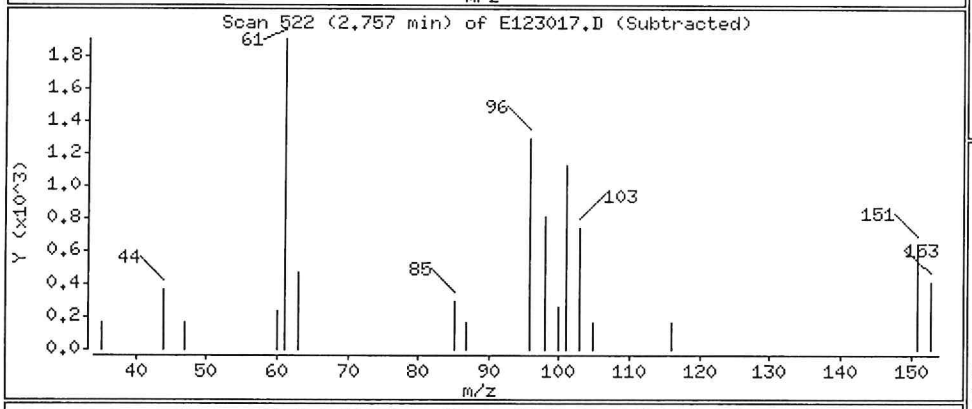
Purge Volume: 5.0 Operator: AP

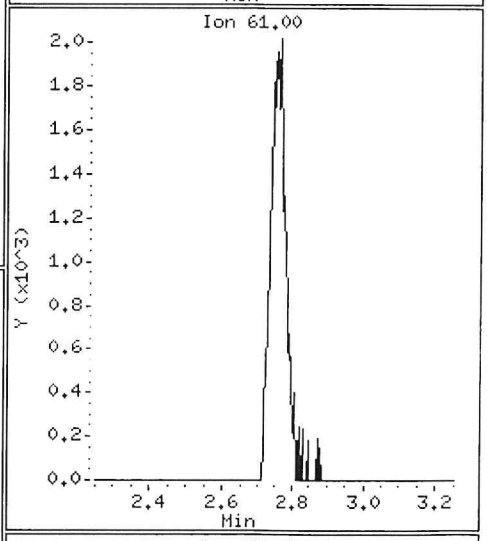
Column phase: DB624 Column diameter: 0.18

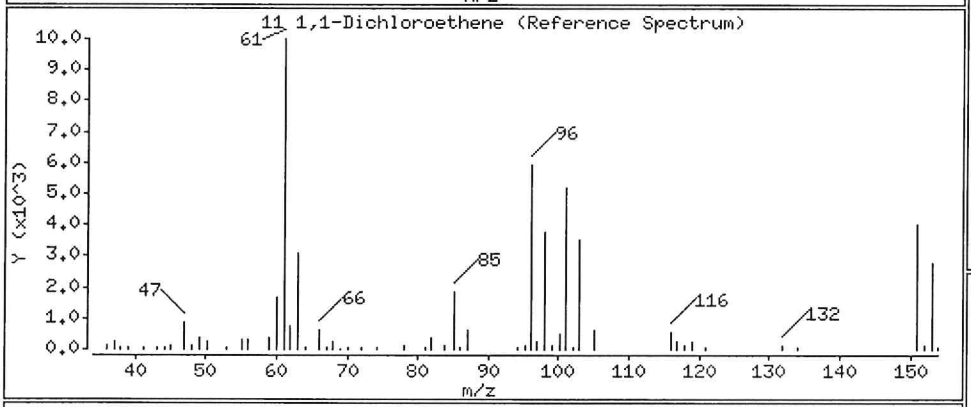
11 1,1-Dichloroethene Concentration: 170.94 ug/l Review Code:

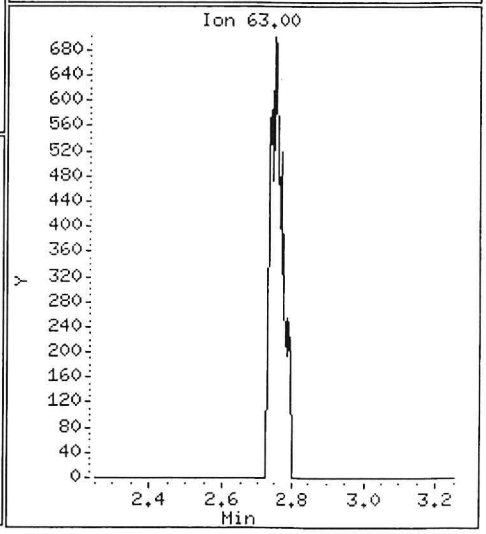


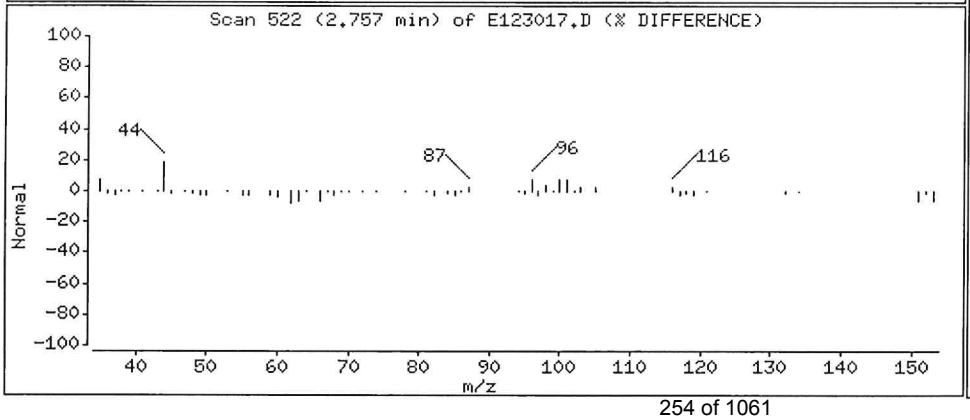












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123017.D

Date : 31-DEC-2017 08:11

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

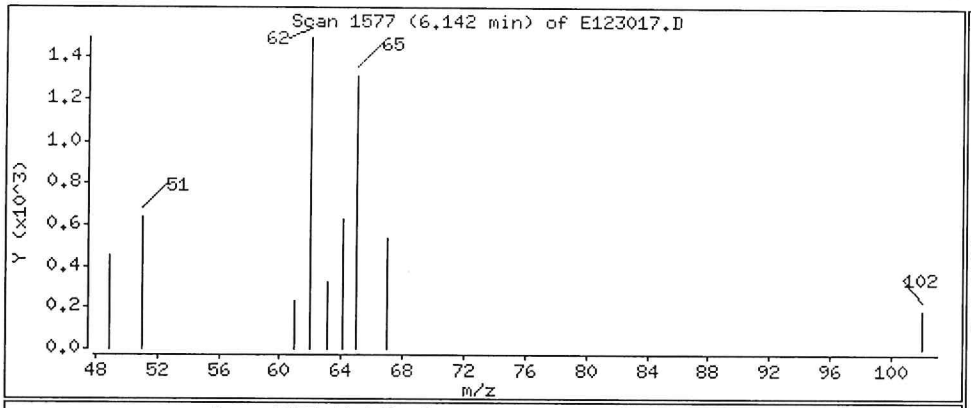
Column phase: DB624

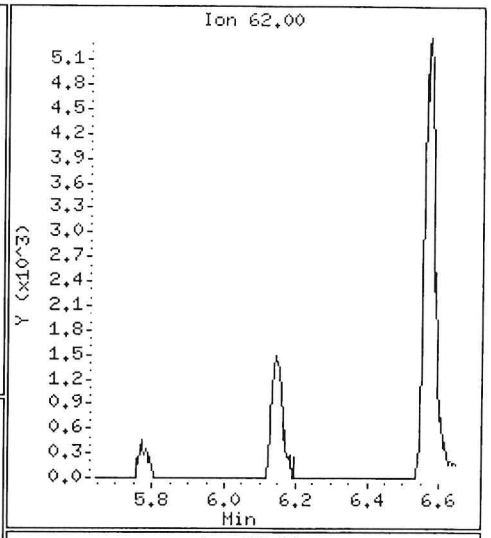
Column diameter: 0.18

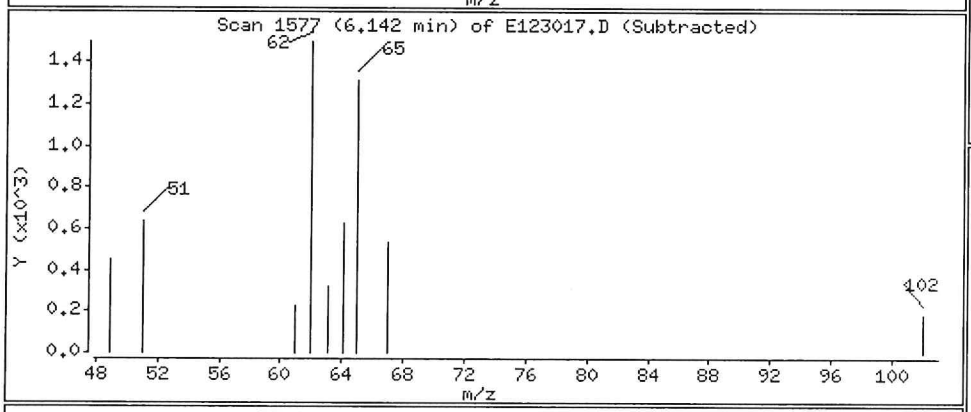
33 1,2-Dichloroethane

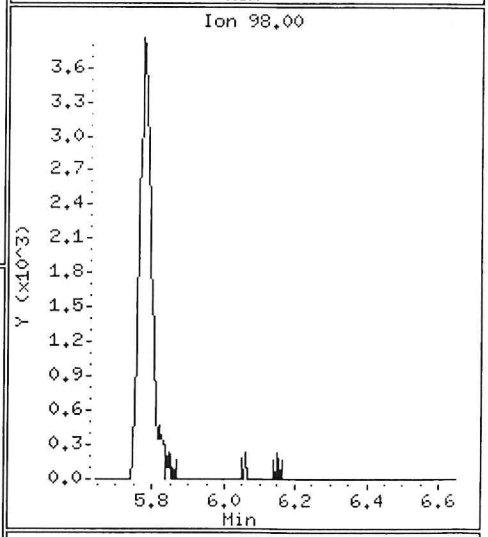
Concentration: 90.88 ug/l

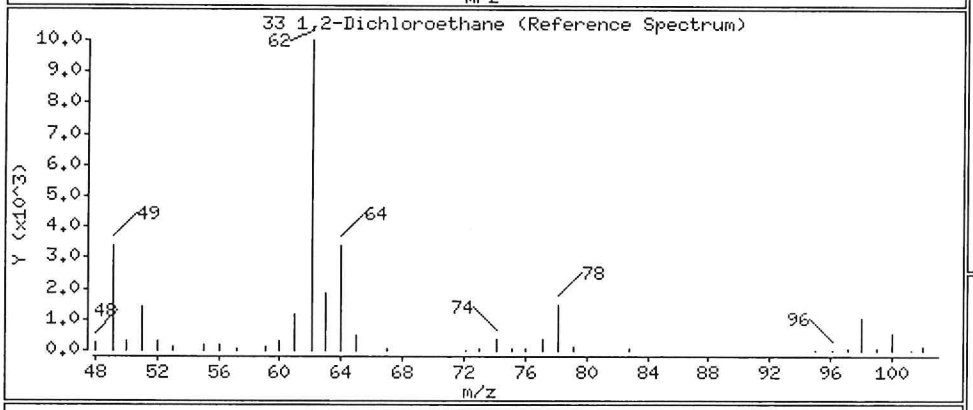
Review Code:

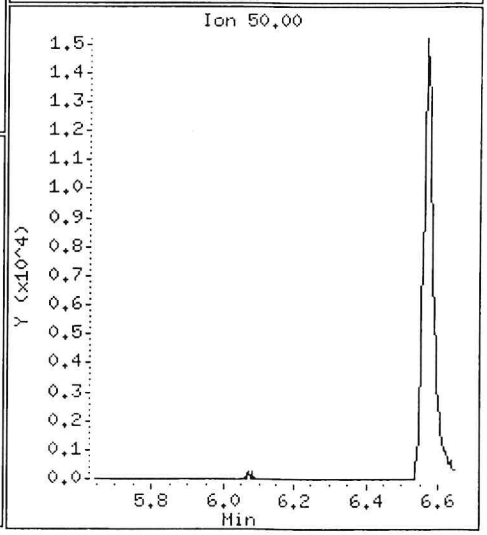


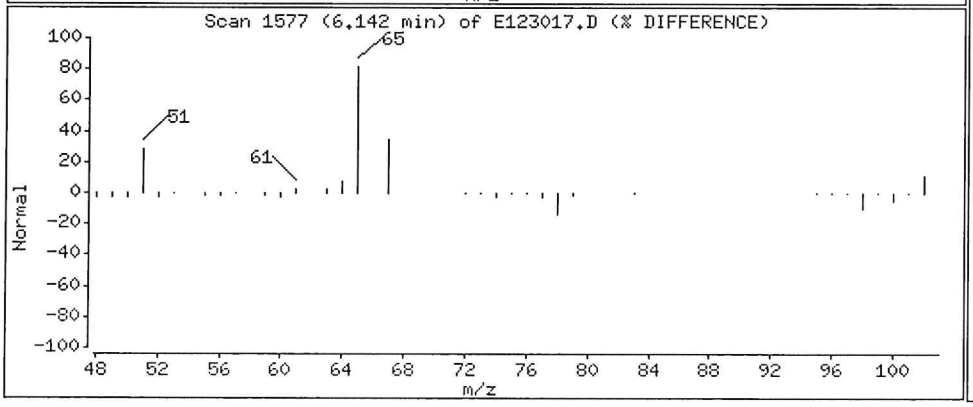












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123017.D

Date : 31-DEC-2017 08:11

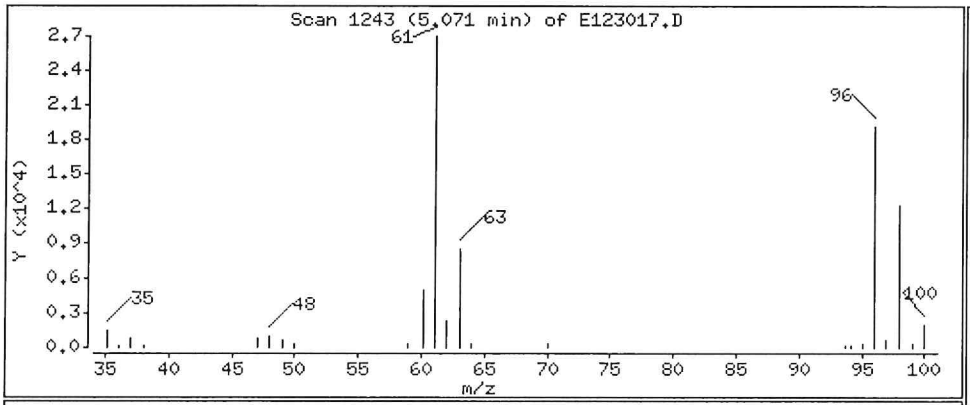
Client ID: HS17121113-02 Instrument: VOA2.i

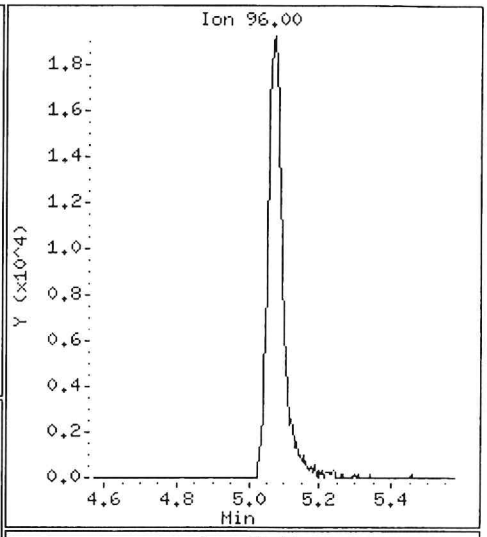
Sample Info: HS17121113-02;HS17121113-02;;;

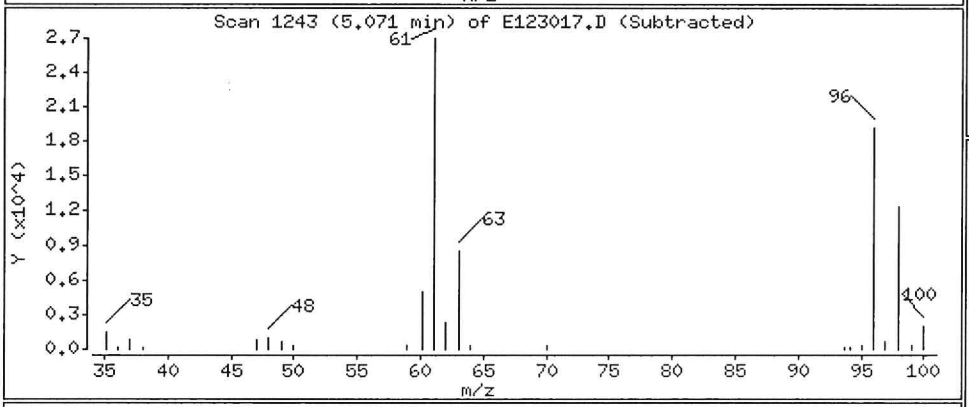
Purge Volume: 5.0 Operator: AP

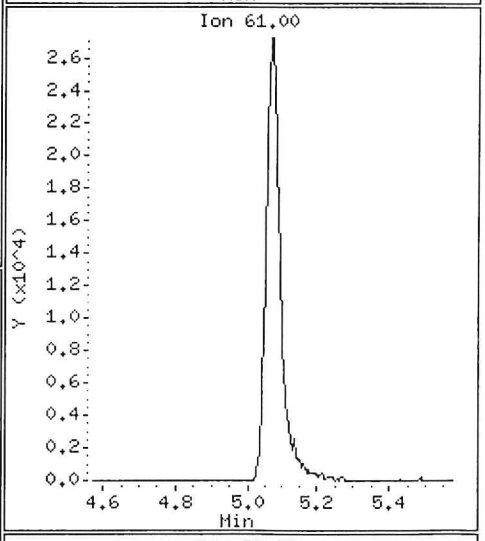
Column phase: DB624 Column diameter: 0.18

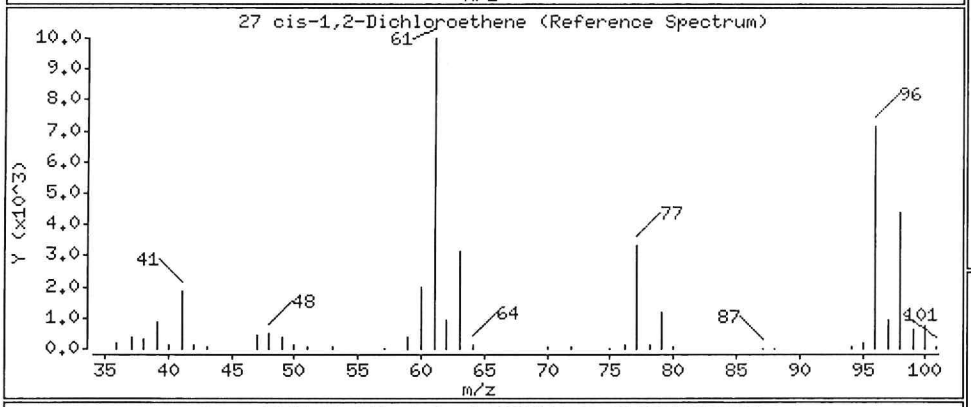
27 cis-1,2-Dichloroethene Concentration: 1962.54 ug/l Review Code:

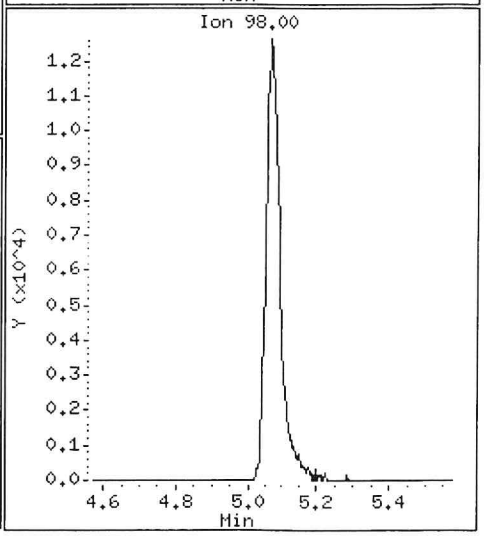


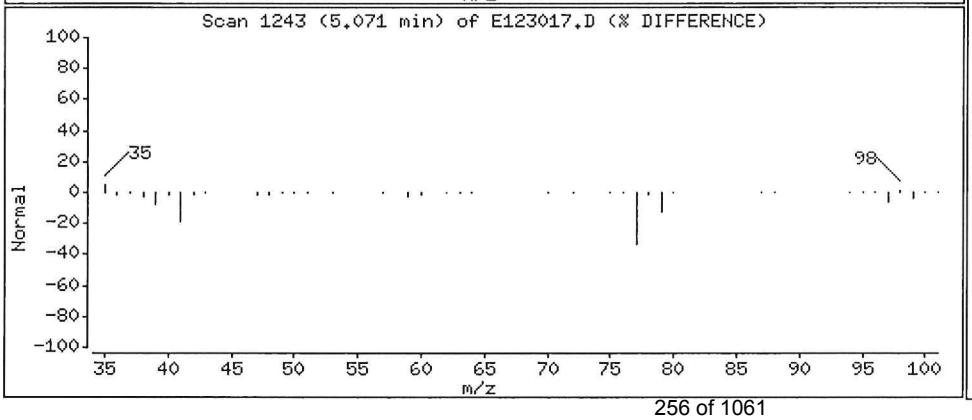












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Date : 31-DEC-2017 08:11

Client ID: HS17121113-02

Instrument: VOA2.i

Sample Info: HS17121113-02;HS17121113-02;;;

Purge Volume: 5.0

Operator: AP

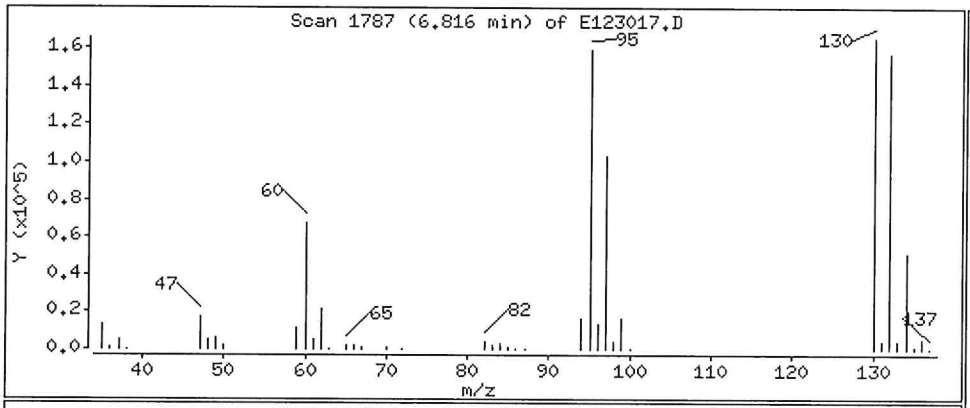
Column phase: DB624

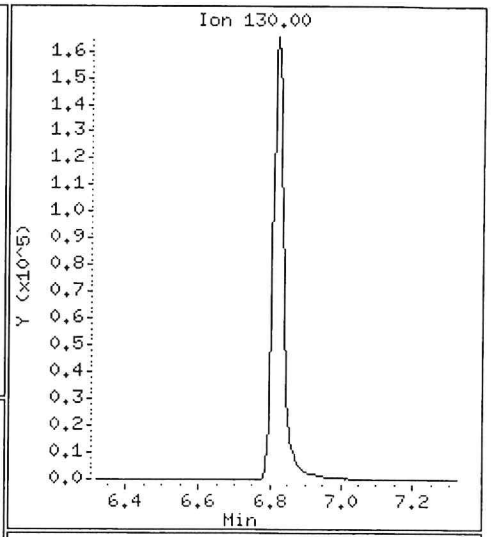
Column diameter: 0.18

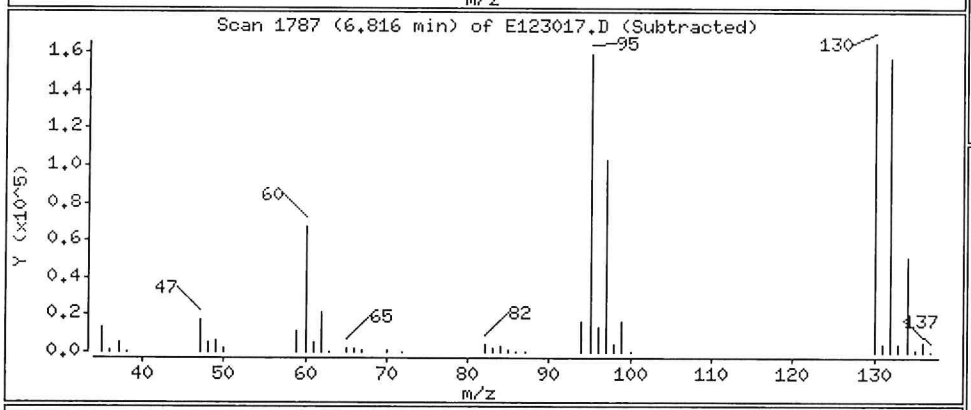
38 Trichloroethene

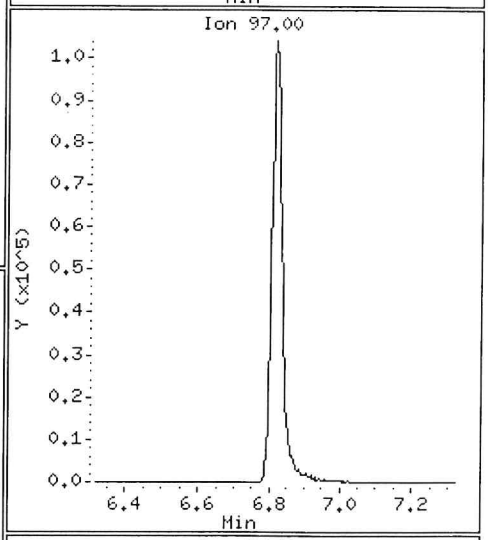
Concentration: 13255.43 ug/l

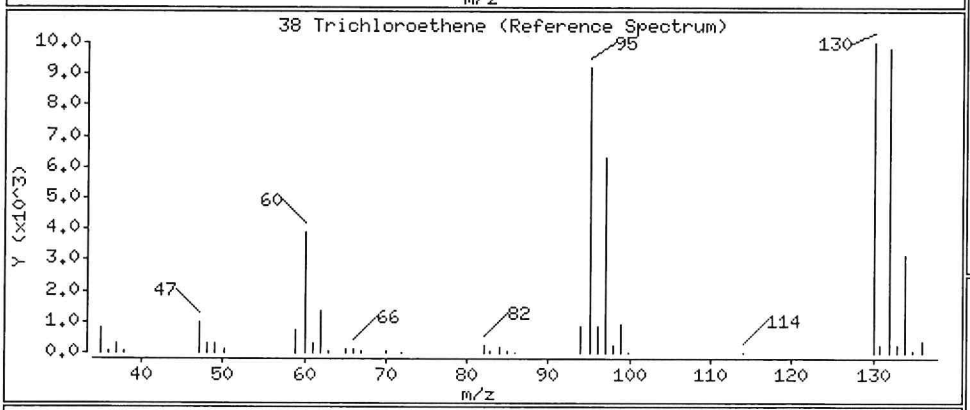
Review Code:

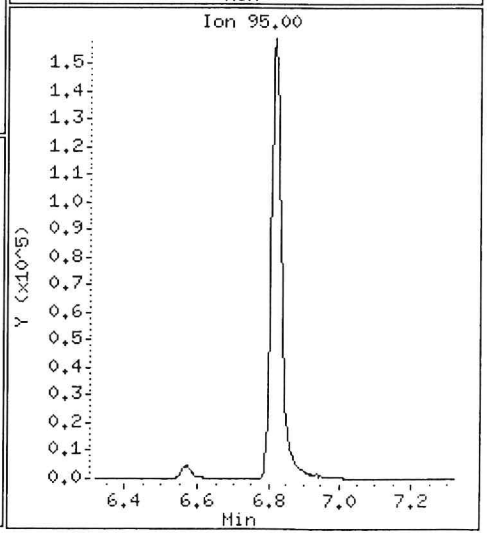


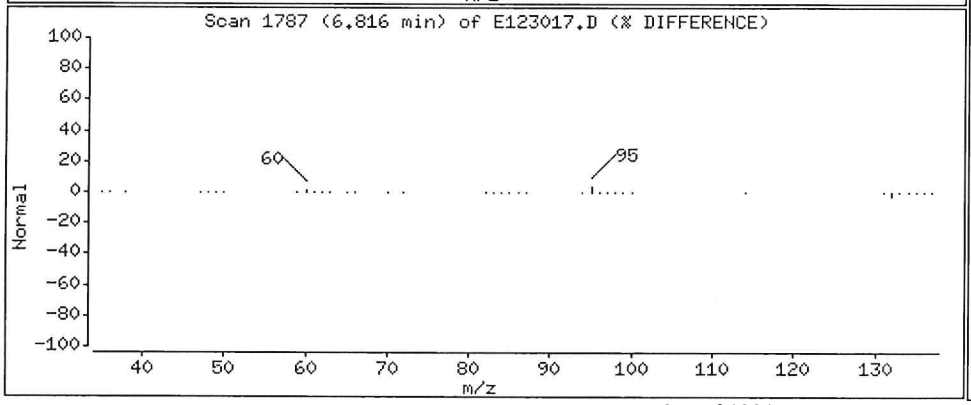












Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123018.D
Report Date: 09-Feb-2018 18:30

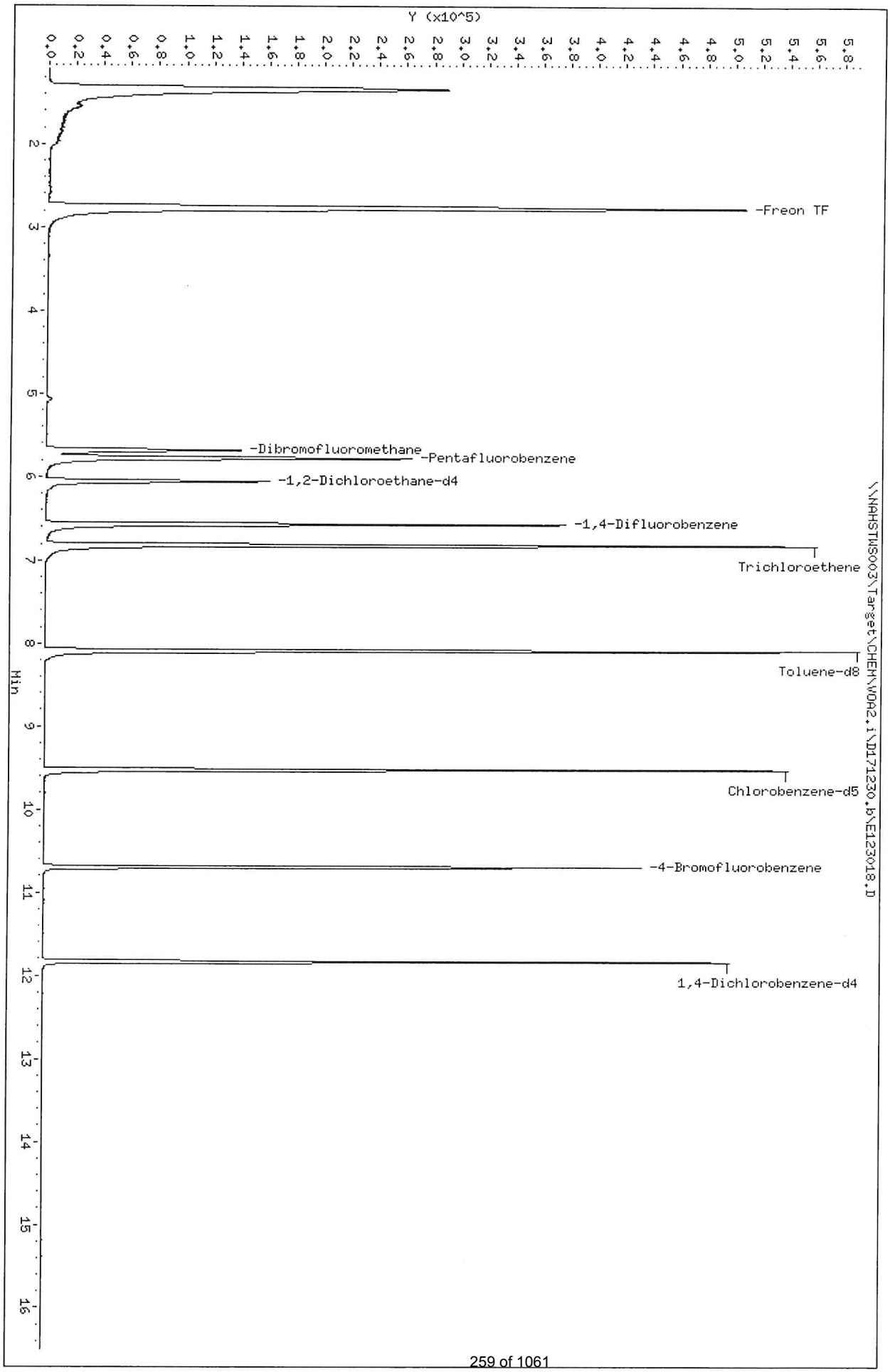
ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123018.D
Lab Smp Id: HS17121113-03 Client Smp ID: HS17121113-03
Inj Date : 31-DEC-2017 08:38
Operator : AP Inst ID: VOA2.i
Smp Info : HS17121113-03;HS17121113-03;;;
Misc Info : HS15080001;WATER;0;100;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 20
Dil Factor: 100.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	100.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
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	5.776	5.782	(1.000)	251632	50.0000	
$ 30 Dibromofluoromethane	113	5.686	5.689	(0.984)	111507	49.1841	49.18
* 36 1,4-Difluorobenzene	114	6.569	6.572	(1.000)	356488	50.0000	
$ 35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.049)	127241	45.4423	45.44
* 47 Chlorobenzene-d5	117	9.524	9.527	(1.000)	317473	50.0000	
$ 48 Toluene-d8	98	8.090	8.093	(0.849)	411481	49.1587	49.15
$ 69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	145705	47.6685	47.66
* 70 1,4-Dichlorobenzene-d4	152	11.838	11.834	(1.000)	137026	50.0000	
38 Trichloroethene	130	6.819	6.819	(1.038)	223456	84.6290	8462.90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Date : 31-DEC-2017 08:38
Client ID: HS17121113-03
Sample Info: HS17121113-03;HS17121113-03;;;
Purge Volume: 5.0
Column phase: DB624
Instrument: VOA2.i
Operator: AP
Column diameter: 0.18
Y (x10^5)
-Freon TF
-Dibromofluoromethane
-Pentafluorobenzene
-1,2-Dichloroethane-d4
-1,4-Difluorobenzene
Trichloroethene
Toluene-d8
Chlorobenzene-d5
-4-Bromofluorobenzene
1,4-Dichlorobenzene-d4
\\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123018.D
Min

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123018.D

Date : 31-DEC-2017 08:38

Client ID: HS17121113-03

Instrument: VOA2.i

Sample Info: HS17121113-03;HS17121113-03;;;

Purge Volume: 5.0

Operator: AP

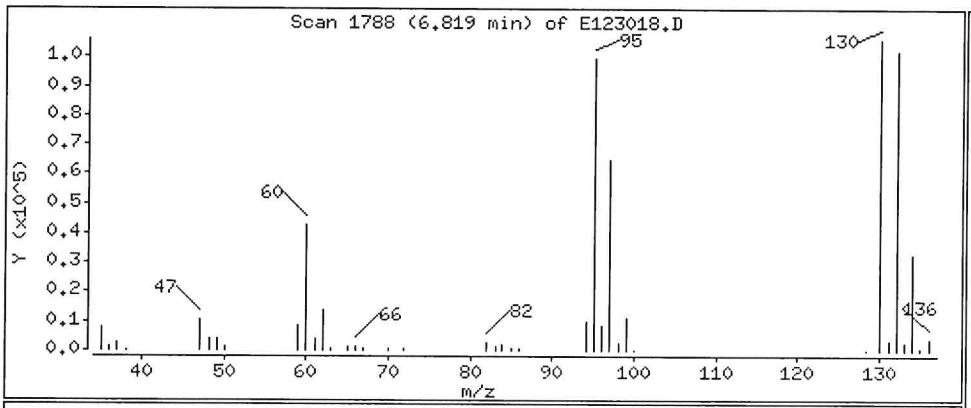
Column phase: DB624

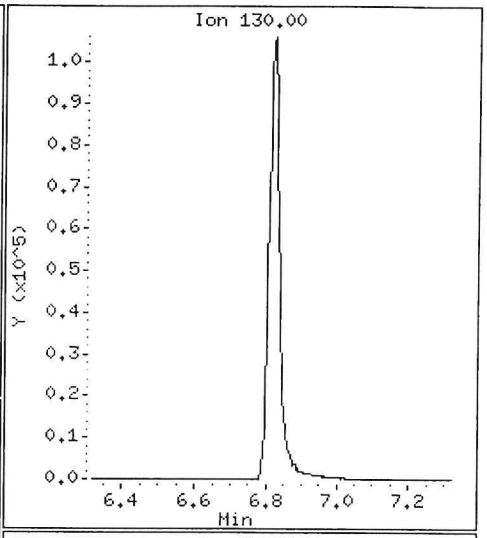
Column diameter: 0.18

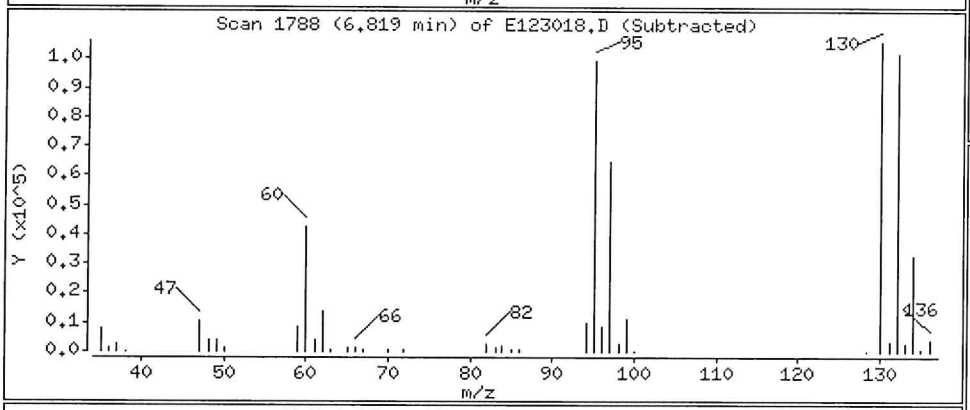
38 Trichloroethene

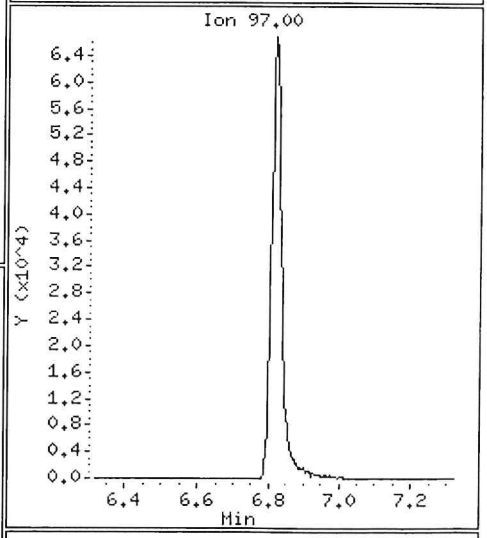
Concentration: 8462.90 ug/l

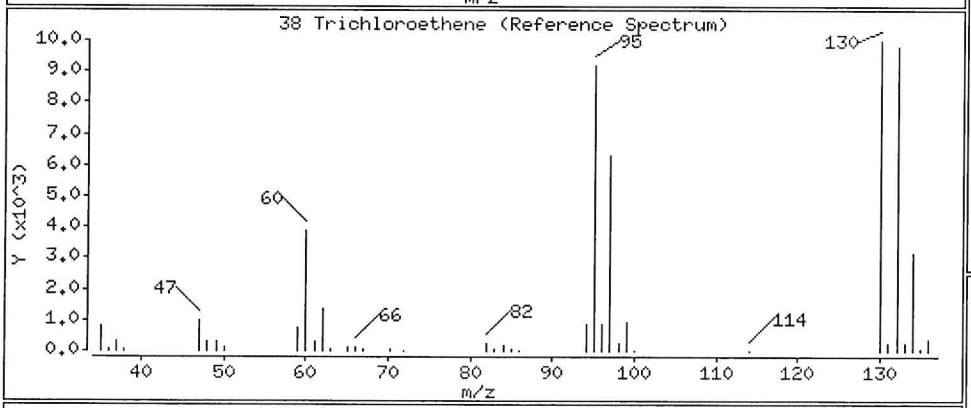
Review Code:

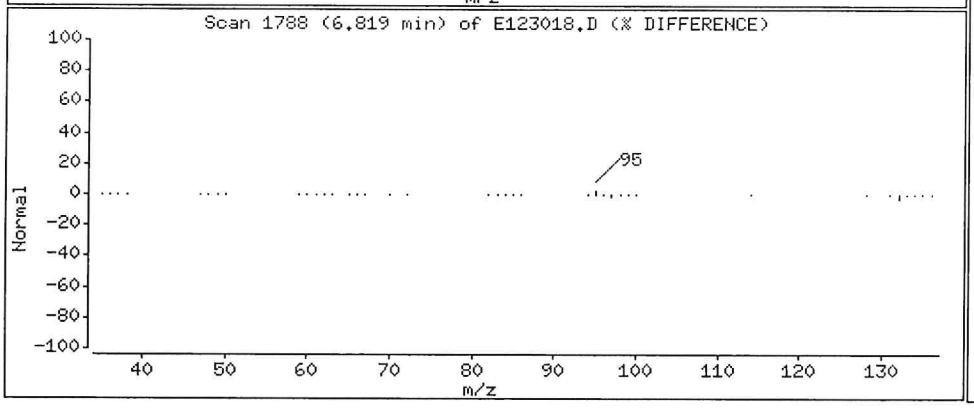


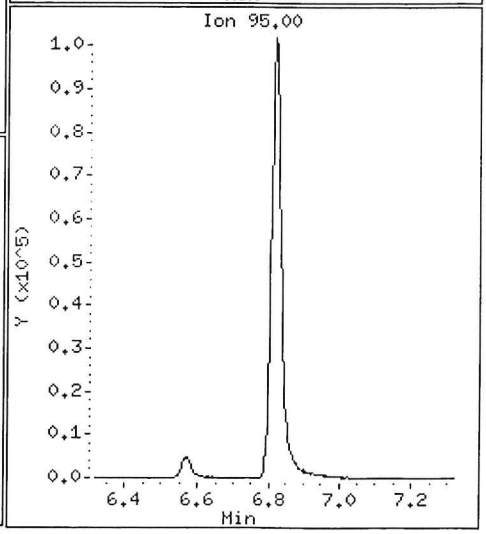












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Report Date: 09-Feb-2018 18:30

ALS Laboratory Group

Data file : \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123029.D
Lab Smp Id: CCV_END Client Smp ID: CCV_END
Inj Date : 31-DEC-2017 13:09
Operator : AP Inst ID: VOA2.i
Smp Info : CCV_END;CCV_END;2;;
Misc Info : HS15080001;WATER;0;1;
Comment :
Method : \\nahstws003\Target\CHEM\VOA2.i\D171230.b\8260LL.m
Meth Date : 09-Feb-2018 18:30 VOA2.i Quant Type: ISTD
Cal Date : 19-DEC-2017 12:14 Cal File: D121908.D
Als bottle: 31 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: dn_bhate.sub
Target Version: 4.14
Processing Host: NAHSTW7056

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

Name	Value	Description
DF	1.000	Dilution Factor
Uf	5.000	ng unit correction factor
Vo	5.000	sample purged
Va	0.00000	
Cpnd Variable		Local Compound Variable

	Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	AMOUNTS CAL-AMT (ug/l)	ON-COL (ug/l)
	31 1,1,1-Trichloroethane	97	5.654	5.654	(0.978)	164720	50.0000	45.44
*	1 Pentafluorobenzene	168	5.779	5.779	(1.000)	234534	50.0000	
$	30 Dibromofluoromethane	113	5.686	5.686	(0.984)	96529	50.0000	45.68
*	36 1,4-Difluorobenzene	114	6.575	6.575	(1.000)	344146	50.0000	
$	35 1,2-Dichloroethane-d4	65	6.058	6.058	(1.048)	120695	50.0000	46.24
*	47 Chlorobenzene-d5	117	9.524	9.524	(1.000)	318573	50.0000	
$	48 Toluene-d8	98	8.092	8.092	(0.850)	390827	50.0000	46.52
$	69 4-Bromofluorobenzene	95	10.695	10.695	(1.123)	152768	50.0000	49.80
*	70 1,4-Dichlorobenzene-d4	152	11.834	11.834	(1.000)	148777	50.0000	
	68 1,1,2,2-Tetrachloroethane	83	10.871	10.871	(0.919)	130556	50.0000	36.78
	53 1,1,2-Trichloroethane	83	8.593	8.593	(0.902)	81749	50.0000	41.94
	32 1,1-Dichloropropene	75	5.856	5.856	(0.891)	131116	50.0000	48.86
	22 1,1-Dichloroethane	63	4.280	4.280	(0.741)	210852	50.0000	43.06
	11 1,1-Dichloroethene	96	2.750	2.750	(0.476)	93983	50.0000	48.55
	90 1,2,4-Trichlorobenzene	180	13.820	13.820	(1.168)	136629	50.0000	46.61
	89 1,2-Dibromo-3-Chloropropane	75	13.009	13.009	(1.099)	23627	50.0000	38.71
	57 1,2-Dibromoethane	107	9.065	9.065	(0.952)	107169	50.0000	43.90
	88 1,2-Dichlorobenzene	146	12.222	12.222	(1.033)	214108	50.0000	40.03
	33 1,2-Dichloroethane	62	6.145	6.145	(0.935)	141975	50.0000	46.71
	42 1,2-Dichloropropane	63	7.066	7.066	(1.075)	119746	50.0000	44.17
	83 1,3-Dichlorobenzene	146	11.767	11.767	(0.994)	225285	50.0000	40.48

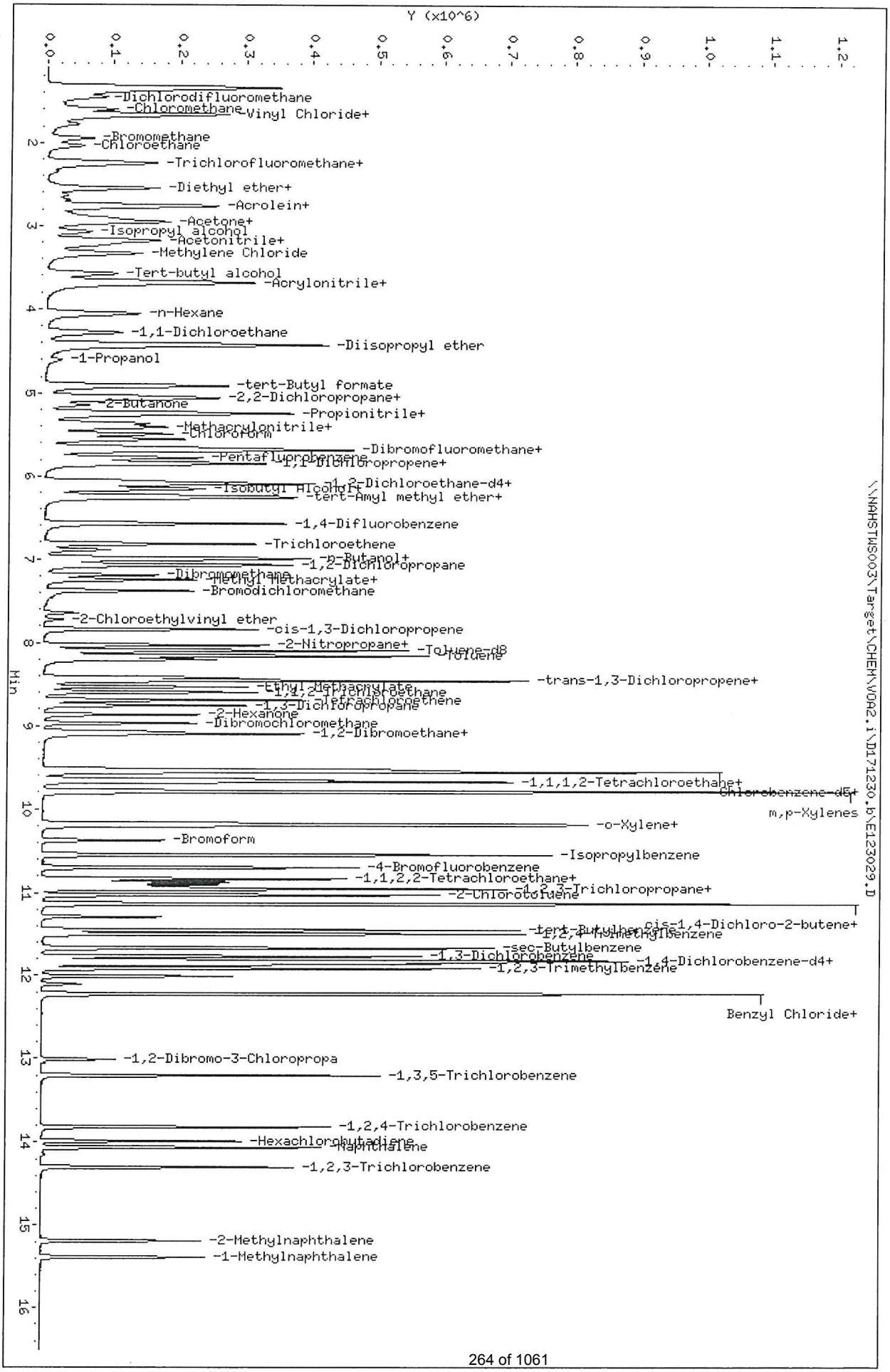
Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123029.D
Report Date: 09-Feb-2018 18:30

		QUANT SIG					AMOUNTS	
	Compounds	MASS	RT	EXP RT	REL RT	RESPONSE	CAL-AMT (ug/l)	ON-COL (ug/l)
84	1,4-Dichlorobenzene	146	11.860	11.860	(1.002)	216100	50.0000	40.59
24	2-Butanone	43	5.147	5.147	(0.891)	99732	100.000	78.80
52	2-Hexanone	43	8.866	8.866	(0.931)	145484	100.000	77.94
45	4-Methyl-2-Pentanone	43	8.028	8.028	(0.843)	229260	100.000	79.32
10	Acetone	43	2.865	2.865	(0.496)	63036	100.000	80.63
37	Benzene	78	6.090	6.090	(0.926)	405063	50.0000	44.73
39	Bromodichloromethane	83	7.377	7.377	(1.122)	143097	50.0000	44.64
66	Bromoform	173	10.374	10.374	(1.089)	84484	50.0000	44.70
6	Bromomethane	94	1.944	1.944	(0.336)	80286	50.0000	49.99
19	Carbon Disulfide	76	2.952	2.952	(0.511)	414499	100.000	93.76
34	Carbon Tetrachloride	117	5.833	5.833	(0.887)	133137	50.0000	40.72
59	Chlorobenzene	112	9.553	9.553	(1.003)	279833	50.0000	42.65
7	Chloroethane	64	2.034	2.034	(0.352)	78507	50.0000	41.37
28	Chloroform	83	5.493	5.493	(0.951)	182897	50.0000	42.77
3	Chloromethane	50	1.594	1.594	(0.276)	185002	50.0000	47.10
27	cis-1,2-Dichloroethene	96	5.073	5.073	(0.878)	117426	50.0000	44.00
46	cis-1,3-Dichloropropene	75	7.839	7.839	(1.192)	176307	50.0000	47.90
55	Dibromochloromethane	129	8.968	8.968	(0.942)	121417	50.0000	44.14
2	Dichlorodifluoromethane	85	1.453	1.453	(0.252)	89615	50.0000	44.69
61	Ethylbenzene	106	9.671	9.671	(1.015)	152906	50.0000	43.54
67	Isopropylbenzene	105	10.547	10.547	(1.107)	493381	50.0000	45.41
17	Methylene Chloride	84	3.330	3.330	(0.576)	107004	50.0000	41.68
56	Tetrachloroethene	164	8.686	8.686	(0.912)	98072	50.0000	49.91
50	Toluene	91	8.157	8.157	(0.856)	435553	50.0000	43.14
20	trans-1,2-Dichloroethene	96	3.664	3.664	(0.634)	101458	50.0000	48.45
51	trans-1,3-Dichloropropene	75	8.417	8.417	(1.280)	149277	50.0000	47.66
38	Trichloroethene	130	6.819	6.819	(1.037)	120892	50.0000	47.42
8	Trichlorofluoromethane	101	2.255	2.255	(0.390)	144886	50.0000	50.10
5	Vinyl Chloride	62	1.681	1.681	(0.291)	138274	50.0000	48.10
62	m,p-Xylenes	106	9.790	9.790	(1.028)	372326	100.000	86.70
63	o-Xylene	106	10.178	10.178	(1.069)	197705	50.0000	44.00
M 95	Xylenes (total)	106				570031	150.000	(a)
71	1,2,3-Trichloropropane	75	10.900	10.900	(0.921)	139333	50.0000	39.31
93	1,2,3-Trichlorobenzene	182	14.302	14.302	(1.209)	116281	50.0000	46.04
79	1,2,4-Trimethylbenzene	105	11.500	11.500	(0.972)	388076	50.0000	39.16
75	1,3,5-Trimethylbenzene	105	11.135	11.135	(0.941)	387652	50.0000	40.16
26	2,2-Dichloropropane	77	5.041	5.041	(0.872)	152978	50.0000	44.77
54	1,3-Dichloropropane	76	8.753	8.753	(0.919)	162608	50.0000	41.36
76	2-Chlorotoluene	91	11.029	11.029	(0.932)	331597	50.0000	39.23
77	4-Chlorotoluene	91	11.138	11.138	(0.941)	363283	50.0000	39.47
82	p-Isopropyltoluene	119	11.818	11.818	(0.999)	383337	50.0000	41.85
29	Bromochloromethane	128	5.365	5.365	(0.928)	56808	50.0000	44.73
74	Bromobenzene	156	10.830	10.830	(0.915)	131414	50.0000	39.81
44	Dibromomethane	93	7.188	7.188	(1.093)	63307	50.0000	45.06
91	Hexachlorobutadiene	225	13.990	13.990	(1.182)	60471	50.0000	44.28
73	n-Propylbenzene	91	10.955	10.955	(0.926)	518563	50.0000	41.22
87	n-Butylbenzene	91	12.222	12.222	(1.033)	295319	50.0000	43.39
81	sec-Butylbenzene	105	11.667	11.667	(0.986)	455433	50.0000	42.58
92	Naphthalene	128	14.061	14.061	(1.188)	328234	50.0000	42.92
78	tert-Butylbenzene	119	11.449	11.449	(0.967)	337296	50.0000	41.66
60	1,1,1,2-Tetrachloroethane	131	9.646	9.646	(1.013)	112648	50.0000	44.31
64	Styrene	104	10.198	10.198	(1.071)	319057	50.0000	44.52

Data File: \\NAHSTWS003\Target\CHEM\VOA2.i\D171230.b\E123029.D
Report Date: 09-Feb-2018 18:30

QC Flag Legend

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



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Date : 31-DEC-2017 13:09
Client ID: CCV_END
Sample Info: CCV_END;CCV_END;2;;
Purge Volume: 5.0
Column phase: DB624

Instrument: VOA2.i
Operator: AP
Column diameter: 0.18

ALS Laboratory Group

Data file : \\nahstws003\Target\chem\ECD-9.i\180208.b\042.D
Lab Smp Id: TEST Client Smp ID: TEST
Inj Date : 09-FEB-2018 18:14
Operator : STH Inst ID: ECD-9.i
Smp Info : TEST;TEST;;;
Misc Info : ;1;0;1
Comment : SW-846 EDB,DBCP AND 1,2,3-TCP ANALYSIS
Method : \\nahstws003\Target\chem\ECD-9.i\180208.b\8011A.m
Meth Date : 09-Feb-2018 13:27 Sina.Herre Quant Type: ESTD
Cal Date : 08-FEB-2018 20:35 Cal File: 010.D
Als bottle: 4
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: 504.sub
Target Version: 4.14 Sample Matrix: WATER
Processing Host: NAHSTWS003

Concentration Formula: Amt * DF * 35/Vo * CpndVariable

Name	Value	Description
DF	1.000	Dilution Factor
Vo	35.000	Volume of sample extracted (mL)
Cpnd Variable		Local Compound Variable

				CONCENTRATIONS ON-COL	FINAL		
RT	EXP RT	DLT RT	RESPONSE	(ppb)	(ug/L)	TARGET RANGE	RATIO
3 DBCP					CAS #: 96-12-8		
12.426	12.477	-0.051	792	0.01345	0.013453		(a)

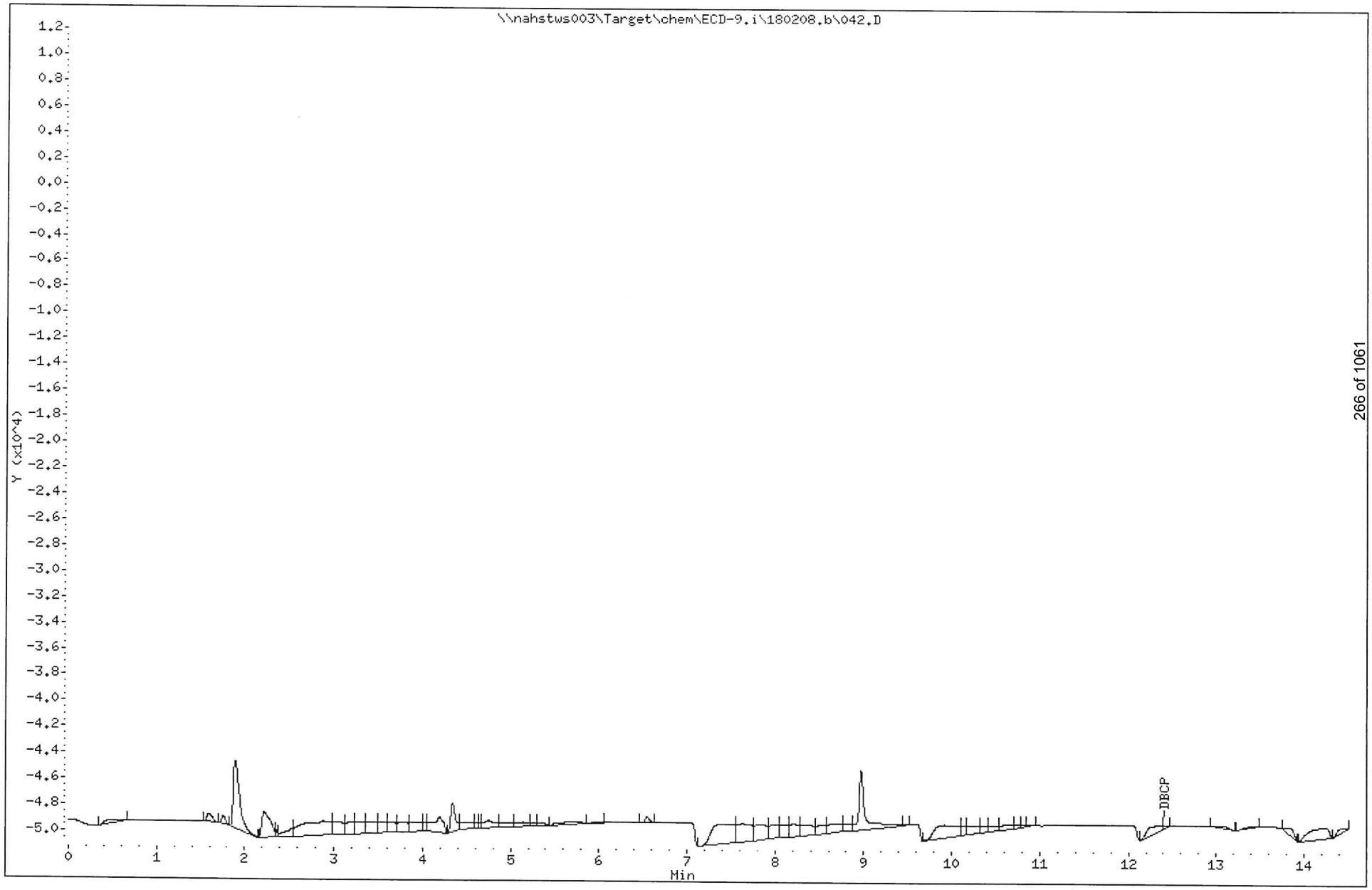
QC Flag Legend

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

Data File: \\nahstws003\Target\chem\ECD-9.i\180208.b\042.D
Date : 09-FEB-2018 18:14
Client ID: TEST
Sample Info: TEST;TEST;;;
Volume Injected (uL): 1.0
Column phase: RTX-CLP

Instrument: ECD-9.i

Operator: STH
Column diameter: 0.50



Mercury Raw Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17121113

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: HG03_308150
Instrument: HG03
Method: SW7470

ICCV1 Date: 28-Dec-2017 16:17 Seq: 4372685 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.96	99	90-110	

ICV Date: 28-Dec-2017 16:19 Seq: 4372686 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.83	97	90-110	

CCV2 Date: 28-Dec-2017 16:54 Seq: 4372698 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.05	101	90-110	

CCV3 Date: 28-Dec-2017 17:42 Seq: 4372781 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.91	98	90-110	

CCV4 Date: 28-Dec-2017 18:09 Seq: 4372941 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.2	104	90-110	

CCV5 Date: 28-Dec-2017 18:49 Seq: 4372951 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5	100	90-110	

CCV6 Date: 28-Dec-2017 19:22 Seq: 4373048 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	5.23	105	90-110	

CCV7 Date: 28-Dec-2017 20:03 Seq: 4373052 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.68	94	90-110	

CCV8 Date: 28-Dec-2017 20:08 Seq: 4373195 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Mercury	5	4.77	95	90-110	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: HG03_308150
Instrument: HG03
Method: SW7470

ICB	Date: 28-Dec-2017 16:21		Seq: 4372687	ICB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB1	Date: 28-Dec-2017 16:56		Seq: 4372699	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB2	Date: 28-Dec-2017 17:44		Seq: 4372782	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB3	Date: 28-Dec-2017 18:11		Seq: 4372942	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB4	Date: 28-Dec-2017 18:51		Seq: 4372952	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB5	Date: 28-Dec-2017 19:24		Seq: 4373049	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

MBLK-123822	Date: 28-Dec-2017 19:35		Seq: 4373184	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB6	Date: 28-Dec-2017 20:05		Seq: 4373053	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

CCB7	Date: 28-Dec-2017 20:10		Seq: 4373196	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Mercury	0.2	0.03	0.2	U	

ALS Group USA, Corp Date: 12-Jan-18

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Date Analyzed: 28-Dec-2017 19:52
Date Extracted: 27-Dec-2017 11:56
Units: ug/L

Matrix Spike: HS17121113-03MS
Client Sample ID: MW21_121817

Analysis Method: SW7470

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Mercury	0.1210	4.640	5.000	90.4	4.950	5.000	96.6	75-125	6.47	20

ALS Group USA, Corp Date: 12-Jan-18

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Date Analyzed: 28-Dec-2017 19:43
Date Extracted: 27-Dec-2017 11:56
Units: ug/L

Lab Sample ID: LCS-123822 Analysis Method: SW7470

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Mercury	5	4.74	95	80-120

ALS Group USA, Corp Date: 12-Jan-18

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS05
Project: LHAAP 18/24
WorkOrder: HS17121113

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
114	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Group USA, Corp Date: 12-Jan-18

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113
Start Date: 27-Dec-2017 15:25 End Date: 27-Dec-2017 16:25

Batch ID: 123822
Prep Code: Hg_WPr
Method: SW7470
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17121113-01	MW14_121817	Water		10	10	1
HS17121113-02	MW14_121817_a	Water		10	10	1
HS17121113-03	MW21_121817	Water		10	10	1
HS17121113-03MS				10	10	1
HS17121113-03MSD				10	10	1
HS17121113-04	MW22_121817	Water		10	10	1
HS17121113-08	AWD3_121817	Water		10	10	1
LCS-123822				10	10	1
MBLK-123822				10	10	1

ALS Group USA, Corp Date: 12-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113
Start Date: 28-Dec-2017 End Date: 28-Dec-2017

Run ID:HG03_308150
Instrument:HG03
Method:SW7470

Sample No.	D/F	Time	FileID	Analytes
ICCV 1	1	28-Dec-2017 16:17	HG03_308150 Raw Data_4372685	HG
ICV	1	28-Dec-2017 16:19		HG
ICB	1	28-Dec-2017 16:21		HG
CRA	1	28-Dec-2017 16:22		HG
CCV 2	1	28-Dec-2017 16:54		HG
CCB 1	1	28-Dec-2017 16:56		HG
CCV 3	1	28-Dec-2017 17:42		HG
CCB 2	1	28-Dec-2017 17:44		HG
CCV 4	1	28-Dec-2017 18:09		HG
CCB 3	1	28-Dec-2017 18:11		HG
CCV 5	1	28-Dec-2017 18:49		HG
CCB 4	1	28-Dec-2017 18:51		HG
CCV 6	1	28-Dec-2017 19:22		HG
CCB 5	1	28-Dec-2017 19:24		HG
MBLK-123822	1	28-Dec-2017 19:35		HG
LCS-123822	1	28-Dec-2017 19:43		HG
MW14_121817	1	28-Dec-2017 19:45		HG
MW14_121817_a	1	28-Dec-2017 19:47		HG
MW21_121817	1	28-Dec-2017 19:48		HG
MW21_121817MS	1	28-Dec-2017 19:50		HG
MW21_121817MSD	1	28-Dec-2017 19:52		HG
MW22_121817	1	28-Dec-2017 19:58		HG
CCV 7	1	28-Dec-2017 20:03		HG
CCB 6	1	28-Dec-2017 20:05		HG
AWD3_121817	1	28-Dec-2017 20:06		HG
CCV 8	1	28-Dec-2017 20:08		HG
CCB 7	1	28-Dec-2017 20:10		HG

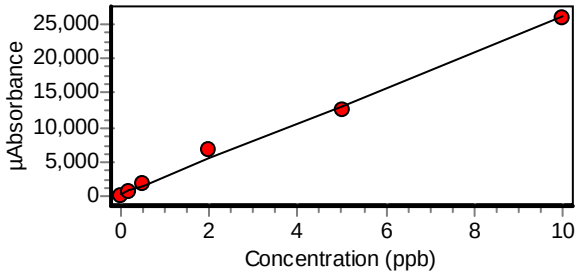
Report Generated By CETAC QuickTrace
Analyst: ALSHS.NoUser
Worksheet file: C:\Program Files (x86)\QuickTrace\Worksheets\122817BW.wsz
Date Started: 12/28/2017 2:58:12 PM
Comment:

Results

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
Calibration Blank					STD	12/28/17 03:24:13 pm	0.000	-19	124.16	
Replicates	-34.2	-35.7	-19.3	14.3						
Standard #1 (0.2 ppb)					STD	12/28/17 03:25:55 pm	0.200	680	5.13	
Replicates	648.4	726.6	658.9	686.3						
Standard #2 (0.5 ppb)					STD	12/28/17 03:27:37 pm	0.500	1669	1.35	
Replicates	1654.1	1645.7	1687.7	1689.0						
Standard #3 (2.0 ppb)					STD	12/28/17 03:29:20 pm	2.000	6639	2.82	
Replicates	6407.5	6578.3	6732.3	6836.7						
Standard #4 (5.0 ppb)					STD	12/28/17 03:31:03 pm	5.000	12460	2.42	
Replicates	12110.3	12350.5	12561.2	12816.5						
Standard #5 (10.0 ppb)					STD	12/28/17 03:32:47 pm	10.000	25851	2.46	
Replicates	25075.3	25663.9	26096.9	26568.6						

Calibration

Equation: A = 207.757 + 2594.273C
R2: 0.99552
SEE: 746.8750
Flags:



Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
Calibration Blank					STD	12/28/17 04:04:22 pm	0.000	-23	72.66	
Replicates	-42.7	-14.2	-28.2	-5.2						
Standard #1 (0.2 ppb)					STD	12/28/17 04:06:03 pm	0.200	571	2.25	
Replicates	585.1	578.9	562.6	558.2						

Sample Name					Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
Standard #2 (0.5 ppb)					STD	12/28/17 04:07:46 pm	0.500	1511	1.36	
Replicates	1498.1	1526.4	1489.1	1530.4						
Standard #3 (2.0 ppb)					STD	12/28/17 04:09:28 pm	2.000	6242	0.96	
Replicates	6185.1	6212.7	6245.3	6323.7						
Standard #4 (5.0 ppb)					STD	12/28/17 04:11:12 pm	5.000	14715	0.93	
Replicates	14528.1	14702.3	14789.9	14838.3						
Standard #5 (10.0 ppb)					STD	12/28/17 04:12:56 pm	10.000	29700	0.96	
Replicates	29329.1	29626.7	29888.4	29956.4						

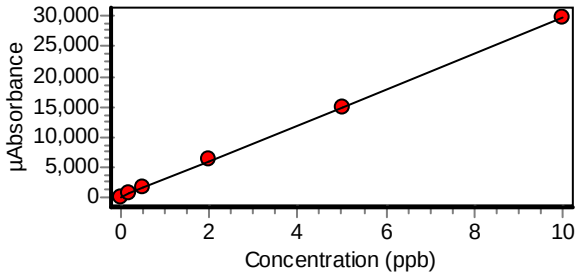
Calibration

Equation: A = 4.896 + 2977.604C

R2: 0.99982

SEE: 172.8456

Flags:



ICCV					UNK	12/28/17 04:17:39 pm	4.960	14767	1.84	
Replicates	14413.5	14698.6	14941.6	15013.6						
ICV					UNK	12/28/17 04:19:21 pm	4.830	14396	0.49	
Replicates	14301.0	14395.6	14469.9	14417.6						
ICB					UNK	12/28/17 04:21:03 pm	-0.016	-43	28.50	
Replicates	-41.6	-32.4	-60.1	-36.7						
CRA					UNK	12/28/17 04:22:44 pm	0.195	585	1.78	
Replicates	579.0	591.9	595.3	573.3						
GBLKL1-123814					UNK	12/28/17 04:27:10 pm	0.044	135	7.83	s
Replicates	127.3	143.7	124.3	144.3						
MBLK-123814					UNK	12/28/17 04:28:52 pm	0.022	72	32.57	s
Replicates	58.5	72.6	103.9	51.3						

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
LCS-123814				UNK	12/28/17 04:30:35 pm	4.990	14869	1.31	
Replicates	14600.0	14856.2	14987.9	15032.2					
HS17120767-21				UNK	12/28/17 04:32:18 pm	0.220	659	3.44	
Replicates	642.7	662.8	640.8	689.4					
HS17120767-21MS				UNK	12/28/17 04:34:01 pm	5.900	17569	1.61	
Replicates	17211.9	17475.8	17769.4	17820.1					
HS17120767-21MSD				UNK	12/28/17 04:45:56 pm	5.610	16701	1.81	
Replicates	16300.4	16635.8	16895.5	16971.2					
HS17120767-22				UNK	12/28/17 04:47:40 pm	3.850	11458	1.01	
Replicates	11285.4	11503.3	11504.3	11537.9					
HS17120767-23				UNK	12/28/17 04:49:24 pm	0.039	120	35.27	s
Replicates	94.6	121.8	84.1	178.4					
HS17120767-24				UNK	12/28/17 04:51:05 pm	0.001	8	490.34	
Replicates	-30.7	8.5	58.2	-5.5					
CCV				UNK	12/28/17 04:54:16 pm	5.050	15040	1.01	
Replicates	14834.4	15019.3	15130.3	15174.9					
CCB				UNK	12/28/17 04:56:01 pm	-0.014	-38	75.00	
Replicates	-7.1	-59.2	-20.6	-64.6					
MBLK-123820				UNK	12/28/17 05:00:31 pm	0.048	149	17.67	s
Replicates	149.4	112.2	173.6	159.9					
LCS-128320				UNK	12/28/17 05:02:12 pm	4.900	14582	0.78	
Replicates	14415.9	14601.3	14651.3	14659.9					
HS17121149-06				UNK	12/28/17 05:03:54 pm	0.092	279	6.24	s
Replicates	255.3	296.1	278.7	286.7					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17121149-06MS				UNK	12/28/17 05:05:36 pm	4.650	13837	2.93	
Replicates	13326.6	13710.4	14074.1	14238.1					
HS17121149-06MSD				UNK	12/28/17 05:07:18 pm	4.720	14049	1.94	
Replicates	13693.6	14003.2	14168.2	14332.2					
MBLK-123821				UNK	12/28/17 05:23:59 pm	0.120	362	14.03	s
Replicates	378.3	287.9	403.9	376.6					
MBLK-123821				UNK	12/28/17 05:30:46 pm	0.016	53	29.82	s
Replicates	35.1	49.0	55.7	73.3					
LCS-123821				UNK	12/28/17 05:32:29 pm	5.130	15275	0.85	
Replicates	15091.2	15287.6	15394.3	15325.3					
HS17120808-01				UNK	12/28/17 05:34:12 pm	-0.011	-27	55.23	
Replicates	-6.6	-27.2	-33.6	-41.9					
HS17120808-02				UNK	12/28/17 05:35:55 pm	0.406	1215	1.81	
Replicates	1209.4	1189.1	1242.1	1217.8					
CCV				UNK	12/28/17 05:42:27 pm	4.910	14632	0.62	
Replicates	14521.4	14686.1	14723.1	14595.7					
CCB				UNK	12/28/17 05:44:12 pm	-0.015	-40	29.61	
Replicates	-33.9	-57.1	-30.4	-38.8					
HS17120808-03				UNK	12/28/17 05:50:11 pm	0.103	313	14.32	s
Replicates	293.3	259.2	353.2	346.5					
HS17120808-04				UNK	12/28/17 05:51:55 pm	0.136	410	8.08	s
Replicates	376.1	433.3	443.7	388.3					
HS17120808-05				UNK	12/28/17 05:53:36 pm	0.088	266	1.49	
Replicates	267.8	260.1	268.1	268.1					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17120810-01				UNK	12/28/17 05:55:17 pm	0.121	365	4.84	
Replicates	352.4	349.0	386.3	373.3					
HS17120810-02				UNK	12/28/17 05:56:59 pm	0.069	210	15.51	s
Replicates	181.8	205.7	195.4	256.4					
HS17120810-03				UNK	12/28/17 05:58:40 pm	0.081	245	6.67	s
Replicates	230.4	232.9	264.6	252.6					
HS17120810-04				UNK	12/28/17 06:00:23 pm	0.039	120	2.34	
Replicates	117.9	123.2	121.2	117.2					
HS17120810-08				UNK	12/28/17 06:02:05 pm	0.096	290	4.02	
Replicates	306.1	278.4	289.4	286.1					
HS17120810-06				UNK	12/28/17 06:03:49 pm	0.112	339	7.00	s
Replicates	370.6	334.7	335.7	313.4					
HS17120810-06MS				UNK	12/28/17 06:05:32 pm	5.150	15340	1.05	
Replicates	15149.8	15266.7	15444.7	15497.7					
CCV				UNK	12/28/17 06:09:21 pm	5.200	15486	0.75	
Replicates	15329.3	15466.8	15570.8	15577.8					
CCB				UNK	12/28/17 06:11:06 pm	-0.018	-48	9.86	
Replicates	-44.7	-43.9	-52.6	-52.6					
HS17120810-06MSD				UNK	12/28/17 06:17:50 pm	5.210	15528	0.89	
Replicates	15355.6	15478.7	15634.7	15644.3					
HS17121126-01				UNK	12/28/17 06:19:33 pm	0.135	406	6.21	s
Replicates	406.2	397.2	379.5	439.5					
HS17121126-02				UNK	12/28/17 06:21:17 pm	0.140	421	5.64	s
Replicates	410.9	400.8	455.2	417.2					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17121126-03				UNK	12/28/17 06:23:00 pm	0.200	599	2.10	
Replicates	606.6	613.3	591.7	586.3					
HS17121126-04				UNK	12/28/17 06:24:42 pm	0.107	325	4.29	
Replicates	310.8	336.4	337.4	315.1					
HS17121126-05				UNK	12/28/17 06:26:23 pm	0.162	489	8.69	s
Replicates	433.2	477.6	517.9	525.6					
HS17121184-01				UNK	12/28/17 06:28:04 pm	0.154	464	2.27	
Replicates	459.6	453.8	463.5	478.5					
HS17121230-14				UNK	12/28/17 06:29:46 pm	0.059	180	13.23	s
Replicates	193.6	152.6	169.9	205.9					
MBLK-123831				UNK	12/28/17 06:42:54 pm	-0.011	-28	77.80	
Replicates	-24.9	-10.6	-59.2	-16.9					
LCS-123831				UNK	12/28/17 06:44:36 pm	5.110	15208	1.53	
Replicates	14977.4	15069.3	15288.7	15498.3					
CCV				UNK	12/28/17 06:49:41 pm	5.000	14895	1.20	
Replicates	14657.5	14866.8	14987.2	15066.5					
CCB				UNK	12/28/17 06:51:26 pm	-0.027	-74	30.03	
Replicates	-56.2	-101.9	-83.6	-56.2					
HS17120667-01				UNK	12/28/17 06:53:08 pm	0.104	314	4.37	
Replicates	326.8	305.7	299.1	324.4					
HS17120668-01				UNK	12/28/17 06:54:51 pm	0.090	274	6.59	s
Replicates	247.8	289.3	281.3	275.7					
HS17121102-01				UNK	12/28/17 06:56:34 pm	0.299	894	4.25	
Replicates	883.1	854.5	892.5	945.5					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
HS17121102-02				UNK	12/28/17 06:58:17 pm	0.235	704	1.09	
Replicates	699.8	707.1	695.1	712.4					
HS17121117-01				UNK	12/28/17 07:00:01 pm	0.108	328	6.98	s
Replicates	298.1	327.8	330.8	353.8					
HS17121117-02				UNK	12/28/17 07:01:44 pm	0.092	279	6.16	s
Replicates	260.6	295.1	292.7	268.7					
HS17121147-01				UNK	12/28/17 07:03:26 pm	0.137	413	3.13	
Replicates	404.4	408.8	432.5	407.5					
HS17121198-01				UNK	12/28/17 07:05:07 pm	0.100	303	7.23	s
Replicates	288.9	301.1	288.4	335.1					
HS17121198-01MS				UNK	12/28/17 07:06:49 pm	5.160	15361	1.74	
Replicates	15033.6	15260.7	15522.7	15627.7					
HS17121198-01MSD				UNK	12/28/17 07:11:36 pm	5.230	15583	1.66	
Replicates	15254.6	15497.7	15768.0	15811.0					
CCV				UNK	12/28/17 07:22:19 pm	5.230	15576	1.14	
Replicates	15337.0	15547.8	15699.2	15720.8					
CCB				UNK	12/28/17 07:24:05 pm	-0.009	-23	139.80	
Replicates	20.2	-58.0	-31.3	-23.7					
HS17121198-02				UNK	12/28/17 07:28:20 pm	0.102	310	18.34	s
Replicates	245.2	279.6	351.2	363.6					
HS17121199-01				UNK	12/28/17 07:30:02 pm	0.118	356	7.05	s
Replicates	355.6	341.7	391.1	334.7					
MBLK-123822				UNK	12/28/17 07:35:17 pm	-0.010	-24	41.08	
Replicates	-33.9	-19.1	-29.1	-12.4					

Sample Name				Type	Date/Time	Conc (ppb)	µAbs	%RSD	Flags
LCS-123822				UNK	12/28/17 07:43:49 pm	4.740	14118	0.88	
Replicates	13961.3	14077.7	14236.7	14196.0					
HS17121113-01				UNK	12/28/17 07:45:32 pm	0.076	231	8.54	s
Replicates	205.3	240.7	251.3	228.3					
HS17121113-02				UNK	12/28/17 07:47:16 pm	0.084	255	6.26	s
Replicates	257.9	275.6	237.3	250.6					
HS17121113-03				UNK	12/28/17 07:48:59 pm	0.121	366	3.53	
Replicates	361.5	349.5	374.2	377.8					
HS17121113-03MS				UNK	12/28/17 07:50:43 pm	4.640	13833	1.62	
Replicates	13552.2	13753.9	13985.2	14040.6					
HS17121113-03MSD				UNK	12/28/17 07:52:25 pm	4.950	14729	1.58	
Replicates	14422.5	14681.8	14871.1	14941.4					
HS17121113-04				UNK	12/28/17 07:58:38 pm	0.086	260	5.36	s
Replicates	244.8	266.2	252.8	276.2					
CCV				UNK	12/28/17 08:03:22 pm	4.680	13928	1.07	
Replicates	13714.8	13936.8	14043.8	14015.5					
CCB				UNK	12/28/17 08:05:08 pm	-0.011	-28	88.01	
Replicates	-10.6	-33.6	-61.2	-7.6					
HS17121113-08				UNK	12/28/17 08:06:50 pm	0.113	343	2.39	
Replicates	349.2	331.2	347.8	342.5					
CCV				UNK	12/28/17 08:08:34 pm	4.770	14205	1.78	
Replicates	13877.9	14133.7	14403.0	14406.0					
CCB				UNK	12/28/17 08:10:21 pm	-0.014	-37	65.74	
Replicates	-67.3	-7.7	-37.7	-35.7					

Metals Raw Data

Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
ALS WO# HS17121113

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

ICV Date: 02-Jan-2018 11:19 Seq: 4376453 ICV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.144	101	90-110	
Antimony	100	93.898	94	90-110	
Arsenic	100	98.713	99	90-110	
Barium	100	100.231	100	90-110	
Beryllium	100	95.81	96	90-110	
Cadmium	100	100.175	100	90-110	
Calcium	10000	9868.866	99	90-110	
Chromium	100	100.98	101	90-110	
Cobalt	100	100.605	101	90-110	
Copper	100	100.156	100	90-110	
Iron	10000	10075.803	101	90-110	
Lead	100	100.888	101	90-110	
Magnesium	10000	9798.787	98	90-110	
Manganese	100	99.761	100	90-110	
Nickel	100	102.75	103	90-110	
Potassium	10000	9806.506	98	90-110	
Selenium	100	96.031	96	90-110	
Silver	100	101.766	102	90-110	
Sodium	10000	9692.3	97	90-110	
Thallium	100	93.935	94	90-110	
Vanadium	100	98.495	99	90-110	
Zinc	100	97.978	98	90-110	

CCV1 Date: 02-Jan-2018 11:39 Seq: 4376319 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	99.392	99	90-110	
Antimony	100	98.7	99	90-110	
Arsenic	100	99.742	100	90-110	
Barium	100	103.348	103	90-110	
Beryllium	100	98.477	99	90-110	
Cadmium	100	103.798	104	90-110	
Calcium	10000	10365.365	104	90-110	
Chromium	100	99.773	100	90-110	
Cobalt	100	101.489	101	90-110	
Copper	100	97.472	98	90-110	
Iron	10000	9892.472	99	90-110	
Lead	100	101.166	101	90-110	
Magnesium	10000	9965.482	100	90-110	
Manganese	100	99.409	99	90-110	
Nickel	100	99.823	100	90-110	
Potassium	10000	10284.611	103	90-110	
Selenium	100	99.12	99	90-110	
Silver	100	102.89	103	90-110	
Sodium	10000	10377.416	104	90-110	
Thallium	100	103.022	103	90-110	
Vanadium	100	99.657	100	90-110	
Zinc	100	98.198	98	90-110	

CCV2 Date: 02-Jan-2018 12:07 Seq: 4376333 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	65.062	65	90-110	S
Antimony	100	104.069	104	90-110	
Arsenic	100	94.72	95	90-110	
Barium	100	102.294	102	90-110	
Beryllium	100	94.466	95	90-110	
Cadmium	100	98.653	99	90-110	
Calcium	10000	9284.301	92	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV2	Date: 02-Jan-2018 12:07	Seq: 4376333	CCV	Units: ug/L	
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Chromium	100	94.423	94	90-110	
Cobalt	100	102.327	102	90-110	
Copper	100	96.685	97	90-110	
Iron	10000	9538.553	95	90-110	
Lead	100	105.51	106	90-110	
Magnesium	10000	9533.306	95	90-110	
Manganese	100	92.889	93	90-110	
Nickel	100	101.554	102	90-110	
Potassium	10000	9515.419	95	90-110	
Selenium	100	91.263	91	90-110	
Silver	100	92.457	93	90-110	
Sodium	10000	10004.532	100	90-110	
Thallium	100	104.909	105	90-110	
Vanadium	100	95.48	96	90-110	
Zinc	100	95.58	96	90-110	

CCV3	Date: 02-Jan-2018 12:29	Seq: 4376344	CCV	Units: ug/L	
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	97.094	97	90-110	
Antimony	100	98.898	99	90-110	
Arsenic	100	97.517	98	90-110	
Barium	100	101.267	101	90-110	
Beryllium	100	89.419	89	90-110	S
Cadmium	100	102.116	102	90-110	
Calcium	10000	10052.564	101	90-110	
Chromium	100	95.891	96	90-110	
Cobalt	100	97.667	98	90-110	
Copper	100	96.554	97	90-110	
Iron	10000	9507.11	95	90-110	
Lead	100	102.675	103	90-110	
Magnesium	10000	9570.506	96	90-110	
Manganese	100	94.458	95	90-110	
Nickel	100	97.834	98	90-110	
Potassium	10000	10301.829	103	90-110	
Selenium	100	100.745	101	90-110	
Silver	100	102.713	103	90-110	
Sodium	10000	9719.2	97	90-110	
Thallium	100	101.638	102	90-110	
Vanadium	100	94.986	95	90-110	
Zinc	100	93.898	94	90-110	

CCV4	Date: 02-Jan-2018 12:54	Seq: 4376356	CCV	Units: ug/L	
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	93.738	94	90-110	
Antimony	100	101.493	101	90-110	
Arsenic	100	98.36	98	90-110	
Barium	100	103.958	104	90-110	
Beryllium	100	87.14	87	90-110	S
Cadmium	100	101.955	102	90-110	
Calcium	10000	9978.592	100	90-110	
Chromium	100	97.901	98	90-110	
Cobalt	100	101.717	102	90-110	
Copper	100	98.227	98	90-110	
Iron	10000	9790.911	98	90-110	
Lead	100	102.326	102	90-110	
Magnesium	10000	9923.899	99	90-110	
Manganese	100	95.461	96	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV4 Date: 02-Jan-2018 12:54 Seq: 4376356 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Nickel	100	99.671	100	90-110	
Potassium	10000	9905.327	99	90-110	
Selenium	100	97.302	97	90-110	
Silver	100	96.786	97	90-110	
Sodium	10000	10271.695	103	90-110	
Thallium	100	102.803	103	90-110	
Vanadium	100	99.328	99	90-110	
Zinc	100	96.55	97	90-110	

CCV5 Date: 02-Jan-2018 13:18 Seq: 4376368 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	92.045	92	90-110	
Antimony	100	100.47	100	90-110	
Arsenic	100	98.589	99	90-110	
Barium	100	106.827	107	90-110	
Beryllium	100	93.807	94	90-110	
Cadmium	100	101.786	102	90-110	
Calcium	10000	9902.124	99	90-110	
Chromium	100	96.348	96	90-110	
Cobalt	100	100.806	101	90-110	
Copper	100	98.772	99	90-110	
Iron	10000	9653.165	97	90-110	
Lead	100	106.829	107	90-110	
Magnesium	10000	9605.153	96	90-110	
Manganese	100	93.662	94	90-110	
Nickel	100	101.301	101	90-110	
Potassium	10000	10074.438	101	90-110	
Selenium	100	99.189	99	90-110	
Silver	100	101.078	101	90-110	
Sodium	10000	9807.231	98	90-110	
Thallium	100	102.649	103	90-110	
Vanadium	100	98.193	98	90-110	
Zinc	100	96.728	97	90-110	

CCV6 Date: 02-Jan-2018 13:42 Seq: 4376573 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	92.743	93	90-110	
Antimony	100	102.21	102	90-110	
Arsenic	100	98.519	99	90-110	
Barium	100	99.955	100	90-110	
Beryllium	100	86.202	86	90-110	S
Cadmium	100	98.879	99	90-110	
Calcium	10000	9752.602	98	90-110	
Chromium	100	97.397	97	90-110	
Cobalt	100	98.631	99	90-110	
Copper	100	95.471	96	90-110	
Iron	10000	9637.596	96	90-110	
Lead	100	106.842	107	90-110	
Magnesium	10000	9375.347	94	90-110	
Manganese	100	94.944	95	90-110	
Nickel	100	98.444	98	90-110	
Potassium	10000	9914.509	99	90-110	
Selenium	100	96.116	96	90-110	
Silver	100	98.345	98	90-110	
Sodium	10000	9776.776	98	90-110	
Thallium	100	102.802	103	90-110	
Vanadium	100	98.871	99	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV6 Date: 02-Jan-2018 13:42 Seq: 4376573 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Zinc	100	96.382	96	90-110	

CCV7 Date: 02-Jan-2018 14:06 Seq: 4376585 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	94.064	94	90-110	
Antimony	100	102.744	103	90-110	
Arsenic	100	99.706	100	90-110	
Barium	100	103.294	103	90-110	
Beryllium	100	88.494	89	90-110	S
Cadmium	100	101.245	101	90-110	
Calcium	10000	9734.349	97	90-110	
Chromium	100	95.165	95	90-110	
Cobalt	100	99.944	100	90-110	
Copper	100	95.943	96	90-110	
Iron	10000	9475.764	95	90-110	
Lead	100	106.39	106	90-110	
Magnesium	10000	9295.85	93	90-110	
Manganese	100	94.16	94	90-110	
Nickel	100	98.149	98	90-110	
Potassium	10000	9901.759	99	90-110	
Selenium	100	98.154	98	90-110	
Silver	100	100.643	101	90-110	
Sodium	10000	9580.161	96	90-110	
Thallium	100	102.721	103	90-110	
Vanadium	100	96.578	97	90-110	
Zinc	100	94.056	94	90-110	

CCV8 Date: 02-Jan-2018 14:30 Seq: 4376597 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	88.32	88	90-110	S
Antimony	100	103.293	103	90-110	
Arsenic	100	93.696	94	90-110	
Barium	100	102.267	102	90-110	
Beryllium	100	88.256	88	90-110	S
Cadmium	100	100.95	101	90-110	
Calcium	10000	9310.05	93	90-110	
Chromium	100	91.651	92	90-110	
Cobalt	100	92.775	93	90-110	
Copper	100	88.254	88	90-110	S
Iron	10000	8860.351	89	90-110	S
Lead	100	104.553	105	90-110	
Magnesium	10000	9029.812	90	90-110	
Manganese	100	89.457	90	90-110	S
Nickel	100	89.556	90	90-110	S
Potassium	10000	9405.278	94	90-110	
Selenium	100	96.771	97	90-110	
Silver	100	96.218	96	90-110	
Sodium	10000	9942.315	99	90-110	
Thallium	100	100.69	101	90-110	
Vanadium	100	92.832	93	90-110	
Zinc	100	91.156	91	90-110	

ICCV9 Date: 02-Jan-2018 15:00 Seq: 4376607 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.679	101	90-110	
Antimony	100	106.13	106	90-110	
Arsenic	100	102.912	103	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

ICCV9 Date: 02-Jan-2018 15:00 Seq: 4376607 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	103.951	104	90-110	
Beryllium	100	106.167	106	90-110	
Cadmium	100	101.906	102	90-110	
Calcium	10000	9469.316	95	90-110	
Chromium	100	98.152	98	90-110	
Cobalt	100	101.251	101	90-110	
Copper	100	99.12	99	90-110	
Iron	10000	9745.49	98	90-110	
Lead	100	103.302	103	90-110	
Magnesium	10000	9668.693	97	90-110	
Manganese	100	99.509	100	90-110	
Nickel	100	100.265	100	90-110	
Potassium	10000	9482.45	95	90-110	
Selenium	100	95.958	96	90-110	
Silver	100	94.375	94	90-110	
Sodium	10000	9616.846	96	90-110	
Thallium	100	99.683	100	90-110	
Vanadium	100	99.653	100	90-110	
Zinc	100	97.274	97	90-110	

CCV10 Date: 02-Jan-2018 15:35 Seq: 4376870 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	104.435	104	90-110	
Antimony	100	107.462	107	90-110	
Arsenic	100	105.065	105	90-110	
Barium	100	96.769	97	90-110	
Beryllium	100	96.938	97	90-110	
Cadmium	100	98.848	99	90-110	
Calcium	10000	9761.476	98	90-110	
Chromium	100	103.982	104	90-110	
Cobalt	100	101.966	102	90-110	
Copper	100	104.653	105	90-110	
Iron	10000	9690.442	97	90-110	
Lead	100	104.31	104	90-110	
Magnesium	10000	10096.16	101	90-110	
Manganese	100	100.396	100	90-110	
Nickel	100	102.834	103	90-110	
Potassium	10000	9784.487	98	90-110	
Selenium	100	98.566	99	90-110	
Silver	100	96.367	96	90-110	
Sodium	10000	10049.721	100	90-110	
Thallium	100	101.054	101	90-110	
Vanadium	100	102.574	103	90-110	
Zinc	100	103.799	104	90-110	

CCV11 Date: 02-Jan-2018 15:58 Seq: 4377012 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	105.334	105	90-110	
Antimony	100	106.788	107	90-110	
Arsenic	100	103.522	104	90-110	
Barium	100	99.591	100	90-110	
Beryllium	100	100.982	101	90-110	
Cadmium	100	102.48	102	90-110	
Calcium	10000	9861.613	99	90-110	
Chromium	100	104.259	104	90-110	
Cobalt	100	106.225	106	90-110	
Copper	100	107.079	107	90-110	

ALS Group USA, Corp

Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV11 Date: 02-Jan-2018 15:58 Seq: 4377012 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	10053.111	101	90-110	
Lead	100	100.744	101	90-110	
Magnesium	10000	10390.429	104	90-110	
Manganese	100	102.807	103	90-110	
Nickel	100	108.601	109	90-110	
Potassium	10000	9796.84	98	90-110	
Selenium	100	103.505	104	90-110	
Silver	100	98.319	98	90-110	
Sodium	10000	10566.397	106	90-110	
Thallium	100	102.908	103	90-110	
Vanadium	100	103.016	103	90-110	
Zinc	100	102.832	103	90-110	

CCV12 Date: 02-Jan-2018 16:35 Seq: 4377024 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	105.576	106	90-110	
Antimony	100	110.524	111	90-110	S
Arsenic	100	104.654	105	90-110	
Barium	100	100.506	101	90-110	
Beryllium	100	100.423	100	90-110	
Cadmium	100	101.02	101	90-110	
Calcium	10000	9601.474	96	90-110	
Chromium	100	102.161	102	90-110	
Cobalt	100	105.49	105	90-110	
Copper	100	105.203	105	90-110	
Iron	10000	10001.485	100	90-110	
Lead	100	102.874	103	90-110	
Magnesium	10000	10304.056	103	90-110	
Manganese	100	104.021	104	90-110	
Nickel	100	107.771	108	90-110	
Potassium	10000	9525.566	95	90-110	
Selenium	100	100.249	100	90-110	
Silver	100	95.401	95	90-110	
Sodium	10000	10317.639	103	90-110	
Thallium	100	105.442	105	90-110	
Vanadium	100	103.975	104	90-110	
Zinc	100	103.385	103	90-110	

CCV13 Date: 02-Jan-2018 16:59 Seq: 4377199 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	96.701	97	90-110	
Antimony	100	106.155	106	90-110	
Arsenic	100	102.172	102	90-110	
Barium	100	99.742	100	90-110	
Beryllium	100	107.162	107	90-110	
Cadmium	100	98.592	99	90-110	
Calcium	10000	9531.904	95	90-110	
Chromium	100	98.417	98	90-110	
Cobalt	100	101.354	101	90-110	
Copper	100	100.503	101	90-110	
Iron	10000	9527.926	95	90-110	
Lead	100	103.474	103	90-110	
Magnesium	10000	9732.892	97	90-110	
Manganese	100	98.749	99	90-110	
Nickel	100	102.543	103	90-110	
Potassium	10000	9222.292	92	90-110	
Selenium	100	97.561	98	90-110	

ALS Group USA, Corp

Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV13	Date: 02-Jan-2018 16:59		Seq: 4377199	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Silver	100	93.222	93	90-110	
Sodium	10000	11191.24	112	90-110	S
Thallium	100	104.06	104	90-110	
Vanadium	100	100.752	101	90-110	
Zinc	100	98.091	98	90-110	

CCV14	Date: 02-Jan-2018 17:23		Seq: 4377211	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	101.289	101	90-110	
Antimony	100	104.903	105	90-110	
Arsenic	100	105.008	105	90-110	
Barium	100	95.152	95	90-110	
Beryllium	100	104.119	104	90-110	
Cadmium	100	97.554	98	90-110	
Calcium	10000	10114.235	101	90-110	
Chromium	100	100.688	101	90-110	
Cobalt	100	102.818	103	90-110	
Copper	100	104.713	105	90-110	
Iron	10000	9565.197	96	90-110	
Lead	100	102.332	102	90-110	
Magnesium	10000	10001.134	100	90-110	
Manganese	100	100.528	101	90-110	
Nickel	100	104.264	104	90-110	
Potassium	10000	9994.556	100	90-110	
Selenium	100	104.68	105	90-110	
Silver	100	96.667	97	90-110	
Sodium	10000	10707.814	107	90-110	
Thallium	100	106.915	107	90-110	
Vanadium	100	104.325	104	90-110	
Zinc	100	103.756	104	90-110	

CCV15	Date: 02-Jan-2018 17:47		Seq: 4377279	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	106.544	107	90-110	
Antimony	100	108.992	109	90-110	
Arsenic	100	104.759	105	90-110	
Barium	100	102.715	103	90-110	
Beryllium	100	111.624	112	90-110	S
Cadmium	100	100.301	100	90-110	
Calcium	10000	9849.578	99	90-110	
Chromium	100	100.788	101	90-110	
Cobalt	100	101.329	101	90-110	
Copper	100	100.129	100	90-110	
Iron	10000	9740.936	97	90-110	
Lead	100	107.501	108	90-110	
Magnesium	10000	9879.984	99	90-110	
Manganese	100	102.849	103	90-110	
Nickel	100	101.886	102	90-110	
Potassium	10000	9796.544	98	90-110	
Selenium	100	102.222	102	90-110	
Silver	100	98.764	99	90-110	
Sodium	10000	10549.609	105	90-110	
Thallium	100	103.369	103	90-110	
Vanadium	100	101.363	101	90-110	
Zinc	100	101.388	101	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV16 Date: 02-Jan-2018 18:11 Seq: 4377291 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	103.36	103	90-110	
Antimony	100	108.1	108	90-110	
Arsenic	100	105.011	105	90-110	
Barium	100	97.963	98	90-110	
Beryllium	100	100.514	101	90-110	
Cadmium	100	100.157	100	90-110	
Calcium	10000	9719.29	97	90-110	
Chromium	100	104.983	105	90-110	
Cobalt	100	104.079	104	90-110	
Copper	100	102.306	102	90-110	
Iron	10000	9969.755	100	90-110	
Lead	100	110.641	111	90-110	S
Magnesium	10000	9905.449	99	90-110	
Manganese	100	101.887	102	90-110	
Nickel	100	104.649	105	90-110	
Potassium	10000	9932.716	99	90-110	
Selenium	100	98.946	99	90-110	
Silver	100	97.083	97	90-110	
Sodium	10000	10384.434	104	90-110	
Thallium	100	101.714	102	90-110	
Vanadium	100	104.357	104	90-110	
Zinc	100	102.414	102	90-110	

CCV17 Date: 02-Jan-2018 18:35 Seq: 4377335 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.888	102	90-110	
Antimony	100	105.162	105	90-110	
Arsenic	100	102.556	103	90-110	
Barium	100	102.019	102	90-110	
Beryllium	100	99.546	100	90-110	
Cadmium	100	101.108	101	90-110	
Calcium	10000	9342.717	93	90-110	
Chromium	100	101.516	102	90-110	
Cobalt	100	103.117	103	90-110	
Copper	100	99.247	99	90-110	
Iron	10000	9861.57	99	90-110	
Lead	100	108.294	108	90-110	
Magnesium	10000	9865.706	99	90-110	
Manganese	100	102.908	103	90-110	
Nickel	100	102.845	103	90-110	
Potassium	10000	9447.067	95	90-110	
Selenium	100	93.652	94	90-110	
Silver	100	96.345	96	90-110	
Sodium	10000	10149.376	101	90-110	
Thallium	100	101.413	101	90-110	
Vanadium	100	102.874	103	90-110	
Zinc	100	102.507	103	90-110	

CCV18 Date: 02-Jan-2018 18:59 Seq: 4377347 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	104.284	104	90-110	
Antimony	100	109.431	109	90-110	
Arsenic	100	104.245	104	90-110	
Barium	100	98.137	98	90-110	
Beryllium	100	101.459	101	90-110	
Cadmium	100	100.226	100	90-110	
Calcium	10000	9691.061	97	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV18	Date: 02-Jan-2018 18:59		Seq: 4377347	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Chromium	100	99.946	100	90-110	
Cobalt	100	102.974	103	90-110	
Copper	100	100.175	100	90-110	
Iron	10000	9904.121	99	90-110	
Lead	100	108.225	108	90-110	
Magnesium	10000	9986.571	100	90-110	
Manganese	100	101.371	101	90-110	
Nickel	100	102.839	103	90-110	
Potassium	10000	9653.873	97	90-110	
Selenium	100	102.221	102	90-110	
Silver	100	96.421	96	90-110	
Sodium	10000	10510.066	105	90-110	
Thallium	100	102.161	102	90-110	
Vanadium	100	100.441	100	90-110	
Zinc	100	102.098	102	90-110	

CCV19	Date: 02-Jan-2018 19:24		Seq: 4377359	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	106.135	106	90-110	
Antimony	100	109.123	109	90-110	
Arsenic	100	104.648	105	90-110	
Barium	100	99.649	100	90-110	
Beryllium	100	97.896	98	90-110	
Cadmium	100	101.484	101	90-110	
Calcium	10000	10000.976	100	90-110	
Chromium	100	101.45	101	90-110	
Cobalt	100	102.357	102	90-110	
Copper	100	102.692	103	90-110	
Iron	10000	9690.325	97	90-110	
Lead	100	102.098	102	90-110	
Magnesium	10000	10070.193	101	90-110	
Manganese	100	101.156	101	90-110	
Nickel	100	102.365	102	90-110	
Potassium	10000	9850.896	99	90-110	
Selenium	100	99.789	100	90-110	
Silver	100	97.72	98	90-110	
Sodium	10000	10515.653	105	90-110	
Thallium	100	105.354	105	90-110	
Vanadium	100	102.131	102	90-110	
Zinc	100	102.921	103	90-110	

CCV20	Date: 02-Jan-2018 19:48		Seq: 4377371	CCV	Units: ug/L
Analyte	**True**	**Found**	**%R**	**Control Limits**	**Flag**
Aluminum	100	100.076	100	90-110	
Antimony	100	104.616	105	90-110	
Arsenic	100	102.629	103	90-110	
Barium	100	96.827	97	90-110	
Beryllium	100	103.753	104	90-110	
Cadmium	100	98.326	98	90-110	
Calcium	10000	10614.913	106	90-110	
Chromium	100	98.85	99	90-110	
Cobalt	100	100.121	100	90-110	
Copper	100	99.683	100	90-110	
Iron	10000	9493.962	95	90-110	
Lead	100	102.217	102	90-110	
Magnesium	10000	9902.882	99	90-110	
Manganese	100	99.305	99	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV20 Date: 02-Jan-2018 19:48 Seq: 4377371 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Nickel	100	99.403	99	90-110	
Potassium	10000	9454.875	95	90-110	
Selenium	100	99.85	100	90-110	
Silver	100	94.824	95	90-110	
Sodium	10000	11248.668	112	90-110	S
Thallium	100	103.716	104	90-110	
Vanadium	100	101.01	101	90-110	
Zinc	100	100.961	101	90-110	

CCV21 Date: 02-Jan-2018 20:10 Seq: 4377382 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.463	101	90-110	
Antimony	100	107.688	108	90-110	
Arsenic	100	105.813	106	90-110	
Barium	100	98.553	99	90-110	
Beryllium	100	106.548	107	90-110	
Cadmium	100	99.761	100	90-110	
Calcium	10000	9612.247	96	90-110	
Chromium	100	98.92	99	90-110	
Cobalt	100	101.898	102	90-110	
Copper	100	100.046	100	90-110	
Iron	10000	9659.593	97	90-110	
Lead	100	101.944	102	90-110	
Magnesium	10000	10047.863	100	90-110	
Manganese	100	99.894	100	90-110	
Nickel	100	101.78	102	90-110	
Potassium	10000	9476.85	95	90-110	
Selenium	100	94.661	95	90-110	
Silver	100	92.115	92	90-110	
Sodium	10000	12165.714	122	90-110	S
Thallium	100	104.215	104	90-110	
Vanadium	100	103.17	103	90-110	
Zinc	100	101.372	101	90-110	

CCV22 Date: 02-Jan-2018 21:10 Seq: 4377420 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.014	100	90-110	
Antimony	100	102.926	103	90-110	
Arsenic	100	101.496	101	90-110	
Barium	100	98.885	99	90-110	
Beryllium	100	103.891	104	90-110	
Cadmium	100	100.642	101	90-110	
Calcium	10000	9760.265	98	90-110	
Chromium	100	99.534	100	90-110	
Cobalt	100	98.02	98	90-110	
Copper	100	95.574	96	90-110	
Iron	10000	9461.638	95	90-110	
Lead	100	99.892	100	90-110	
Magnesium	10000	9440.793	94	90-110	
Manganese	100	98.86	99	90-110	
Nickel	100	96.648	97	90-110	
Potassium	10000	10048.655	100	90-110	
Selenium	100	99.952	100	90-110	
Silver	100	94.973	95	90-110	
Sodium	10000	9704.868	97	90-110	
Thallium	100	104.493	104	90-110	
Vanadium	100	98.361	98	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV22 Date: 02-Jan-2018 21:10 Seq: 4377420 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Zinc	100	97.124	97	90-110	

CCV23 Date: 02-Jan-2018 21:41 Seq: 4377432 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	102.553	103	90-110	
Antimony	100	108.729	109	90-110	
Arsenic	100	102.597	103	90-110	
Barium	100	108.782	109	90-110	
Beryllium	100	100.124	100	90-110	
Cadmium	100	97.817	98	90-110	
Calcium	10000	10054.126	101	90-110	
Chromium	100	95.909	96	90-110	
Cobalt	100	96.938	97	90-110	
Copper	100	96.26	96	90-110	
Iron	10000	9224.718	92	90-110	
Lead	100	94.856	95	90-110	
Magnesium	10000	9589.734	96	90-110	
Manganese	100	98.811	99	90-110	
Nickel	100	95.41	95	90-110	
Potassium	10000	9682.05	97	90-110	
Selenium	100	97.569	98	90-110	
Silver	100	93.968	94	90-110	
Sodium	10000	10747.081	107	90-110	
Thallium	100	100.639	101	90-110	
Vanadium	100	99.43	99	90-110	
Zinc	100	96.374	96	90-110	

CCV24 Date: 02-Jan-2018 22:01 Seq: 4377442 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	98.416	98	90-110	
Antimony	100	108.007	108	90-110	
Arsenic	100	105.385	105	90-110	
Barium	100	111.931	112	90-110	S
Beryllium	100	105.261	105	90-110	
Cadmium	100	97.941	98	90-110	
Calcium	10000	9922.064	99	90-110	
Chromium	100	96.382	96	90-110	
Cobalt	100	98.713	99	90-110	
Copper	100	97.17	97	90-110	
Iron	10000	9234.05	92	90-110	
Lead	100	95.024	95	90-110	
Magnesium	10000	9417.004	94	90-110	
Manganese	100	99.701	100	90-110	
Nickel	100	98.156	98	90-110	
Potassium	10000	9466.389	95	90-110	
Selenium	100	97.687	98	90-110	
Silver	100	93.43	93	90-110	
Sodium	10000	10296.032	103	90-110	
Thallium	100	102.011	102	90-110	
Vanadium	100	99.006	99	90-110	
Zinc	100	98.9	99	90-110	

CCV25 Date: 02-Jan-2018 22:25 Seq: 4377454 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.835	102	90-110	
Antimony	100	108.365	108	90-110	
Arsenic	100	102.237	102	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV25 Date: 02-Jan-2018 22:25 Seq: 4377454 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Barium	100	102.094	102	90-110	
Beryllium	100	103.048	103	90-110	
Cadmium	100	99.645	100	90-110	
Calcium	10000	9946.124	100	90-110	
Chromium	100	96.774	97	90-110	
Cobalt	100	98.341	98	90-110	
Copper	100	96.969	97	90-110	
Iron	10000	9242.246	92	90-110	
Lead	100	97.17	97	90-110	
Magnesium	10000	9378.754	94	90-110	
Manganese	100	97.762	98	90-110	
Nickel	100	97.484	98	90-110	
Potassium	10000	10058.799	101	90-110	
Selenium	100	98.772	99	90-110	
Silver	100	94.153	94	90-110	
Sodium	10000	10038.906	100	90-110	
Thallium	100	107.842	108	90-110	
Vanadium	100	98.907	99	90-110	
Zinc	100	96.433	96	90-110	

CCV26 Date: 02-Jan-2018 22:49 Seq: 4377466 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	101.183	101	90-110	
Antimony	100	107.089	107	90-110	
Arsenic	100	100.162	100	90-110	
Barium	100	97.87	98	90-110	
Beryllium	100	96.609	97	90-110	
Cadmium	100	96.139	96	90-110	
Calcium	10000	9683.957	97	90-110	
Chromium	100	95.341	95	90-110	
Cobalt	100	97.954	98	90-110	
Copper	100	96.989	97	90-110	
Iron	10000	9174.16	92	90-110	
Lead	100	93.354	93	90-110	
Magnesium	10000	9441.194	94	90-110	
Manganese	100	96.652	97	90-110	
Nickel	100	98.644	99	90-110	
Potassium	10000	9759.575	98	90-110	
Selenium	100	102.499	102	90-110	
Silver	100	93.397	93	90-110	
Sodium	10000	10000.177	100	90-110	
Thallium	100	101.421	101	90-110	
Vanadium	100	98.97	99	90-110	
Zinc	100	97.326	97	90-110	

CCV27 Date: 02-Jan-2018 23:18 Seq: 4377480 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	107.305	107	90-110	
Antimony	100	108.469	108	90-110	
Arsenic	100	103.669	104	90-110	
Barium	100	98.343	98	90-110	
Beryllium	100	101.16	101	90-110	
Cadmium	100	96.675	97	90-110	
Calcium	10000	9516.001	95	90-110	
Chromium	100	99.109	99	90-110	
Cobalt	100	100.263	100	90-110	
Copper	100	96.041	96	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV27 Date: 02-Jan-2018 23:18 Seq: 4377480 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Iron	10000	9505.305	95	90-110	
Lead	100	97.676	98	90-110	
Magnesium	10000	9687.89	97	90-110	
Manganese	100	101.199	101	90-110	
Nickel	100	99.629	100	90-110	
Potassium	10000	9698.411	97	90-110	
Selenium	100	101.69	102	90-110	
Silver	100	93.411	93	90-110	
Sodium	10000	10005.591	100	90-110	
Thallium	100	101.529	102	90-110	
Vanadium	100	100.161	100	90-110	
Zinc	100	96.521	97	90-110	

CCV28 Date: 02-Jan-2018 23:42 Seq: 4377492 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	103.735	104	90-110	
Antimony	100	108.671	109	90-110	
Arsenic	100	105.617	106	90-110	
Barium	100	93.449	93	90-110	
Beryllium	100	94.335	94	90-110	
Cadmium	100	95.381	95	90-110	
Calcium	10000	9822.869	98	90-110	
Chromium	100	96.913	97	90-110	
Cobalt	100	100.732	101	90-110	
Copper	100	100.293	100	90-110	
Iron	10000	9454.757	95	90-110	
Lead	100	94.331	94	90-110	
Magnesium	10000	9765.477	98	90-110	
Manganese	100	99.826	100	90-110	
Nickel	100	101.169	101	90-110	
Potassium	10000	9855.598	99	90-110	
Selenium	100	96.614	97	90-110	
Silver	100	91.938	92	90-110	
Sodium	10000	10158.551	102	90-110	
Thallium	100	101.468	101	90-110	
Vanadium	100	101.166	101	90-110	
Zinc	100	99.51	100	90-110	

CCV29 Date: 03-Jan-2018 00:06 Seq: 4377504 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	102.616	103	90-110	
Antimony	100	107.832	108	90-110	
Arsenic	100	104.643	105	90-110	
Barium	100	101.118	101	90-110	
Beryllium	100	98.315	98	90-110	
Cadmium	100	100.468	100	90-110	
Calcium	10000	9622.545	96	90-110	
Chromium	100	94.284	94	90-110	
Cobalt	100	99.672	100	90-110	
Copper	100	97.451	98	90-110	
Iron	10000	9306.468	93	90-110	
Lead	100	94.837	95	90-110	
Magnesium	10000	9586.922	96	90-110	
Manganese	100	98.034	98	90-110	
Nickel	100	99.224	99	90-110	
Potassium	10000	9375.956	94	90-110	
Selenium	100	97.13	97	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV29 Date: 03-Jan-2018 00:06 Seq: 4377504 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Silver	100	94.153	94	90-110	
Sodium	10000	9983.321	100	90-110	
Thallium	100	104.168	104	90-110	
Vanadium	100	99.61	100	90-110	
Zinc	100	98.055	98	90-110	

CCV30 Date: 03-Jan-2018 00:30 Seq: 4377516 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	98.919	99	90-110	
Antimony	100	101.454	101	90-110	
Arsenic	100	100.698	101	90-110	
Barium	100	97.421	97	90-110	
Beryllium	100	108.556	109	90-110	
Cadmium	100	97.535	98	90-110	
Calcium	10000	11589.097	116	90-110	S
Chromium	100	94.175	94	90-110	
Cobalt	100	95.899	96	90-110	
Copper	100	95.296	95	90-110	
Iron	10000	9216.962	92	90-110	
Lead	100	92.469	93	90-110	
Magnesium	10000	9338.454	93	90-110	
Manganese	100	97.963	98	90-110	
Nickel	100	95.552	96	90-110	
Potassium	10000	9974.701	100	90-110	
Selenium	100	104.48	104	90-110	
Silver	100	92.608	93	90-110	
Sodium	10000	15176.159	152	90-110	S
Thallium	100	103.577	104	90-110	
Vanadium	100	98.833	99	90-110	
Zinc	100	94.792	95	90-110	

CCV31 Date: 03-Jan-2018 00:54 Seq: 4377528 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	98.137	98	90-110	
Antimony	100	102.137	102	90-110	
Arsenic	100	104.125	104	90-110	
Barium	100	95.269	95	90-110	
Beryllium	100	102.87	103	90-110	
Cadmium	100	96.201	96	90-110	
Calcium	10000	9450.325	95	90-110	
Chromium	100	95.092	95	90-110	
Cobalt	100	96.872	97	90-110	
Copper	100	95.595	96	90-110	
Iron	10000	9074.652	91	90-110	
Lead	100	95.557	96	90-110	
Magnesium	10000	9055.095	91	90-110	
Manganese	100	94.404	94	90-110	
Nickel	100	96.753	97	90-110	
Potassium	10000	9208.239	92	90-110	
Selenium	100	97.648	98	90-110	
Silver	100	90.622	91	90-110	
Sodium	10000	11767.635	118	90-110	S
Thallium	100	98.484	99	90-110	
Vanadium	100	98.387	98	90-110	
Zinc	100	98.324	98	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 2 - Initial and Continuing Calibration Verification

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCV32 Date: 03-Jan-2018 01:18 Seq: 4377540 CCV Units: ug/L

Analyte	True	Found	%R	Control Limits	Flag
Aluminum	100	100.624	101	90-110	
Antimony	100	102.847	103	90-110	
Arsenic	100	101.94	102	90-110	
Barium	100	94.594	95	90-110	
Beryllium	100	102.321	102	90-110	
Cadmium	100	96.174	96	90-110	
Calcium	10000	10007.931	100	90-110	
Chromium	100	96.086	96	90-110	
Cobalt	100	98.317	98	90-110	
Copper	100	96.536	97	90-110	
Iron	10000	9110.399	91	90-110	
Lead	100	92.089	92	90-110	
Magnesium	10000	9269.349	93	90-110	
Manganese	100	96.192	96	90-110	
Nickel	100	97.562	98	90-110	
Potassium	10000	9930.741	99	90-110	
Selenium	100	104.064	104	90-110	
Silver	100	95.013	95	90-110	
Sodium	10000	11194.766	112	90-110	S
Thallium	100	99.607	100	90-110	
Vanadium	100	99.297	99	90-110	
Zinc	100	97.412	97	90-110	

ALS Group USA, Corp Date: 12-Jan-18

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

ICB Date: 02-Jan-2018 11:14 Seq: 4376452 ICB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	-80.81	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	-74.45	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB1 Date: 02-Jan-2018 11:41 Seq: 4376320 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	1.08	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	14.42	10	200	J
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	91.07	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB2 Date: 02-Jan-2018 12:05 Seq: 4376332 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	1.168	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB2 Date: 02-Jan-2018 12:05 Seq: 4376332 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	10.14	10	200	J
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	43.51	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	178.2	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB3 Date: 02-Jan-2018 12:31 Seq: 4376345 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	1.238	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	-0.652	0.6	2	J
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	30.95	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB4 Date: 02-Jan-2018 12:56 Seq: 4376357 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	1.027	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB4	Date: 02-Jan-2018 12:56		Seq: 4376357	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	32.23	14	200	J	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB5	Date: 02-Jan-2018 13:20		Seq: 4376369	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	1.161	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	-0.673	0.6	2	J	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	200	14	200	U	
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

MBLK-123692	Date: 02-Jan-2018 13:28		Seq: 4376566	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	10.44	10	200	J	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	200	14	200	U	
Thallium	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

MBLK-123692	Date: 02-Jan-2018 13:28	Seq: 4376566	MBLK	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB6	Date: 02-Jan-2018 13:44	Seq: 4376574	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	1.067	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	-0.69	0.6	2	J
Potassium	-30.66	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	-66.88	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB7	Date: 02-Jan-2018 14:08	Seq: 4376586	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	1.048	0.4	2	J
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	200	12	200	U
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	-53.12	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	-39.85	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB8	Date: 02-Jan-2018 14:32	Seq: 4376598	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB8	Date: 02-Jan-2018 14:32		Seq: 4376598	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Antimony	1.204	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	21.46	10	200	J	
Manganese	5	0.7	5	U	
Nickel	-0.704	0.6	2	J	
Potassium	200	18	200	U	
Selenium	1.245	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	618.7	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

ICCB9	Date: 02-Jan-2018 15:06		Seq: 4376610	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	-49.79	34	500	J	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	200	12	200	U	
Lead	2	0.6	2	U	
Magnesium	-10.32	10	200	J	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	-45.02	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-213.4	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB10	Date: 02-Jan-2018 15:33		Seq: 4376869	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	1.453	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB10	Date: 02-Jan-2018 15:33		Seq: 4376869	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	22.82	12	200	J	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	-31.3	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-277.1	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB11	Date: 02-Jan-2018 15:59		Seq: 4377013	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	24.79	12	200	J	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	-26.59	18	200	J	
Selenium	-1.145	1.1	2	J	
Silver	2	0.2	2	U	
Sodium	-257.6	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB12	Date: 02-Jan-2018 16:37		Seq: 4377025	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	23.94	12	200	J	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB12	Date: 02-Jan-2018 16:37		Seq: 4377025	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-300.1	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB13	Date: 02-Jan-2018 17:01		Seq: 4377200	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	44.75	34	500	J	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	22.08	12	200	J	
Lead	2	0.6	2	U	
Magnesium	12.67	10	200	J	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	1256	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB14	Date: 02-Jan-2018 17:25		Seq: 4377212	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	21.08	12	200	J	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	374.1	14	200		

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB14	Date: 02-Jan-2018 17:25	Seq: 4377212	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB15	Date: 02-Jan-2018 17:49	Seq: 4377280	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	22.2	12	200	J
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	261.1	14	200	
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB16	Date: 02-Jan-2018 18:13	Seq: 4377292	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	22.94	12	200	J
Lead	2	0.6	2	U
Magnesium	13.93	10	200	J
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	-1.189	1.1	2	J
Silver	2	0.2	2	U
Sodium	108.7	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

MBLK-123692 Date: 02-Jan-2018 18:15 Seq: 4377325 MBLK Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	5.208	1.8	10	J
Beryllium	2	0.2	2	U

CCB17 Date: 02-Jan-2018 18:37 Seq: 4377336 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	0.404	0.4	4	J
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	24.83	12	200	J
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	-1.479	1.1	2	J
Silver	2	0.2	2	U
Sodium	-102.2	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB18 Date: 02-Jan-2018 19:01 Seq: 4377348 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	6.508	1.8	10	J
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	23.62	12	200	J
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	16.6	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB19 Date: 02-Jan-2018 19:26 Seq: 4377360 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Aluminum	10	1.8	10	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB19	Date: 02-Jan-2018 19:26	Seq: 4377360	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	23.85	12	200	J
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	69.34	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB20	Date: 02-Jan-2018 19:50	Seq: 4377372	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	71.07	34	500	J
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	22.75	12	200	J
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	391	14	200	
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB21	Date: 02-Jan-2018 20:12	Seq: 4377383	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	0.212	0.2	2	J
Cadmium	2	0.2	2	U
Calcium	500	34	500	U

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB21	Date: 02-Jan-2018 20:12	Seq: 4377383	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	25.26	12	200	J
Lead	2	0.6	2	U
Magnesium	11.74	10	200	J
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	978.8	14	200	
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB22	Date: 02-Jan-2018 21:12	Seq: 4377421	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	-39.43	34	500	J
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	23.1	12	200	J
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	-67.93	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB23	Date: 02-Jan-2018 21:43	Seq: 4377433	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	46.01	34	500	J
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	23.78	12	200	J
Lead	2	0.6	2	U
Magnesium	19.19	10	200	J

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB23	Date: 02-Jan-2018 21:43		Seq: 4377433	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	21.55	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	619.7	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB24	Date: 02-Jan-2018 22:03		Seq: 4377443	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	0.402	0.4	2	J	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	45.25	34	500	J	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	25.02	12	200	J	
Lead	2	0.6	2	U	
Magnesium	25.83	10	200	J	
Manganese	0.927	0.7	5	J	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	474.7	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB25	Date: 02-Jan-2018 22:27		Seq: 4377455	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	24	12	200	J	
Lead	2	0.6	2	U	
Magnesium	200	10	200	U	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	183.7	14	200	J	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB25	Date: 02-Jan-2018 22:27	Seq: 4377455	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB26	Date: 02-Jan-2018 22:51	Seq: 4377467	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	10	1.8	10	U
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	22	12	200	J
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	97.35	14	200	J
Thallium	2	0.2	2	U
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

CCB27	Date: 02-Jan-2018 23:20	Seq: 4377481	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**
Aluminum	2.038	1.8	10	J
Antimony	2	0.4	2	U
Arsenic	2	0.4	2	U
Barium	4	1.9	4	U
Beryllium	2	0.2	2	U
Cadmium	2	0.2	2	U
Calcium	500	34	500	U
Chromium	4	0.4	4	U
Cobalt	5	0.2	5	U
Copper	2	1	2	U
Iron	26.51	12	200	J
Lead	2	0.6	2	U
Magnesium	200	10	200	U
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	22.03	18	200	J
Selenium	2	1.1	2	U
Silver	2	0.2	2	U
Sodium	-33.34	14	200	J
Thallium	0.213	0.2	2	J
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

ALS Group USA, Corp Date: 12-Jan-18

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB28	Date: 02-Jan-2018 23:44		Seq: 4377493	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	25.64	12	200	J	
Lead	2	0.6	2	U	
Magnesium	13.64	10	200	J	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-93.31	14	200	J	
Thallium	0.207	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB29	Date: 03-Jan-2018 00:08		Seq: 4377505	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	24.3	12	200	J	
Lead	2	0.6	2	U	
Magnesium	17.66	10	200	J	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	200	18	200	U	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	-204.9	14	200		
Thallium	0.223	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB30	Date: 03-Jan-2018 00:32		Seq: 4377517	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	0.209	0.2	2	J	
Cadmium	2	0.2	2	U	

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB30	Date: 03-Jan-2018 00:32		Seq: 4377517	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Calcium	146.6	34	500	J	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	24.66	12	200	J	
Lead	2	0.6	2	U	
Magnesium	26.8	10	200	J	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	76.47	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	3100	14	200		
Thallium	0.214	0.2	2	J	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB31	Date: 03-Jan-2018 00:56		Seq: 4377529	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	2	0.4	2	U	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	2	0.2	2	U	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	27.82	12	200	J	
Lead	2	0.6	2	U	
Magnesium	29.82	10	200	J	
Manganese	5	0.7	5	U	
Nickel	2	0.6	2	U	
Potassium	35.34	18	200	J	
Selenium	2	1.1	2	U	
Silver	2	0.2	2	U	
Sodium	1714	14	200		
Thallium	2	0.2	2	U	
Vanadium	5	0.6	5	U	
Zinc	4	2	4	U	

CCB32	Date: 03-Jan-2018 01:20		Seq: 4377541	CCB	Units: ug/L
Analyte	**Result**	**MDL**	**Report Limit**	**Qual**	
Aluminum	10	1.8	10	U	
Antimony	0.411	0.4	2	J	
Arsenic	2	0.4	2	U	
Barium	4	1.9	4	U	
Beryllium	0.2	0.2	2	J	
Cadmium	2	0.2	2	U	
Calcium	500	34	500	U	
Chromium	4	0.4	4	U	
Cobalt	5	0.2	5	U	
Copper	2	1	2	U	
Iron	24.36	12	200	J	
Lead	2	0.6	2	U	

ALS Group USA, Corp Date: 12-Jan-18

Form 3 - BLANKS

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID: ICPMS05_308260
Instrument: ICPMS05
Method: SW6020

CCB32 Date: 03-Jan-2018 01:20 Seq: 4377541 CCB Units: ug/L

Analyte	Result	MDL	Report Limit	Qual
Magnesium	11.94	10	200	J
Manganese	5	0.7	5	U
Nickel	2	0.6	2	U
Potassium	200	18	200	U
Selenium	-1.115	1.1	2	J
Silver	2	0.2	2	U
Sodium	950.4	14	200	
Thallium	0.231	0.2	2	J
Vanadium	5	0.6	5	U
Zinc	4	2	4	U

ALS Group USA, Corp Date: 12-Jan-18

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc. Run ID:ICPMS05_308260
Project: LHAAP 18/24 Instrument:ICPMS05
WorkOrder: HS17121113 Method:SW6020

ICSA	Date: 02-Jan-2018 11:21	Seq: 4376454	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	67640	67.6	
Antimony		1.53	0	
Arsenic		0.14	0	
Barium		0.146	0	
Beryllium		0.098	0	
Cadmium		0.973	0	
Calcium	100000	93240	93.2	
Chromium		0.402	0	
Cobalt		0.051	0	
Copper		0.5	0	
Iron	100000	99030	99.0	
Lead		0.214	0	
Magnesium	100000	96330	96.3	
Manganese		0.261	0	
Nickel		-0.331	0	
Potassium	100000	100600	101	
Selenium		1.093	0	
Silver		0.102	0	
Sodium	100000	99430	99.4	
Thallium		0.241	0	
Vanadium		-0.174	0	
Zinc		0.732	0	

ICSAB	Date: 02-Jan-2018 11:23	Seq: 4376455	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	71570	71.2	
Antimony	100	97.91	97.9	
Arsenic	100	93.43	93.4	
Barium	100	98.08	98.1	
Beryllium	100	93.39	93.4	
Cadmium	100	97.96	98.0	
Calcium	110000	110400	100	
Chromium	100	93.8	93.8	
Cobalt	100	96.09	96.1	
Copper	100	92.44	92.4	
Iron	110000	109300	99.4	
Lead	100	95.5	95.5	
Magnesium	110000	107800	98.0	
Manganese	100	94.26	94.3	
Nickel	100	95.3	95.3	
Potassium	110000	116100	106	
Selenium	100	97.19	97.2	
Silver	100	93.24	93.2	
Sodium	110000	111700	102	
Thallium	100	99.56	99.6	
Vanadium	100	95.02	95.0	
Zinc	100	91.48	91.5	

ICSA	Date: 02-Jan-2018 15:14	Seq: 4376879	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	98660	98.7	
Antimony		0.386	0	
Arsenic		0.063	0	
Barium		0.006	0	
Beryllium		0.014	0	
Cadmium		0.989	0	
cium	100000	97440	97.4	

ALS Group USA, Corp

Date: 12-Jan-18

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID:ICPMS05_308260
Instrument:ICPMS05
Method:SW6020

ICSA	Date: 02-Jan-2018 15:14	Seq: 4376879	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Chromium		0.219	0	
Cobalt		0.01	0	
Copper		0.222	0	
Iron	100000	90900	90.9	
Lead		0.091	0	
Magnesium	100000	92800	92.8	
Manganese		0.341	0	
Nickel		-0.071	0	
Potassium	100000	94710	94.7	
Selenium		-0.159	0	
Silver		0.019	0	
Sodium	100000	97330	97.3	
Thallium		0.013	0	
Vanadium		-0.118	0	
Zinc		0.256	0	

ICSAB	Date: 02-Jan-2018 15:16	Seq: 4376880	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	102700	102	
Antimony	100	97.89	97.9	
Arsenic	100	99.29	99.3	
Barium	100	101.7	102	
Beryllium	100	99.09	99.1	
Cadmium	100	101.1	101	
Calcium	110000	109900	99.9	
Chromium	100	97.19	97.2	
Cobalt	100	96.84	96.8	
Copper	100	96.2	96.2	
Iron	110000	103400	94.0	
Lead	100	97.04	97.0	
Magnesium	110000	102300	93.0	
Manganese	100	98.99	99.0	
Nickel	100	95.19	95.2	
Potassium	110000	111500	101	
Selenium	100	96.56	96.6	
Silver	100	97.8	97.8	
Sodium	110000	108400	98.6	
Thallium	100	103.1	103	
Vanadium	100	97.65	97.7	
Zinc	100	97.07	97.1	

ICSA	Date: 02-Jan-2018 23:08	Seq: 4377475	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100000	94610	94.6	
Antimony		0.062	0	
Arsenic		0.195	0	
Barium		0.088	0	
Beryllium		0.009	0	
Cadmium		0.973	0	
Calcium	100000	95870	95.9	
Chromium		0.232	0	
Cobalt		0.005	0	
Copper		0.261	0	
Iron	100000	89410	89.4	
Lead		0.059	0	
Magnesium	100000	90610	90.6	
nganese		0.363	0	

ALS Group USA, Corp

Date: 12-Jan-18

Form 4 - ICP Interference Check Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Run ID:ICPMS05_308260
Instrument:ICPMS05
Method:SW6020

ICSA	Date: 02-Jan-2018 23:08	Seq: 4377475	ICSA	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Nickel		-0.155	0	
Potassium	100000	97730	97.7	
Selenium		-0.38	0	
Silver		0.008	0	
Sodium	100000	94950	95.0	
Thallium		0.01	0	
Vanadium		-0.008	0	
Zinc		0.5	0	

ICSAB	Date: 02-Jan-2018 23:10	Seq: 4377476	ICSAB	Units: ug/L
Analyte	**True**	**Found**	**%R**	
Aluminum	100500	98020	97.5	
Antimony	100	102.3	102	
Arsenic	100	97.73	97.7	
Barium	100	98.78	98.8	
Beryllium	100	94.46	94.5	
Cadmium	100	96.24	96.2	
Calcium	110000	107400	97.6	
Chromium	100	94.3	94.3	
Cobalt	100	95.88	95.9	
Copper	100	95.04	95.0	
Iron	110000	99390	90.4	
Lead	100	91.36	91.4	
Magnesium	110000	100500	91.4	
Manganese	100	93.73	93.7	
Nickel	100	96.19	96.2	
Potassium	110000	109300	99.4	
Selenium	100	100.5	101	
Silver	100	91.8	91.8	
Sodium	110000	104100	94.6	
Thallium	100	96.83	96.8	
Vanadium	100	97.55	97.5	
Zinc	100	96	96.0	

ALS Group USA, Corp Date: 12-Jan-18

Form 5A - Matrix Spike/Matrix Spike Duplicate Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Date Analyzed: 02-Jan-2018 13:54
Date Extracted: 21-Dec-2017 12:50
Units: ug/L

Matrix Spike: HS17121008-07MS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	MS Result	Spike Amount	% Rec	MSD Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Antimony	2.000	54.59	50.00	109	52.67	50.00	105	80-120	3.58	20
Arsenic	2.000	49.48	50.00	98.6	48.18	50.00	96.0	80-120	2.66	20
Barium	41.43	85.31	50.00	87.8	88.92	50.00	95.0	80-120	4.15	20
Cadmium	2.000	47.62	50.00	95.2	48.70	50.00	97.3	80-120	2.25	20
Calcium	56300	64060	5000	155	60080	5000	75.7	80-120	6.40	20
Chromium	1.470	48.86	50.00	94.8	49.58	50.00	96.2	80-120	1.48	20
Cobalt	1.651	49.74	50.00	96.2	49.25	50.00	95.2	80-120	1.00	20
Copper	2.033	47.97	50.00	91.9	48.64	50.00	93.2	80-120	1.40	20
Iron	165.3	4874	5000	94.2	4761	5000	91.9	80-120	2.34	20
Lead	2.000	52.94	50.00	105	53.65	50.00	107	80-120	1.32	20
Magnesium	29550	34220	5000	93.4	34060	5000	90.2	80-120	0.474	20
Manganese	104.2	146.2	50.00	84.0	143.4	50.00	78.2	80-120	1.98	20
Nickel	7.438	55.27	50.00	95.7	53.90	50.00	92.9	80-120	2.51	20
Potassium	1047	6111	5000	101	5691	5000	92.9	80-120	7.13	20
Selenium	2.000	48.83	50.00	98.4	44.70	50.00	90.2	80-120	8.82	20
Silver	2.000	48.16	50.00	96.3	47.18	50.00	94.3	80-120	2.06	20
Sodium	11280	16350	5000	101	16070	5000	95.9	80-120	1.71	20
Thallium	2.000	46.42	50.00	92.8	47.18	50.00	94.3	80-120	1.62	20
Vanadium	8.108	56.35	50.00	96.5	54.99	50.00	93.8	80-120	2.45	20
Zinc	13.17	58.76	50.00	91.2	58.69	50.00	91.0	80-120	0.124	20
Aluminum	44.09	140.4	100.0	96.4	133.0	100.0	89.0	80-120	5.41	20
Beryllium	2.000	50.33	50.00	101	48.22	50.00	96.4	80-120	4.29	20

ALS Group USA, Corp Date: 12-Jan-18

Form 5B - Post Digest Sample Recovery

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Date Analyzed: 02-Jan-2018 13:56
Date Extracted: 21-Dec-2017 12:50
Units: ug/L

Lab Sample ID: HS17121008-07PDS
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	PDS Result	Spike Amount	% Rec	% Rec Limits
Antimony	0	98.22	100	98	75-125
Arsenic	0	97.06	100	97	75-125
Barium	41.43	142.5	100	101	75-125
Cadmium	0	102.4	100	102	75-125
Calcium	56300	64040	10000	77	75-125
Chromium	1.47	97.22	100	96	75-125
Cobalt	1.651	95.7	100	94	75-125
Copper	2.033	93.96	100	92	75-125
Iron	165.3	9329	10000	92	75-125
Lead	0	106.7	100	107	75-125
Manganese	104.2	185.1	100	81	75-125
Nickel	7.438	100.8	100	93	75-125
Potassium	1047	10870	10000	98	75-125
Selenium	0	97.42	100	98	75-125
Silver	0	96.62	100	97	75-125
Sodium	11280	19960	10000	87	75-125
Thallium	0	103.7	100	104	75-125
Vanadium	8.108	101.4	100	93	75-125
Zinc	13.17	108.8	100	96	75-125
Aluminum	44.09	125.7	100	82	75-125
Beryllium	0	85.32	100	85	75-125
Magnesium	32110	40930	10000	88	75-125

ALS Group USA, Corp Date: 12-Jan-18

Form 7 - Laboratory Control Sample

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Date Analyzed: 02-Jan-2018 13:30
Date Extracted: 21-Dec-2017 12:50
Units: ug/L

Lab Sample ID: LCS-123692 Analysis Method: SW6020

Analyte	Spike Amount	LCS Result	% Rec	% Rec Limits
Antimony	50	51.08	102	80-120
Arsenic	50	46.11	92	80-120
Barium	50	48.22	96	80-120
Cadmium	50	48.79	98	80-120
Calcium	5000	4427	89	80-120
Chromium	50	46.52	93	80-120
Cobalt	50	47.06	94	80-120
Copper	50	45.19	90	80-120
Iron	5000	4636	93	80-120
Lead	50	52.91	106	80-120
Magnesium	5000	4626	93	80-120
Manganese	50	44.83	90	80-120
Nickel	50	47.07	94	80-120
Potassium	5000	4654	93	80-120
Selenium	50	45.31	91	80-120
Silver	50	47.09	94	80-120
Sodium	5000	4753	95	80-120
Thallium	50	44.96	90	80-120
Vanadium	50	45.28	91	80-120
Zinc	50	45.94	92	80-120
Aluminum	100	110.6	111	80-120
Beryllium	50	47.54	95	80-120

ALS Group USA, Corp

Date: 12-Jan-18

Form 8 - ICP Serial Dilutions

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113

Date Analyzed: 02-Jan-2018 13:50
Date Extracted: 21-Dec-2017 12:50
Units: ug/L

Lab Sample ID: HS17121008-07SD
Client Sample ID:

Analysis Method: SW6020

Analyte	Sample Result	C	SD Result	C	RPD	Q
Antimony	0	U	0	U	0	
Arsenic	0	U	0	U	0	
Barium	41.43		39.92		4	
Cadmium	0	U	0	U	0	
Calcium	56300		58890		5	
Chromium	1.47	J	0	U	0	
Cobalt	1.651	J	1.645	J	0	
Copper	2.033		0	U	0	
Iron	165.3	J	186.8	J	13	
Lead	0	U	0	U	0	
Magnesium	29550		30870		4	
Manganese	104.2		114.6		10	
Nickel	7.438		5.74	J	23	
Selenium	0	U	0	U	0	
Silver	0	U	0	U	0	
Sodium	11280		11530		2	
Thallium	0	U	0	U	0	
Vanadium	8.108		8.047	J	1	
Zinc	13.17		14.43	J	10	
Aluminum	44.09		48.23	J	9	
Beryllium	0	U	0	U	0	
Potassium	1139		1204		6	

ALS Group USA, Corp Date: 12-Jan-18

Form 11 - INTERNAL STANDARD ASSOCIATION

Client: Bhate Environmental Associates, Inc. Instrument:ICPMS05
Project: LHAAP 18/24
WorkOrder: HS17121113

Mass	Analyte	Assoc Int Standard 1	Assoc Int Standard 2	Mode
9	Beryllium	Lithium		Ar
11	Boron	Lithium		Ar
23	Sodium	Germanium		Ar
24	Magnesium	Germanium		Ar
27	Aluminum	Germanium		Ar
39	Potassium	Germanium		Ar
44	Calcium	Germanium		Ar
47	Titanium	Germanium		Ar
51	Vanadium	Germanium		ArHe
52	Chromium	Germanium		ArHe
55	Manganese	Germanium		ArHe
56	Iron	Germanium		ArHe
59	Cobalt	Germanium		ArHe
60	Nickel	Germanium		ArHe
63	Copper	Germanium		ArHe
66	Zinc	Germanium		ArHe
75	Arsenic	Germanium		ArHe
78	Selenium	Germanium		ArHe
88	Strontium	Germanium		Ar
95	Molybdenum	Germanium		Ar
105	Palladium	Germanium		Ar
107	Silver	Germanium		Ar
114	Cadmium	Indium		Ar
118	Tin	Germanium		Ar
121	Antimony	Germanium		ArHe
137	Barium	Indium		Ar
205	Thallium	Bismuth		Ar
208	Lead	Bismuth		Ar

ALS Group USA, Corp Date: 12-Jan-18

FORM 12 - PREPARATION LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113
Start Date: 21-Dec-2017 11:00 End Date: 21-Dec-2017 15:00

Batch ID: 123692
Prep Code: 3010A
Method: SW3010A
Technician:

SampID	ClientID	Matrix	Init Wt	Init Vol	FinalVol (mL)	PrepFac
HS17121008-07MS				10	10	1
HS17121008-07MSD				10	10	1
HS17121008-07PDS				10	10	1
HS17121008-07SD				10	10	1
HS17121113-01	MW14_121817	Water		10	10	1
HS17121113-02	MW14_121817_a	Water		10	10	1
HS17121113-03	MW21_121817	Water		10	10	1
HS17121113-04	MW22_121817	Water		10	10	1
HS17121113-08	AWD3_121817	Water		10	10	1
LCS-123692				10	10	1
MBLK-123692				10	10	1

ALS Group USA, Corp Date: 12-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113
Start Date: 02-Jan-2018 End Date: 03-Jan-2018

Run ID:ICPMS05_308260
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
ICPMS05_308260_Tune	1	02-Jan-2018 00:00	ICPMS05_308260_Tune_1	
CAL BLK	1	02-Jan-2018 10:53	004CALB.d_4376442	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	02-Jan-2018 10:55	005CALS.d_4376443	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	02-Jan-2018 10:57	006CALS.d_4376444	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	02-Jan-2018 10:59	007CALS.d_4376445	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	02-Jan-2018 11:01	008CALS.d_4376446	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	02-Jan-2018 11:03	009CALS.d_4376447	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLICV2	1	02-Jan-2018 11:10	012SMPL.d_4376450	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLICV5	1	02-Jan-2018 11:12	013LICV.d_4376451	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICB	1	02-Jan-2018 11:14	014_ICB.d_4376452	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICV	1	02-Jan-2018 11:19	015_ICV.d_4376453	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	02-Jan-2018 11:21	016ICSA.d_4376454	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	02-Jan-2018 11:23	017ICSB.d_4376455	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 1	1	02-Jan-2018 11:39	023_CCV.d_4376319	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 1	1	02-Jan-2018 11:41	024_CCB.d_4376320	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 2	1	02-Jan-2018 12:05	036_CCB.d_4376332	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 2	1	02-Jan-2018 12:07	037_CCV.d_4376333	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 3	1	02-Jan-2018 12:29	048_CCV.d_4376344	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 3	1	02-Jan-2018 12:31	049_CCB.d_4376345	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 4	1	02-Jan-2018 12:54	060_CCV.d_4376356	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 4	1	02-Jan-2018 12:56	061_CCB.d_4376357	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 5	1	02-Jan-2018 13:18	072_CCV.d_4376368	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 5	1	02-Jan-2018 13:20	073_CCB.d_4376369	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MBLK-123692	1	02-Jan-2018 13:28	077SMPL.d_4376566	AG AS BA CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LCS-123692	1	02-Jan-2018 13:30	078SMPL.d_4376567	AG AS BA CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 6	1	02-Jan-2018 13:42	084_CCV.d_4376573	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 6	1	02-Jan-2018 13:44	085_CCB.d_4376574	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZSD	5	02-Jan-2018 13:50	088SMPL.d_4376577	AG AS BA CA CD CO CR CU FE MG MN NA NI PB SB SE TL V ZN
ZZZZZZMS	1	02-Jan-2018 13:52	089SMPL.d_4376578	AG AS BA CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZMSD	1	02-Jan-2018 13:54	090SMPL.d_4376579	AG AS BA CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZPDS	1	02-Jan-2018 13:56	091SMPL.d_4376580	AG AS BA CA CD CO CR CU FE K MN NA NI PB SB SE TL V ZN
MW14_121817	1	02-Jan-2018 14:04	095SMPL.d_4376584	AG AS BA CA CD CO CR CU FE K MG NI PB SB SE TL V ZN
CCV 7	1	02-Jan-2018 14:06	096_CCV.d_4376585	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 7	1	02-Jan-2018 14:08	097_CCB.d_4376586	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN

ALS Group USA, Corp Date: 12-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113
Start Date: 02-Jan-2018 End Date: 03-Jan-2018

Run ID:ICPMS05_308260
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
MW14_121817_a	1	02-Jan-2018 14:10	098SMPL.d_4376587	AG AS BA CA CD CO CR K MG PB SB SE TL V ZN
MW21_121817	1	02-Jan-2018 14:12	099SMPL.d_4376588	AG AS CD CO CR K MG PB SB SE TL V ZN
MW22_121817	1	02-Jan-2018 14:14	100SMPL.d_4376589	AG AS BA CA CD CO CR K MG PB SB SE TL V ZN
AWD3_121817	1	02-Jan-2018 14:16	101SMPL.d_4376590	AG AS BA CA CD CO CR K MG NA PB SB SE TL V ZN
CCV 8	1	02-Jan-2018 14:30	108_CCV.d_4376597	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 8	1	02-Jan-2018 14:32	109_CCB.d_4376598	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CAL BLK	1	02-Jan-2018 14:47	114CALB.d_4376601	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
2/10/200	1	02-Jan-2018 14:49	115CALS.d_4376602	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
5/25/500	1	02-Jan-2018 14:51	116CALS.d_4376603	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
10/50/1000	1	02-Jan-2018 14:53	117CALS.d_4376604	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
100/500/10K	1	02-Jan-2018 14:55	118CALS.d_4376605	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
200/1000/20K	1	02-Jan-2018 14:57	119CALS.d_4376606	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICCV 9	1	02-Jan-2018 15:00	120_ICV.d_4376607	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV2	1	02-Jan-2018 15:02	121SMPL.d_4376608	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
LLCCV5	1	02-Jan-2018 15:04	122LICV.d_4376609	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICCB 9	1	02-Jan-2018 15:06	123_ICB.d_4376610	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	02-Jan-2018 15:14	124ICSA.d_4376879	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	02-Jan-2018 15:16	125ICSB.d_4376880	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 10	1	02-Jan-2018 15:33	133_CCB.d_4376869	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 10	1	02-Jan-2018 15:35	134_CCV.d_4376870	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 11	1	02-Jan-2018 15:58	145_CCV.d_4377012	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 11	1	02-Jan-2018 15:59	146_CCB.d_4377013	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 12	1	02-Jan-2018 16:35	159_CCV.d_4377024	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 12	1	02-Jan-2018 16:37	160_CCB.d_4377025	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 13	1	02-Jan-2018 16:59	171_CCV.d_4377199	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 13	1	02-Jan-2018 17:01	172_CCB.d_4377200	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 14	1	02-Jan-2018 17:23	183_CCV.d_4377211	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 14	1	02-Jan-2018 17:25	184_CCB.d_4377212	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 15	1	02-Jan-2018 17:47	195_CCV.d_4377279	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 15	1	02-Jan-2018 17:49	196_CCB.d_4377280	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 16	1	02-Jan-2018 18:11	207_CCV.d_4377291	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 16	1	02-Jan-2018 18:13	208_CCB.d_4377292	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
MBLK-123692	1	02-Jan-2018 18:15	209SMPL.d_4377325	AL BE
LCS-123692	1	02-Jan-2018 18:17	210SMPL.d_4377326	AL BE
MW14_121817	5	02-Jan-2018 18:19	211SMPL.d_4377327	MN NA
MW14_121817_a	5	02-Jan-2018 18:21	212SMPL.d_4377328	MN NA
1_121817	10	02-Jan-2018 18:23	213SMPL.d_4377329	BA CA MN NA NI

ALS Group USA, Corp Date: 12-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113
Start Date: 02-Jan-2018 End Date: 03-Jan-2018

Run ID:ICPMS05_308260
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
MW22_121817	5	02-Jan-2018 18:25	214SMPL.d_4377330	NA
AWD3_121817	1	02-Jan-2018 18:27	215SMPL.d_4377331	AL BE CU FE MN
ZZZZZZSD	5	02-Jan-2018 18:31	217SMPL.d_4377333	AL BE K
ZZZZZZMS	1	02-Jan-2018 18:33	218SMPL.d_4377334	AL BE
CCV 17	1	02-Jan-2018 18:35	219_CCV.d_4377335	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 17	1	02-Jan-2018 18:37	220_CCB.d_4377336	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ZZZZZZMSD	1	02-Jan-2018 18:39	221SMPL.d_4377337	AL BE
ZZZZZZPDS	1	02-Jan-2018 18:41	222SMPL.d_4377338	AL BE MG
MW14_121817	1	02-Jan-2018 18:49	226SMPL.d_4377342	AL BE
MW14_121817_a	1	02-Jan-2018 18:51	227SMPL.d_4377343	AL BE CU FE NI
MW21_121817	1	02-Jan-2018 18:53	228SMPL.d_4377344	AL BE CU FE
MW22_121817	1	02-Jan-2018 18:55	229SMPL.d_4377345	AL BE CU FE MN NI
CCV 18	1	02-Jan-2018 18:59	231_CCV.d_4377347	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 18	1	02-Jan-2018 19:01	232_CCB.d_4377348	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 19	1	02-Jan-2018 19:24	243_CCV.d_4377359	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 19	1	02-Jan-2018 19:26	244_CCB.d_4377360	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 20	1	02-Jan-2018 19:48	255_CCV.d_4377371	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 20	1	02-Jan-2018 19:50	256_CCB.d_4377372	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 21	1	02-Jan-2018 20:10	266_CCV.d_4377382	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 21	1	02-Jan-2018 20:12	267_CCB.d_4377383	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 22	1	02-Jan-2018 21:10	275_CCV.d_4377420	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 22	1	02-Jan-2018 21:12	276_CCB.d_4377421	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 23	1	02-Jan-2018 21:41	287_CCV.d_4377432	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 23	1	02-Jan-2018 21:43	288_CCB.d_4377433	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 24	1	02-Jan-2018 22:01	297_CCV.d_4377442	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 24	1	02-Jan-2018 22:03	298_CCB.d_4377443	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 25	1	02-Jan-2018 22:25	309_CCV.d_4377454	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 25	1	02-Jan-2018 22:27	310_CCB.d_4377455	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 26	1	02-Jan-2018 22:49	321_CCV.d_4377466	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 26	1	02-Jan-2018 22:51	322_CCB.d_4377467	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSA	1	02-Jan-2018 23:08	330ICSA.d_4377475	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
ICSAB	1	02-Jan-2018 23:10	331ICSB.d_4377476	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 27	1	02-Jan-2018 23:18	335_CCV.d_4377480	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 27	1	02-Jan-2018 23:20	336_CCB.d_4377481	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 28	1	02-Jan-2018 23:42	347_CCV.d_4377492	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 28	1	02-Jan-2018 23:44	348_CCB.d_4377493	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 29	1	03-Jan-2018 00:06	359_CCV.d_4377504	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN

ALS Group USA, Corp Date: 12-Jan-18

FORM 13 - ANALYSIS RUN LOG

Client: Bhate Environmental Associates, Inc.
Project: LHAAP 18/24
WorkOrder: HS17121113
Start Date: 02-Jan-2018 End Date: 03-Jan-2018

Run ID:ICPMS05_308260
Instrument:ICPMS05
Method:

Sample No.	D/F	Time	FileID	Analytes
CCB 29	1	03-Jan-2018 00:08	360_CCB.d_4377505	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 30	1	03-Jan-2018 00:30	371_CCV.d_4377516	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 30	1	03-Jan-2018 00:32	372_CCB.d_4377517	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 31	1	03-Jan-2018 00:54	383_CCV.d_4377528	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 31	1	03-Jan-2018 00:56	384_CCB.d_4377529	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCV 32	1	03-Jan-2018 01:18	395_CCV.d_4377540	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN
CCB 32	1	03-Jan-2018 01:20	396_CCB.d_4377541	AG AL AS BA BE CA CD CO CR CU FE K MG MN NA NI PB SB SE TL V ZN

Tune Report

Batch Folder C:\Agilent\ICPMH\1\DATA\010218A.b
Report Comment
Instrument Name G3281A JP11080910

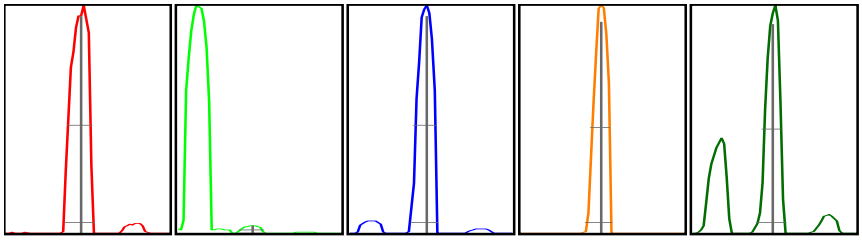
[nogas]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		7386				NaN	-	
24		24953				NaN	-	
59		32241				NaN	-	
115		36869				NaN	-	
208		22007				NaN	-	

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	0.99	5.00				
24	1.21	5.00				
59	1.95	5.00				
115	1.58	5.00				
208	1.63	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	7408	7424	7457	7267	7372
24	24989	25200	25239	24839	24497
59	31728	32233	33225	32352	31667
115	37007	36754	37682	36853	36049
208	21814	22102	22454	22159	21509

Integration Time [sec] 0.1



Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	1815.50	8.90	8.9 - 9.1		0.41	0.534	0.750	
24	6469.80	23.90	23.9 - 24.1		0.39	0.520	0.750	
59	8816.98	58.95	58.9 - 59.1		0.38	0.487	0.750	
115	10858.17	115.00	114.9 - 115.1		0.34	0.473	0.750	
208	6495.92	208.00	207.9 - 208.1		0.33	0.530	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 168.5 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	15.6 V
Extract 2	-200.0 V	Cell Entrance	-38 V	Plate Bias	-50 V
Omega Bias	-100 V	Cell Exit	-58 V		

Cell Parameters

OctP Bias	-8.0 V	He Flow	0.0 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

[He]

Mass	Range	Count (Actual)	Response (Actual) [cps/ug/l]	Response (Required) [cps/ug/l]	Response (Flag)	Resp Ratio (Actual)	Resp Ratio (Required)	Resp Ratio (Flag)
9		75				NaN	-	
24		469				NaN	-	
59		7491				NaN	-	

Tune Report

Mass	RSD% (Actual)	RSD% (Required)	RSD% (Flag)	Background (Actual)	Background (Required)	Background (Flag)
9	8.06	5.00	[F]			
24	2.67	5.00				
59	2.64	5.00				

Mass	Replicate 1 Count	Replicate 2 Count	Replicate 3 Count	Replicate 4 Count	Replicate 5 Count
9	81	77	80	67	71
24	474	454	487	464	466
59	7328	7244	7594	7717	7574

Integration Time [sec] 0.1

Mass	Peak Height	Axis (Actual)	Axis (Required)	Axis (Flag)	W-50%	W-X% (Actual)	W-X% (Required)	W-X% (Flag)
9	18.60	8.90	8.9 - 9.1		0.40	0.531	0.750	
24	126.77	23.90	23.9 - 24.1		0.38	0.502	0.750	
59	2126.03	58.95	58.9 - 59.1		0.36	0.480	0.750	

X = 5 **Integration Time [sec]** 0.1 **Acquisition Time [sec]** 100.6 **Y Axis** Linear

Tune Parameters

Plasma Paramters

RF Power	1600 W	Carrier Gas	0.35 L/min	S/C Temp	2 ℃
RF Matching	1.70 V	Option Gas	0.0 %	Makeup/Dilution Gas	0.50 L/min
Smpl Depth	8.0 mm	Nebulizer Pump	0.10 rps	Gas Switch	Dilution Gas

Lenses Parameters

Extract 1	0.0 V	Omega Lens	8.0 V	Deflect	2.0 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-60 V
Omega Bias	-100 V	Cell Exit	-70 V		

Cell Parameters

OctP Bias	-18.0 V	He Flow	5.5 mL/min	Energy Discrimination	5.0 V
OctP RF	190 V	H2 Flow	0.0 mL/min		
Use Gas	true	3rd Gas Flow	0 %		

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	004CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T10:53:30-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	10	1000.00
Na	23	1	nogas	3057313	0.00
Mg	24	1	nogas	4442	1.42
Al	27	1	nogas	35680	0.02
K	39	1	nogas	3763415	0.00
Ti	47	1	nogas	350	10.03
V	51	1	nogas	647958	0.00
Cr	52	1	nogas	22624	0.00
Mn	55	1	nogas	3374	0.25
Co	59	1	nogas	223	14.50
Ni	60	1	nogas	2410	0.12
Cu	63	1	nogas	15157	0.04
Zn	66	1	nogas	373	10.65
As	75	1	nogas	92136	0.00
Sr	88	1	nogas	370	1.46
Ag	107	1	nogas	293	2.92
Cd	111	1	nogas	3	5196.15
Sb	121	1	nogas	970	0.66
Tl	205	1	nogas	160	17.03
Pb	208	1	nogas	1133	1.09
[Pb]	206	1	nogas	287	3.72
[Pb]	207	1	nogas	243	7.03
Na	23	2	He	79319	0.00
Mg	24	2	He	230	13.23
Al	27	2	He	233	7.65
K	39	2	He	10980	0.03
Ca	43	2	He	3	5196.15
Ca	44	2	He	300	1.11
V	51	2	He	363	2.41
Cr	52	2	He	1170	0.90
Mn	55	2	He	160	6.77
Fe	56	2	He	5524	0.06
Co	59	2	He	13	649.52
Ni	60	2	He	340	0.87
Cu	63	2	He	787	1.73
Zn	66	2	He	57	89.90
As	75	2	He	10	333.00
Se	78	2	He	4	2165.06
B	11	1	nogas	5291	0.16
Si	28	1	nogas	1173962	0.00
Ca	43	1	nogas	1493	0.56
Ca	44	1	nogas	972246	0.00

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	527519	0.00
Se	77	1	nogas	30993	0.02
Se	82	1	nogas	447	1.90
Mo	95	1	nogas	163	8.66
Sn	118	1	nogas	770	1.78
Ba	137	1	nogas	103	21.63
Sb	121	2	He	137	32.27
Li	7	1	nogas	30408	0.00
P	31	1	nogas	56946	0.00
La	139	1	nogas	43	30.75

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	nogas	317178	3.79
Ge	72	1	nogas	1355583	2.19
In	115	1	nogas	1426361	1.30
Bi	209	1	nogas	1404968	1.70
Ge	72	2	He	99503	1.99

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	005CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T10:55:31-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	4637	0.17
Na	23	1	nogas	5100623	0.00
Mg	24	1	nogas	1437400	0.00
Al	27	1	nogas	55292	0.00
K	39	1	nogas	5229377	0.00
Ti	47	1	nogas	2167	0.20
V	51	1	nogas	725760	0.00
Cr	52	1	nogas	44828	0.00
Mn	55	1	nogas	31100	0.01
Co	59	1	nogas	24978	0.01
Ni	60	1	nogas	8155	0.04
Cu	63	1	nogas	29030	0.01
Zn	66	1	nogas	4484	0.12
As	75	1	nogas	106606	0.00
Sr	88	1	nogas	28203	0.01
Ag	107	1	nogas	16592	0.02
Cd	111	1	nogas	3340	0.11
Sb	121	1	nogas	14757	0.01
Tl	205	1	nogas	27113	0.00
Pb	208	1	nogas	40477	0.01
[Pb]	206	1	nogas	9696	0.01
[Pb]	207	1	nogas	8786	0.08
Na	23	2	He	117815	0.00
Mg	24	2	He	19073	0.01
Al	27	2	He	300	5.09
K	39	2	He	19701	0.02
Ca	43	2	He	30	222.22
Ca	44	2	He	847	1.59
V	51	2	He	2318	0.07
Cr	52	2	He	3855	0.20
Mn	55	2	He	1210	0.84
Fe	56	2	He	228385	0.00
Co	59	2	He	4751	0.09
Ni	60	2	He	1823	0.80
Cu	63	2	He	4827	0.06
Zn	66	2	He	723	3.15
As	75	2	He	354	2.16
Se	78	2	He	19	30.89
B	11	1	nogas	20241	0.02
Si	28	1	nogas	1539981	0.00

Calibration Standard Report

Ca	43	1	nogas	4701	0.06
Ca	44	1	nogas	1006237	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	2918965	0.00
Se	77	1	nogas	34269	0.01
Se	82	1	nogas	543	3.75
Mo	95	1	nogas	6178	0.04
Sn	118	1	nogas	10237	0.03
Ba	137	1	nogas	4371	0.11
Sb	121	2	He	1473	1.21
P	31	1	nogas	62583	0.01
La	139	1	nogas	230	1.89

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	320177	5.19	317178	100.95	70	125	
Ge	72	1	nogas	1398709	4.04	1355583	103.18	70	125	
In	115	1	nogas	1444661	0.33	1426361	101.28	70	125	
Bi	209	1	nogas	1420247	0.89	1404968	101.09	70	125	
Ge	72	2	He	100033	3.98	99503	100.53	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	006CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T10:57:33-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	12211	0.08
Na	23	1	nogas	8031914	0.00
Mg	24	1	nogas	3572668	0.00
Al	27	1	nogas	90080	0.00
K	39	1	nogas	7501750	0.00
Ti	47	1	nogas	4744	0.11
V	51	1	nogas	790222	0.00
Cr	52	1	nogas	79268	0.00
Mn	55	1	nogas	71434	0.01
Co	59	1	nogas	63702	0.00
Ni	60	1	nogas	16184	0.01
Cu	63	1	nogas	47419	0.00
Zn	66	1	nogas	11170	0.02
As	75	1	nogas	118855	0.00
Sr	88	1	nogas	68308	0.00
Ag	107	1	nogas	41339	0.01
Cd	111	1	nogas	8522	0.02
Sb	121	1	nogas	36298	0.00
Tl	205	1	nogas	70654	0.00
Pb	208	1	nogas	101361	0.00
[Pb]	206	1	nogas	25093	0.01
[Pb]	207	1	nogas	22559	0.03
Na	23	2	He	176562	0.00
Mg	24	2	He	48509	0.01
Al	27	2	He	440	2.73
K	39	2	He	33223	0.02
Ca	43	2	He	63	87.55
Ca	44	2	He	1737	0.79
V	51	2	He	5288	0.01
Cr	52	2	He	8382	0.03
Mn	55	2	He	2964	0.13
Fe	56	2	He	553837	0.00
Co	59	2	He	11317	0.02
Ni	60	2	He	3827	0.38
Cu	63	2	He	11124	0.02
Zn	66	2	He	1440	0.80
As	75	2	He	897	1.28
Se	78	2	He	35	48.94
B	11	1	nogas	44095	0.01
Si	28	1	nogas	2139018	0.00

Calibration Standard Report

Ca	43	1	nogas	9950	0.05
Ca	44	1	nogas	1079835	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	6717086	0.00
Se	77	1	nogas	36417	0.00
Se	82	1	nogas	970	0.56
Mo	95	1	nogas	15477	0.03
Sn	118	1	nogas	24110	0.01
Ba	137	1	nogas	11507	0.05
Sb	121	2	He	3654	0.15
P	31	1	nogas	71813	0.00
La	139	1	nogas	30	192.45

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	320622	2.81	317178	101.09	70	125	
Ge	72	1	nogas	1378304	3.54	1355583	101.68	70	125	
In	115	1	nogas	1496120	2.10	1426361	104.89	70	125	
Bi	209	1	nogas	1428414	3.70	1404968	101.67	70	125	
Ge	72	2	He	98481	5.43	99503	98.97	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	007CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T10:59:33-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	24353	0.01
Na	23	1	nogas	13092333	0.00
Mg	24	1	nogas	7177567	0.00
Al	27	1	nogas	149163	0.00
K	39	1	nogas	11593780	0.00
Ti	47	1	nogas	8829	0.05
V	51	1	nogas	913501	0.00
Cr	52	1	nogas	138226	0.00
Mn	55	1	nogas	143045	0.00
Co	59	1	nogas	125463	0.00
Ni	60	1	nogas	30376	0.00
Cu	63	1	nogas	81181	0.00
Zn	66	1	nogas	20966	0.01
As	75	1	nogas	138459	0.00
Sr	88	1	nogas	142195	0.00
Ag	107	1	nogas	83505	0.00
Cd	111	1	nogas	17202	0.00
Sb	121	1	nogas	67999	0.00
Tl	205	1	nogas	148962	0.00
Pb	208	1	nogas	199071	0.00
[Pb]	206	1	nogas	48623	0.01
[Pb]	207	1	nogas	43258	0.01
Na	23	2	He	275092	0.00
Mg	24	2	He	94835	0.00
Al	27	2	He	553	2.72
K	39	2	He	55637	0.01
Ca	43	2	He	180	14.14
Ca	44	2	He	3304	0.24
V	51	2	He	10328	0.03
Cr	52	2	He	15397	0.02
Mn	55	2	He	5984	0.04
Fe	56	2	He	1157799	0.00
Co	59	2	He	24537	0.01
Ni	60	2	He	7455	0.02
Cu	63	2	He	20982	0.01
Zn	66	2	He	2714	0.35
As	75	2	He	1715	0.10
Se	78	2	He	67	31.61
B	11	1	nogas	82587	0.00
Si	28	1	nogas	3090867	0.00

Calibration Standard Report

Ca	43	1	nogas	18309	0.00
Ca	44	1	nogas	1256103	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	13115930	0.00
Se	77	1	nogas	39380	0.01
Se	82	1	nogas	1567	0.71
Mo	95	1	nogas	31228	0.01
Sn	118	1	nogas	49110	0.01
Ba	137	1	nogas	21661	0.01
Sb	121	2	He	6935	0.03
P	31	1	nogas	87070	0.00
La	139	1	nogas	70	107.99

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	336558	1.30	317178	106.11	70	125	
Ge	72	1	nogas	1374906	3.22	1355583	101.43	70	125	
In	115	1	nogas	1551980	3.14	1426361	108.81	70	125	
Bi	209	1	nogas	1412678	0.36	1404968	100.55	70	125	
Ge	72	2	He	100385	2.25	99503	100.89	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	008CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:01:34-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	230636	0.00
Na	23	1	nogas	101787281	0.00
Mg	24	1	nogas	69389364	0.00
Al	27	1	nogas	1144106	0.00
K	39	1	nogas	77651491	0.00
Ti	47	1	nogas	83898	0.00
V	51	1	nogas	2034527	0.00
Cr	52	1	nogas	1068732	0.00
Mn	55	1	nogas	1320992	0.00
Co	59	1	nogas	1179190	0.00
Ni	60	1	nogas	269110	0.00
Cu	63	1	nogas	668312	0.00
Zn	66	1	nogas	203630	0.00
As	75	1	nogas	322376	0.00
Sr	88	1	nogas	1296938	0.00
Ag	107	1	nogas	805477	0.00
Cd	111	1	nogas	165586	0.00
Sb	121	1	nogas	658317	0.00
Tl	205	1	nogas	1363196	0.00
Pb	208	1	nogas	1947594	0.00
[Pb]	206	1	nogas	468889	0.00
[Pb]	207	1	nogas	433673	0.00
Na	23	2	He	1892468	0.00
Mg	24	2	He	897981	0.00
Al	27	2	He	3537	0.27
K	39	2	He	450708	0.00
Ca	43	2	He	1733	0.56
Ca	44	2	He	27117	0.01
V	51	2	He	97487	0.00
Cr	52	2	He	137625	0.00
Mn	55	2	He	52418	0.00
Fe	56	2	He	10882182	0.00
Co	59	2	He	229295	0.00
Ni	60	2	He	68248	0.01
Cu	63	2	He	195950	0.00
Zn	66	2	He	26823	0.00
As	75	2	He	16451	0.01
Se	78	2	He	608	0.52
B	11	1	nogas	783256	0.00
Si	28	1	nogas	20122495	0.00

Calibration Standard Report

Ca	43	1	nogas	158759	0.00
Ca	44	1	nogas	3444167	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	121496894	0.00
Se	77	1	nogas	47983	0.00
Se	82	1	nogas	11037	0.04
Mo	95	1	nogas	298538	0.00
Sn	118	1	nogas	461506	0.00
Ba	137	1	nogas	210289	0.00
Sb	121	2	He	65858	0.00
P	31	1	nogas	338699	0.00
La	139	1	nogas	157	14.31

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	300947	3.28	317178	94.88	70	125	
Ge	72	1	nogas	1379618	0.38	1355583	101.77	70	125	
In	115	1	nogas	1484798	1.01	1426361	104.10	70	125	
Bi	209	1	nogas	1409789	1.34	1404968	100.34	70	125	
Ge	72	2	He	100824	3.42	99503	101.33	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	009CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:03:34-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	454057	0.00
Na	23	1	nogas	198598663	0.00
Mg	24	1	nogas	134913711	0.00
Al	27	1	nogas	2270734	0.00
K	39	1	nogas	148509932	0.00
Ti	47	1	nogas	166519	0.00
V	51	1	nogas	3216179	0.00
Cr	52	1	nogas	2145024	0.00
Mn	55	1	nogas	2617750	0.00
Co	59	1	nogas	2276948	0.00
Ni	60	1	nogas	527549	0.00
Cu	63	1	nogas	1213547	0.00
Zn	66	1	nogas	387056	0.00
As	75	1	nogas	524601	0.00
Sr	88	1	nogas	2585772	0.00
Ag	107	1	nogas	1549428	0.00
Cd	111	1	nogas	324325	0.00
Sb	121	1	nogas	1296618	0.00
Tl	205	1	nogas	2639336	0.00
Pb	208	1	nogas	3771290	0.00
[Pb]	206	1	nogas	917534	0.00
[Pb]	207	1	nogas	843635	0.00
Na	23	2	He	3586911	0.00
Mg	24	2	He	1741404	0.00
Al	27	2	He	6908	0.01
K	39	2	He	898902	0.00
Ca	43	2	He	3070	0.08
Ca	44	2	He	53293	0.00
V	51	2	He	192828	0.00
Cr	52	2	He	274109	0.00
Mn	55	2	He	106126	0.00
Fe	56	2	He	21469781	0.00
Co	59	2	He	443459	0.00
Ni	60	2	He	131477	0.00
Cu	63	2	He	383671	0.00
Zn	66	2	He	53710	0.00
As	75	2	He	32450	0.00
Se	78	2	He	1329	0.17
B	11	1	nogas	1516591	0.00
Si	28	1	nogas	38788194	0.00

Calibration Standard Report

Ca	43	1	nogas	314319	0.00
Ca	44	1	nogas	5893831	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	238588547	0.00
Se	77	1	nogas	57865	0.00
Se	82	1	nogas	20575	0.03
Mo	95	1	nogas	587937	0.00
Sn	118	1	nogas	910394	0.00
Ba	137	1	nogas	421463	0.00
Sb	121	2	He	133413	0.00
P	31	1	nogas	617774	0.00
La	139	1	nogas	277	8.89

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	285114	4.13	317178	89.89	70	125	
Ge	72	1	nogas	1378916	4.51	1355583	101.72	70	125	
In	115	1	nogas	1481873	3.29	1426361	103.89	70	125	
Bi	209	1	nogas	1400387	1.77	1404968	99.67	70	125	
Ge	72	2	He	99700	1.01	99503	100.20	70	125	

Sample Report

Sample Table

Sample Name	LLICV2
Data File Name	012SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:10:00-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	2.230	2.230	4.41	5177	0.04	2000	
Na	23	1	nogas	146.348	146.348	5.07	4558302	0.00	200000	
Mg	24	1	nogas	218.498	218.498	1.67	1513574	0.01	200000	
Al	27	1	nogas	1.427	1.427	4.04	54108	0.00	2000	
K	39	1	nogas	151.133	151.133	8.94	5107714	0.00	200000	
Ti	47	1	nogas	2.017	2.017	24.13	2103	0.10	2000	
V	51	1	nogas	35.448	35.448	3.82	1162795	0.00	2000	
Cr	52	1	nogas	2.171	2.171	7.56	47645	0.00	2000	
Mn	55	1	nogas	2.142	2.142	1.82	32636	0.01	2000	
Co	59	1	nogas	2.191	2.191	3.26	26283	0.01	2000	
Ni	60	1	nogas	1.412	1.412	11.92	7415	0.02	2000	
Cu	63	1	nogas	0.804	0.804	12.97	21062	0.00	2000	
Zn	66	1	nogas	1.475	1.475	14.23	4944	0.03	2000	
As	75	1	nogas	5.243	5.243	19.51	121157	0.00	2000	
Sr	88	1	nogas	2.245	2.245	6.21	30493	0.01	2000	
Ag	107	1	nogas	2.178	2.178	2.31	17949	0.01	2000	
Cd	111	1	nogas	2.282	2.282	1.03	3794	0.06	2000	
Sb	121	1	nogas	2.566	2.566	7.00	18276	0.01	2000	
Tl	205	1	nogas	2.240	2.240	3.53	31685	0.01	2000	
Pb	208	1	nogas	2.318	2.318	1.14	45115	0.01	2000	
U	238	1	nogas	2.264	2.264	1.78	45840	0.00	2000	
[Pb]	206	1	nogas	2.193	2.193	3.50	10997	0.02	2000	
[Pb]	207	1	nogas	2.179	2.179	1.43	10040	0.02	2000	
Na	23	2	He	147.521	147.521	12.86	107327	0.14	200000	
Mg	24	2	He	215.367	215.367	0.78	19400	1.11	200000	
Al	27	2	He	3.749	3.749	66.18	363	1.03	2000	
K	39	2	He	204.705	204.705	8.40	20051	1.02	200000	
Ca	43	2	He	186.844	186.844	69.42	33	560.53	200000	
Ca	44	2	He	205.902	205.902	21.38	863	23.85	200000	
V	51	2	He	2.366	2.366	2.98	2787	0.08	2000	
Cr	52	2	He	2.045	2.045	4.12	4024	0.05	2000	
Mn	55	2	He	1.910	1.910	8.55	1187	0.16	2000	
Fe	56	2	He	215.517	215.517	3.62	241059	0.09	200000	
Co	59	2	He	2.066	2.066	7.94	4697	0.04	2000	
Ni	60	2	He	1.681	1.681	17.81	1863	0.09	2000	
Cu	63	2	He	1.835	1.835	6.16	5024	0.04	2000	
Zn	66	2	He	2.426	2.426	12.51	723	0.34	2000	
As	75	2	He	2.252	2.252	0.59	382	0.59	2000	
Se	78	2	He	2.925	2.925	73.80	17	17.55	2000	
B	11	1	nogas	22.667	22.667	4.90	40507	0.06	2000	
Si	28	1	nogas	104.803	104.803	12.73	1646301	0.01	2000	
Ca	43	1	nogas	195.827	195.827	11.20	4751	4.12	200000	

Sample Report

Ca	44	1	nogas	-258.228	-258.228	-36.20	959373	-0.03	200000	
Fe	56	1	nogas	214.038	214.038	0.94	3206767	0.01	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Se	77	1	nogas	41.736	41.736	11.69	38778	0.11	2000	
Se	82	1	nogas	2.234	2.234	15.18	707	0.32	2000	
Mo	95	1	nogas	2.246	2.246	8.54	7035	0.03	2000	
Sn	118	1	nogas	2.112	2.112	4.86	10633	0.02	2000	
Ba	137	1	nogas	2.168	2.168	7.36	4767	0.05	2000	
Sb	121	2	He	2.467	2.467	4.89	1807	0.14	2000	
La	139	1	nogas	43.214	43.214	57.20	97	44.70	2000	
Au	197	1	nogas	410.040	410.040	236.68	13	3075.30	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	302431	3.26	317178	95.35	70	125	
Ge	72	1	nogas	1429293	2.62	1355583	105.44	70	125	
In	115	1	nogas	1511444	0.22	1426361	105.97	70	125	
Bi	209	1	nogas	1483953	0.65	1404968	105.62	70	125	
Ge	72	2	He	101463	2.66	99503	101.97	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLICV5
Data File Name	013LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:12:00-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	5.064	1.600	12204	1.08	5	101.3	70	130	
Na	23	1	nogas	466.839	5.905	7439175	2.20	500	93.4	70	130	
Mg	24	1	nogas	540.576	5.736	3584472	3.38	500	108.1	70	130	
Al	27	1	nogas	4.826	7.489	90894	6.07	5	96.5	70	130	
K	39	1	nogas	474.522	3.365	7337090	1.61	500	94.9	70	130	
Ti	47	1	nogas	5.020	7.317	4571	6.59	5	100.4	70	130	
V	51	1	nogas	47.677	2.757	1290800	1.42	5	953.5	70	130	LLICV Main CR1 Failed
Cr	52	1	nogas	5.426	6.912	81039	3.49	5	108.5	70	130	
Mn	55	1	nogas	5.379	6.707	74408	5.57	5	107.6	70	130	
Co	59	1	nogas	5.440	3.353	63136	2.30	5	108.8	70	130	
Ni	60	1	nogas	4.563	3.935	15567	3.27	5	91.3	70	130	
Cu	63	1	nogas	4.151	2.810	41073	3.53	5	83.0	70	130	
Zn	66	1	nogas	4.563	2.162	10863	3.57	5	91.3	70	130	
As	75	1	nogas	13.760	13.582	135872	2.20	5	275.2	70	130	LLICV Main CR1 Failed
Sr	88	1	nogas	5.463	2.310	71650	0.55	5	109.3	70	130	
Ag	107	1	nogas	5.382	3.361	42669	1.59	5	107.6	70	130	
Cd	111	1	nogas	5.388	1.400	8956	2.80	5	107.8	70	130	
Sb	121	1	nogas	5.763	1.894	38717	1.53	5	115.3	70	130	
Tl	205	1	nogas	5.343	4.351	74142	1.99	5	106.9	70	130	
Pb	208	1	nogas	5.407	3.211	103736	3.18	5	108.1	70	130	
U	238	1	nogas	5.393	3.949	107262	1.79	5	107.9	70	130	
[Pb]	206	1	nogas	5.116	8.332	24843	6.17	5	102.3	70	130	
[Pb]	207	1	nogas	5.189	3.012	23184	0.91	5	103.8	70	130	
Na	23	2	He	471.153	6.407	167190	2.25	500	94.2	70	130	
Mg	24	2	He	523.154	2.528	47297	1.82	500	104.6	70	130	
Al	27	2	He	5.431	20.883	427	10.83	5	108.6	70	130	
K	39	2	He	520.501	3.931	34045	2.66	500	104.1	70	130	
Ca	43	2	He	350.439	30.238	60	28.87	500	70.1	70	130	
Ca	44	2	He	486.563	7.913	1637	6.95	500	97.3	70	130	
V	51	2	He	5.236	4.730	5659	5.57	5	104.7	70	130	
Cr	52	2	He	5.221	2.500	8519	0.78	5	104.4	70	130	
Mn	55	2	He	4.980	2.682	2867	2.97	5	99.6	70	130	
Fe	56	2	He	511.804	1.634	571176	1.22	500	102.4	70	130	
Co	59	2	He	5.270	3.292	12098	4.55	5	105.4	70	130	
Ni	60	2	He	4.626	5.022	3874	5.78	5	92.5	70	130	
Cu	63	2	He	4.784	4.144	10887	2.48	5	95.7	70	130	
Zn	66	2	He	4.946	17.965	1427	17.42	5	98.9	70	130	
As	75	2	He	5.012	6.462	847	4.77	5	100.2	70	130	
Se	78	2	He	4.490	31.161	27	33.80	5	89.8	70	130	
B	11	1	nogas	29.074	1.076	52490	1.43	25	116.3	70	130	
Si	28	1	nogas	262.796	6.072	2201220	2.49	25	1051.2	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	485.171	2.809	9196	2.86	500	97.0	70	130	
Ca	44	1	nogas	31.584	137.669	1004869	0.71	500	6.3	70	130	LLICV Main CR1 Failed
Fe	56	1	nogas	530.136	5.053	6922718	3.82	500	106.0	70	130	
Se	77	1	nogas	72.361	14.455	42009	2.16	5	1447.2	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	6.053	20.306	1080	13.45	5	121.1	70	130	
Mo	95	1	nogas	5.323	0.966	16004	1.48	5	106.5	70	130	
Sn	118	1	nogas	5.213	1.511	25052	1.32	5	104.3	70	130	
Ba	137	1	nogas	5.207	3.230	11294	2.00	5	104.1	70	130	
Sb	121	2	He	5.146	0.291	3654	1.82	5	102.9	70	130	
Li	7	1	nogas	4.959	5.391	57067	4.28	5	99.2	70	130	
P	31	1	nogas	7.340	32.133	62537	0.87	25	29.4	70	130	LLICV Main CR1 Failed
La	139	1	nogas	17.808	113.396	67	34.64	5	356.2	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	418.971	60.574	13	43.30	5	8379.4	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	314095	1.81	317178	99.03	70	125	
Ge	72	1	nogas	1389780	1.79	1355583	102.52	70	125	

Low Level Initial Calibration Verification (LLICV) Report

In	115	1	nogas	1511691	1.41	1426361	105.98	70	125	
Bi	209	1	nogas	1461655	2.51	1404968	104.03	70	125	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	102573	1.70	99503	103.09	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICB
Data File Name	014_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:14:01-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.044	46.5	120	44.1	1	
Na	23	1	nogas	-69.557	-9.6	2420947	1.1	100	
Mg	24	1	nogas	1.056	16.1	11906	10.5	100	
Al	27	1	nogas	-0.673	-11.5	30151	2.9	5	
K	39	1	nogas	-80.812	-4.5	3397344	0.8	100	
Ti	47	1	nogas	-0.138	-39.3	253	18.7	2.5	
V	51	1	nogas	39.607	8.9	1231875	3.9	2.5	ICB Main CR1 Failed
Cr	52	1	nogas	0.082	64.8	25024	2.4	2.5	
Mn	55	1	nogas	0.038	1.9	4121	0.2	2.5	
Co	59	1	nogas	0.008	118.7	337	35.2	2.5	
Ni	60	1	nogas	-0.710	-4.4	1657	5.1	2.5	
Cu	63	1	nogas	-1.442	-5.1	6948	6.8	2.5	
Zn	66	1	nogas	-0.643	-2.9	683	5.5	2.5	
As	75	1	nogas	5.598	26.8	123223	2.7	2.5	ICB Main CR1 Failed
Sr	88	1	nogas	0.022	25.4	693	11.0	2.5	
Ag	107	1	nogas	0.028	38.0	540	16.0	2.5	
Cd	111	1	nogas	0.014	24.5	27	21.7	1	
Sb	121	1	nogas	0.110	15.6	1783	6.5	2.5	
Tl	205	1	nogas	0.055	40.3	913	34.8	1	
Pb	208	1	nogas	0.007	116.2	1270	12.5	2.5	
U	238	1	nogas	0.011	7.8	387	6.0	2.5	
[Pb]	206	1	nogas	0.011	175.3	347	28.9	2.5	
[Pb]	207	1	nogas	0.002	914.2	257	31.7	2.5	
Na	23	2	He	-74.455	-4.5	67185	2.5	100	
Mg	24	2	He	1.272	26.3	347	9.3	100	
Al	27	2	He	0.425	586.7	250	32.0	5	
K	39	2	He	-16.934	-49.4	10230	3.6	100	
Ca	43	2	He	64.174	229.4	13	173.2	100	
Ca	44	2	He	2.539	1129.2	310	23.3	100	
V	51	2	He	0.311	32.5	771	11.2	2.5	
Cr	52	2	He	0.210	9.0	1473	1.4	2.5	
Mn	55	2	He	0.038	449.4	183	51.8	2.5	
Fe	56	2	He	1.008	35.8	6695	4.3	100	
Co	59	2	He	0.030	53.3	80	43.3	2.5	
Ni	60	2	He	-0.422	-3.3	453	2.5	2.5	
Cu	63	2	He	-0.346	-24.8	773	20.1	2.5	
Zn	66	2	He	0.097	103.9	90	29.4	2.5	
As	75	2	He	0.107	71.7	28	45.4	2.5	
Se	78	2	He	1.232	52.1	5	78.1	2.5	
B	11	1	nogas	4.890	5.4	13575	2.9	10	
Si	28	1	nogas	-25.510	-24.8	1150674	2.3	5	
Ca	43	1	nogas	-19.441	-5.1	1273	1.2	100	
Ca	44	1	nogas	-752.696	-2.5	842942	0.5	100	
Fe	56	1	nogas	1.770	47.4	584567	1.8	100	
Se	77	1	nogas	55.218	5.9	41170	1.2	2.5	ICB Main CR1 Failed
Se	82	1	nogas	1.070	94.6	590	18.3	2.5	

Initial Calibration Blank (ICB) Report

Mo	95	1	nogas	-0.008	-83.8	150	13.3	2.5	
Sn	118	1	nogas	0.002	1814.6	833	15.1	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	0.007	120.1	127	16.4	2.5	
Sb	121	2	He	0.114	113.1	217	41.6	2.5	
P	31	1	nogas	-20.943	-2.4	48415	0.7	10	
La	139	1	nogas	142.829	23.4	217	17.5	2.5	ICB Main CR1 Failed
Au	197	1	nogas	139.569	179.9	7	86.6	2.5	ICB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	323164	2.75	317178	101.89	70	125	
Ge	72	1	nogas	1444796	0.09	1355583	106.58	70	125	
In	115	1	nogas	1533971	1.73	1426361	107.54	70	125	
Bi	209	1	nogas	1429949	1.91	1404968	101.78	70	125	
Ge	72	2	He	100873	1.76	99503	101.38	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICV
Data File Name	015_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:19:02-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	95.810	3.594	218790	3.26	100	95.8	90	110	
Na	23	1	nogas	9836.798	6.728	99455577	2.47	10000	98.4	90	110	
Mg	24	1	nogas	10026.440	4.762	68102527	0.73	10000	100.3	90	110	
Al	27	1	nogas	101.144	2.657	1167554	3.87	100	101.1	90	110	
K	39	1	nogas	9806.506	0.701	75288427	1.49	10000	98.1	90	110	
Ti	47	1	nogas	99.657	2.517	83472	1.82	100	99.7	90	110	
V	51	1	nogas	117.838	1.779	2199678	2.68	100	117.8	90	110	ICV Main CR1 Failed
Cr	52	1	nogas	100.169	1.738	1085658	3.66	100	100.2	90	110	
Mn	55	1	nogas	96.412	2.795	1268739	4.39	100	96.4	90	110	
Co	59	1	nogas	100.195	1.193	1152736	3.08	100	100.2	90	110	
Ni	60	1	nogas	99.862	1.232	266544	1.13	100	99.9	90	110	
Cu	63	1	nogas	103.211	2.030	646174	0.26	100	103.2	90	110	
Zn	66	1	nogas	101.259	0.903	199210	1.98	100	101.3	90	110	
As	75	1	nogas	100.414	3.182	318511	3.09	100	100.4	90	110	
Sr	88	1	nogas	98.813	1.731	1282789	3.54	100	98.8	90	110	
Ag	107	1	nogas	101.766	1.406	797216	3.34	100	101.8	90	110	
Cd	111	1	nogas	100.175	2.927	163710	2.72	100	100.2	90	110	
Sb	121	1	nogas	99.718	3.092	649844	1.73	100	99.7	90	110	
Tl	205	1	nogas	93.935	5.829	1338388	1.15	100	93.9	90	110	
Pb	208	1	nogas	100.888	3.379	1915557	3.38	100	100.9	90	110	
U	238	1	nogas	98.608	11.821	2010309	6.36	100	98.6	90	110	
[Pb]	206	1	nogas	94.307	7.091	465874	1.96	100	94.3	90	110	
[Pb]	207	1	nogas	93.814	9.062	426241	3.65	100	93.8	90	110	
Na	23	2	He	9692.300	2.921	1807010	2.52	10000	96.9	90	110	
Mg	24	2	He	9798.787	4.018	866144	2.30	10000	98.0	90	110	
Al	27	2	He	95.789	5.676	3454	5.69	100	95.8	90	110	
K	39	2	He	10251.476	0.470	465245	0.46	10000	102.5	90	110	
Ca	43	2	He	9955.117	14.956	1580	13.08	10000	99.6	90	110	
Ca	44	2	He	9932.150	4.180	26930	4.75	10000	99.3	90	110	
V	51	2	He	98.495	4.324	96153	2.16	100	98.5	90	110	
Cr	52	2	He	100.980	2.091	140197	1.71	100	101.0	90	110	
Mn	55	2	He	99.761	5.017	53324	2.75	100	99.8	90	110	
Fe	56	2	He	10075.803	5.139	10939095	2.90	10000	100.8	90	110	
Co	59	2	He	100.605	4.721	226518	2.49	100	100.6	90	110	
Ni	60	2	He	102.750	4.164	68924	2.02	100	102.8	90	110	
Cu	63	2	He	100.156	1.964	195257	2.59	100	100.2	90	110	
Zn	66	2	He	97.978	1.101	26570	2.94	100	98.0	90	110	
As	75	2	He	98.713	0.826	16207	1.39	100	98.7	90	110	
Se	78	2	He	92.731	5.529	610	6.01	100	92.7	90	110	
B	11	1	nogas	486.187	1.997	754013	2.08	500	97.2	90	110	
Si	28	1	nogas	5069.419	1.430	20335346	2.52	5000	101.4	90	110	
Ca	43	1	nogas	9868.866	2.138	156486	1.43	10000	98.7	90	110	
Ca	44	1	nogas	9031.646	4.298	3213178	1.06	10000	90.3	90	110	
Fe	56	1	nogas	9926.395	1.830	119408628	3.48	10000	99.3	90	110	
Se	77	1	nogas	103.492	6.878	46149	2.00	100	103.5	90	110	
Se	82	1	nogas	96.031	5.350	10240	3.20	100	96.0	90	110	
Mo	95	1	nogas	99.924	2.957	295707	2.42	100	99.9	90	110	
Sn	118	1	nogas	98.256	2.084	450371	3.26	100	98.3	90	110	
Ba	137	1	nogas	100.231	5.124	211900	4.13	100	100.2	90	110	
Sb	121	2	He	93.898	2.492	63094	0.93	100	93.9	90	110	
Li	7	1	nogas	99.319	3.751	539578	1.12	100	99.3	90	110	
P	31	1	nogas	466.880	0.515	320333	1.92	500	93.4	90	110	
La	139	1	nogas	119.001	54.552	183	42.37	100	119.0	90	110	ICV Main CR1 Failed
Au	197	1	nogas	547.702	91.990	17	69.28	100	547.7	90	110	ICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	297908	3.12	317178	93.92	70	125	
Ge	72	1	nogas	1381792	1.97	1355583	101.93	70	125	
In	115	1	nogas	1487287	1.35	1426361	104.27	70	125	
Bi	209	1	nogas	1506419	5.99	1404968	107.22	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	100801	2.20	99503	101.30	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	016ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:21:00-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.098	25.1	257	25.9	0	ICSA Main CR1 Failed
Na	23	1	nogas	100116.378	1.8	972792622	2.7	0	
Mg	24	1	nogas	101774.999	2.1	682854815	2.9	0	
Al	27	1	nogas	67638.457	4.1	775560975	4.6	0	
K	39	1	nogas	100598.767	1.5	755362884	0.2	0	
Ti	47	1	nogas	1922.223	3.0	1644223	2.9	0	
V	51	1	nogas	-13.457	-11.1	497392	2.6	0	ICSA Main CR1 Failed
Cr	52	1	nogas	0.253	34.4	26396	2.2	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.444	7.7	9496	3.4	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.169	32.4	2220	27.7	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.245	31.8	4204	5.0	0	ICSA Main CR1 Failed
Cu	63	1	nogas	-0.566	-10.2	12298	2.7	0	ICSA Main CR1 Failed
Zn	66	1	nogas	0.951	6.7	3857	4.6	0	ICSA Main CR1 Failed
As	75	1	nogas	-11.130	-3.1	84532	1.6	0	ICSA Main CR1 Failed
Sr	88	1	nogas	1.083	7.1	14786	5.6	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.102	29.1	1120	19.7	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.973	8.4	1577	8.1	0	ICSA Main CR1 Failed
Sb	121	1	nogas	2.197	26.5	15638	23.4	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.241	42.8	3244	40.6	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.214	30.1	5190	23.5	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.273	38.0	1487	30.6	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.190	20.1	1013	15.3	0	ICSA Main CR1 Failed
Na	23	2	He	99426.307	1.2	17909196	1.9	0	
Mg	24	2	He	96326.856	1.7	8570701	2.0	0	
Al	27	2	He	65577.197	3.3	2216904	3.8	0	
K	39	2	He	95125.408	4.0	4226192	3.9	0	
Ca	43	2	He	90402.288	3.3	14442	4.1	0	
Ca	44	2	He	93364.573	1.3	252159	1.1	0	
V	51	2	He	-0.174	-20.9	303	12.6	0	ICSA Main CR1 Failed
Cr	52	2	He	0.402	39.4	1750	13.4	0	ICSA Main CR1 Failed
Mn	55	2	He	0.261	48.7	303	23.4	0	ICSA Main CR1 Failed
Fe	56	2	He	99029.992	2.1	108213302	1.6	0	
Co	59	2	He	0.051	22.3	130	20.4	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.331	-50.7	517	21.2	0	ICSA Main CR1 Failed
Cu	63	2	He	0.500	32.1	2427	12.5	0	ICSA Main CR1 Failed
Zn	66	2	He	0.732	10.4	263	7.9	0	ICSA Main CR1 Failed
As	75	2	He	0.140	24.3	33	17.3	0	ICSA Main CR1 Failed
Se	78	2	He	0.817	84.2	3	173.2	0	ICSA Main CR1 Failed
B	11	1	nogas	9.886	7.9	22253	7.5	0	ICSA Main CR1 Failed
Si	28	1	nogas	98.914	10.2	1609690	2.2	0	
Ca	43	1	nogas	93238.578	1.9	1502879	2.2	0	
Ca	44	1	nogas	92546.767	0.5	24371535	1.9	0	
Fe	56	1	nogas	98732.246	3.9	1212984494	5.3	0	
Se	77	1	nogas	-33.707	-7.6	27561	1.8	0	ICSA Main CR1 Failed
Se	82	1	nogas	1.093	89.4	580	16.4	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1923.421	0.9	5833675	1.1	0	
Sn	118	1	nogas	0.219	29.7	1780	13.8	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.146	18.5	413	16.1	0	ICSA Main CR1 Failed
Sb	121	2	He	1.530	13.1	1173	12.4	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	84937.570	1.6	48982449	2.7	0	
La	139	1	nogas	191.075	50.3	263	41.8	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	327693	1.87	317178	103.32	70	125	
Ge	72	1	nogas	1416699	1.47	1355583	104.51	70	125	
In	115	1	nogas	1471566	2.74	1426361	103.17	70	125	
Bi	209	1	nogas	1351948	0.90	1404968	96.23	70	125	
Ge	72	2	He	101435	0.83	99503	101.94	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	017ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:23:05-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	93.390	5.185	224757	3.85	100	93.4	80	120	
Na	23	1	nogas	111121.596	2.454	1104893625	2.10	100	111121.6	80	120	
Mg	24	1	nogas	112282.826	1.128	771290767	2.26	100	112282.8	80	120	
Al	27	1	nogas	71573.175	7.713	793445775	3.76	100	71573.2	80	120	ICSB Main CR1 Failed
K	39	1	nogas	116128.404	3.750	843523552	0.38	100	116128.4	80	120	ICSB Main CR1 Failed
Ti	47	1	nogas	2098.595	1.914	1738582	2.50	100	2098.6	80	120	ICSB Main CR1 Failed
V	51	1	nogas	82.411	4.288	1724616	2.93	100	82.4	80	120	
Cr	52	1	nogas	95.921	3.411	1032873	3.20	100	95.9	80	120	
Mn	55	1	nogas	94.599	7.678	1233965	3.96	100	94.6	80	120	
Co	59	1	nogas	98.497	5.123	1124039	1.64	100	98.5	80	120	
Ni	60	1	nogas	98.545	4.734	261057	1.66	100	98.5	80	120	
Cu	63	1	nogas	100.022	5.359	621863	1.93	100	100.0	80	120	
Zn	66	1	nogas	98.804	4.283	192928	1.09	100	98.8	80	120	
As	75	1	nogas	88.160	5.259	290381	1.51	100	88.2	80	120	
Sr	88	1	nogas	100.340	5.588	1292030	2.78	100	100.3	80	120	
Ag	107	1	nogas	93.235	3.482	724752	0.55	100	93.2	80	120	
Cd	111	1	nogas	97.955	2.324	155841	0.50	100	98.0	80	120	
Sb	121	1	nogas	99.880	4.194	646198	2.30	100	99.9	80	120	
Tl	205	1	nogas	99.555	3.516	1269931	2.23	100	99.6	80	120	
Pb	208	1	nogas	95.504	3.026	1813394	3.02	100	95.5	80	120	
U	238	1	nogas	105.023	2.053	1922120	2.51	100	105.0	80	120	
[Pb]	206	1	nogas	100.293	4.290	443738	3.04	100	100.3	80	120	
[Pb]	207	1	nogas	98.845	4.389	402584	3.53	100	98.8	80	120	
Na	23	2	He	111737.411	1.328	19760348	0.36	100	111737.4	80	120	ICSB Main CR1 Failed
Mg	24	2	He	107824.264	2.951	9423398	2.24	100	107824.3	80	120	
Al	27	2	He	66681.622	3.082	2214374	3.22	100	66681.6	80	120	ICSB Main CR1 Failed
K	39	2	He	105763.161	1.951	4697573	1.95	100	105763.2	80	120	
Ca	43	2	He	99449.052	1.145	15607	2.29	100	99449.1	80	120	
Ca	44	2	He	106765.207	1.661	283214	0.29	100	106765.2	80	120	ICSB Main CR1 Failed
V	51	2	He	95.025	2.691	91762	1.42	100	95.0	80	120	
Cr	52	2	He	93.803	2.051	128842	1.20	100	93.8	80	120	
Mn	55	2	He	94.256	0.666	49858	2.12	100	94.3	80	120	
Fe	56	2	He	109336.577	0.904	117391982	1.93	100	109336.6	80	120	
Co	59	2	He	96.086	3.411	213973	2.32	100	96.1	80	120	
Ni	60	2	He	95.297	4.700	63260	3.30	100	95.3	80	120	
Cu	63	2	He	92.437	2.584	178237	1.05	100	92.4	80	120	
Zn	66	2	He	91.483	2.905	24523	2.04	100	91.5	80	120	
As	75	2	He	93.426	4.962	15162	4.06	100	93.4	80	120	
Se	78	2	He	88.847	7.191	577	5.89	100	88.8	80	120	
B	11	1	nogas	455.832	2.997	745445	1.74	100	455.8	80	120	
Si	28	1	nogas	5043.204	6.623	20067953	2.24	100	5043.2	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	110420.800	3.591	1722594	0.89	100	110420.8	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	112061.775	5.220	28346433	1.41	100	112061.8	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	111773.404	5.190	1328294063	2.37	100	111773.4	80	120	ICSB Main CR1 Failed
Se	77	1	nogas	59.751	35.073	39667	3.36	100	59.8	80	120	
Se	82	1	nogas	97.188	5.408	10293	5.94	100	97.2	80	120	
Mo	95	1	nogas	2192.870	6.010	6433957	2.06	100	2192.9	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	97.136	1.258	433417	1.18	100	97.1	80	120	
Ba	137	1	nogas	98.079	2.079	201919	0.28	100	98.1	80	120	
Sb	121	2	He	97.907	0.475	65054	1.17	100	97.9	80	120	
La	139	1	nogas	335.373	29.532	420	24.74	100	335.4	80	120	ICSB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	313982	1.42	317178	98.99	70	125	
Ge	72	1	nogas	1372618	4.04	1355583	101.26	70	125	
In	115	1	nogas	1448264	2.36	1426361	101.54	70	125	
Bi	209	1	nogas	1346016	1.34	1404968	95.80	70	125	
Ge	72	2	He	99656	1.55	99503	100.15	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	023_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:39:23-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.477	3.770	227084	2.79	100	98.5	90	110	
Na	23	1	nogas	10675.001	1.102	109397115	1.34	10000	106.8	90	110	
Mg	24	1	nogas	10445.956	2.569	72071547	3.75	10000	104.5	90	110	
Al	27	1	nogas	99.392	6.645	1171080	5.64	100	99.4	90	110	
K	39	1	nogas	10284.611	4.124	80364846	1.72	10000	102.8	90	110	
Ti	47	1	nogas	99.844	4.641	85354	3.92	100	99.8	90	110	
V	51	1	nogas	62.644	12.162	1509144	6.32	100	62.6	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	98.944	4.805	1093913	2.38	100	98.9	90	110	
Mn	55	1	nogas	103.753	3.366	1392330	0.91	100	103.8	90	110	
Co	59	1	nogas	100.605	3.276	1180791	1.66	100	100.6	90	110	
Ni	60	1	nogas	99.860	3.177	271976	0.63	100	99.9	90	110	
Cu	63	1	nogas	103.416	4.491	660738	3.25	100	103.4	90	110	
Zn	66	1	nogas	101.399	3.968	203563	3.28	100	101.4	90	110	
As	75	1	nogas	71.651	4.433	262912	2.11	100	71.7	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	105.188	4.087	1392681	1.43	100	105.2	90	110	
Ag	107	1	nogas	102.890	3.253	822241	1.50	100	102.9	90	110	
Cd	111	1	nogas	103.798	2.363	167324	2.30	100	103.8	90	110	
Sb	121	1	nogas	101.195	2.172	673268	2.15	100	101.2	90	110	
Tl	205	1	nogas	103.022	5.079	1344483	1.56	100	103.0	90	110	
Pb	208	1	nogas	101.166	2.608	1920843	2.61	100	101.2	90	110	
U	238	1	nogas	106.538	4.125	1994723	1.03	100	106.5	90	110	
[Pb]	206	1	nogas	104.665	7.703	473459	4.06	100	104.7	90	110	
[Pb]	207	1	nogas	102.565	7.153	427128	3.55	100	102.6	90	110	
Na	23	2	He	10377.416	1.885	1955055	1.63	10000	103.8	90	110	
Mg	24	2	He	9965.482	1.757	893098	2.22	10000	99.7	90	110	
Al	27	2	He	101.304	11.353	3687	10.50	100	101.3	90	110	
K	39	2	He	10221.460	0.482	463915	0.47	10000	102.2	90	110	
Ca	43	2	He	9801.084	8.903	1580	9.56	10000	98.0	90	110	
Ca	44	2	He	9903.813	3.073	27207	2.40	10000	99.0	90	110	
V	51	2	He	99.657	1.370	98643	2.13	100	99.7	90	110	
Cr	52	2	He	99.773	1.267	140412	1.76	100	99.8	90	110	
Mn	55	2	He	99.409	1.352	53879	0.60	100	99.4	90	110	
Fe	56	2	He	9892.472	2.431	10889455	1.32	10000	98.9	90	110	
Co	59	2	He	101.489	3.239	231655	2.03	100	101.5	90	110	
Ni	60	2	He	99.823	2.194	67904	1.37	100	99.8	90	110	
Cu	63	2	He	97.472	0.711	192599	0.53	100	97.5	90	110	
Zn	66	2	He	98.198	2.289	26987	3.49	100	98.2	90	110	
As	75	2	He	99.742	2.750	16593	1.84	100	99.7	90	110	
Se	78	2	He	93.072	6.438	621	7.45	100	93.1	90	110	
B	11	1	nogas	533.458	2.922	834898	1.78	500	106.7	90	110	
Si	28	1	nogas	5015.623	5.076	20541585	3.95	5000	100.3	90	110	
Ca	43	1	nogas	10365.365	4.584	167711	4.72	10000	103.7	90	110	
Ca	44	1	nogas	9487.047	5.827	3394109	3.01	10000	94.9	90	110	
Fe	56	1	nogas	10293.427	3.325	126290257	1.17	10000	102.9	90	110	
Se	77	1	nogas	-36.094	-33.887	27084	5.45	100	-36.1	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.120	5.978	10773	4.06	100	99.1	90	110	
Mo	95	1	nogas	100.032	2.925	302100	0.26	100	100.0	90	110	
Sn	118	1	nogas	102.184	0.768	461857	0.35	100	102.2	90	110	
Ba	137	1	nogas	103.348	1.187	215582	1.64	100	103.3	90	110	
Sb	121	2	He	98.700	0.242	67220	1.11	100	98.7	90	110	
Li	7	1	nogas	102.904	3.470	563689	2.47	100	102.9	90	110	
P	31	1	nogas	481.536	5.469	335158	2.14	500	96.3	90	110	
La	139	1	nogas	350.384	56.524	443	50.25	100	350.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	761.138	61.820	20	50.00	100	761.1	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	300797	1.67	317178	94.84	70	125	
Ge	72	1	nogas	1410576	2.70	1355583	104.06	70	125	
In	115	1	nogas	1466948	0.54	1426361	102.85	70	125	
Bi	209	1	nogas	1378404	3.79	1404968	98.11	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	102145	1.21	99503	102.66	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	024_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T11:41:20-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.108	35.7	280	36.2	1	
Na	23	1	nogas	111.150	21.3	4191588	1.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	23.689	28.7	166937	25.9	100	
Al	27	1	nogas	0.437	31.0	42498	5.6	5	
K	39	1	nogas	-4.751	-780.4	3911431	3.8	100	
Ti	47	1	nogas	0.012	872.1	377	20.3	2.5	
V	51	1	nogas	-24.835	-3.8	347075	6.2	2.5	
Cr	52	1	nogas	-0.546	-33.5	17745	7.1	2.5	
Mn	55	1	nogas	0.500	23.8	10273	11.9	2.5	
Co	59	1	nogas	0.119	61.8	1620	49.6	2.5	
Ni	60	1	nogas	-0.263	-47.5	2837	7.9	2.5	
Cu	63	1	nogas	-0.278	-41.6	14156	1.1	2.5	
Zn	66	1	nogas	-0.395	-47.7	1163	28.8	2.5	
As	75	1	nogas	-23.914	-2.4	57063	4.0	2.5	
Sr	88	1	nogas	0.315	24.1	4567	18.2	2.5	
Ag	107	1	nogas	0.091	53.8	1030	34.1	2.5	
Cd	111	1	nogas	0.153	64.0	267	58.6	1	
Sb	121	1	nogas	2.016	25.5	14443	19.8	2.5	
Tl	205	1	nogas	0.149	43.3	2250	43.7	1	
Pb	208	1	nogas	0.161	62.2	4184	45.4	2.5	
U	238	1	nogas	0.121	67.5	2600	67.1	2.5	
[Pb]	206	1	nogas	0.148	47.5	1020	37.8	2.5	
[Pb]	207	1	nogas	0.154	64.5	940	50.0	2.5	
Na	23	2	He	91.067	9.1	101446	1.4	100	
Mg	24	2	He	14.419	4.9	1583	2.4	100	
Al	27	2	He	3.465	47.0	370	14.3	5	
K	39	2	He	40.724	28.4	12785	4.0	100	
Ca	43	2	He	60.040	154.3	13	114.6	100	
Ca	44	2	He	2.416	1588.3	327	34.1	100	
V	51	2	He	-0.256	-3.7	232	6.0	2.5	
Cr	52	2	He	0.145	31.7	1453	6.4	2.5	
Mn	55	2	He	0.196	32.3	280	12.9	2.5	
Fe	56	2	He	4.393	9.5	10893	6.1	100	
Co	59	2	He	0.031	56.5	87	46.6	2.5	
Ni	60	2	He	-0.597	-23.4	353	26.8	2.5	
Cu	63	2	He	-0.089	-71.9	1337	10.2	2.5	
Zn	66	2	He	-0.002	-5159.1	67	37.7	2.5	
As	75	2	He	0.073	53.4	23	28.6	2.5	
Se	78	2	He	1.473	28.9	7	41.7	2.5	
B	11	1	nogas	16.442	1.8	33199	2.2	10	CCB Main CR1 Failed
Si	28	1	nogas	17.881	105.4	1300554	1.6	5	CCB Main CR1 Failed
Ca	43	1	nogas	16.814	101.9	1833	10.9	100	
Ca	44	1	nogas	-1211.252	-10.8	713386	0.3	100	
Fe	56	1	nogas	28.534	46.3	901685	14.0	100	
Se	77	1	nogas	-93.023	-5.4	19100	3.6	2.5	
Se	82	1	nogas	0.821	203.8	550	28.0	2.5	
Mo	95	1	nogas	0.281	54.3	1017	41.6	2.5	
Sn	118	1	nogas	0.137	64.5	1523	22.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.084	64.9	303	34.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	1.080	10.0	907	8.6	2.5	
P	31	1	nogas	-18.073	-13.2	49331	1.7	10	
La	139	1	nogas	71.055	14.5	137	4.2	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-10.261	-2363.5	3	173.2	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	nogas	326191	1.93	317178	102.84	70	125	
Ge	72	1	nogas	1423740	4.45	1355583	105.03	70	125	
In	115	1	nogas	1601831	5.94	1426361	112.30	70	125	
Bi	209	1	nogas	1464449	5.74	1404968	104.23	70	125	
Ge	72	2	He	105842	1.81	99503	106.37	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	036_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T12:05:42-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.085	63.4	233	58.5	1	
Na	23	1	nogas	167.442	4.5	4514332	0.4	100	CCB Main CR1 Failed
Mg	24	1	nogas	17.144	34.0	116068	31.7	100	
Al	27	1	nogas	0.426	319.0	40973	38.5	5	
K	39	1	nogas	43.512	30.0	4125195	0.9	100	
Ti	47	1	nogas	0.158	52.7	487	14.6	2.5	
V	51	1	nogas	-11.917	-16.2	501792	4.5	2.5	
Cr	52	1	nogas	-0.498	-3.2	17655	0.7	2.5	
Mn	55	1	nogas	0.539	18.4	10436	12.3	2.5	
Co	59	1	nogas	0.119	49.5	1590	42.4	2.5	
Ni	60	1	nogas	-0.171	-2.1	2984	1.7	2.5	
Cu	63	1	nogas	0.656	21.5	19330	5.0	2.5	
Zn	66	1	nogas	-0.312	-37.0	1290	17.0	2.5	
As	75	1	nogas	-14.204	-9.9	75405	3.6	2.5	
Sr	88	1	nogas	0.210	27.7	3084	24.1	2.5	
Ag	107	1	nogas	0.097	56.9	1053	40.7	2.5	
Cd	111	1	nogas	0.148	57.2	253	58.2	1	
Sb	121	1	nogas	2.092	24.1	14506	22.3	2.5	
Tl	205	1	nogas	0.161	44.5	2397	44.0	1	
Pb	208	1	nogas	0.151	72.9	3990	52.2	2.5	
U	238	1	nogas	0.137	64.6	2910	63.1	2.5	
[Pb]	206	1	nogas	0.134	85.0	943	60.2	2.5	
[Pb]	207	1	nogas	0.146	69.5	903	52.5	2.5	
Na	23	2	He	178.168	2.4	108775	1.7	100	CCB Main CR1 Failed
Mg	24	2	He	10.137	25.6	1093	18.2	100	
Al	27	2	He	1.712	204.8	287	41.3	5	
K	39	2	He	40.047	35.3	12755	4.9	100	
Ca	43	2	He	44.674	149.0	10	100.0	100	
Ca	44	2	He	11.280	179.0	323	14.3	100	
V	51	2	He	-0.134	-21.2	329	7.2	2.5	
Cr	52	2	He	0.044	550.8	1203	25.5	2.5	
Mn	55	2	He	0.175	86.5	247	29.3	2.5	
Fe	56	2	He	3.798	11.6	9426	3.1	100	
Co	59	2	He	0.054	36.7	130	30.8	2.5	
Ni	60	2	He	-0.525	-13.9	373	13.5	2.5	
Cu	63	2	He	-0.162	-21.1	1097	3.7	2.5	
Zn	66	2	He	-0.057	-44.5	47	12.4	2.5	
As	75	2	He	0.085	28.8	23	14.3	2.5	
Se	78	2	He	1.359	23.5	6	33.3	2.5	
B	11	1	nogas	15.860	10.8	34018	6.6	10	CCB Main CR1 Failed
Si	28	1	nogas	-29.157	-78.0	1078773	7.4	5	
Ca	43	1	nogas	-2.395	-780.5	1477	20.4	100	
Ca	44	1	nogas	-1883.905	-2.0	523988	0.6	100	
Fe	56	1	nogas	27.775	30.9	864360	11.8	100	
Se	77	1	nogas	-45.629	-9.8	25027	1.7	2.5	
Se	82	1	nogas	0.711	188.0	523	24.9	2.5	
Mo	95	1	nogas	0.225	69.9	827	55.6	2.5	
Sn	118	1	nogas	0.168	33.5	1613	18.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.126	34.8	383	26.3	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	1.168	12.8	893	8.5	2.5	
P	31	1	nogas	-15.477	-7.4	49024	0.2	10	
La	139	1	nogas	51.284	53.5	107	28.6	2.5	CCB Main CR1 Failed
Au	197	1	nogas	424.466	234.5	13	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	344926	2.84	317178	108.75	70	125	
Ge	72	1	nogas	1372141	1.42	1355583	101.22	70	125	
In	115	1	nogas	1523774	1.86	1426361	106.83	70	125	
Bi	209	1	nogas	1453319	2.47	1404968	103.44	70	125	
Ge	72	2	He	97782	2.39	99503	98.27	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	037_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T12:07:41-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	94.466	7.084	219026	4.37	100	94.5	90	110	
Na	23	1	nogas	10258.174	5.671	100488477	2.29	10000	102.6	90	110	
Mg	24	1	nogas	10111.026	7.703	66561168	4.52	10000	101.1	90	110	
Al	27	1	nogas	65.062	4.962	791678	4.13	100	65.1	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9515.419	1.846	75855106	2.53	10000	95.2	90	110	
Ti	47	1	nogas	90.528	0.610	78651	1.02	100	90.5	90	110	
V	51	1	nogas	68.767	1.269	1616014	1.99	100	68.8	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	91.267	2.293	1027297	2.67	100	91.3	90	110	
Mn	55	1	nogas	96.165	2.377	1311358	2.06	100	96.2	90	110	
Co	59	1	nogas	95.562	3.832	1139228	2.96	100	95.6	90	110	
Ni	60	1	nogas	92.967	4.836	257400	3.49	100	93.0	90	110	
Cu	63	1	nogas	98.136	1.816	637740	0.47	100	98.1	90	110	
Zn	66	1	nogas	96.706	0.478	197317	1.79	100	96.7	90	110	
As	75	1	nogas	77.098	1.720	279013	1.79	100	77.1	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	93.495	2.056	1257984	2.55	100	93.5	90	110	
Ag	107	1	nogas	92.457	3.910	750486	2.92	100	92.5	90	110	
Cd	111	1	nogas	98.653	0.703	160202	1.99	100	98.7	90	110	
Sb	121	1	nogas	104.860	1.905	708652	2.99	100	104.9	90	110	
Tl	205	1	nogas	104.909	1.959	1466335	2.80	100	104.9	90	110	
Pb	208	1	nogas	105.510	3.285	2003274	3.28	100	105.5	90	110	
U	238	1	nogas	99.040	3.618	1985437	3.93	100	99.0	90	110	
[Pb]	206	1	nogas	105.020	1.021	509134	2.04	100	105.0	90	110	
[Pb]	207	1	nogas	96.404	2.244	430245	3.22	100	96.4	90	110	
Na	23	2	He	10004.532	3.910	1801700	2.25	10000	100.0	90	110	
Mg	24	2	He	9533.306	3.808	815383	2.44	10000	95.3	90	110	
Al	27	2	He	61.244	9.129	2217	6.57	100	61.2	90	110	CCV Main CR1-2 Failed
K	39	2	He	8903.730	1.582	405523	1.54	10000	89.0	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	8765.482	6.822	1350	8.54	10000	87.7	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9085.809	1.834	23856	1.73	10000	90.9	90	110	
V	51	2	He	95.480	3.086	90213	1.17	100	95.5	90	110	
Cr	52	2	He	94.423	1.285	126912	0.84	100	94.4	90	110	
Mn	55	2	He	92.889	1.658	48077	1.74	100	92.9	90	110	
Fe	56	2	He	9538.553	1.106	10025628	1.08	10000	95.4	90	110	
Co	59	2	He	102.327	1.494	223017	0.68	100	102.3	90	110	
Ni	60	2	He	101.554	3.193	65926	1.26	100	101.6	90	110	
Cu	63	2	He	96.685	3.705	182339	1.83	100	96.7	90	110	
Zn	66	2	He	95.580	2.636	25074	2.87	100	95.6	90	110	
As	75	2	He	94.720	3.979	15042	2.68	100	94.7	90	110	
Se	78	2	He	92.735	10.809	591	11.93	100	92.7	90	110	
B	11	1	nogas	478.338	4.250	753592	1.42	500	95.7	90	110	
Si	28	1	nogas	4512.922	5.232	18896724	4.29	5000	90.3	90	110	
Ca	43	1	nogas	9204.301	2.308	151421	2.29	10000	92.0	90	110	
Ca	44	1	nogas	7092.277	3.721	2837771	3.55	10000	70.9	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	9330.101	4.818	116347982	4.72	10000	93.3	90	110	
Se	77	1	nogas	14.697	30.681	34917	2.60	100	14.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	91.263	5.436	10116	4.95	100	91.3	90	110	
Mo	95	1	nogas	92.833	1.293	284877	2.39	100	92.8	90	110	
Sn	118	1	nogas	94.146	2.370	428613	0.94	100	94.1	90	110	
Ba	137	1	nogas	102.294	4.967	214862	4.07	100	102.3	90	110	
Sb	121	2	He	104.069	2.216	67645	0.75	100	104.1	90	110	
Li	7	1	nogas	104.936	5.963	577487	2.80	100	104.9	90	110	
P	31	1	nogas	398.932	1.659	292465	0.46	500	79.8	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	237.223	32.255	317	26.29	100	237.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-150.278	0.000	0	#DIV/0!	100	-150.3	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	nogas	302734	2.78	317178	95.45	70	125	
Ge	72	1	nogas	1432374	1.32	1355583	105.66	70	125	
In	115	1	nogas	1477661	1.45	1426361	103.60	70	125	
Bi	209	1	nogas	1474283	1.04	1404968	104.93	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	97524	1.97	99503	98.01	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	048_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T12:29:47-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	89.419	4.370	215990	1.15	100	89.4	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10262.518	0.877	97196031	1.10	10000	102.6	90	110	
Mg	24	1	nogas	10294.236	2.603	65536572	1.03	10000	102.9	90	110	
Al	27	1	nogas	97.094	5.428	1102113	3.56	100	97.1	90	110	
K	39	1	nogas	10301.829	4.212	77537743	4.04	10000	103.0	90	110	
Ti	47	1	nogas	96.604	4.145	79516	2.62	100	96.6	90	110	
V	51	1	nogas	83.713	1.726	1723689	1.55	100	83.7	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	97.510	2.048	1038774	0.17	100	97.5	90	110	
Mn	55	1	nogas	100.858	2.192	1303680	1.57	100	100.9	90	110	
Co	59	1	nogas	99.840	5.925	1128471	5.57	100	99.8	90	110	
Ni	60	1	nogas	98.049	4.708	257272	4.66	100	98.0	90	110	
Cu	63	1	nogas	101.755	2.465	626399	2.39	100	101.8	90	110	
Zn	66	1	nogas	101.797	1.598	196780	0.69	100	101.8	90	110	
As	75	1	nogas	87.870	3.177	286860	0.50	100	87.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	100.193	3.147	1277892	2.96	100	100.2	90	110	
Ag	107	1	nogas	102.713	2.981	790379	1.44	100	102.7	90	110	
Cd	111	1	nogas	102.116	1.450	163948	4.41	100	102.1	90	110	
Sb	121	1	nogas	105.217	1.709	674032	2.16	100	105.2	90	110	
Tl	205	1	nogas	101.638	8.275	1369959	3.56	100	101.6	90	110	
Pb	208	1	nogas	102.675	1.707	1949475	1.71	100	102.7	90	110	
U	238	1	nogas	106.433	5.672	2061055	4.86	100	106.4	90	110	
[Pb]	206	1	nogas	101.276	5.974	473863	1.48	100	101.3	90	110	
[Pb]	207	1	nogas	99.555	2.977	429183	1.91	100	99.6	90	110	
Na	23	2	He	9719.200	2.084	1772076	0.87	10000	97.2	90	110	
Mg	24	2	He	9570.506	3.912	827418	1.66	10000	95.7	90	110	
Al	27	2	He	93.891	1.572	3317	4.07	100	93.9	90	110	
K	39	2	He	9236.241	1.046	420258	1.02	10000	92.4	90	110	
Ca	43	2	He	8527.360	22.784	1327	22.67	10000	85.3	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9327.774	2.312	24750	1.80	10000	93.3	90	110	
V	51	2	He	94.986	0.863	90767	1.97	100	95.0	90	110	
Cr	52	2	He	95.891	1.355	130293	1.90	100	95.9	90	110	
Mn	55	2	He	94.458	2.169	49424	2.44	100	94.5	90	110	
Fe	56	2	He	9507.110	1.652	10101617	1.01	10000	95.1	90	110	
Co	59	2	He	97.667	2.942	215164	1.51	100	97.7	90	110	
Ni	60	2	He	97.834	4.281	64227	2.57	100	97.8	90	110	
Cu	63	2	He	96.554	1.568	184174	2.42	100	96.6	90	110	
Zn	66	2	He	93.898	2.980	24917	5.15	100	93.9	90	110	
As	75	2	He	97.517	5.359	15649	2.72	100	97.5	90	110	
Se	78	2	He	95.529	9.327	614	7.36	100	95.5	90	110	
B	11	1	nogas	463.056	4.974	759753	2.25	500	92.6	90	110	
Si	28	1	nogas	4841.745	5.301	19129070	3.26	5000	96.8	90	110	
Ca	43	1	nogas	10052.564	3.279	156656	3.57	10000	100.5	90	110	
Ca	44	1	nogas	7857.284	2.752	2874430	0.61	10000	78.6	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	10019.515	3.256	118416019	3.19	10000	100.2	90	110	
Se	77	1	nogas	60.741	15.861	39450	2.68	100	60.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	100.745	7.851	10540	7.14	100	100.7	90	110	
Mo	95	1	nogas	99.188	2.936	288548	3.50	100	99.2	90	110	
Sn	118	1	nogas	101.296	2.473	456006	4.85	100	101.3	90	110	
Ba	137	1	nogas	101.267	3.869	210153	0.63	100	101.3	90	110	
Sb	121	2	He	98.898	1.921	65002	1.45	100	98.9	90	110	
Li	7	1	nogas	96.745	2.250	557244	2.33	100	96.7	90	110	
P	31	1	nogas	470.641	5.454	316803	3.72	500	94.1	90	110	
La	139	1	nogas	123.356	34.175	183	22.05	100	123.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	747.006	104.040	20	86.60	100	747.0	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	nogas	315300	3.46	317178	99.41	70	125	
Ge	72	1	nogas	1358048	2.04	1355583	100.18	70	125	
In	115	1	nogas	1460808	3.73	1426361	102.42	70	125	
Bi	209	1	nogas	1425707	4.91	1404968	101.48	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	98604	2.67	99503	99.10	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	049_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T12:31:45-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.083	46.9	223	44.2	1	
Na	23	1	nogas	27.684	23.4	3188900	0.8	100	
Mg	24	1	nogas	14.420	52.4	97650	47.6	100	
Al	27	1	nogas	-0.702	-17.6	29103	3.4	5	
K	39	1	nogas	-3.666	-202.4	3891508	0.2	100	
Ti	47	1	nogas	-0.057	-199.1	317	29.8	2.5	
V	51	1	nogas	-12.711	-6.5	505612	3.3	2.5	
Cr	52	1	nogas	-0.504	-10.7	18096	2.1	2.5	
Mn	55	1	nogas	0.425	18.8	9196	10.2	2.5	
Co	59	1	nogas	0.099	67.9	1390	55.2	2.5	
Ni	60	1	nogas	-0.435	-23.5	2354	10.5	2.5	
Cu	63	1	nogas	-1.097	-7.0	8932	4.7	2.5	
Zn	66	1	nogas	-0.408	-39.4	1133	27.1	2.5	
As	75	1	nogas	-11.933	-4.1	82473	2.7	2.5	
Sr	88	1	nogas	0.183	30.9	2807	25.1	2.5	
Ag	107	1	nogas	0.086	39.8	987	26.0	2.5	
Cd	111	1	nogas	0.132	70.4	220	68.8	1	
Sb	121	1	nogas	1.933	23.3	13829	20.1	2.5	
Tl	205	1	nogas	0.158	41.0	2434	42.4	1	
Pb	208	1	nogas	0.148	37.1	3937	26.4	2.5	
U	238	1	nogas	0.126	53.7	2757	54.2	2.5	
[Pb]	206	1	nogas	0.139	10.9	987	11.7	2.5	
[Pb]	207	1	nogas	0.128	37.2	843	29.8	2.5	
Na	23	2	He	30.953	40.8	83911	2.4	100	
Mg	24	2	He	7.426	44.2	870	32.8	100	
Al	27	2	He	-3.077	-20.0	130	15.4	5	
K	39	2	He	23.032	14.1	12001	1.2	100	
Ca	43	2	He	22.161	336.0	7	173.2	100	
Ca	44	2	He	-39.513	-5.5	193	3.0	100	
V	51	2	He	-0.201	-4.0	268	2.7	2.5	
Cr	52	2	He	0.196	52.3	1420	9.9	2.5	
Mn	55	2	He	-0.022	-560.9	147	44.4	2.5	
Fe	56	2	He	2.957	5.1	8605	1.9	100	
Co	59	2	He	0.038	53.9	97	46.6	2.5	
Ni	60	2	He	-0.652	-12.3	293	17.5	2.5	
Cu	63	2	He	-0.194	-43.1	1043	15.3	2.5	
Zn	66	2	He	0.054	382.6	77	71.8	2.5	
As	75	2	He	0.063	33.0	20	16.7	2.5	
Se	78	2	He	0.730	42.5	2	100.0	2.5	
B	11	1	nogas	16.701	4.9	34632	3.4	10	CCB Main CR1 Failed
Si	28	1	nogas	-3.349	-424.9	1208736	3.2	5	
Ca	43	1	nogas	-15.248	-38.0	1310	5.8	100	
Ca	44	1	nogas	-2358.795	-1.1	419511	0.1	100	
Fe	56	1	nogas	21.003	34.7	805221	9.5	100	
Se	77	1	nogas	-42.058	-11.1	26259	3.8	2.5	
Se	82	1	nogas	0.437	214.3	510	18.7	2.5	
Mo	95	1	nogas	0.257	74.3	940	59.7	2.5	
Sn	118	1	nogas	0.159	48.4	1537	22.6	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.097	65.6	313	42.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	1.238	28.4	947	24.4	2.5	
P	31	1	nogas	-22.982	-10.2	46103	1.6	10	
La	139	1	nogas	58.531	48.2	113	28.4	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-150.278	0.0	0	#DIV/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	nogas	335912	0.97	317178	105.91	70	125	
Ge	72	1	nogas	1411051	1.44	1355583	104.09	70	125	
In	115	1	nogas	1494955	0.53	1426361	104.81	70	125	
Bi	209	1	nogas	1492366	4.22	1404968	106.22	70	125	
Ge	72	2	He	98454	0.18	99503	98.95	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	060_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T12:54:05-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	87.140	2.910	220374	2.29	100	87.1	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10252.231	5.936	100039692	5.65	10000	102.5	90	110	
Mg	24	1	nogas	10217.931	6.491	67030822	6.30	10000	102.2	90	110	
Al	27	1	nogas	93.738	4.354	1114471	2.92	100	93.7	90	110	
K	39	1	nogas	9905.327	4.233	78108291	2.54	10000	99.1	90	110	
Ti	47	1	nogas	92.126	2.861	79382	3.96	100	92.1	90	110	
V	51	1	nogas	81.515	4.744	1773346	2.73	100	81.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	92.020	2.762	1026817	2.47	100	92.0	90	110	
Mn	55	1	nogas	93.514	6.344	1264051	4.89	100	93.5	90	110	
Co	59	1	nogas	94.975	2.988	1122724	1.23	100	95.0	90	110	
Ni	60	1	nogas	94.375	2.675	259099	0.93	100	94.4	90	110	
Cu	63	1	nogas	98.368	0.798	633946	1.17	100	98.4	90	110	
Zn	66	1	nogas	98.818	3.268	199836	2.00	100	98.8	90	110	
As	75	1	nogas	81.365	4.757	285885	1.59	100	81.4	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	98.495	3.409	1313758	2.13	100	98.5	90	110	
Ag	107	1	nogas	96.786	3.102	779042	1.61	100	96.8	90	110	
Cd	111	1	nogas	101.955	1.488	162553	1.67	100	102.0	90	110	
Sb	121	1	nogas	98.836	0.776	662407	2.36	100	98.8	90	110	
Tl	205	1	nogas	102.803	2.951	1379056	0.71	100	102.8	90	110	
Pb	208	1	nogas	102.326	1.087	1942858	1.09	100	102.3	90	110	
U	238	1	nogas	109.366	7.195	2102877	4.99	100	109.4	90	110	
[Pb]	206	1	nogas	102.224	4.602	475477	1.48	100	102.2	90	110	
[Pb]	207	1	nogas	100.129	4.358	428730	1.49	100	100.1	90	110	
Na	23	2	He	10271.695	4.414	1811397	2.34	10000	102.7	90	110	
Mg	24	2	He	9923.899	4.138	832074	2.16	10000	99.2	90	110	
Al	27	2	He	88.542	4.737	3044	2.49	100	88.5	90	110	CCV Main CR1-2 Failed
K	39	2	He	9305.879	2.635	423344	2.57	10000	93.1	90	110	
Ca	43	2	He	9391.851	9.413	1417	9.48	10000	93.9	90	110	
Ca	44	2	He	9786.489	2.789	25171	2.73	10000	97.9	90	110	
V	51	2	He	99.328	2.574	92002	0.66	100	99.3	90	110	
Cr	52	2	He	97.901	4.053	128932	2.43	100	97.9	90	110	
Mn	55	2	He	95.461	1.966	48431	0.11	100	95.5	90	110	
Fe	56	2	He	9790.911	2.375	10089328	2.27	10000	97.9	90	110	
Co	59	2	He	101.717	2.302	217332	0.86	100	101.7	90	110	
Ni	60	2	He	99.671	3.010	63457	1.80	100	99.7	90	110	
Cu	63	2	He	98.227	2.893	181619	0.94	100	98.2	90	110	
Zn	66	2	He	96.550	1.103	24834	1.97	100	96.6	90	110	
As	75	2	He	98.360	2.542	15320	2.98	100	98.4	90	110	
Se	78	2	He	88.083	6.105	549	5.76	100	88.1	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	451.167	4.346	775077	3.21	500	90.2	90	110	
Si	28	1	nogas	4830.143	4.165	19968253	2.71	5000	96.6	90	110	
Ca	43	1	nogas	9978.592	1.116	162657	1.27	10000	99.8	90	110	
Ca	44	1	nogas	7191.761	3.798	2838047	0.65	10000	71.9	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	9600.146	5.217	118642990	3.43	10000	96.0	90	110	
Se	77	1	nogas	36.696	34.377	37783	3.33	100	36.7	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.302	2.470	10667	2.96	100	97.3	90	110	
Mo	95	1	nogas	97.585	1.887	296889	1.33	100	97.6	90	110	
Sn	118	1	nogas	104.112	2.155	465328	0.34	100	104.1	90	110	
Ba	137	1	nogas	103.958	1.765	214442	0.32	100	104.0	90	110	
Sb	121	2	He	101.493	2.290	64704	3.22	100	101.5	90	110	
Li	7	1	nogas	97.787	1.277	589088	1.72	100	97.8	90	110	
P	31	1	nogas	451.110	1.707	320174	1.72	500	90.2	90	110	
La	139	1	nogas	103.439	55.099	160	38.02	100	103.4	90	110	
Au	197	1	nogas	282.668	150.045	10	100.00	100	282.7	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	nogas	329854	1.83	317178	104.00	70	125	
Ge	72	1	nogas	1420489	1.89	1355583	104.79	70	125	
In	115	1	nogas	1450974	1.80	1426361	101.73	70	125	
Bi	209	1	nogas	1415952	3.24	1404968	100.78	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	95617	1.94	99503	96.09	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	061_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T12:56:03-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.083	62.9	240	61.4	1	
Na	23	1	nogas	26.282	22.3	3260925	0.5	100	
Mg	24	1	nogas	14.358	47.2	100263	44.1	100	
Al	27	1	nogas	0.189	124.0	39579	2.3	5	
K	39	1	nogas	1.812	1396.4	3964681	0.6	100	
Ti	47	1	nogas	-0.068	-110.4	310	21.2	2.5	
V	51	1	nogas	-8.038	-23.3	572540	1.1	2.5	
Cr	52	1	nogas	-0.465	-14.4	18670	0.6	2.5	
Mn	55	1	nogas	0.534	10.6	10773	9.3	2.5	
Co	59	1	nogas	0.103	57.6	1457	51.1	2.5	
Ni	60	1	nogas	-0.481	-12.4	2250	2.8	2.5	
Cu	63	1	nogas	-1.202	-5.9	8345	1.5	2.5	
Zn	66	1	nogas	-0.411	-37.1	1143	28.8	2.5	
As	75	1	nogas	-13.466	-21.4	79747	5.0	2.5	
Sr	88	1	nogas	0.205	18.9	3144	19.5	2.5	
Ag	107	1	nogas	0.103	48.5	1143	37.7	2.5	
Cd	111	1	nogas	0.106	61.9	183	59.8	1	
Sb	121	1	nogas	1.759	18.8	12835	19.0	2.5	
Tl	205	1	nogas	0.161	46.8	2427	45.8	1	
Pb	208	1	nogas	0.127	52.2	3550	35.5	2.5	
U	238	1	nogas	0.119	72.8	2560	70.2	2.5	
[Pb]	206	1	nogas	0.111	38.6	840	26.8	2.5	
[Pb]	207	1	nogas	0.131	58.0	840	42.4	2.5	
Na	23	2	He	32.226	54.6	84400	4.0	100	
Mg	24	2	He	7.545	9.5	883	8.6	100	
Al	27	2	He	0.075	3191.5	233	32.2	5	
K	39	2	He	21.226	30.2	11921	2.4	100	
Ca	43	2	He	43.891	146.8	10	100.0	100	
Ca	44	2	He	-29.717	-73.8	220	27.3	100	
V	51	2	He	-0.129	-32.0	337	12.2	2.5	
Cr	52	2	He	0.132	80.8	1340	12.3	2.5	
Mn	55	2	He	0.073	79.5	197	15.5	2.5	
Fe	56	2	He	3.052	18.5	8729	6.0	100	
Co	59	2	He	0.029	116.0	77	96.1	2.5	
Ni	60	2	He	-0.592	-28.2	333	32.4	2.5	
Cu	63	2	He	-0.214	-29.1	1010	12.9	2.5	
Zn	66	2	He	-0.059	-78.1	47	24.7	2.5	
As	75	2	He	0.035	127.3	16	44.6	2.5	
Se	78	2	He	1.346	60.9	6	88.2	2.5	
B	11	1	nogas	15.725	6.4	34926	6.0	10	CCB Main CR1 Failed
Si	28	1	nogas	-6.271	-177.4	1208173	1.8	5	
Ca	43	1	nogas	-10.669	-82.1	1393	5.8	100	
Ca	44	1	nogas	-2657.986	-1.9	347272	1.1	100	
Fe	56	1	nogas	23.802	25.5	848023	9.6	100	
Se	77	1	nogas	-42.337	-28.1	26423	4.1	2.5	
Se	82	1	nogas	0.848	122.3	557	18.1	2.5	
Mo	95	1	nogas	0.207	63.9	807	53.2	2.5	
Sn	118	1	nogas	0.138	61.7	1490	26.3	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.115	83.8	363	57.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	1.027	22.7	810	17.5	2.5	
P	31	1	nogas	-22.271	-10.6	46929	2.2	10	
La	139	1	nogas	58.189	83.0	117	48.7	2.5	CCB Main CR1 Failed
Au	197	1	nogas	415.776	60.1	13	43.3	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	356069	2.17	317178	112.26	70	125	
Ge	72	1	nogas	1424491	4.44	1355583	105.08	70	125	
In	115	1	nogas	1547644	1.02	1426361	108.50	70	125	
Bi	209	1	nogas	1468161	2.16	1404968	104.50	70	125	
Ge	72	2	He	98762	1.57	99503	99.26	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	072_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:18:18-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	93.807	5.678	226209	1.12	100	93.8	90	110	
Na	23	1	nogas	10114.384	1.879	101822109	2.02	10000	101.1	90	110	
Mg	24	1	nogas	9984.705	2.069	67550827	2.15	10000	99.8	90	110	
Al	27	1	nogas	92.045	3.209	1095254	1.95	100	92.0	90	110	
K	39	1	nogas	10074.438	2.523	79395402	1.01	10000	100.7	90	110	
Ti	47	1	nogas	98.983	1.903	85241	0.50	100	99.0	90	110	
V	51	1	nogas	94.522	4.903	1947587	1.11	100	94.5	90	110	
Cr	52	1	nogas	96.122	4.959	1071155	2.92	100	96.1	90	110	
Mn	55	1	nogas	95.321	6.723	1288230	4.64	100	95.3	90	110	
Co	59	1	nogas	95.220	3.795	1125895	3.35	100	95.2	90	110	
Ni	60	1	nogas	96.478	2.268	264839	0.99	100	96.5	90	110	
Cu	63	1	nogas	102.254	2.971	658243	0.72	100	102.3	90	110	
Zn	66	1	nogas	101.467	2.781	205182	2.02	100	101.5	90	110	
As	75	1	nogas	90.539	6.797	305840	3.19	100	90.5	90	110	
Sr	88	1	nogas	100.129	2.976	1335644	1.06	100	100.1	90	110	
Ag	107	1	nogas	101.078	2.660	813814	2.46	100	101.1	90	110	
Cd	111	1	nogas	101.786	1.627	165059	2.94	100	101.8	90	110	
Sb	121	1	nogas	102.666	5.044	687634	3.07	100	102.7	90	110	
Tl	205	1	nogas	102.649	2.851	1417629	2.45	100	102.6	90	110	
Pb	208	1	nogas	106.829	0.585	2028301	0.58	100	106.8	90	110	
U	238	1	nogas	106.275	5.077	2104895	4.45	100	106.3	90	110	
[Pb]	206	1	nogas	103.341	1.025	495056	0.58	100	103.3	90	110	
[Pb]	207	1	nogas	102.539	1.090	452148	0.50	100	102.5	90	110	
Na	23	2	He	9807.231	4.716	1811537	5.00	10000	98.1	90	110	
Mg	24	2	He	9605.153	0.962	841787	1.41	10000	96.1	90	110	
Al	27	2	He	93.909	9.218	3360	8.78	100	93.9	90	110	
K	39	2	He	9484.096	1.575	431241	1.53	10000	94.8	90	110	
Ca	43	2	He	9812.357	4.293	1547	5.27	10000	98.1	90	110	
Ca	44	2	He	9583.412	3.307	25755	2.57	10000	95.8	90	110	
V	51	2	He	98.193	0.175	95050	1.03	100	98.2	90	110	
Cr	52	2	He	96.348	1.563	132641	2.09	100	96.3	90	110	
Mn	55	2	He	93.662	0.899	49654	0.59	100	93.7	90	110	
Fe	56	2	He	9653.165	1.090	10392611	0.20	10000	96.5	90	110	
Co	59	2	He	100.806	1.497	225049	0.52	100	100.8	90	110	
Ni	60	2	He	101.301	2.562	67375	1.65	100	101.3	90	110	
Cu	63	2	He	98.772	1.404	190830	0.59	100	98.8	90	110	
Zn	66	2	He	96.728	1.784	25989	0.81	100	96.7	90	110	
As	75	2	He	98.589	1.267	16043	1.84	100	98.6	90	110	
Se	78	2	He	95.679	5.294	624	6.31	100	95.7	90	110	
B	11	1	nogas	479.197	6.516	784594	1.94	500	95.8	90	110	
Si	28	1	nogas	4834.390	5.457	19980709	3.01	5000	96.7	90	110	
Ca	43	1	nogas	9902.124	1.015	161439	1.21	10000	99.0	90	110	
Ca	44	1	nogas	7211.173	1.241	2844056	1.90	10000	72.1	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	9701.564	4.261	119921590	2.73	10000	97.0	90	110	
Se	77	1	nogas	75.404	22.374	43375	4.47	100	75.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.189	2.598	10870	4.66	100	99.2	90	110	
Mo	95	1	nogas	99.862	3.181	303788	1.62	100	99.9	90	110	
Sn	118	1	nogas	102.999	2.842	468281	3.49	100	103.0	90	110	
Ba	137	1	nogas	106.827	1.359	224105	1.22	100	106.8	90	110	
Sb	121	2	He	100.470	0.788	66915	1.77	100	100.5	90	110	
Li	7	1	nogas	157.359	7.495	886222	7.20	100	157.4	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	454.316	6.863	321850	3.53	500	90.9	90	110	
La	139	1	nogas	82.434	43.311	140	31.13	100	82.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-150.278	0.000	0	#DIV/0!	100	-150.3	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	nogas	315039	4.93	317178	99.33	70	125	
Ge	72	1	nogas	1420694	2.20	1355583	104.80	70	125	
In	115	1	nogas	1475625	2.31	1426361	103.45	70	125	
Bi	209	1	nogas	1457060	1.58	1404968	103.71	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	99888	0.98	99503	100.39	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	073_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:20:13-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.129	56.5	343	52.1	1	
Na	23	1	nogas	6.412	146.2	3069677	2.3	100	
Mg	24	1	nogas	13.830	65.3	96848	61.9	100	
Al	27	1	nogas	0.341	16.7	41657	1.2	5	
K	39	1	nogas	-5.416	-12.1	3939554	0.7	100	
Ti	47	1	nogas	-0.005	-1350.6	367	16.4	2.5	
V	51	1	nogas	-1.475	-116.7	665487	2.9	2.5	
Cr	52	1	nogas	-0.359	-19.5	19971	4.2	2.5	
Mn	55	1	nogas	0.513	15.0	10553	10.5	2.5	
Co	59	1	nogas	0.117	67.1	1637	57.9	2.5	
Ni	60	1	nogas	-0.520	-5.9	2160	3.3	2.5	
Cu	63	1	nogas	-1.626	-3.3	5721	6.2	2.5	
Zn	66	1	nogas	-0.511	-14.2	947	16.1	2.5	
As	75	1	nogas	-7.801	-17.6	92804	2.6	2.5	
Sr	88	1	nogas	0.172	35.5	2707	30.9	2.5	
Ag	107	1	nogas	0.079	47.4	953	32.4	2.5	
Cd	111	1	nogas	0.111	84.5	187	80.6	1	
Sb	121	1	nogas	1.811	21.7	13262	20.6	2.5	
Tl	205	1	nogas	0.174	50.5	2640	47.0	1	
Pb	208	1	nogas	0.152	51.5	4014	36.9	2.5	
U	238	1	nogas	0.134	62.2	2907	58.3	2.5	
[Pb]	206	1	nogas	0.130	57.7	947	39.0	2.5	
[Pb]	207	1	nogas	0.145	59.2	917	42.1	2.5	
Na	23	2	He	-3.340	-317.3	81899	0.4	100	
Mg	24	2	He	4.410	52.5	637	30.8	100	
Al	27	2	He	0.871	150.0	273	18.4	5	
K	39	2	He	27.324	31.6	12191	3.1	100	
Ca	43	2	He	-0.987	-3480.9	3	173.2	100	
Ca	44	2	He	-36.125	-107.4	213	50.6	100	
V	51	2	He	-0.066	-74.5	415	9.7	2.5	
Cr	52	2	He	0.108	80.2	1367	6.6	2.5	
Mn	55	2	He	-0.016	-554.1	157	30.2	2.5	
Fe	56	2	He	2.711	20.6	8762	5.1	100	
Co	59	2	He	0.040	42.6	107	35.5	2.5	
Ni	60	2	He	-0.673	-8.2	293	10.4	2.5	
Cu	63	2	He	-0.313	-17.6	860	12.3	2.5	
Zn	66	2	He	0.136	50.1	103	20.1	2.5	
As	75	2	He	0.064	51.7	21	24.1	2.5	
Se	78	2	He	0.615	27.5	1	86.6	2.5	
B	11	1	nogas	15.061	10.8	32224	6.3	10	CCB Main CR1 Failed
Si	28	1	nogas	0.622	984.1	1243658	2.2	5	
Ca	43	1	nogas	-15.545	-20.8	1327	4.5	100	
Ca	44	1	nogas	-2869.688	-0.4	295697	0.7	100	
Fe	56	1	nogas	21.791	37.8	828698	12.8	100	
Se	77	1	nogas	-13.836	-28.7	30773	1.2	2.5	
Se	82	1	nogas	0.927	140.4	570	24.1	2.5	
Mo	95	1	nogas	0.194	63.1	770	49.4	2.5	
Sn	118	1	nogas	0.147	59.8	1500	24.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.129	60.7	387	41.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	1.161	19.5	940	14.3	2.5	
P	31	1	nogas	-25.255	-7.9	45515	3.2	10	
La	139	1	nogas	74.373	50.0	133	30.3	2.5	CCB Main CR1 Failed
Au	197	1	nogas	678.295	106.0	20	86.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	341086	3.15	317178	107.54	70	125	
Ge	72	1	nogas	1433076	0.72	1355583	105.72	70	125	
In	115	1	nogas	1519087	2.25	1426361	106.50	70	125	
Bi	209	1	nogas	1502253	0.43	1404968	106.92	70	125	
Ge	72	2	He	103492	2.70	99503	104.01	70	125	

Sample Report

Sample Table

Sample Name	MBLK-123692
Data File Name	077SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:28:10-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.013	0.013	44.48	47	0.03	2000	
Na	23	1	nogas	-51.761	-51.761	-11.05	2673402	0.00	200000	
Mg	24	1	nogas	11.039	11.039	9.73	83499	0.01	200000	
Al	27	1	nogas	1.570	1.570	7.89	60799	0.00	2000	
K	39	1	nogas	-39.367	-39.367	-19.54	4002865	0.00	200000	
Ti	47	1	nogas	-0.213	-0.213	-28.41	203	-0.10	2000	
V	51	1	nogas	-7.975	-7.975	-7.81	627961	0.00	2000	
Cr	52	1	nogas	-0.686	-0.686	-3.71	17799	0.00	2000	
Mn	55	1	nogas	0.240	0.240	7.43	7438	0.00	2000	
Co	59	1	nogas	-0.001	-0.001	-408.80	243	0.00	2000	
Ni	60	1	nogas	-0.690	-0.690	-4.78	1847	-0.04	2000	
Cu	63	1	nogas	-1.786	-1.786	-1.64	5117	-0.03	2000	
Zn	66	1	nogas	-0.300	-0.300	-10.55	1490	-0.02	2000	
As	75	1	nogas	-14.254	-14.254	-7.40	85537	-0.02	2000	
Sr	88	1	nogas	0.042	0.042	19.34	1033	0.00	2000	
Ag	107	1	nogas	0.002	0.002	386.29	353	0.00	2000	
Cd	111	1	nogas	0.011	0.011	27.60	23	0.05	2000	
Sb	121	1	nogas	0.056	0.056	37.73	1523	0.00	2000	
Tl	205	1	nogas	0.000	0.000	1413.42	190	0.00	2000	
Pb	208	1	nogas	-0.001	-0.001	-343.78	1120	0.00	2000	
U	238	1	nogas	-0.006	-0.006	-19.98	50	-0.01	2000	
[Pb]	206	1	nogas	-0.010	-0.010	-110.38	280	0.00	2000	
[Pb]	207	1	nogas	-0.005	-0.005	-192.13	260	0.00	2000	
Na	23	2	He	-55.667	-55.667	-13.31	74124	-0.08	200000	
Mg	24	2	He	10.445	10.445	13.35	1217	0.86	200000	
Al	27	2	He	2.209	2.209	71.26	327	0.68	2000	
K	39	2	He	30.109	30.109	19.84	12314	0.24	200000	
Ca	43	2	He	-1.006	-1.006	-3412.79	3	-30.18	200000	
Ca	44	2	He	-53.010	-53.010	-37.56	170	-31.18	200000	
V	51	2	He	-0.147	-0.147	-18.30	344	-0.04	2000	
Cr	52	2	He	-0.087	-0.087	-17.74	1120	-0.01	2000	
Mn	55	2	He	-0.054	-0.054	-121.62	140	-0.04	2000	
Fe	56	2	He	-0.176	-0.176	-80.09	5688	0.00	200000	
Co	59	2	He	0.005	0.005	121.78	27	0.02	2000	
Ni	60	2	He	-0.623	-0.623	-9.10	337	-0.18	2000	
Cu	63	2	He	-0.263	-0.263	-11.39	983	-0.03	2000	
Zn	66	2	He	0.198	0.198	45.32	123	0.16	2000	
As	75	2	He	0.041	0.041	70.58	18	0.23	2000	
Se	78	2	He	0.898	0.898	36.51	3	26.95	2000	
B	11	1	nogas	11.990	11.990	5.36	28712	0.04	2000	
Si	28	1	nogas	-13.583	-13.583	-33.68	1291340	0.00	2000	
Ca	43	1	nogas	-37.464	-37.464	-6.64	1053	-3.56	200000	

Sample Report

Ca	44	1	nogas	-3039.941	-3039.941	-0.42	274167	-1.11	200000	
Fe	56	1	nogas	7.791	7.791	14.81	711446	0.00	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Se	77	1	nogas	-46.909	-46.909	-14.67	28229	-0.17	2000	
Se	82	1	nogas	-0.660	-0.660	-70.20	437	-0.15	2000	
Mo	95	1	nogas	-0.029	-0.029	-36.56	90	-0.03	2000	
Sn	118	1	nogas	-0.047	-0.047	-78.61	660	-0.01	2000	
Ba	137	1	nogas	0.036	0.036	62.73	207	0.02	2000	
Sb	121	2	He	0.005	0.005	2213.89	150	0.00	2000	
La	139	1	nogas	-5.537	-5.537	-405.69	43	-12.78	2000	
Au	197	1	nogas	355.418	355.418	61.53	13	2665.63	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	364778	2.01	317178	115.01	70	125	
Ge	72	1	nogas	1557855	1.94	1355583	114.92	70	125	
In	115	1	nogas	1668599	2.50	1426361	116.98	70	125	
Bi	209	1	nogas	1640111	3.45	1404968	116.74	70	125	
Ge	72	2	He	106016	0.69	99503	106.55	70	125	

Sample Report

Sample Table

Sample Name	LCS-123692
Data File Name	078SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:30:09-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	42.630	42.630	4.14	107299	0.04	2000	
Na	23	1	nogas	4808.229	4808.229	1.26	50480374	0.01	200000	
Mg	24	1	nogas	5047.509	5047.509	3.72	34464225	0.01	200000	
Al	27	1	nogas	68.095	68.095	8.90	873013	0.01	2000	
K	39	1	nogas	4653.827	4653.827	7.88	41334126	0.01	200000	
Ti	47	1	nogas	129.396	129.396	2.77	118741	0.11	2000	
V	51	1	nogas	36.647	36.647	11.36	1248340	0.00	2000	
Cr	52	1	nogas	44.434	44.434	6.60	541295	0.01	2000	
Mn	55	1	nogas	46.502	46.502	8.13	671481	0.01	2000	
Co	59	1	nogas	46.602	46.602	9.77	586509	0.01	2000	
Ni	60	1	nogas	44.535	44.535	8.30	132213	0.03	2000	
Cu	63	1	nogas	45.546	45.546	5.03	321929	0.01	2000	
Zn	66	1	nogas	47.658	47.658	4.68	103911	0.05	2000	
As	75	1	nogas	32.415	32.415	22.01	191043	0.02	2000	
Sr	88	1	nogas	91.965	91.965	8.93	1306019	0.01	2000	
Ag	107	1	nogas	47.092	47.092	3.26	404465	0.01	2000	
Cd	111	1	nogas	48.786	48.786	0.94	84936	0.06	2000	
Sb	121	1	nogas	51.004	51.004	7.02	364541	0.01	2000	
Tl	205	1	nogas	44.959	44.959	8.95	671024	0.01	2000	
Pb	208	1	nogas	52.906	52.906	1.34	1005066	0.01	2000	
U	238	1	nogas	98.390	98.390	8.51	2106299	0.00	2000	
[Pb]	206	1	nogas	47.483	47.483	5.90	246254	0.02	2000	
[Pb]	207	1	nogas	46.938	46.938	6.42	224039	0.02	2000	
Na	23	2	He	4753.355	4753.355	3.56	954923	0.50	200000	
Mg	24	2	He	4625.802	4625.802	2.48	421404	1.10	200000	
Al	27	2	He	60.141	60.141	14.03	2324	2.59	2000	
K	39	2	He	4751.134	4751.134	1.30	221513	2.14	200000	
Ca	43	2	He	4832.208	4832.208	6.25	793	609.08	200000	
Ca	44	2	He	4651.386	4651.386	4.57	13152	35.37	200000	
V	51	2	He	45.277	45.277	2.50	45803	0.10	2000	
Cr	52	2	He	46.517	46.517	0.59	67179	0.07	2000	
Mn	55	2	He	44.833	44.833	1.95	24790	0.18	2000	
Fe	56	2	He	4635.733	4635.733	1.11	5190434	0.09	200000	
Co	59	2	He	47.061	47.061	3.83	109201	0.04	2000	
Ni	60	2	He	47.067	47.067	3.82	32940	0.14	2000	
Cu	63	2	He	45.192	45.192	2.15	91545	0.05	2000	
Zn	66	2	He	45.944	45.944	0.49	12865	0.36	2000	
As	75	2	He	46.112	46.112	3.91	7804	0.59	2000	
Se	78	2	He	44.533	44.533	14.22	300	14.84	2000	
B	11	1	nogas	437.798	437.798	2.40	748878	0.06	2000	
Si	28	1	nogas	4488.451	4488.451	8.63	19854393	0.02	2000	>LDR
Ca	43	1	nogas	4427.349	4427.349	5.20	77838	5.69	200000	
Ca	44	1	nogas	1396.022	1396.022	22.16	1462174	0.10	200000	
Fe	56	1	nogas	4552.929	4552.929	7.94	60250837	0.01	200000	

Sample Report

Se	77	1	nogas	-2.275	-2.275	-707.08	34263	-0.01	2000	
Se	82	1	nogas	45.312	45.312	4.97	5561	0.81	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	44.955	44.955	4.31	145899	0.03	2000	
Sn	118	1	nogas	91.349	91.349	1.66	446098	0.02	2000	
Ba	137	1	nogas	48.225	48.225	2.98	108665	0.04	2000	
Sb	121	2	He	51.084	51.084	3.22	35430	0.14	2000	
La	139	1	nogas	49.963	49.963	68.05	110	45.42	2000	
Au	197	1	nogas	373.232	373.232	164.99	13	2799.24	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	328306	1.30	317178	103.51	70	125	
Ge	72	1	nogas	1516061	4.73	1355583	111.84	70	125	
In	115	1	nogas	1584345	1.87	1426361	111.08	70	125	
Bi	209	1	nogas	1579848	6.10	1404968	112.45	70	125	
Ge	72	2	He	103810	0.81	99503	104.33	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	084_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:42:11-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	86.202	5.677	211760	4.26	100	86.2	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10097.006	0.974	98937617	1.94	10000	101.0	90	110	
Mg	24	1	nogas	10208.509	1.937	67214447	1.90	10000	102.1	90	110	
Al	27	1	nogas	92.743	1.739	1098464	0.73	100	92.7	90	110	
K	39	1	nogas	9914.509	1.478	77867860	2.25	10000	99.1	90	110	
Ti	47	1	nogas	95.908	4.925	82227	4.31	100	95.9	90	110	
V	51	1	nogas	74.457	7.499	1670849	3.35	100	74.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	93.396	4.074	1037010	2.77	100	93.4	90	110	
Mn	55	1	nogas	99.949	3.654	1345331	2.80	100	99.9	90	110	
Co	59	1	nogas	94.561	1.563	1113294	2.13	100	94.6	90	110	
Ni	60	1	nogas	94.228	1.481	257607	0.45	100	94.2	90	110	
Cu	63	1	nogas	97.219	2.241	623875	0.42	100	97.2	90	110	
Zn	66	1	nogas	99.477	3.956	200250	2.18	100	99.5	90	110	
As	75	1	nogas	87.549	5.251	298032	2.41	100	87.5	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	98.519	1.258	1308716	1.86	100	98.5	90	110	
Ag	107	1	nogas	98.345	0.436	788359	1.46	100	98.3	90	110	
Cd	111	1	nogas	98.879	2.072	164958	1.93	100	98.9	90	110	
Sb	121	1	nogas	103.883	2.661	692972	2.24	100	103.9	90	110	
Tl	205	1	nogas	102.802	4.139	1436334	2.91	100	102.8	90	110	
Pb	208	1	nogas	106.842	2.033	2028541	2.03	100	106.8	90	110	
U	238	1	nogas	107.543	4.553	2155490	4.03	100	107.5	90	110	
[Pb]	206	1	nogas	101.041	3.255	489746	2.42	100	101.0	90	110	
[Pb]	207	1	nogas	101.816	3.223	454274	2.65	100	101.8	90	110	
Na	23	2	He	9776.776	4.480	1795539	3.56	10000	97.8	90	110	
Mg	24	2	He	9375.347	2.947	816895	1.47	10000	93.8	90	110	
Al	27	2	He	85.709	0.840	3070	2.26	100	85.7	90	110	CCV Main CR1-2 Failed
K	39	2	He	9336.317	1.962	424692	1.91	10000	93.4	90	110	
Ca	43	2	He	9640.937	5.756	1510	4.03	10000	96.4	90	110	
Ca	44	2	He	9277.422	1.381	24807	1.10	10000	92.8	90	110	
V	51	2	He	98.871	2.726	95149	0.87	100	98.9	90	110	
Cr	52	2	He	97.397	2.600	133320	2.50	100	97.4	90	110	
Mn	55	2	He	94.944	1.348	50065	2.96	100	94.9	90	110	
Fe	56	2	He	9637.596	1.101	10318999	1.33	10000	96.4	90	110	
Co	59	2	He	98.631	4.649	218903	3.09	100	98.6	90	110	
Ni	60	2	He	98.444	4.313	65113	2.40	100	98.4	90	110	
Cu	63	2	He	95.471	3.286	183437	1.46	100	95.5	90	110	
Zn	66	2	He	96.382	4.050	25745	2.23	100	96.4	90	110	
As	75	2	He	98.519	1.017	15942	0.93	100	98.5	90	110	
Se	78	2	He	93.611	8.188	607	9.64	100	93.6	90	110	
B	11	1	nogas	456.877	4.495	762528	2.90	500	91.4	90	110	
Si	28	1	nogas	4770.736	3.282	19651662	1.41	5000	95.4	90	110	
Ca	43	1	nogas	9752.602	1.572	158311	1.54	10000	97.5	90	110	
Ca	44	1	nogas	6884.110	5.894	2748683	3.78	10000	68.8	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	9777.891	2.015	120347044	0.66	10000	97.8	90	110	
Se	77	1	nogas	54.499	9.279	40188	0.43	100	54.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.116	3.152	10500	4.72	100	96.1	90	110	
Mo	95	1	nogas	97.428	4.410	295120	4.30	100	97.4	90	110	
Sn	118	1	nogas	102.394	0.667	478973	0.79	100	102.4	90	110	
Ba	137	1	nogas	99.955	2.907	215779	2.88	100	100.0	90	110	
Sb	121	2	He	102.210	3.250	67678	2.38	100	102.2	90	110	
Li	7	1	nogas	100.639	2.925	588071	1.20	100	100.6	90	110	
P	31	1	nogas	440.572	2.284	312708	1.95	500	88.1	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	147.274	41.300	220	32.78	100	147.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	132.771	184.632	7	86.60	100	132.8	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	nogas	320514	1.59	317178	101.05	70	125	
Ge	72	1	nogas	1414261	1.79	1355583	104.33	70	125	
In	115	1	nogas	1518151	0.21	1426361	106.44	70	125	
Bi	209	1	nogas	1474372	1.27	1404968	104.94	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	99344	1.95	99503	99.84	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	085_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:44:09-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.092	43.3	260	41.6	1	
Na	23	1	nogas	-27.693	-23.3	2648239	1.7	100	
Mg	24	1	nogas	13.700	49.7	92885	46.9	100	
Al	27	1	nogas	0.281	39.7	41216	3.1	5	
K	39	1	nogas	-30.657	-13.2	3771791	1.7	100	
Ti	47	1	nogas	-0.119	-54.0	270	22.5	2.5	
V	51	1	nogas	-14.628	-4.5	490382	0.3	2.5	
Cr	52	1	nogas	-0.490	-4.2	18650	0.8	2.5	
Mn	55	1	nogas	0.755	7.0	13936	6.6	2.5	
Co	59	1	nogas	0.101	66.0	1460	56.6	2.5	
Ni	60	1	nogas	-0.553	-15.3	2087	12.5	2.5	
Cu	63	1	nogas	-1.623	-2.5	5778	5.9	2.5	
Zn	66	1	nogas	-0.524	-20.2	927	24.9	2.5	
As	75	1	nogas	-10.922	-12.2	86464	1.9	2.5	
Sr	88	1	nogas	0.182	41.3	2870	37.3	2.5	
Ag	107	1	nogas	0.098	37.8	1113	28.8	2.5	
Cd	111	1	nogas	0.112	44.0	200	44.4	1	
Sb	121	1	nogas	1.716	28.3	12718	27.5	2.5	
Tl	205	1	nogas	0.169	44.7	2594	42.8	1	
Pb	208	1	nogas	0.131	68.4	3617	46.9	2.5	
U	238	1	nogas	0.130	62.8	2844	59.9	2.5	
[Pb]	206	1	nogas	0.109	78.7	850	51.2	2.5	
[Pb]	207	1	nogas	0.095	62.7	697	40.2	2.5	
Na	23	2	He	-66.881	-7.6	69828	1.1	100	
Mg	24	2	He	4.019	26.2	600	14.5	100	
Al	27	2	He	-1.887	-28.4	177	11.8	5	
K	39	2	He	7.753	37.9	11324	1.1	100	
Ca	43	2	He	-0.473	-7450.9	3	173.2	100	
Ca	44	2	He	-39.146	-31.9	203	18.6	100	
V	51	2	He	-0.218	-15.9	263	14.9	2.5	
Cr	52	2	He	0.074	52.2	1310	2.0	2.5	
Mn	55	2	He	0.274	34.5	313	14.4	2.5	
Fe	56	2	He	4.000	17.7	10130	5.7	100	
Co	59	2	He	0.042	29.0	110	24.1	2.5	
Ni	60	2	He	-0.690	-17.3	280	28.3	2.5	
Cu	63	2	He	-0.291	-24.5	897	14.3	2.5	
Zn	66	2	He	-0.044	-472.0	53	108.3	2.5	
As	75	2	He	0.038	52.6	17	20.0	2.5	
Se	78	2	He	1.010	28.5	4	50.0	2.5	
B	11	1	nogas	16.382	3.1	35721	1.3	10	CCB Main CR1 Failed
Si	28	1	nogas	-64.451	-3.3	994879	1.4	5	
Ca	43	1	nogas	-30.850	-10.6	1083	3.7	100	
Ca	44	1	nogas	-3004.390	-0.6	262881	0.8	100	
Fe	56	1	nogas	15.842	41.1	759908	12.1	100	
Se	77	1	nogas	-30.974	-23.2	28443	2.5	2.5	
Se	82	1	nogas	0.829	84.1	563	13.6	2.5	
Mo	95	1	nogas	0.204	60.8	807	49.2	2.5	
Sn	118	1	nogas	0.223	61.1	1950	35.3	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.135	39.3	420	29.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	1.067	23.6	873	21.3	2.5	
P	31	1	nogas	-26.609	-5.9	45004	3.5	10	
La	139	1	nogas	31.112	32.4	87	13.3	2.5	CCB Main CR1 Failed
Au	197	1	nogas	672.375	60.3	20	50.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	352125	1.76	317178	111.02	70	125	
Ge	72	1	nogas	1441871	1.62	1355583	106.37	70	125	
In	115	1	nogas	1589750	1.28	1426361	111.45	70	125	
Bi	209	1	nogas	1505826	1.49	1404968	107.18	70	125	
Ge	72	2	He	102798	2.07	99503	103.31	70	125	

Sample Report

Sample Table

Sample Name	HS17121008-07SD
Data File Name	088SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:50:09-06:00
Sample Type	Sample
Dilution	5
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.012	0.060	45.65	43	0.03	2000	
Na	23	1	nogas	2404.268	12021.341	2.24	26725727	0.01	200000	
Mg	24	1	nogas	6560.278	32801.389	2.37	44730820	0.01	200000	
Al	27	1	nogas	4.412	22.058	17.84	92135	0.00	2000	
K	39	1	nogas	181.559	907.797	10.57	5540145	0.00	200000	
Ti	47	1	nogas	0.164	0.822	112.70	530	0.03	2000	
V	51	1	nogas	-5.124	-25.618	-39.42	638047	0.00	2000	
Cr	52	1	nogas	-0.276	-1.378	-36.65	21633	0.00	2000	
Mn	55	1	nogas	22.190	110.950	2.60	316370	0.01	2000	
Co	59	1	nogas	0.318	1.588	6.58	4164	0.01	2000	
Ni	60	1	nogas	0.906	4.528	6.20	6271	0.01	2000	
Cu	63	1	nogas	-0.958	-4.790	-11.46	10313	-0.01	2000	
Zn	66	1	nogas	2.297	11.487	7.74	6858	0.03	2000	
As	75	1	nogas	-11.357	-56.783	-15.42	88011	-0.01	2000	
Sr	88	1	nogas	117.837	589.187	3.22	1641687	0.01	2000	
Ag	107	1	nogas	0.023	0.117	59.56	517	0.00	2000	
Cd	111	1	nogas	0.011	0.057	59.13	23	0.05	2000	
Sb	121	1	nogas	0.166	0.830	5.87	2224	0.01	2000	
Tl	205	1	nogas	0.004	0.018	58.33	223	0.00	2000	
Pb	208	1	nogas	0.050	0.250	15.98	2083	0.00	2000	
U	238	1	nogas	0.071	0.355	5.42	1627	0.00	2000	
[Pb]	206	1	nogas	0.053	0.265	26.78	570	0.01	2000	
[Pb]	207	1	nogas	0.053	0.266	48.03	503	0.01	2000	
Na	23	2	He	2305.016	11525.080	1.95	498470	0.46	200000	
Mg	24	2	He	6173.020	30865.100	3.02	554085	1.11	200000	
Al	27	2	He	4.318	21.592	47.55	387	1.12	2000	
K	39	2	He	234.903	1174.513	7.69	21389	1.10	200000	
Ca	43	2	He	11970.348	59851.739	7.19	1930	620.18	200000	
Ca	44	2	He	11151.780	55758.899	0.85	30656	36.38	200000	
V	51	2	He	1.609	8.047	2.54	2065	0.08	2000	
Cr	52	2	He	0.263	1.313	24.48	1570	0.02	2000	
Mn	55	2	He	22.910	114.552	9.75	12551	0.18	2000	
Fe	56	2	He	37.362	186.810	0.52	46877	0.08	200000	
Co	59	2	He	0.329	1.645	3.56	767	0.04	2000	
Ni	60	2	He	1.148	5.740	27.22	1517	0.08	2000	
Cu	63	2	He	0.216	1.081	19.40	1890	0.01	2000	
Zn	66	2	He	2.887	14.433	10.88	857	0.34	2000	
As	75	2	He	0.052	0.258	47.38	19	0.27	2000	
Se	78	2	He	0.915	4.577	18.21	3	27.46	2000	
B	11	1	nogas	14.030	70.150	4.24	31370	0.04	2000	
Si	28	1	nogas	4207.830	21039.148	2.38	18343078	0.02	2000	>LDR
Ca	43	1	nogas	11777.009	58885.047	3.53	200178	5.88	200000	
Ca	44	1	nogas	8590.339	42951.693	2.46	3334520	0.26	200000	
Fe	56	1	nogas	49.970	249.852	1.98	1220039	0.00	200000	

Sample Report

Se	77	1	nogas	-33.235	-166.175	-28.44	28953	-0.11	2000	
Se	82	1	nogas	-0.360	-1.798	-161.09	450	-0.08	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.324	1.618	3.30	1207	0.03	2000	
Sn	118	1	nogas	0.055	0.275	47.23	1120	0.00	2000	
Ba	137	1	nogas	7.983	39.916	2.89	18050	0.04	2000	
Sb	121	2	He	0.138	0.692	71.34	237	0.06	2000	
La	139	1	nogas	131.737	658.687	37.26	210	62.73	2000	
Au	197	1	nogas	527.274	2636.372	116.34	17	3163.65	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	351379	2.23	317178	110.78	70	125	
Ge	72	1	nogas	1483845	2.01	1355583	109.46	70	125	
In	115	1	nogas	1580624	0.57	1426361	110.82	70	125	
Bi	209	1	nogas	1509804	2.92	1404968	107.46	70	125	
Ge	72	2	He	102339	2.51	99503	102.85	70	125	

Sample Report

Sample Table

Sample Name	HS17121008-07MS
Data File Name	089SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:52:08-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	45.421	45.421	5.41	116120	0.04	2000	
Na	23	1	nogas	16243.933	16243.933	1.03	172271583	0.01	200000	
Mg	24	1	nogas	36401.542	36401.542	2.32	262421356	0.01	200000	
Al	27	1	nogas	85.762	85.762	4.75	1054575	0.01	2000	
K	39	1	nogas	6111.329	6111.329	4.73	51247562	0.01	200000	
Ti	47	1	nogas	142.586	142.586	1.86	126448	0.11	2000	
V	51	1	nogas	49.602	49.602	1.02	1387027	0.00	2000	
Cr	52	1	nogas	48.193	48.193	0.70	566173	0.01	2000	
Mn	55	1	nogas	150.499	150.499	1.67	2096492	0.01	2000	
Co	59	1	nogas	49.231	49.231	4.79	600111	0.01	2000	
Ni	60	1	nogas	53.854	53.854	2.09	154039	0.03	2000	
Cu	63	1	nogas	49.665	49.665	0.81	338151	0.01	2000	
Zn	66	1	nogas	61.813	61.813	2.82	129661	0.05	2000	
As	75	1	nogas	34.344	34.344	7.99	189341	0.02	2000	
Sr	88	1	nogas	685.920	685.920	4.15	9430498	0.01	2000	
Ag	107	1	nogas	48.158	48.158	3.08	399925	0.01	2000	
Cd	111	1	nogas	47.617	47.617	1.46	84168	0.06	2000	
Sb	121	1	nogas	53.538	53.538	1.55	370368	0.01	2000	
Tl	205	1	nogas	46.421	46.421	5.40	686573	0.01	2000	
Pb	208	1	nogas	52.945	52.945	2.28	1005796	0.01	2000	
U	238	1	nogas	102.565	102.565	6.89	2174302	0.00	2000	
[Pb]	206	1	nogas	48.124	48.124	2.74	247207	0.02	2000	
[Pb]	207	1	nogas	47.159	47.159	2.59	222994	0.02	2000	
Na	23	2	He	16349.877	16349.877	2.08	3040474	0.54	200000	
Mg	24	2	He	34224.671	34224.671	0.83	3074013	1.11	200000	
Al	27	2	He	86.195	86.195	6.69	3180	2.71	2000	
K	39	2	He	5796.905	5796.905	1.35	267853	2.16	200000	
Ca	43	2	He	63457.743	63457.743	3.93	10230	620.33	200000	
Ca	44	2	He	61772.783	61772.783	2.58	168482	36.66	200000	
V	51	2	He	56.351	56.351	2.03	56111	0.10	2000	
Cr	52	2	He	48.856	48.856	2.51	69549	0.07	2000	
Mn	55	2	He	146.224	146.224	4.28	79341	0.18	2000	
Fe	56	2	He	4873.643	4873.643	4.47	5379335	0.09	200000	
Co	59	2	He	49.742	49.742	4.11	113809	0.04	2000	
Ni	60	2	He	55.271	55.271	1.53	38023	0.15	2000	
Cu	63	2	He	47.967	47.967	1.90	95746	0.05	2000	
Zn	66	2	He	58.761	58.761	4.33	16204	0.36	2000	
As	75	2	He	49.478	49.478	2.83	8256	0.60	2000	
Se	78	2	He	46.095	46.095	4.55	307	15.03	2000	
B	11	1	nogas	445.514	445.514	4.29	773710	0.06	2000	
Si	28	1	nogas	26319.966	26319.966	2.60	106561805	0.02	2000	>LDR
Ca	43	1	nogas	64056.350	64056.350	4.22	1067682	6.00	200000	
Ca	44	1	nogas	62151.161	62151.161	4.68	17258245	0.36	200000	
Fe	56	1	nogas	4969.678	4969.678	3.53	63622737	0.01	200000	

Sample Report

Se	77	1	nogas	-1.674	-1.674	-823.42	33244	-0.01	2000	
Se	82	1	nogas	48.828	48.828	11.53	5754	0.85	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	49.803	49.803	3.95	156282	0.03	2000	
Sn	118	1	nogas	94.447	94.447	1.31	468035	0.02	2000	
Ba	137	1	nogas	85.308	85.308	1.52	195098	0.04	2000	
Sb	121	2	He	54.590	54.590	1.73	37327	0.15	2000	
La	139	1	nogas	449.784	449.784	22.56	610	73.73	2000	
Au	197	1	nogas	919.749	919.749	66.75	27	3449.06	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	333584	3.11	317178	105.17	70	125	
Ge	72	1	nogas	1464603	1.41	1355583	108.04	70	125	
In	115	1	nogas	1608246	1.44	1426361	112.75	70	125	
Bi	209	1	nogas	1562282	4.44	1404968	111.20	70	125	
Ge	72	2	He	102398	1.68	99503	102.91	70	125	

Sample Report

Sample Table

Sample Name	HS17121008-07MSD
Data File Name	090SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:54:09-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	46.453	46.453	2.53	114357	0.04	2000	
Na	23	1	nogas	16248.664	16248.664	2.52	166857962	0.01	200000	
Mg	24	1	nogas	35906.435	35906.435	2.08	250589539	0.01	200000	
Al	27	1	nogas	84.479	84.479	4.28	1065774	0.01	2000	
K	39	1	nogas	5690.812	5690.812	5.28	49232018	0.01	200000	
Ti	47	1	nogas	136.479	136.479	4.47	124067	0.11	2000	
V	51	1	nogas	40.806	40.806	9.58	1296999	0.00	2000	
Cr	52	1	nogas	46.544	46.544	6.72	560983	0.01	2000	
Mn	55	1	nogas	143.807	143.807	5.22	2053142	0.01	2000	
Co	59	1	nogas	46.546	46.546	6.75	581539	0.01	2000	
Ni	60	1	nogas	51.171	51.171	5.87	150219	0.03	2000	
Cu	63	1	nogas	46.859	46.859	6.57	327954	0.01	2000	
Zn	66	1	nogas	59.512	59.512	4.86	128061	0.05	2000	
As	75	1	nogas	27.605	27.605	10.28	178676	0.02	2000	
Sr	88	1	nogas	639.801	639.801	7.77	9012521	0.01	2000	
Ag	107	1	nogas	47.177	47.177	5.05	401493	0.01	2000	
Cd	111	1	nogas	48.699	48.699	1.56	83428	0.06	2000	
Sb	121	1	nogas	50.994	50.994	5.77	361644	0.01	2000	
Tl	205	1	nogas	47.180	47.180	4.76	685618	0.01	2000	
Pb	208	1	nogas	53.647	53.647	0.87	1019136	0.01	2000	
U	238	1	nogas	102.124	102.124	7.03	2126704	0.00	2000	
[Pb]	206	1	nogas	49.491	49.491	5.09	249561	0.02	2000	
[Pb]	207	1	nogas	49.221	49.221	6.83	228314	0.02	2000	
Na	23	2	He	16071.914	16071.914	0.28	2970969	0.54	200000	
Mg	24	2	He	34062.823	34062.823	3.03	3038740	1.12	200000	
Al	27	2	He	74.642	74.642	7.74	2767	2.70	2000	
K	39	2	He	5725.341	5725.341	1.90	264682	2.16	200000	
Ca	43	2	He	61434.470	61434.470	7.31	9836	624.58	200000	
Ca	44	2	He	59754.315	59754.315	1.84	161940	36.90	200000	
V	51	2	He	54.989	54.989	1.87	54405	0.10	2000	
Cr	52	2	He	49.585	49.585	3.64	70070	0.07	2000	
Mn	55	2	He	143.350	143.350	1.31	77303	0.19	2000	
Fe	56	2	He	4760.694	4760.694	1.25	5221973	0.09	200000	
Co	59	2	He	49.247	49.247	0.40	111978	0.04	2000	
Ni	60	2	He	53.901	53.901	1.40	36861	0.15	2000	
Cu	63	2	He	48.641	48.641	1.02	96442	0.05	2000	
Zn	66	2	He	58.688	58.688	0.42	16084	0.36	2000	
As	75	2	He	48.179	48.179	2.36	7990	0.60	2000	
Se	78	2	He	43.728	43.728	5.28	289	15.15	2000	
B	11	1	nogas	475.803	475.803	5.66	794793	0.06	2000	
Si	28	1	nogas	25675.689	25675.689	5.71	106559832	0.02	2000	>LDR
Ca	43	1	nogas	60083.116	60083.116	5.38	1026926	5.85	200000	
Ca	44	1	nogas	56005.188	56005.188	7.14	16043260	0.35	200000	
Fe	56	1	nogas	4773.494	4773.494	5.89	62681231	0.01	200000	

Sample Report

Se	77	1	nogas	-30.219	-30.219	-24.70	29758	-0.10	2000	
Se	82	1	nogas	44.702	44.702	3.18	5451	0.82	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	47.678	47.678	6.62	153341	0.03	2000	
Sn	118	1	nogas	94.445	94.445	4.75	453482	0.02	2000	
Ba	137	1	nogas	88.925	88.925	4.38	197033	0.05	2000	
Sb	121	2	He	52.672	52.672	1.81	35784	0.15	2000	
La	139	1	nogas	468.118	468.118	14.81	613	76.32	2000	
Au	197	1	nogas	241.465	241.465	158.54	10	2414.65	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	321182	3.80	317178	101.26	70	125	
Ge	72	1	nogas	1502979	4.43	1355583	110.87	70	125	
In	115	1	nogas	1559320	2.78	1426361	109.32	70	125	
Bi	209	1	nogas	1535339	5.35	1404968	109.28	70	125	
Ge	72	2	He	101718	1.24	99503	102.23	70	125	

Sample Report

Sample Table

Sample Name	HS17121008-07PDS
Data File Name	091SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T13:56:10-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	83.309	83.309	2.07	228160	0.04	2000	
Na	23	1	nogas	21657.949	21657.949	5.59	217942997	0.01	200000	
Mg	24	1	nogas	40847.182	40847.182	5.52	280639556	0.01	200000	
Al	27	1	nogas	83.074	83.074	3.43	1039891	0.01	2000	
K	39	1	nogas	10865.943	10865.943	3.32	89436919	0.01	200000	
Ti	47	1	nogas	190.317	190.317	3.01	171493	0.11	2000	
V	51	1	nogas	83.016	83.016	6.60	1879823	0.00	2000	
Cr	52	1	nogas	93.583	93.583	3.55	1094223	0.01	2000	
Mn	55	1	nogas	191.218	191.218	3.93	2706284	0.01	2000	
Co	59	1	nogas	93.180	93.180	4.65	1154676	0.01	2000	
Ni	60	1	nogas	95.677	95.677	1.97	275325	0.03	2000	
Cu	63	1	nogas	95.755	95.755	1.39	647429	0.01	2000	
Zn	66	1	nogas	110.343	110.343	1.58	233756	0.05	2000	
As	75	1	nogas	75.517	75.517	3.81	286424	0.03	2000	
Sr	88	1	nogas	650.962	650.962	2.35	9101075	0.01	2000	
Ag	107	1	nogas	96.624	96.624	1.35	815562	0.01	2000	
Cd	111	1	nogas	102.361	102.361	1.42	173339	0.06	2000	
Sb	121	1	nogas	101.263	101.263	1.08	711337	0.01	2000	
Tl	205	1	nogas	103.737	103.737	9.95	1452116	0.01	2000	
Pb	208	1	nogas	106.711	106.711	1.69	2026048	0.01	2000	
U	238	1	nogas	0.445	0.445	16.14	9200	0.00	2000	
[Pb]	206	1	nogas	102.045	102.045	10.28	495487	0.02	2000	
[Pb]	207	1	nogas	100.769	100.769	6.78	450935	0.02	2000	
Na	23	2	He	19963.571	19963.571	2.16	3753185	0.53	200000	
Mg	24	2	He	36828.554	36828.554	0.47	3360370	1.10	200000	
Al	27	2	He	75.815	75.815	4.46	2870	2.64	2000	
K	39	2	He	10773.697	10773.697	0.42	488386	2.21	200000	
Ca	43	2	He	64210.821	64210.821	1.31	10516	610.57	200000	
Ca	44	2	He	62032.497	62032.497	1.42	171932	36.08	200000	
V	51	2	He	101.358	101.358	1.80	102135	0.10	2000	
Cr	52	2	He	97.225	97.225	1.90	139334	0.07	2000	
Mn	55	2	He	185.129	185.129	2.31	102037	0.18	2000	
Fe	56	2	He	9328.990	9328.990	1.58	10457512	0.09	200000	
Co	59	2	He	95.702	95.702	4.54	222393	0.04	2000	
Ni	60	2	He	100.770	100.770	4.18	69773	0.14	2000	
Cu	63	2	He	93.959	93.959	2.00	189074	0.05	2000	
Zn	66	2	He	108.809	108.809	2.44	30429	0.36	2000	
As	75	2	He	97.058	97.058	2.18	16443	0.59	2000	
Se	78	2	He	89.095	89.095	1.18	605	14.73	2000	
B	11	1	nogas	879.489	879.489	1.00	1630938	0.05	2000	
Si	28	1	nogas	30184.513	30184.513	3.94	124059951	0.02	2000	>LDR
Ca	43	1	nogas	64044.460	64044.460	3.00	1085757	5.90	200000	
Ca	44	1	nogas	61490.835	61490.835	4.27	17382803	0.35	200000	
Fe	56	1	nogas	9570.767	9570.767	4.17	124022586	0.01	200000	

Sample Report

Se	77	1	nogas	-0.289	-0.289	-2788.47	34029	0.00	2000	
Se	82	1	nogas	97.418	97.418	3.47	11194	0.87	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	96.876	96.876	1.40	308959	0.03	2000	
Sn	118	1	nogas	99.953	99.953	2.13	474553	0.02	2000	
Ba	137	1	nogas	142.500	142.500	3.50	312094	0.05	2000	
Sb	121	2	He	98.217	98.217	2.13	68107	0.14	2000	
La	139	1	nogas	619.657	619.657	17.46	790	78.43	2000	
Au	197	1	nogas	832.964	832.964	31.55	23	3569.85	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	357193	1.43	317178	112.62	70	125	
Ge	72	1	nogas	1488958	1.30	1355583	109.84	70	125	
In	115	1	nogas	1541277	2.45	1426361	108.06	70	125	
Bi	209	1	nogas	1482355	5.94	1404968	105.51	70	125	
Ge	72	2	He	104012	1.71	99503	104.53	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-01
Data File Name	095SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:04:17-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.203	0.203	7.73	450	0.05	2000	
Na	23	1	nogas	379604.252	379604.252	5.65	3738166617	0.01	200000	>LDR
Mg	24	1	nogas	50516.778	50516.778	2.14	344325974	0.01	200000	
Al	27	1	nogas	8.819	8.819	0.81	142016	0.01	2000	
K	39	1	nogas	17406.838	17406.838	1.57	137486386	0.01	200000	
Ti	47	1	nogas	0.699	0.699	1.78	990	0.07	2000	
V	51	1	nogas	-17.904	-17.904	-16.71	449581	0.00	2000	
Cr	52	1	nogas	39.845	39.845	2.61	468839	0.01	2000	
Mn	55	1	nogas	3478.885	3478.885	2.55	48028044	0.01	2000	>LDR
Co	59	1	nogas	34.012	34.012	1.58	411778	0.01	2000	
Ni	60	1	nogas	307.399	307.399	0.71	855809	0.04	2000	
Cu	63	1	nogas	7.383	7.383	34.24	63732	0.01	2000	
Zn	66	1	nogas	714.467	714.467	3.66	1466548	0.05	2000	
As	75	1	nogas	-7.646	-7.646	-11.15	94504	-0.01	2000	
Sr	88	1	nogas	3674.195	3674.195	3.83	50155346	0.01	2000	>LDR
Ag	107	1	nogas	0.018	0.018	73.32	463	0.00	2000	
Cd	111	1	nogas	0.814	0.814	18.84	1363	0.06	2000	
Sb	121	1	nogas	0.230	0.230	23.50	2620	0.01	2000	
Tl	205	1	nogas	0.014	0.014	38.24	360	0.00	2000	
Pb	208	1	nogas	0.095	0.095	5.62	2933	0.00	2000	
U	238	1	nogas	0.009	0.009	31.67	347	0.00	2000	
[Pb]	206	1	nogas	0.102	0.102	17.47	773	0.01	2000	
[Pb]	207	1	nogas	0.091	0.091	36.88	643	0.01	2000	
Na	23	2	He	346875.041	346875.041	2.15	65300599	0.53	200000	>LDR
Mg	24	2	He	43227.173	43227.173	2.34	4032809	1.07	200000	
Al	27	2	He	8.984	8.984	43.99	567	1.59	2000	
K	39	2	He	16452.475	16452.475	0.80	740025	2.22	200000	
Ca	43	2	He	103159.141	103159.141	2.50	17275	597.16	200000	
Ca	44	2	He	92640.503	92640.503	2.17	262393	35.31	200000	
V	51	2	He	-0.227	-0.227	-1.81	263	-0.09	2000	
Cr	52	2	He	38.392	38.392	4.95	57005	0.07	2000	
Mn	55	2	He	3206.167	3206.167	2.81	1804030	0.18	2000	>LDR
Fe	56	2	He	77323.692	77323.692	3.49	88578642	0.09	200000	
Co	59	2	He	33.080	33.080	4.09	78649	0.04	2000	
Ni	60	2	He	303.645	303.645	4.18	213455	0.14	2000	
Cu	63	2	He	2.805	2.805	6.71	7248	0.04	2000	
Zn	66	2	He	665.615	665.615	0.87	190088	0.35	2000	
As	75	2	He	1.387	1.387	6.80	251	0.55	2000	
Se	78	2	He	1.180	1.180	36.68	5	22.13	2000	
B	11	1	nogas	54.252	54.252	7.45	83717	0.06	2000	
Si	28	1	nogas	13472.702	13472.702	0.90	54771599	0.02	2000	>LDR
Ca	43	1	nogas	88541.765	88541.765	2.18	1464812	6.04	200000	
Ca	44	1	nogas	84891.134	84891.134	0.74	23026436	0.37	200000	
Fe	56	1	nogas	82322.609	82322.609	3.18	1037632323	0.01	200000	

Sample Report

Se	77	1	nogas	-21.024	-21.024	-9.00	30159	-0.07	2000	
Se	82	1	nogas	1.564	1.564	52.21	647	0.24	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.319	0.319	14.71	1167	0.03	2000	
Sn	118	1	nogas	-0.010	-0.010	-81.75	777	0.00	2000	
Ba	137	1	nogas	256.747	256.747	4.70	556457	0.05	2000	
Sb	121	2	He	0.179	0.179	15.15	273	0.07	2000	
La	139	1	nogas	7141.816	7141.816	9.14	8506	83.97	2000	>LDR
Au	197	1	nogas	559.389	559.389	83.93	17	3356.33	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	282284	5.80	317178	89.00	70	125	
Ge	72	1	nogas	1453842	0.59	1355583	107.25	70	125	
In	115	1	nogas	1526078	3.03	1426361	106.99	70	125	
Bi	209	1	nogas	1444245	6.16	1404968	102.80	70	125	
Ge	72	2	He	106394	2.69	99503	106.93	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	096_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:06:19-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	88.494	1.918	217145	1.32	100	88.5	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	11067.169	1.772	106034888	1.66	10000	110.7	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10596.745	2.371	68409872	2.61	10000	106.0	90	110	
Al	27	1	nogas	94.064	7.252	1128046	5.36	100	94.1	90	110	
K	39	1	nogas	9901.759	4.191	78792056	1.76	10000	99.0	90	110	
Ti	47	1	nogas	95.084	5.475	82592	2.74	100	95.1	90	110	
V	51	1	nogas	68.338	4.674	1610946	0.97	100	68.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	97.447	1.185	1096062	1.61	100	97.4	90	110	
Mn	55	1	nogas	102.237	2.474	1395831	4.66	100	102.2	90	110	
Co	59	1	nogas	95.041	2.905	1133848	0.99	100	95.0	90	110	
Ni	60	1	nogas	94.455	3.246	261676	0.96	100	94.5	90	110	
Cu	63	1	nogas	99.267	3.470	645246	0.92	100	99.3	90	110	
Zn	66	1	nogas	101.647	4.611	207326	2.06	100	101.6	90	110	
As	75	1	nogas	84.089	6.258	294441	1.92	100	84.1	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	103.628	2.098	1395378	2.61	100	103.6	90	110	
Ag	107	1	nogas	100.643	2.872	817501	0.21	100	100.6	90	110	
Cd	111	1	nogas	101.245	0.681	169088	1.32	100	101.2	90	110	
Sb	121	1	nogas	102.678	5.710	693799	3.01	100	102.7	90	110	
Tl	205	1	nogas	102.721	5.856	1441710	3.69	100	102.7	90	110	
Pb	208	1	nogas	106.390	1.445	2019964	1.44	100	106.4	90	110	
U	238	1	nogas	107.559	2.403	2166782	2.65	100	107.6	90	110	
[Pb]	206	1	nogas	100.679	3.090	490412	2.52	100	100.7	90	110	
[Pb]	207	1	nogas	99.784	2.664	447385	1.71	100	99.8	90	110	
Na	23	2	He	9580.161	1.321	1802365	1.68	10000	95.8	90	110	
Mg	24	2	He	9295.850	0.870	828965	0.64	10000	93.0	90	110	
Al	27	2	He	90.066	9.033	3290	9.25	100	90.1	90	110	
K	39	2	He	9469.626	3.246	430600	3.16	10000	94.7	90	110	
Ca	43	2	He	9211.077	7.708	1477	7.05	10000	92.1	90	110	
Ca	44	2	He	9265.410	2.838	25348	1.83	10000	92.7	90	110	
V	51	2	He	96.578	0.644	95139	1.39	100	96.6	90	110	
Cr	52	2	He	95.165	1.681	133336	2.54	100	95.2	90	110	
Mn	55	2	He	94.160	2.701	50790	2.07	100	94.2	90	110	
Fe	56	2	He	9475.764	3.412	10379482	2.47	10000	94.8	90	110	
Co	59	2	He	99.944	2.160	227040	1.40	100	99.9	90	110	
Ni	60	2	He	98.149	2.683	66448	1.69	100	98.1	90	110	
Cu	63	2	He	95.943	0.868	188688	1.72	100	95.9	90	110	
Zn	66	2	He	94.056	2.268	25722	2.91	100	94.1	90	110	
As	75	2	He	99.706	0.764	16510	1.71	100	99.7	90	110	
Se	78	2	He	95.566	0.892	634	1.38	100	95.6	90	110	
B	11	1	nogas	462.088	3.852	770176	3.20	500	92.4	90	110	
Si	28	1	nogas	4765.577	6.775	19898443	5.64	5000	95.3	90	110	
Ca	43	1	nogas	9734.349	6.288	160033	3.50	10000	97.3	90	110	
Ca	44	1	nogas	6666.169	12.384	2727580	5.13	10000	66.7	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	9947.515	1.463	124118544	1.99	10000	99.5	90	110	
Se	77	1	nogas	34.977	63.671	37846	5.88	100	35.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.154	5.323	10847	2.52	100	98.2	90	110	
Mo	95	1	nogas	97.547	5.824	299284	3.14	100	97.5	90	110	
Sn	118	1	nogas	101.642	1.896	475988	2.46	100	101.6	90	110	
Ba	137	1	nogas	103.294	1.296	223212	1.23	100	103.3	90	110	
Sb	121	2	He	102.744	3.093	69613	2.29	100	102.7	90	110	
Li	7	1	nogas	99.931	0.653	583377	0.19	100	99.9	90	110	
P	31	1	nogas	442.230	4.509	317926	3.50	500	88.4	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	87.881	34.998	150	24.04	100	87.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	833.867	59.421	23	49.49	100	833.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	320003	0.62	317178	100.89	70	125	
Ge	72	1	nogas	1433761	2.72	1355583	105.77	70	125	
In	115	1	nogas	1519861	1.77	1426361	106.56	70	125	
Bi	209	1	nogas	1481828	2.43	1404968	105.47	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	101643	0.97	99503	102.15	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	097_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:08:17-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.102	60.0	270	56.0	1	
Na	23	1	nogas	12.884	45.2	3092523	1.4	100	
Mg	24	1	nogas	15.447	41.5	106399	39.3	100	
Al	27	1	nogas	0.203	66.8	41620	0.3	5	
K	39	1	nogas	-53.121	-51.0	3716296	2.4	100	
Ti	47	1	nogas	-0.146	-41.6	253	20.3	2.5	
V	51	1	nogas	-19.814	-5.1	433633	3.0	2.5	
Cr	52	1	nogas	-0.660	-16.9	17295	3.4	2.5	
Mn	55	1	nogas	0.668	5.7	13155	0.2	2.5	
Co	59	1	nogas	0.102	37.3	1500	29.9	2.5	
Ni	60	1	nogas	-0.568	-6.4	2110	1.4	2.5	
Cu	63	1	nogas	-1.752	-4.0	5107	5.9	2.5	
Zn	66	1	nogas	-0.502	-13.8	1000	13.9	2.5	
As	75	1	nogas	-13.673	-8.9	83079	3.7	2.5	
Sr	88	1	nogas	0.269	15.6	4167	14.3	2.5	
Ag	107	1	nogas	0.099	45.8	1157	32.5	2.5	
Cd	111	1	nogas	0.112	70.3	193	68.3	1	
Sb	121	1	nogas	1.733	28.2	13182	24.4	2.5	
Tl	205	1	nogas	0.175	44.5	2750	44.4	1	
Pb	208	1	nogas	0.142	45.0	3837	31.7	2.5	
U	238	1	nogas	0.108	56.8	2457	55.5	2.5	
[Pb]	206	1	nogas	0.108	52.3	863	36.2	2.5	
[Pb]	207	1	nogas	0.135	48.8	900	36.7	2.5	
Na	23	2	He	-39.853	-28.2	75175	2.0	100	
Mg	24	2	He	7.059	2.5	880	1.1	100	
Al	27	2	He	-0.175	-504.7	237	13.6	5	
K	39	2	He	-4.140	-109.7	10797	1.9	100	
Ca	43	2	He	20.211	175.9	7	86.6	100	
Ca	44	2	He	-26.065	-28.0	240	8.3	100	
V	51	2	He	-0.255	-10.3	228	12.2	2.5	
Cr	52	2	He	0.093	29.8	1347	3.7	2.5	
Mn	55	2	He	0.250	64.6	303	29.7	2.5	
Fe	56	2	He	5.961	4.1	12384	2.9	100	
Co	59	2	He	0.043	46.9	113	41.7	2.5	
Ni	60	2	He	-0.547	-16.2	380	16.4	2.5	
Cu	63	2	He	-0.283	-7.0	920	4.7	2.5	
Zn	66	2	He	0.040	334.8	77	49.4	2.5	
As	75	2	He	0.043	93.5	18	39.0	2.5	
Se	78	2	He	1.209	37.7	5	57.3	2.5	
B	11	1	nogas	17.956	10.6	36666	7.4	10	CCB Main CR1 Failed
Si	28	1	nogas	-52.536	-48.0	1075355	8.3	5	
Ca	43	1	nogas	-27.777	-44.0	1167	13.7	100	
Ca	44	1	nogas	-3135.523	-1.1	236685	0.6	100	
Fe	56	1	nogas	9.909	64.8	706885	10.4	100	
Se	77	1	nogas	-44.070	-22.5	27384	2.1	2.5	
Se	82	1	nogas	0.606	187.0	557	21.4	2.5	
Mo	95	1	nogas	0.191	55.8	787	42.6	2.5	
Sn	118	1	nogas	0.155	35.7	1583	14.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.104	88.0	340	57.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	1.048	28.8	863	24.0	2.5	
P	31	1	nogas	-30.479	-9.3	44115	1.1	10	
La	139	1	nogas	70.345	36.6	133	26.3	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-19.172	-1184.5	3	173.2	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	nogas	334791	1.58	317178	105.55	70	125	
Ge	72	1	nogas	1490201	4.02	1355583	109.93	70	125	
In	115	1	nogas	1561376	3.55	1426361	109.47	70	125	
Bi	209	1	nogas	1535085	3.02	1404968	109.26	70	125	
Ge	72	2	He	103396	0.76	99503	103.91	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-02
Data File Name	098SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:10:18-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.192	0.192	32.68	433	0.04	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	>LDR
Mg	24	1	nogas	52941.152	52941.152	1.86	362979316	0.01	200000	
Al	27	1	nogas	9.063	9.063	4.83	146377	0.01	2000	
K	39	1	nogas	17636.606	17636.606	1.19	140770036	0.01	200000	
Ti	47	1	nogas	0.723	0.723	38.56	1023	0.07	2000	
V	51	1	nogas	-26.018	-26.018	-6.27	341464	-0.01	2000	
Cr	52	1	nogas	44.025	44.025	3.87	520808	0.01	2000	
Mn	55	1	nogas	3724.188	3724.188	5.03	51928461	0.01	2000	>LDR
Co	59	1	nogas	35.687	35.687	1.38	436685	0.01	2000	
Ni	60	1	nogas	320.021	320.021	0.94	900482	0.04	2000	
Cu	63	1	nogas	8.585	8.585	16.36	72344	0.01	2000	
Zn	66	1	nogas	737.017	737.017	1.35	1529384	0.05	2000	
As	75	1	nogas	-11.204	-11.204	-11.61	87475	-0.01	2000	
Sr	88	1	nogas	3832.763	3832.763	0.68	52892189	0.01	2000	>LDR
Ag	107	1	nogas	0.019	0.019	87.73	473	0.00	2000	
Cd	111	1	nogas	0.927	0.927	12.76	1530	0.06	2000	
Sb	121	1	nogas	0.360	0.360	12.56	3540	0.01	2000	
Tl	205	1	nogas	0.020	0.020	4.83	443	0.00	2000	
Pb	208	1	nogas	0.089	0.089	11.69	2823	0.00	2000	
U	238	1	nogas	0.010	0.010	63.32	377	0.00	2000	
[Pb]	206	1	nogas	0.082	0.082	23.18	703	0.01	2000	
[Pb]	207	1	nogas	0.069	0.069	27.36	563	0.01	2000	
Na	23	2	He	358299.520	358299.520	2.59	66573972	0.54	200000	>LDR
Mg	24	2	He	45091.205	45091.205	1.73	4152569	1.09	200000	
Al	27	2	He	8.686	8.686	20.68	550	1.58	2000	
K	39	2	He	17148.830	17148.830	1.31	770882	2.22	200000	
Ca	43	2	He	102482.042	102482.042	1.61	16941	604.92	200000	
Ca	44	2	He	96714.777	96714.777	1.80	270335	35.78	200000	
V	51	2	He	-0.225	-0.225	-20.27	261	-0.09	2000	
Cr	52	2	He	43.078	43.078	1.14	63011	0.07	2000	
Mn	55	2	He	3469.537	3469.537	2.58	1927685	0.18	2000	>LDR
Fe	56	2	He	84158.028	84158.028	1.58	95188372	0.09	200000	
Co	59	2	He	36.147	36.147	1.58	84833	0.04	2000	
Ni	60	2	He	323.675	323.675	2.49	224597	0.14	2000	
Cu	63	2	He	2.822	2.822	2.20	7191	0.04	2000	
Zn	66	2	He	688.388	688.388	1.18	194012	0.35	2000	
As	75	2	He	1.714	1.714	17.62	303	0.57	2000	
Se	78	2	He	1.191	1.191	74.19	5	22.33	2000	
B	11	1	nogas	50.735	50.735	3.72	80900	0.06	2000	
Si	28	1	nogas	13909.500	13909.500	3.97	57086706	0.02	2000	>LDR
Ca	43	1	nogas	92208.579	92208.579	2.67	1542586	5.98	200000	
Ca	44	1	nogas	86456.589	86456.589	2.75	23697593	0.36	200000	
Fe	56	1	nogas	88060.451	88060.451	3.63	1121274825	0.01	200000	
Se	77	1	nogas	-39.775	-39.775	-17.37	27671	-0.14	2000	
Se	82	1	nogas	0.553	0.553	244.59	547	0.10	2000	

Sample Report

Mo	95	1	nogas	0.408	0.408	9.70	1460	0.03	2000	
Sn	118	1	nogas	-0.044	-0.044	-8.19	607	-0.01	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	276.109	276.109	2.46	589269	0.05	2000	
Sb	121	2	He	0.231	0.231	33.84	307	0.08	2000	
La	139	1	nogas	7380.657	7380.657	1.12	8662	85.20	2000	>LDR
Au	197	1	nogas	269.000	269.000	269.97	10	2690.00	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	289898	2.01	317178	91.40	70	125	
Ge	72	1	nogas	1469645	2.59	1355583	108.41	70	125	
In	115	1	nogas	1502170	3.87	1426361	105.31	70	125	
Bi	209	1	nogas	1481441	5.65	1404968	105.44	70	125	
Ge	72	2	He	104993	1.05	99503	105.52	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-03
Data File Name	099SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:12:22-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.203	0.203	23.54	510	0.04	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	159025.264	159025.264	1.28	1109895458	0.01	200000	
Al	27	1	nogas	3.792	3.792	4.28	82756	0.00	2000	
K	39	1	nogas	2279.629	2279.629	2.60	21485259	0.01	200000	
Ti	47	1	nogas	0.902	0.902	13.43	1167	0.08	2000	
V	51	1	nogas	-28.690	-28.690	-2.97	300965	-0.01	2000	
Cr	52	1	nogas	1846.820	1846.820	1.39	20604454	0.01	2000	>LDR
Mn	55	1	nogas	2972.792	2972.792	2.81	40984767	0.01	2000	>LDR
Co	59	1	nogas	136.608	136.608	0.70	1651068	0.01	2000	
Ni	60	1	nogas	2241.710	2241.710	1.19	6209855	0.04	2000	>LDR
Cu	63	1	nogas	73.261	73.261	3.88	486735	0.02	2000	
Zn	66	1	nogas	29.204	29.204	1.22	61795	0.05	2000	
As	75	1	nogas	-18.296	-18.296	-7.46	70694	-0.03	2000	
Sr	88	1	nogas	4152.421	4152.421	1.10	56613574	0.01	2000	>LDR
Ag	107	1	nogas	0.065	0.065	18.55	850	0.01	2000	
Cd	111	1	nogas	1.018	1.018	4.72	1690	0.06	2000	
Sb	121	1	nogas	0.458	0.458	10.35	4174	0.01	2000	
Tl	205	1	nogas	0.060	0.060	17.88	987	0.01	2000	
Pb	208	1	nogas	0.274	0.274	7.52	6324	0.00	2000	
U	238	1	nogas	0.151	0.151	2.30	3147	0.00	2000	
[Pb]	206	1	nogas	0.289	0.289	5.48	1670	0.02	2000	
[Pb]	207	1	nogas	0.238	0.238	16.78	1293	0.02	2000	
Na	23	2	He	468339.774	468339.774	3.41	89974419	0.52	200000	>LDR
Mg	24	2	He	137985.517	137985.517	3.01	13144693	1.05	200000	
Al	27	2	He	2.550	2.550	79.50	347	0.74	2000	
K	39	2	He	2235.428	2235.428	2.56	110037	2.03	200000	
Ca	43	2	He	194777.318	194777.318	2.22	33297	584.97	200000	>LDR
Ca	44	2	He	189041.362	189041.362	2.64	546107	34.62	200000	>LDR
V	51	2	He	1.077	1.077	6.73	1633	0.07	2000	
Cr	52	2	He	1685.677	1685.677	2.94	2500853	0.07	2000	
Mn	55	2	He	2744.709	2744.709	5.13	1575777	0.17	2000	>LDR
Fe	56	2	He	18260.355	18260.355	3.18	21358509	0.09	200000	
Co	59	2	He	128.541	128.541	3.23	311890	0.04	2000	
Ni	60	2	He	2069.337	2069.337	4.89	1480149	0.14	2000	>LDR
Cu	63	2	He	61.282	61.282	2.21	129279	0.05	2000	
Zn	66	2	He	26.894	26.894	4.19	7912	0.34	2000	
As	75	2	He	0.400	0.400	47.29	82	0.49	2000	
Se	78	2	He	1.449	1.449	29.60	7	19.75	2000	
B	11	1	nogas	24.248	24.248	4.38	45705	0.05	2000	
Si	28	1	nogas	23639.761	23639.761	1.57	95028239	0.02	2000	>LDR
Ca	43	1	nogas	199099.953	199099.953	3.30	3287016	6.06	200000	>LDR
Ca	44	1	nogas	198668.293	198668.293	2.92	52418356	0.38	200000	>LDR
Fe	56	1	nogas	20085.937	20085.937	1.40	253255139	0.01	200000	
Se	77	1	nogas	-69.502	-69.502	-9.50	22961	-0.30	2000	
Se	82	1	nogas	4.525	4.525	31.53	963	0.47	2000	

Sample Report

Mo	95	1	nogas	9.927	9.927	4.19	31030	0.03	2000	
Sn	118	1	nogas	0.200	0.200	9.49	1743	0.01	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	7793.333	7793.333	3.97	16695221	0.05	2000	>LDR
Sb	121	2	He	0.368	0.368	23.49	417	0.09	2000	
La	139	1	nogas	38978.125	38978.125	2.70	45735	85.23	2000	>LDR
Au	197	1	nogas	273.224	273.224	153.00	10	2732.24	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	321642	1.87	317178	101.41	70	125	
Ge	72	1	nogas	1451906	0.34	1355583	107.11	70	125	
In	115	1	nogas	1508254	2.45	1426361	105.74	70	125	
Bi	209	1	nogas	1447852	2.39	1404968	103.05	70	125	
Ge	72	2	He	108600	2.56	99503	109.14	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-04
Data File Name	100SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:14:23-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.013	0.013	108.37	43	0.03	2000	
Na	23	1	nogas	357292.209	357292.209	3.91	3482782345	0.01	200000	>LDR
Mg	24	1	nogas	31105.724	31105.724	4.63	209763701	0.01	200000	
Al	27	1	nogas	4.363	4.363	10.41	91652	0.00	2000	
K	39	1	nogas	1834.592	1834.592	3.22	18531044	0.01	200000	
Ti	47	1	nogas	0.696	0.696	31.70	1013	0.07	2000	
V	51	1	nogas	-25.997	-25.997	-8.49	345923	-0.01	2000	
Cr	52	1	nogas	17.496	17.496	4.30	224585	0.01	2000	
Mn	55	1	nogas	639.680	639.680	4.79	9036678	0.01	2000	
Co	59	1	nogas	54.534	54.534	3.33	675520	0.01	2000	
Ni	60	1	nogas	590.638	590.638	2.23	1679609	0.04	2000	
Cu	63	1	nogas	3.898	3.898	9.43	42293	0.01	2000	
Zn	66	1	nogas	2.366	2.366	0.28	7021	0.03	2000	
As	75	1	nogas	-21.100	-21.100	-7.98	66029	-0.03	2000	
Sr	88	1	nogas	1503.459	1503.459	5.52	20993771	0.01	2000	
Ag	107	1	nogas	0.024	0.024	29.46	527	0.00	2000	
Cd	111	1	nogas	1.381	1.381	9.43	2384	0.06	2000	
Sb	121	1	nogas	0.364	0.364	15.22	3614	0.01	2000	
Tl	205	1	nogas	0.018	0.018	37.51	423	0.00	2000	
Pb	208	1	nogas	0.056	0.056	3.41	2190	0.00	2000	
U	238	1	nogas	2.681	2.681	5.24	53989	0.00	2000	
[Pb]	206	1	nogas	0.046	0.046	13.72	527	0.01	2000	
[Pb]	207	1	nogas	0.055	0.055	19.34	500	0.01	2000	
Na	23	2	He	325731.849	325731.849	3.83	61328039	0.53	200000	>LDR
Mg	24	2	He	26784.347	26784.347	4.09	2499027	1.07	200000	
Al	27	2	He	1.239	1.239	46.00	293	0.42	2000	
K	39	2	He	1903.613	1903.613	1.66	95333	2.00	200000	
Ca	43	2	He	93536.277	93536.277	9.19	15657	597.41	200000	
Ca	44	2	He	90519.794	90519.794	4.22	256363	35.31	200000	
V	51	2	He	0.066	0.066	99.34	563	0.01	2000	
Cr	52	2	He	17.362	17.362	1.78	26483	0.07	2000	
Mn	55	2	He	613.914	613.914	1.42	345744	0.18	2000	
Fe	56	2	He	548.239	548.239	3.03	634220	0.09	200000	
Co	59	2	He	56.052	56.052	4.08	133279	0.04	2000	
Ni	60	2	He	604.747	604.747	4.53	424484	0.14	2000	
Cu	63	2	He	4.109	4.109	9.57	9913	0.04	2000	
Zn	66	2	He	2.942	2.942	8.40	907	0.32	2000	
As	75	2	He	0.382	0.382	28.07	77	0.50	2000	
Se	78	2	He	0.612	0.612	54.23	1	45.87	2000	
B	11	1	nogas	27.720	27.720	3.08	52497	0.05	2000	
Si	28	1	nogas	21541.818	21541.818	3.29	88845372	0.02	2000	>LDR
Ca	43	1	nogas	91946.766	91946.766	4.01	1556095	5.91	200000	
Ca	44	1	nogas	87689.074	87689.074	5.44	24293360	0.36	200000	
Fe	56	1	nogas	597.862	597.862	2.71	8287237	0.01	200000	

Sample Report

Se	77	1	nogas	-85.361	-85.361	-13.83	21106	-0.40	2000	
Se	82	1	nogas	0.486	0.486	209.08	543	0.09	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	14.477	14.477	6.71	46264	0.03	2000	
Sn	118	1	nogas	-0.018	-0.018	-56.59	757	0.00	2000	
Ba	137	1	nogas	1083.048	1083.048	4.34	2412904	0.04	2000	
Sb	121	2	He	0.362	0.362	6.75	403	0.09	2000	
La	139	1	nogas	308.395	308.395	27.84	423	72.85	2000	
Au	197	1	nogas	280.670	280.670	265.94	10	2806.70	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	328015	2.93	317178	103.42	70	125	
Ge	72	1	nogas	1488742	3.41	1355583	109.82	70	125	
In	115	1	nogas	1567929	1.37	1426361	109.93	70	125	
Bi	209	1	nogas	1477648	2.34	1404968	105.17	70	125	
Ge	72	2	He	106411	1.72	99503	106.94	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-08
Data File Name	101SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:16:24-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.258	0.258	0.71	707	0.04	2000	
Na	23	1	nogas	51401.980	51401.980	0.41	525045428	0.01	200000	
Mg	24	1	nogas	3777.815	3777.815	2.22	26572728	0.01	200000	
Al	27	1	nogas	17.855	17.855	13.26	266844	0.01	2000	
K	39	1	nogas	924.457	924.457	2.33	11965184	0.01	200000	
Ti	47	1	nogas	0.734	0.734	13.69	1100	0.07	2000	
V	51	1	nogas	-14.319	-14.319	-20.39	535927	0.00	2000	
Cr	52	1	nogas	276.456	276.456	5.29	3341777	0.01	2000	
Mn	55	1	nogas	234.040	234.040	3.98	3476998	0.01	2000	
Co	59	1	nogas	29.890	29.890	4.45	389040	0.01	2000	
Ni	60	1	nogas	1682.176	1682.176	7.13	5015480	0.03	2000	
Cu	63	1	nogas	26.798	26.798	5.79	202719	0.01	2000	
Zn	66	1	nogas	4.208	4.208	5.54	11434	0.04	2000	
As	75	1	nogas	-19.332	-19.332	-15.21	73559	-0.03	2000	
Sr	88	1	nogas	99.889	99.889	5.14	1466349	0.01	2000	
Ag	107	1	nogas	0.015	0.015	49.53	467	0.00	2000	
Cd	111	1	nogas	0.122	0.122	31.27	227	0.05	2000	
Sb	121	1	nogas	0.222	0.222	6.34	2757	0.01	2000	
Tl	205	1	nogas	0.005	0.005	79.75	270	0.00	2000	
Pb	208	1	nogas	0.103	0.103	3.60	3087	0.00	2000	
U	238	1	nogas	0.136	0.136	11.56	3157	0.00	2000	
[Pb]	206	1	nogas	0.074	0.074	18.28	723	0.01	2000	
[Pb]	207	1	nogas	0.100	0.100	28.49	763	0.01	2000	
Na	23	2	He	48018.998	48018.998	1.18	9287435	0.52	200000	
Mg	24	2	He	3390.202	3390.202	2.03	322562	1.05	200000	
Al	27	2	He	18.325	18.325	10.47	917	2.00	2000	
K	39	2	He	1036.443	1036.443	2.84	56907	1.82	200000	
Ca	43	2	He	5353.590	5353.590	13.47	917	584.00	200000	
Ca	44	2	He	4802.527	4802.527	4.91	14172	33.89	200000	
V	51	2	He	0.582	0.582	11.04	1114	0.05	2000	
Cr	52	2	He	279.246	279.246	3.81	414655	0.07	2000	
Mn	55	2	He	227.629	227.629	3.79	130697	0.17	2000	
Fe	56	2	He	1772.717	1772.717	6.02	2075421	0.09	200000	
Co	59	2	He	30.865	30.865	2.00	74790	0.04	2000	
Ni	60	2	He	1765.424	1765.424	1.48	1261573	0.14	2000	
Cu	63	2	He	27.145	27.145	0.73	58049	0.05	2000	
Zn	66	2	He	5.061	5.061	7.22	1540	0.33	2000	
As	75	2	He	0.140	0.140	78.69	36	0.39	2000	
Se	78	2	He	4.156	4.156	44.07	27	15.59	2000	
B	11	1	nogas	107.848	107.848	1.69	202075	0.05	2000	
Si	28	1	nogas	17072.278	17072.278	6.09	74229972	0.02	2000	>LDR
Ca	43	1	nogas	4902.995	4902.995	2.23	88847	5.52	200000	
Ca	44	1	nogas	1846.184	1846.184	6.03	1636570	0.11	200000	
Fe	56	1	nogas	1806.000	1806.000	3.77	25067404	0.01	200000	

Sample Report

Se	77	1	nogas	-73.277	-73.277	-15.11	24113	-0.30	2000	
Se	82	1	nogas	1.522	1.522	29.54	690	0.22	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.216	0.216	29.53	910	0.02	2000	
Sn	118	1	nogas	-0.042	-0.042	-36.49	683	-0.01	2000	
Ba	137	1	nogas	215.958	215.958	0.56	510104	0.04	2000	
Sb	121	2	He	0.204	0.204	4.98	297	0.07	2000	
La	139	1	nogas	4219.697	4219.697	1.41	5501	76.71	2000	>LDR
Au	197	1	nogas	367.266	367.266	65.30	13	2754.50	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	351710	1.42	317178	110.89	70	125	
Ge	72	1	nogas	1563974	2.70	1355583	115.37	70	125	
In	115	1	nogas	1661605	0.66	1426361	116.49	70	125	
Bi	209	1	nogas	1616949	5.38	1404968	115.09	70	125	
Ge	72	2	He	108409	1.34	99503	108.95	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	108_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:30:26-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	88.256	7.149	202017	5.91	100	88.3	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	11312.956	1.281	106644661	1.46	10000	113.1	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10357.595	1.268	65825662	1.51	10000	103.6	90	110	
Al	27	1	nogas	88.320	1.300	1075315	0.61	100	88.3	90	110	CCV Main CR1-2 Failed
K	39	1	nogas	9405.278	4.161	75973458	2.11	10000	94.1	90	110	
Ti	47	1	nogas	91.072	2.968	80144	1.64	100	91.1	90	110	
V	51	1	nogas	93.220	4.363	1971897	0.95	100	93.2	90	110	
Cr	52	1	nogas	89.258	2.937	1018138	1.24	100	89.3	90	110	CCV Main CR1-2 Failed
Mn	55	1	nogas	91.726	1.335	1267743	2.78	100	91.7	90	110	
Co	59	1	nogas	90.516	3.500	1093157	1.66	100	90.5	90	110	
Ni	60	1	nogas	89.847	3.309	252170	1.39	100	89.8	90	110	CCV Main CR1-2 Failed
Cu	63	1	nogas	93.056	3.323	613417	1.47	100	93.1	90	110	
Zn	66	1	nogas	94.502	2.708	195342	1.00	100	94.5	90	110	
As	75	1	nogas	96.347	7.494	325307	3.43	100	96.3	90	110	
Sr	88	1	nogas	102.863	2.966	1401763	1.32	100	102.9	90	110	
Ag	107	1	nogas	96.218	4.198	791166	2.59	100	96.2	90	110	
Cd	111	1	nogas	100.950	4.358	167355	2.74	100	100.9	90	110	
Sb	121	1	nogas	100.093	3.102	685216	2.79	100	100.1	90	110	
Tl	205	1	nogas	100.690	7.511	1380129	4.48	100	100.7	90	110	
Pb	208	1	nogas	104.553	1.469	1985114	1.47	100	104.6	90	110	
U	238	1	nogas	109.057	1.761	2146980	2.53	100	109.1	90	110	
[Pb]	206	1	nogas	100.498	5.840	477954	2.43	100	100.5	90	110	
[Pb]	207	1	nogas	100.616	5.452	440511	2.28	100	100.6	90	110	
Na	23	2	He	9942.315	2.896	1915349	1.19	10000	99.4	90	110	
Mg	24	2	He	9029.812	1.800	826088	1.36	10000	90.3	90	110	
Al	27	2	He	85.086	4.664	3200	3.60	100	85.1	90	110	CCV Main CR1-2 Failed
K	39	2	He	9338.931	2.091	424808	2.04	10000	93.4	90	110	
Ca	43	2	He	9863.063	5.984	1623	7.14	10000	98.6	90	110	
Ca	44	2	He	8917.257	4.664	25041	4.27	10000	89.2	90	110	CCV Main CR1-2 Failed
V	51	2	He	92.832	1.538	93825	0.31	100	92.8	90	110	
Cr	52	2	He	91.651	0.837	131795	2.47	100	91.7	90	110	
Mn	55	2	He	89.457	2.883	49538	4.54	100	89.5	90	110	CCV Main CR1-2 Failed
Fe	56	2	He	8860.351	0.996	9959399	1.36	10000	88.6	90	110	CCV Main CR1-2 Failed
Co	59	2	He	92.775	2.192	216212	1.09	100	92.8	90	110	
Ni	60	2	He	89.556	5.353	62247	3.67	100	89.6	90	110	CCV Main CR1-2 Failed
Cu	63	2	He	88.254	2.228	178146	0.78	100	88.3	90	110	CCV Main CR1-2 Failed
Zn	66	2	He	91.156	2.828	25568	1.17	100	91.2	90	110	
As	75	2	He	93.696	1.536	15915	0.19	100	93.7	90	110	
Se	78	2	He	87.343	4.331	594	2.99	100	87.3	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	499.825	6.279	776760	4.60	500	100.0	90	110	
Si	28	1	nogas	4454.624	3.272	18914630	2.10	5000	89.1	90	110	CCV Main CR1-2 Failed
Ca	43	1	nogas	9310.050	2.755	155142	2.16	10000	93.1	90	110	
Ca	44	1	nogas	5987.583	4.640	2588418	1.51	10000	59.9	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	9254.854	1.414	116929786	0.71	10000	92.5	90	110	
Se	77	1	nogas	114.385	18.253	50062	5.29	100	114.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.771	6.476	10833	4.42	100	96.8	90	110	
Mo	95	1	nogas	93.646	2.681	291050	1.04	100	93.6	90	110	
Sn	118	1	nogas	103.578	1.782	481610	1.17	100	103.6	90	110	
Ba	137	1	nogas	102.267	2.195	219440	1.28	100	102.3	90	110	
Sb	121	2	He	103.293	0.383	71818	2.04	100	103.3	90	110	
Li	7	1	nogas	97.944	3.151	534214	2.91	100	97.9	90	110	
P	31	1	nogas	417.535	4.333	307204	1.59	500	83.5	90	110	CCV Main CR1-2 Failed
La	139	1	nogas	154.267	23.330	227	17.83	100	154.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	130.298	186.644	7	86.60	100	130.3	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	nogas	298686	1.66	317178	94.17	70	125	
Ge	72	1	nogas	1451294	1.86	1355583	107.06	70	125	
In	115	1	nogas	1509320	1.69	1426361	105.82	70	125	
Bi	209	1	nogas	1448615	4.30	1404968	103.11	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	104284	1.66	99503	104.80	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	109_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:32:24-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	004CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.082	81.7	203	74.0	1	
Na	23	1	nogas	722.805	5.3	9373562	0.6	100	CCB Main CR1 Failed
Mg	24	1	nogas	26.311	11.4	169092	7.5	100	
Al	27	1	nogas	0.622	98.4	43800	12.1	5	
K	39	1	nogas	-6.659	-278.0	3842872	1.1	100	
Ti	47	1	nogas	-0.107	-105.6	270	31.6	2.5	
V	51	1	nogas	7.944	3.1	776092	3.3	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	-0.379	-31.4	19310	3.7	2.5	
Mn	55	1	nogas	0.695	9.0	12725	3.1	2.5	
Co	59	1	nogas	0.096	59.9	1340	46.0	2.5	
Ni	60	1	nogas	-0.427	-23.9	2364	11.6	2.5	
Cu	63	1	nogas	-1.840	-4.2	4264	8.1	2.5	
Zn	66	1	nogas	-0.662	-5.5	627	10.6	2.5	
As	75	1	nogas	3.501	10.7	115084	2.9	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	1.419	5.0	19097	8.4	2.5	
Ag	107	1	nogas	0.079	49.1	927	29.7	2.5	
Cd	111	1	nogas	0.085	29.6	143	24.5	1	
Sb	121	1	nogas	1.560	23.2	11254	17.4	2.5	
Tl	205	1	nogas	0.166	43.1	2420	40.3	1	
Pb	208	1	nogas	0.086	63.7	2767	37.6	2.5	
U	238	1	nogas	0.109	68.1	2300	63.6	2.5	
[Pb]	206	1	nogas	0.079	46.7	667	26.2	2.5	
[Pb]	207	1	nogas	0.072	95.5	560	53.2	2.5	
Na	23	2	He	618.687	4.9	200851	1.1	100	CCB Main CR1 Failed
Mg	24	2	He	21.463	9.2	2247	8.7	100	
Al	27	2	He	-2.246	-52.0	170	25.6	5	
K	39	2	He	22.959	75.3	11997	6.4	100	
Ca	43	2	He	198.245	34.3	37	31.5	100	CCB Main CR1 Failed
Ca	44	2	He	0.601	10114.6	320	51.4	100	
V	51	2	He	-0.038	-46.4	456	5.8	2.5	
Cr	52	2	He	-0.118	-84.0	1077	13.6	2.5	
Mn	55	2	He	0.122	124.6	240	37.0	2.5	
Fe	56	2	He	2.032	15.8	8225	4.3	100	
Co	59	2	He	0.033	55.4	93	48.3	2.5	
Ni	60	2	He	-0.704	-9.9	280	15.6	2.5	
Cu	63	2	He	-0.313	-17.5	883	11.0	2.5	
Zn	66	2	He	0.033	301.6	77	37.7	2.5	
As	75	2	He	0.079	58.5	24	34.3	2.5	
Se	78	2	He	1.089	14.3	5	24.7	2.5	
B	11	1	nogas	37.974	10.1	66761	4.6	10	CCB Main CR1 Failed
Si	28	1	nogas	-66.021	-15.5	960751	0.9	5	
Ca	43	1	nogas	13.300	69.2	1757	8.0	100	
Ca	44	1	nogas	-3321.741	-0.8	176287	0.8	100	
Fe	56	1	nogas	26.616	33.1	866773	8.6	100	
Se	77	1	nogas	43.657	11.8	38318	4.5	2.5	CCB Main CR1 Failed
Se	82	1	nogas	1.245	29.2	590	3.4	2.5	
Mo	95	1	nogas	0.123	53.4	533	33.0	2.5	
Sn	118	1	nogas	0.133	39.0	1417	12.0	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.241	50.5	617	36.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	1.204	8.5	997	5.5	2.5	
P	31	1	nogas	-21.968	-21.2	46347	2.2	10	
La	139	1	nogas	60.935	23.0	117	13.1	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-3.759	-6751.2	3	173.2	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	nogas	314047	4.48	317178	99.01	70	125	
Ge	72	1	nogas	1402398	3.60	1355583	103.45	70	125	
In	115	1	nogas	1503093	4.46	1426361	105.38	70	125	
Bi	209	1	nogas	1436311	1.37	1404968	102.23	70	125	
Ge	72	2	He	106237	1.78	99503	106.77	70	125	

Calibration Blank Report

Sample Table

Sample Name	CAL BLK
Data File Name	114CALB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:47:26-06:00
Sample Type	CalBlk
Level	1
Dilution	1
Comment	

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	20	433.01
Na	23	1	nogas	5003644	0.00
Mg	24	1	nogas	117972	0.02
Al	27	1	nogas	15270	0.04
K	39	1	nogas	3769607	0.00
Ti	47	1	nogas	153	6.50
V	51	1	nogas	412841	0.00
Cr	52	1	nogas	12604	0.03
Mn	55	1	nogas	10643	0.05
Co	59	1	nogas	260	11.74
Ni	60	1	nogas	1243	0.55
Cu	63	1	nogas	2477	0.39
Zn	66	1	nogas	370	4.44
As	75	1	nogas	56816	0.02
Sr	88	1	nogas	15103	0.11
Ag	107	1	nogas	463	2.10
Cd	111	1	nogas	10	1000.00
Sb	121	1	nogas	837	1.37
Tl	205	1	nogas	137	20.27
Pb	208	1	nogas	723	1.56
[Pb]	206	1	nogas	130	52.59
[Pb]	207	1	nogas	207	16.45
Na	23	2	He	115856	0.00
Mg	24	2	He	1190	1.04
Al	27	2	He	117	36.24
K	39	2	He	11097	0.04
Ca	43	2	He	3	5196.15
Ca	44	2	He	227	11.41
V	51	2	He	229	2.85
Cr	52	2	He	1043	0.37
Mn	55	2	He	133	28.87
Fe	56	2	He	4547	0.08
Co	59	2	He	33	226.50
Ni	60	2	He	273	11.54
Cu	63	2	He	647	0.97
Zn	66	2	He	27	292.73
As	75	2	He	11	311.52
Se	78	2	He	1	6495.19
B	11	1	nogas	49455	0.01
Si	28	1	nogas	911182	0.00
Ca	43	1	nogas	1387	0.63
Ca	44	1	nogas	158632	0.00

Calibration Blank Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	813483	0.00
Se	77	1	nogas	18286	0.04
Se	82	1	nogas	553	0.38
Mo	95	1	nogas	120	31.83
Sn	118	1	nogas	733	1.97
Ba	137	1	nogas	263	7.94
Sb	121	2	He	77	35.42
Li	7	1	nogas	31791	0.01
P	31	1	nogas	46083	0.01
La	139	1	nogas	57	117.90

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Li	6	1	nogas	327043	3.35
Ge	72	1	nogas	1420865	1.81
In	115	1	nogas	1584599	4.42
Bi	209	1	nogas	1610392	7.61
Ge	72	2	He	106219	4.79

Calibration Standard Report

Sample Table

Sample Name	2/10/200
Data File Name	115CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:49:27-06:00
Sample Type	CalStd
Level	2
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	4344	0.16
Na	23	1	nogas	6554765	0.00
Mg	24	1	nogas	1437425	0.00
Al	27	1	nogas	32462	0.00
K	39	1	nogas	5250335	0.00
Ti	47	1	nogas	1857	0.38
V	51	1	nogas	503459	0.00
Cr	52	1	nogas	34165	0.00
Mn	55	1	nogas	37138	0.01
Co	59	1	nogas	23142	0.01
Ni	60	1	nogas	6765	0.05
Cu	63	1	nogas	15460	0.05
Zn	66	1	nogas	4484	0.15
As	75	1	nogas	70931	0.01
Sr	88	1	nogas	34741	0.01
Ag	107	1	nogas	17115	0.03
Cd	111	1	nogas	3350	0.15
Sb	121	1	nogas	14647	0.01
Tl	205	1	nogas	29724	0.01
Pb	208	1	nogas	41005	0.01
[Pb]	206	1	nogas	10047	0.05
[Pb]	207	1	nogas	9059	0.08
Na	23	2	He	146078	0.00
Mg	24	2	He	18293	0.01
Al	27	2	He	170	12.48
K	39	2	He	19624	0.01
Ca	43	2	He	37	187.19
Ca	44	2	He	823	0.45
V	51	2	He	2213	0.10
Cr	52	2	He	3757	0.07
Mn	55	2	He	1110	1.15
Fe	56	2	He	211141	0.00
Co	59	2	He	4631	0.12
Ni	60	2	He	1540	1.07
Cu	63	2	He	4334	0.20
Zn	66	2	He	607	3.75
As	75	2	He	332	3.80
Se	78	2	He	13	313.71
B	11	1	nogas	60229	0.00
Si	28	1	nogas	1405981	0.00

Calibration Standard Report

Ca	43	1	nogas	4054	0.08
Ca	44	1	nogas	205447	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	3244841	0.00
Se	77	1	nogas	22478	0.03
Se	82	1	nogas	707	1.45
Mo	95	1	nogas	6165	0.07
Sn	118	1	nogas	10023	0.01
Ba	137	1	nogas	4544	0.12
Sb	121	2	He	1490	0.92
P	31	1	nogas	51928	0.00
La	139	1	nogas	73	56.81

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	333111	0.14	327043	101.86	70	125	
Ge	72	1	nogas	1461922	0.41	1420865	102.89	70	125	
In	115	1	nogas	1602903	0.32	1584599	101.16	70	125	
Bi	209	1	nogas	1530215	1.16	1610392	95.02	70	125	
Ge	72	2	He	106190	4.02	106219	99.97	70	125	

Calibration Standard Report

Sample Table

Sample Name	5/25/500
Data File Name	116CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:51:26-06:00
Sample Type	CalStd
Level	3
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	10513	0.03
Na	23	1	nogas	9150184	0.00
Mg	24	1	nogas	3493784	0.00
Al	27	1	nogas	58633	0.02
K	39	1	nogas	7515229	0.00
Ti	47	1	nogas	4251	0.04
V	51	1	nogas	544054	0.00
Cr	52	1	nogas	66186	0.00
Mn	55	1	nogas	76985	0.00
Co	59	1	nogas	57939	0.00
Ni	60	1	nogas	14236	0.01
Cu	63	1	nogas	33601	0.00
Zn	66	1	nogas	10460	0.01
As	75	1	nogas	79466	0.01
Sr	88	1	nogas	75701	0.00
Ag	107	1	nogas	41012	0.01
Cd	111	1	nogas	8439	0.03
Sb	121	1	nogas	33222	0.01
Tl	205	1	nogas	73820	0.00
Pb	208	1	nogas	104373	0.00
[Pb]	206	1	nogas	25484	0.01
[Pb]	207	1	nogas	23193	0.02
Na	23	2	He	190041	0.00
Mg	24	2	He	43551	0.01
Al	27	2	He	233	16.05
K	39	2	He	31326	0.01
Ca	43	2	He	73	42.94
Ca	44	2	He	1500	0.70
V	51	2	He	5022	0.03
Cr	52	2	He	7535	0.06
Mn	55	2	He	2460	0.33
Fe	56	2	He	510185	0.00
Co	59	2	He	11677	0.00
Ni	60	2	He	3537	0.02
Cu	63	2	He	9653	0.04
Zn	66	2	He	1353	0.06
As	75	2	He	829	0.10
Se	78	2	He	43	45.74
B	11	1	nogas	78526	0.00
Si	28	1	nogas	1920609	0.00

Calibration Standard Report

Ca	43	1	nogas	9069	0.02
Ca	44	1	nogas	277660	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	6870693	0.00
Se	77	1	nogas	23158	0.03
Se	82	1	nogas	1123	0.53
Mo	95	1	nogas	15444	0.04
Sn	118	1	nogas	24922	0.01
Ba	137	1	nogas	10790	0.02
Sb	121	2	He	3427	0.19
P	31	1	nogas	59781	0.00
La	139	1	nogas	100	20.00

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	331990	3.10	327043	101.51	70	125	
Ge	72	1	nogas	1475890	2.38	1420865	103.87	70	125	
In	115	1	nogas	1591039	1.83	1584599	100.41	70	125	
Bi	209	1	nogas	1513252	2.68	1610392	93.97	70	125	
Ge	72	2	He	107504	1.55	106219	101.21	70	125	

Calibration Standard Report

Sample Table

Sample Name	10/50/1000
Data File Name	117CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:53:25-06:00
Sample Type	CalStd
Level	4
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	20628	0.02
Na	23	1	nogas	13889014	0.00
Mg	24	1	nogas	6933418	0.00
Al	27	1	nogas	96287	0.00
K	39	1	nogas	11118889	0.00
Ti	47	1	nogas	8232	0.05
V	51	1	nogas	623217	0.00
Cr	52	1	nogas	120750	0.00
Mn	55	1	nogas	145998	0.00
Co	59	1	nogas	114321	0.00
Ni	60	1	nogas	27408	0.01
Cu	63	1	nogas	65207	0.01
Zn	66	1	nogas	20762	0.03
As	75	1	nogas	91700	0.00
Sr	88	1	nogas	145953	0.00
Ag	107	1	nogas	82391	0.00
Cd	111	1	nogas	16992	0.01
Sb	121	1	nogas	66972	0.01
Tl	205	1	nogas	146575	0.00
Pb	208	1	nogas	206792	0.00
[Pb]	206	1	nogas	51328	0.00
[Pb]	207	1	nogas	46507	0.00
Na	23	2	He	280576	0.00
Mg	24	2	He	86016	0.00
Al	27	2	He	350	3.74
K	39	2	He	52661	0.01
Ca	43	2	He	140	18.40
Ca	44	2	He	2674	0.38
V	51	2	He	10055	0.03
Cr	52	2	He	13829	0.03
Mn	55	2	He	5244	0.05
Fe	56	2	He	1011096	0.00
Co	59	2	He	22925	0.01
Ni	60	2	He	6951	0.03
Cu	63	2	He	19044	0.02
Zn	66	2	He	2714	0.42
As	75	2	He	1668	0.52
Se	78	2	He	61	18.67
B	11	1	nogas	112500	0.00
Si	28	1	nogas	2841773	0.00

Calibration Standard Report

Ca	43	1	nogas	16791	0.03
Ca	44	1	nogas	405902	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	12927021	0.00
Se	77	1	nogas	24247	0.02
Se	82	1	nogas	1603	0.90
Mo	95	1	nogas	29218	0.01
Sn	118	1	nogas	48247	0.00
Ba	137	1	nogas	22592	0.01
Sb	121	2	He	6915	0.05
P	31	1	nogas	71553	0.00
La	139	1	nogas	53	53.70

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	323538	1.56	327043	98.93	70	125	
Ge	72	1	nogas	1432247	1.60	1420865	100.80	70	125	
In	115	1	nogas	1579243	2.95	1584599	99.66	70	125	
Bi	209	1	nogas	1522433	3.86	1610392	94.54	70	125	
Ge	72	2	He	107238	3.60	106219	100.96	70	125	

Calibration Standard Report

Sample Table

Sample Name	100/500/10K
Data File Name	118CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:55:25-06:00
Sample Type	CalStd
Level	5
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	207640	0.00
Na	23	1	nogas	97487150	0.00
Mg	24	1	nogas	65244439	0.00
Al	27	1	nogas	783676	0.00
K	39	1	nogas	75727856	0.00
Ti	47	1	nogas	79451	0.00
V	51	1	nogas	1649002	0.00
Cr	52	1	nogas	1009320	0.00
Mn	55	1	nogas	1281721	0.00
Co	59	1	nogas	1076220	0.00
Ni	60	1	nogas	251571	0.00
Cu	63	1	nogas	616032	0.00
Zn	66	1	nogas	196367	0.00
As	75	1	nogas	276952	0.00
Sr	88	1	nogas	1316137	0.00
Ag	107	1	nogas	788977	0.00
Cd	111	1	nogas	163364	0.00
Sb	121	1	nogas	671275	0.00
Tl	205	1	nogas	1375320	0.00
Pb	208	1	nogas	1997119	0.00
[Pb]	206	1	nogas	481840	0.00
[Pb]	207	1	nogas	445631	0.00
Na	23	2	He	1770851	0.00
Mg	24	2	He	822539	0.00
Al	27	2	He	2287	0.30
K	39	2	He	417685	0.00
Ca	43	2	He	1340	0.29
Ca	44	2	He	25104	0.01
V	51	2	He	93297	0.00
Cr	52	2	He	129511	0.00
Mn	55	2	He	49547	0.00
Fe	56	2	He	9946119	0.00
Co	59	2	He	219870	0.00
Ni	60	2	He	62882	0.00
Cu	63	2	He	173860	0.00
Zn	66	2	He	25258	0.02
As	75	2	He	16057	0.01
Se	78	2	He	601	1.72
B	11	1	nogas	747982	0.00
Si	28	1	nogas	18605631	0.00

Calibration Standard Report

Ca	43	1	nogas	154052	0.00
Ca	44	1	nogas	2551936	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	117407498	0.00
Se	77	1	nogas	35184	0.02
Se	82	1	nogas	10643	0.02
Mo	95	1	nogas	284477	0.00
Sn	118	1	nogas	469782	0.00
Ba	137	1	nogas	218143	0.00
Sb	121	2	He	69469	0.00
P	31	1	nogas	286064	0.00
La	139	1	nogas	250	13.95

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	301589	6.05	327043	92.22	70	125	
Ge	72	1	nogas	1425092	0.38	1420865	100.30	70	125	
In	115	1	nogas	1528558	0.86	1584599	96.46	70	125	
Bi	209	1	nogas	1509993	0.39	1610392	93.77	70	125	
Ge	72	2	He	106200	1.08	106219	99.98	70	125	

Calibration Standard Report

Sample Table

Sample Name	200/1000/20K
Data File Name	119CALS.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T14:57:24-06:00
Sample Type	CalStd
Level	6
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Be	9	1	nogas	416349	0.00
Na	23	1	nogas	190468908	0.00
Mg	24	1	nogas	129084661	0.00
Al	27	1	nogas	1462524	0.00
K	39	1	nogas	149701428	0.00
Ti	47	1	nogas	157684	0.00
V	51	1	nogas	2811164	0.00
Cr	52	1	nogas	2008811	0.00
Mn	55	1	nogas	2511661	0.00
Co	59	1	nogas	2141750	0.00
Ni	60	1	nogas	483709	0.00
Cu	63	1	nogas	1159306	0.00
Zn	66	1	nogas	377894	0.00
As	75	1	nogas	482708	0.00
Sr	88	1	nogas	2600963	0.00
Ag	107	1	nogas	1536792	0.00
Cd	111	1	nogas	316783	0.00
Sb	121	1	nogas	1351406	0.00
Tl	205	1	nogas	2804417	0.00
Pb	208	1	nogas	3907987	0.00
[Pb]	206	1	nogas	952513	0.00
[Pb]	207	1	nogas	872237	0.00
Na	23	2	He	3330346	0.00
Mg	24	2	He	1596232	0.00
Al	27	2	He	4134	0.07
K	39	2	He	812710	0.00
Ca	43	2	He	2770	0.13
Ca	44	2	He	49025	0.01
V	51	2	He	184048	0.00
Cr	52	2	He	252305	0.00
Mn	55	2	He	96644	0.00
Fe	56	2	He	19955108	0.00
Co	59	2	He	429233	0.00
Ni	60	2	He	122207	0.00
Cu	63	2	He	347740	0.00
Zn	66	2	He	49949	0.00
As	75	2	He	31708	0.01
Se	78	2	He	1151	0.14
B	11	1	nogas	1472002	0.00
Si	28	1	nogas	35462199	0.00

Calibration Standard Report

Ca	43	1	nogas	302363	0.00
Ca	44	1	nogas	4860528	0.00
Name	Mass	Tune Step	Tune Mode	CPS	%RSD
Fe	56	1	nogas	233878297	0.00
Se	77	1	nogas	46623	0.01
Se	82	1	nogas	20485	0.00
Mo	95	1	nogas	566399	0.00
Sn	118	1	nogas	923253	0.00
Ba	137	1	nogas	433742	0.00
Sb	121	2	He	140190	0.00
P	31	1	nogas	511453	0.00
La	139	1	nogas	357	6.78

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	287216	1.50	327043	87.82	70	125	
Ge	72	1	nogas	1415257	4.61	1420865	99.61	70	125	
In	115	1	nogas	1470302	2.34	1584599	92.79	70	125	
Bi	209	1	nogas	1434653	1.99	1610392	89.09	70	125	
Ge	72	2	He	104490	0.38	106219	98.37	70	125	

Initial Calibration Verification (ICV) Report

Sample Table

Sample Name	ICCV
Data File Name	120_ICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:00:15-06:00
Sample Type	ICV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	106.167	4.798	216174	4.66	100	106.2	90	110	
Na	23	1	nogas	9830.074	1.362	99772398	1.38	10000	98.3	90	110	
Mg	24	1	nogas	9904.343	1.597	66622418	1.65	10000	99.0	90	110	
Al	27	1	nogas	100.679	4.441	797473	2.62	100	100.7	90	110	
K	39	1	nogas	9482.450	2.612	77086737	2.07	10000	94.8	90	110	
Ti	47	1	nogas	93.841	7.022	78485	5.99	100	93.8	90	110	
V	51	1	nogas	86.066	10.672	1536954	6.34	100	86.1	90	110	ICV Main CR1 Failed
Cr	52	1	nogas	96.830	5.629	1035583	4.81	100	96.8	90	110	
Mn	55	1	nogas	94.137	4.279	1262255	3.26	100	94.1	90	110	
Co	59	1	nogas	98.951	1.732	1124409	1.68	100	99.0	90	110	
Ni	60	1	nogas	100.389	1.457	260293	0.95	100	100.4	90	110	
Cu	63	1	nogas	101.513	1.856	632313	0.98	100	101.5	90	110	
Zn	66	1	nogas	100.688	2.077	203579	1.91	100	100.7	90	110	
As	75	1	nogas	90.096	4.201	268362	1.89	100	90.1	90	110	
Sr	88	1	nogas	96.232	2.111	1335965	1.25	100	96.2	90	110	
Ag	107	1	nogas	94.375	4.139	772211	2.81	100	94.4	90	110	
Cd	111	1	nogas	101.906	2.770	164680	2.46	100	101.9	90	110	
Sb	121	1	nogas	107.000	1.885	764836	0.66	100	107.0	90	110	
Tl	205	1	nogas	99.683	6.070	1505788	1.93	100	99.7	90	110	
Pb	208	1	nogas	103.302	2.233	2027966	2.23	100	103.3	90	110	
U	238	1	nogas	100.023	5.612	2112691	1.56	100	100.0	90	110	
[Pb]	206	1	nogas	99.370	6.217	512851	1.91	100	99.4	90	110	
[Pb]	207	1	nogas	91.798	7.237	434614	2.93	100	91.8	90	110	
Na	23	2	He	9616.846	4.820	1724347	2.19	10000	96.2	90	110	
Mg	24	2	He	9668.693	2.760	802593	0.65	10000	96.7	90	110	
Al	27	2	He	103.119	11.922	2300	9.16	100	103.1	90	110	
K	39	2	He	10338.746	1.331	426708	1.30	10000	103.4	90	110	
Ca	43	2	He	9761.524	11.660	1390	11.84	10000	97.6	90	110	
Ca	44	2	He	9811.909	2.259	25064	1.89	10000	98.1	90	110	
V	51	2	He	99.653	2.357	95145	0.85	100	99.7	90	110	
Cr	52	2	He	98.152	2.670	129089	3.84	100	98.2	90	110	
Mn	55	2	He	99.509	1.429	49998	2.01	100	99.5	90	110	
Fe	56	2	He	9745.490	2.463	10041905	1.22	10000	97.5	90	110	
Co	59	2	He	101.251	2.995	225619	1.31	100	101.3	90	110	
Ni	60	2	He	100.265	4.122	63839	2.26	100	100.3	90	110	
Cu	63	2	He	99.120	5.427	178214	3.21	100	99.1	90	110	
Zn	66	2	He	97.274	5.858	25171	3.57	100	97.3	90	110	
As	75	2	He	102.912	1.852	16905	0.95	100	102.9	90	110	
Se	78	2	He	96.262	2.794	581	5.60	100	96.3	90	110	
B	11	1	nogas	502.222	4.117	735352	3.62	500	100.4	90	110	
Si	28	1	nogas	4980.255	5.810	19282318	3.58	5000	99.6	90	110	
Ca	43	1	nogas	9469.316	0.428	152843	2.42	10000	94.7	90	110	
Ca	44	1	nogas	9563.475	2.407	2557008	0.11	10000	95.6	90	110	
Fe	56	1	nogas	9367.758	1.736	116512261	2.76	10000	93.7	90	110	
Se	77	1	nogas	71.179	3.782	30509	3.13	100	71.2	90	110	ICV Main CR1 Failed
Se	82	1	nogas	95.958	2.481	10740	0.72	100	96.0	90	110	
Mo	95	1	nogas	97.346	3.261	292440	2.59	100	97.3	90	110	
Sn	118	1	nogas	93.630	1.953	439918	1.18	100	93.6	90	110	
Ba	137	1	nogas	103.951	1.229	228959	2.01	100	104.0	90	110	
Sb	121	2	He	106.130	4.097	76715	1.32	100	106.1	90	110	
Li	7	1	nogas	106.823	2.732	569463	2.52	100	106.8	90	110	
P	31	1	nogas	490.314	3.691	291960	1.10	500	98.1	90	110	
La	139	1	nogas	194.738	18.232	370	16.44	100	194.7	90	110	ICV Main CR1 Failed
Au	197	1	nogas	-58.806	-530.584	23	107.85	100	-58.8	90	110	ICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	294949	0.48	327043	90.19	70	125	
Ge	72	1	nogas	1500022	2.17	1420865	105.57	70	125	
In	115	1	nogas	1502001	0.79	1584599	94.79	70	125	
Bi	209	1	nogas	1569463	4.42	1610392	97.46	70	125	

Initial Calibration Verification (ICV) Report

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	108346	2.82	106219	102.00	70	125	

Sample Report

Sample Table

Sample Name	LLCCV2
Data File Name	121SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:02:13-06:00
Sample Type	Sample
Dilution	1
Comment	
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	1.957	1.957	1.86	4514	0.04	2000	
Na	23	1	nogas	55.648	55.648	11.06	5502023	0.00	200000	
Mg	24	1	nogas	203.016	203.016	3.48	1461337	0.01	200000	
Al	27	1	nogas	2.138	2.138	3.63	32368	0.01	2000	
K	39	1	nogas	165.623	165.623	6.36	5200841	0.00	200000	
Ti	47	1	nogas	2.138	2.138	2.26	1927	0.11	2000	
V	51	1	nogas	-0.123	-0.123	-1293.69	429647	0.00	2000	
Cr	52	1	nogas	2.099	2.099	1.83	35100	0.01	2000	
Mn	55	1	nogas	2.042	2.042	2.27	37970	0.01	2000	
Co	59	1	nogas	2.065	2.065	4.51	23492	0.01	2000	
Ni	60	1	nogas	1.586	1.586	8.69	6638	0.02	2000	
Cu	63	1	nogas	2.156	2.156	2.06	15824	0.01	2000	
Zn	66	1	nogas	1.598	1.598	8.12	4534	0.04	2000	
As	75	1	nogas	1.260	1.260	136.58	70027	0.00	2000	
Sr	88	1	nogas	1.143	1.143	3.15	31298	0.00	2000	
Ag	107	1	nogas	2.222	2.222	1.55	18463	0.01	2000	
Cd	111	1	nogas	2.039	2.039	4.51	3502	0.06	2000	
Sb	121	1	nogas	2.580	2.580	2.88	19104	0.01	2000	
Tl	205	1	nogas	2.115	2.115	3.19	31167	0.01	2000	
Pb	208	1	nogas	2.208	2.208	3.56	44054	0.01	2000	
U	238	1	nogas	2.206	2.206	1.23	45389	0.00	2000	
[Pb]	206	1	nogas	2.189	2.189	3.32	11114	0.02	2000	
[Pb]	207	1	nogas	2.058	2.058	9.49	9653	0.02	2000	
Na	23	2	He	27.012	27.012	122.31	122326	0.02	200000	
Mg	24	2	He	203.973	203.973	8.13	18036	1.13	200000	
Al	27	2	He	3.401	3.401	88.76	213	1.59	2000	
K	39	2	He	184.893	184.893	0.97	18529	1.00	200000	
Ca	43	2	He	234.557	234.557	19.81	37	639.70	200000	
Ca	44	2	He	120.932	120.932	24.25	537	22.53	200000	
V	51	2	He	1.906	1.906	7.91	2145	0.09	2000	
Cr	52	2	He	1.854	1.854	6.02	3474	0.05	2000	
Mn	55	2	He	2.046	2.046	14.52	1157	0.18	2000	
Fe	56	2	He	200.351	200.351	2.05	210264	0.10	200000	
Co	59	2	He	2.012	2.012	9.68	4497	0.04	2000	
Ni	60	2	He	1.788	1.788	10.50	1603	0.11	2000	
Cu	63	2	He	2.081	2.081	5.59	4281	0.05	2000	
Zn	66	2	He	2.030	2.030	12.48	593	0.34	2000	
As	75	2	He	2.025	2.025	6.45	342	0.59	2000	
Se	78	2	He	2.158	2.158	38.70	19	11.56	2000	
B	11	1	nogas	8.752	8.752	12.49	63902	0.01	2000	

Sample Report

Si	28	1	nogas	178.077	178.077	1.77	1600350	0.01	2000	
Ca	43	1	nogas	165.623	165.623	3.08	4067	4.07	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ca	44	1	nogas	174.270	174.270	7.63	208768	0.08	200000	
Fe	56	1	nogas	194.440	194.440	5.41	3224591	0.01	200000	
Se	77	1	nogas	14.665	14.665	46.25	21383	0.07	2000	
Se	82	1	nogas	0.465	0.465	117.26	627	0.07	2000	
Mo	95	1	nogas	2.226	2.226	10.12	6741	0.03	2000	
Sn	118	1	nogas	2.030	2.030	4.18	10834	0.02	2000	
Ba	137	1	nogas	1.901	1.901	2.71	4697	0.04	2000	
Sb	121	2	He	2.686	2.686	2.82	2013	0.13	2000	
La	139	1	nogas	94.599	94.599	31.77	220	43.00	2000	
Au	197	1	nogas	21.202	21.202	1267.75	17	127.21	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	332578	0.61	327043	101.69	70	125	
Ge	72	1	nogas	1484008	1.18	1420865	104.44	70	125	
In	115	1	nogas	1591984	1.71	1584599	100.47	70	125	
Bi	209	1	nogas	1523244	3.60	1610392	94.59	70	125	
Ge	72	2	He	107946	2.60	106219	101.63	70	125	

Low Level Initial Calibration Verification (LLICV) Report

Sample Table

Sample Name	LLCCV5
Data File Name	122LICV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:04:16-06:00
Sample Type	LLICV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	4.742	2.515	10860	0.51	5	94.8	70	130	
Na	23	1	nogas	330.839	10.534	8200190	0.64	500	66.2	70	130	LLICV Main CR1 Failed
Mg	24	1	nogas	493.513	3.480	3420312	1.52	500	98.7	70	130	
Al	27	1	nogas	5.587	4.530	57582	1.66	5	111.7	70	130	
K	39	1	nogas	462.532	4.424	7304377	0.56	500	92.5	70	130	
Ti	47	1	nogas	5.060	8.251	4251	9.58	5	101.2	70	130	
V	51	1	nogas	3.781	54.197	468755	4.83	5	75.6	70	130	
Cr	52	1	nogas	5.094	2.249	64958	1.27	5	101.9	70	130	
Mn	55	1	nogas	5.201	6.319	77769	3.95	5	104.0	70	130	
Co	59	1	nogas	5.237	1.507	57861	1.70	5	104.7	70	130	
Ni	60	1	nogas	4.707	7.338	14242	4.52	5	94.1	70	130	
Cu	63	1	nogas	5.220	2.071	33882	0.45	5	104.4	70	130	
Zn	66	1	nogas	4.833	7.241	10733	7.93	5	96.7	70	130	
As	75	1	nogas	4.458	34.628	75409	3.88	5	89.2	70	130	
Sr	88	1	nogas	4.316	6.082	72726	3.40	5	86.3	70	130	
Ag	107	1	nogas	5.365	3.552	42946	1.88	5	107.3	70	130	
Cd	111	1	nogas	4.915	0.822	8312	1.82	5	98.3	70	130	
Sb	121	1	nogas	5.020	4.683	35553	4.04	5	100.4	70	130	
Tl	205	1	nogas	4.879	4.526	72341	1.75	5	97.6	70	130	
Pb	208	1	nogas	5.234	1.764	103441	1.75	5	104.7	70	130	
U	238	1	nogas	5.116	4.878	105958	2.43	5	102.3	70	130	
[Pb]	206	1	nogas	5.084	3.846	25834	1.05	5	101.7	70	130	
[Pb]	207	1	nogas	4.765	4.529	22299	1.50	5	95.3	70	130	
Na	23	2	He	332.290	0.533	174495	0.87	500	66.5	70	130	LLICV Main CR1 Failed
Mg	24	2	He	512.337	2.419	43851	3.01	500	102.5	70	130	
Al	27	2	He	4.867	28.679	247	12.38	5	97.3	70	130	
K	39	2	He	511.952	2.137	31677	1.39	500	102.4	70	130	
Ca	43	2	He	629.948	23.642	93	22.30	500	126.0	70	130	
Ca	44	2	He	454.672	28.663	1387	23.00	500	90.9	70	130	
V	51	2	He	4.788	2.751	4915	3.40	5	95.8	70	130	
Cr	52	2	He	5.165	3.715	7828	2.29	5	103.3	70	130	
Mn	55	2	He	5.385	6.074	2847	6.14	5	107.7	70	130	
Fe	56	2	He	494.076	2.470	515412	1.58	500	98.8	70	130	
Co	59	2	He	5.052	3.796	11330	2.88	5	101.0	70	130	
Ni	60	2	He	4.823	12.037	3537	9.76	5	96.5	70	130	
Cu	63	2	He	5.002	9.611	9573	9.27	5	100.0	70	130	
Zn	66	2	He	4.867	19.310	1333	18.83	5	97.3	70	130	
As	75	2	He	4.630	2.319	774	3.17	5	92.6	70	130	
Se	78	2	He	4.925	11.369	35	8.65	5	98.5	70	130	
B	11	1	nogas	17.123	12.955	76518	2.46	25	68.5	70	130	LLICV Main CR1 Failed
Si	28	1	nogas	305.947	4.136	2021504	2.14	25	1223.8	70	130	LLICV Main CR1 Failed
Ca	43	1	nogas	448.325	3.557	8352	2.05	500	89.7	70	130	
Ca	44	1	nogas	496.379	4.953	282216	2.15	500	99.3	70	130	
Fe	56	1	nogas	504.461	6.442	6856271	4.01	500	100.9	70	130	
Se	77	1	nogas	19.129	18.358	21603	2.59	5	382.6	70	130	LLICV Main CR1 Failed
Se	82	1	nogas	5.210	8.257	1100	5.53	5	104.2	70	130	
Mo	95	1	nogas	5.117	2.006	14997	0.87	5	102.3	70	130	
Sn	118	1	nogas	4.784	4.273	24174	3.21	5	95.7	70	130	
Ba	137	1	nogas	4.778	5.151	11244	4.05	5	95.6	70	130	
Sb	121	2	He	5.086	8.351	3767	8.32	5	101.7	70	130	
Li	7	1	nogas	4.777	1.122	59367	2.26	5	95.5	70	130	
P	31	1	nogas	25.964	13.178	59574	2.10	25	103.9	70	130	
La	139	1	nogas	28.232	109.963	103	49.66	5	564.6	70	130	LLICV Main CR1 Failed
Au	197	1	nogas	102.898	229.119	10	173.21	5	2058.0	70	130	LLICV Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	331216	2.07	327043	101.28	70	125	
Ge	72	1	nogas	1452098	1.68	1420865	102.20	70	125	

Low Level Initial Calibration Verification (LLICV) Report

In	115	1	nogas	1569837	1.13	1584599	99.07	70	125	
Bi	209	1	nogas	1536492	3.06	1610392	95.41	70	125	
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Ge	72	2	He	108719	0.91	106219	102.35	70	125	

Initial Calibration Blank (ICB) Report

Sample Table

Sample Name	ICCB
Data File Name	123_ICB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:06:17-06:00
Sample Type	ICB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.024	38.4	77	30.1	1	
Na	23	1	nogas	-177.977	-6.5	3308788	2.7	100	
Mg	24	1	nogas	-14.100	-2.0	24052	8.3	100	
Al	27	1	nogas	0.041	95.1	16271	2.7	5	
K	39	1	nogas	-45.016	-12.3	3595545	0.3	100	
Ti	47	1	nogas	0.016	337.7	173	26.0	2.5	
V	51	1	nogas	-2.150	-54.4	404248	4.2	2.5	
Cr	52	1	nogas	0.017	275.5	13352	4.1	2.5	
Mn	55	1	nogas	0.039	60.7	11627	1.8	2.5	
Co	59	1	nogas	0.007	71.5	353	15.6	2.5	
Ni	60	1	nogas	-0.553	-20.9	1207	24.1	2.5	
Cu	63	1	nogas	0.022	139.5	2727	6.2	2.5	
Zn	66	1	nogas	-0.465	-6.8	433	14.8	2.5	
As	75	1	nogas	-0.812	-147.5	65511	4.4	2.5	
Sr	88	1	nogas	-1.043	-1.1	1623	9.4	2.5	
Ag	107	1	nogas	0.005	68.6	523	4.8	2.5	
Cd	111	1	nogas	0.002	639.6	13	173.2	1	
Sb	121	1	nogas	0.355	9.4	3385	6.6	2.5	
Tl	205	1	nogas	0.018	31.9	393	19.7	1	
Pb	208	1	nogas	0.015	45.7	1010	13.0	2.5	
U	238	1	nogas	0.009	28.2	297	23.7	2.5	
[Pb]	206	1	nogas	0.022	50.6	237	24.0	2.5	
[Pb]	207	1	nogas	0.022	43.5	293	13.8	2.5	
Na	23	2	He	-213.439	-6.7	81591	1.3	100	
Mg	24	2	He	-10.315	-10.0	350	22.3	100	
Al	27	2	He	0.051	3099.5	143	24.5	5	
K	39	2	He	-34.266	-33.9	9719	4.8	100	
Ca	43	2	He	45.834	268.8	10	173.2	100	
Ca	44	2	He	-27.763	-53.8	160	22.5	100	
V	51	2	He	-0.129	-14.9	215	9.6	2.5	
Cr	52	2	He	0.021	181.7	1080	4.9	2.5	
Mn	55	2	He	0.075	160.2	173	35.3	2.5	
Fe	56	2	He	-0.047	-372.6	4534	4.6	100	
Co	59	2	He	0.012	207.4	60	92.8	2.5	
Ni	60	2	He	-0.173	-88.2	363	26.7	2.5	
Cu	63	2	He	0.016	359.3	587	16.2	2.5	
Zn	66	2	He	-0.026	-348.9	63	36.5	2.5	
As	75	2	He	-0.021	-55.0	8	24.7	2.5	
Se	78	2	He	-0.641	-52.8	2	100.0	2.5	
B	11	1	nogas	-7.732	-16.2	38279	2.0	10	
Si	28	1	nogas	3.163	99.4	963653	0.4	5	
Ca	43	1	nogas	-49.795	-5.0	660	6.1	100	
Ca	44	1	nogas	-65.169	-22.1	149619	1.5	100	
Fe	56	1	nogas	-13.131	-6.7	689652	1.1	100	
Se	77	1	nogas	16.207	37.8	21630	4.0	2.5	ICB Main CR1 Failed
Se	82	1	nogas	-0.492	-139.1	527	13.5	2.5	

Initial Calibration Blank (ICB) Report

Mo	95	1	nogas	0.008	35.0	150	6.7	2.5	
Sn	118	1	nogas	0.019	137.2	843	13.3	5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Ba	137	1	nogas	-0.067	-20.4	110	31.5	2.5	
Sb	121	2	He	0.326	42.9	310	30.8	2.5	
P	31	1	nogas	-3.891	-44.5	46250	2.2	10	
La	139	1	nogas	14.824	67.3	83	18.3	2.5	ICB Main CR1 Failed
Au	197	1	nogas	-207.037	-131.1	33	62.4	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	nogas	332500	3.51	327043	101.67	70	125	
Ge	72	1	nogas	1484550	0.87	1420865	104.48	70	125	
In	115	1	nogas	1622034	2.57	1584599	102.36	70	125	
Bi	209	1	nogas	1524955	5.69	1610392	94.69	70	125	
Ge	72	2	He	106944	1.65	106219	100.68	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	124ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:14:54-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.014	95.5	53	60.3	0	ICSA Main CR1 Failed
Na	23	1	nogas	98578.811	1.2	923859554	1.7	0	
Mg	24	1	nogas	98092.291	4.4	637355631	5.0	0	
Al	27	1	nogas	98664.163	1.4	728913589	1.4	0	
K	39	1	nogas	94711.859	4.3	698615482	4.1	0	
Ti	47	1	nogas	1894.272	2.3	1505142	2.2	0	
V	51	1	nogas	-5.991	-11.1	341751	2.2	0	ICSA Main CR1 Failed
Cr	52	1	nogas	0.360	3.0	16281	0.8	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.327	14.0	14819	3.8	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.062	11.5	930	8.4	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.034	527.0	2594	16.9	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.672	20.8	6455	12.7	0	ICSA Main CR1 Failed
Zn	66	1	nogas	0.754	15.2	2747	7.8	0	ICSA Main CR1 Failed
As	75	1	nogas	-1.221	-177.2	62103	7.2	0	ICSA Main CR1 Failed
Sr	88	1	nogas	0.069	108.1	16071	5.9	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.019	50.9	613	12.5	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.989	10.5	1587	10.1	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.308	13.7	2937	9.7	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.013	35.3	330	31.6	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.091	11.0	2510	7.8	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.112	32.8	677	17.8	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.077	24.7	543	7.0	0	ICSA Main CR1 Failed
Na	23	2	He	97333.048	3.9	15889909	2.2	0	
Mg	24	2	He	92801.593	3.7	7463623	1.8	0	
Al	27	2	He	94392.703	2.6	1918252	1.8	0	
K	39	2	He	92672.170	1.4	3736457	1.4	0	
Ca	43	2	He	90350.585	2.1	12454	3.0	0	
Ca	44	2	He	90735.814	2.1	223012	0.8	0	
V	51	2	He	-0.118	-11.9	221	5.8	0	ICSA Main CR1 Failed
Cr	52	2	He	0.219	55.0	1313	13.6	0	ICSA Main CR1 Failed
Mn	55	2	He	0.341	28.9	300	17.3	0	ICSA Main CR1 Failed
Fe	56	2	He	90898.777	3.0	90840525	1.9	0	
Co	59	2	He	0.010	247.4	53	96.2	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.071	-241.4	420	25.8	0	ICSA Main CR1 Failed
Cu	63	2	He	0.222	73.9	940	32.6	0	ICSA Main CR1 Failed
Zn	66	2	He	0.256	72.4	133	37.0	0	ICSA Main CR1 Failed
As	75	2	He	0.063	100.8	21	48.2	0	ICSA Main CR1 Failed
Se	78	2	He	0.167	426.3	7	62.4	0	ICSA Main CR1 Failed
B	11	1	nogas	-1.588	-69.1	47179	1.2	0	ICSA Main CR1 Failed
Si	28	1	nogas	146.371	5.1	1428010	1.8	0	
Ca	43	1	nogas	97442.234	3.3	1483365	3.3	0	
Ca	44	1	nogas	96530.335	1.1	23113620	0.9	0	
Fe	56	1	nogas	94376.913	4.6	1109291258	4.5	0	
Se	77	1	nogas	13.246	58.5	20352	5.6	0	
Se	82	1	nogas	-0.159	-211.1	540	6.4	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1897.795	4.2	5423205	4.0	0	
Sn	118	1	nogas	0.043	76.1	883	17.4	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.006	66.9	260	3.8	0	ICSA Main CR1 Failed
Sb	121	2	He	0.386	33.1	347	25.2	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	93787.816	1.5	44344269	1.4	0	
La	139	1	nogas	116.743	18.8	240	15.0	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	328025	2.37	327043	100.30	70	125	
Ge	72	1	nogas	1427105	0.17	1420865	100.44	70	125	
In	115	1	nogas	1482938	0.54	1584599	93.58	70	125	
Bi	209	1	nogas	1524364	10.24	1610392	94.66	70	125	
Ge	72	2	He	105114	1.99	106219	98.96	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	125ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:16:58-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	99.092	4.857	223434	1.32	100	99.1	80	120	
Na	23	1	nogas	112138.690	6.190	1044267357	2.71	100	112138.7	80	120	ICSB Main CR1 Failed
Mg	24	1	nogas	113412.332	2.669	733272266	2.23	100	113412.3	80	120	ICSB Main CR1 Failed
Al	27	1	nogas	102748.945	7.743	742444336	1.46	100	102748.9	80	120	ICSB Main CR1 Failed
K	39	1	nogas	111541.346	7.192	804462801	3.02	100	111541.3	80	120	ICSB Main CR1 Failed
Ti	47	1	nogas	2104.565	4.019	1638133	2.36	100	2104.6	80	120	ICSB Main CR1 Failed
V	51	1	nogas	94.507	7.594	1533305	1.69	100	94.5	80	120	
Cr	52	1	nogas	102.033	5.361	1016185	1.11	100	102.0	80	120	
Mn	55	1	nogas	102.769	5.811	1282968	1.85	100	102.8	80	120	
Co	59	1	nogas	103.849	7.755	1098335	2.40	100	103.8	80	120	
Ni	60	1	nogas	104.698	7.952	252535	1.68	100	104.7	80	120	
Cu	63	1	nogas	104.864	5.196	608521	1.33	100	104.9	80	120	
Zn	66	1	nogas	105.546	5.612	198737	1.36	100	105.5	80	120	
As	75	1	nogas	96.602	5.142	263702	2.49	100	96.6	80	120	
Sr	88	1	nogas	105.502	7.902	1361928	2.21	100	105.5	80	120	
Ag	107	1	nogas	97.799	5.750	745619	1.72	100	97.8	80	120	
Cd	111	1	nogas	101.099	3.914	160447	2.21	100	101.1	80	120	
Sb	121	1	nogas	102.523	6.324	682532	0.29	100	102.5	80	120	
Tl	205	1	nogas	103.105	4.120	1332835	1.06	100	103.1	80	120	
Pb	208	1	nogas	97.039	2.384	1905056	2.38	100	97.0	80	120	
U	238	1	nogas	114.465	1.151	2070435	3.22	100	114.5	80	120	
[Pb]	206	1	nogas	105.103	2.112	464437	1.58	100	105.1	80	120	
[Pb]	207	1	nogas	104.904	2.413	425387	2.52	100	104.9	80	120	
Na	23	2	He	108411.136	1.557	17820136	1.66	100	108411.1	80	120	
Mg	24	2	He	102312.218	2.129	8291234	2.30	100	102312.2	80	120	
Al	27	2	He	95522.010	2.708	1955390	2.35	100	95522.0	80	120	ICSB Main CR1 Failed
K	39	2	He	105988.827	1.478	4271778	1.47	100	105988.8	80	120	ICSB Main CR1 Failed
Ca	43	2	He	104937.109	3.868	14573	5.11	100	104937.1	80	120	ICSB Main CR1 Failed
Ca	44	2	He	102824.547	3.681	254508	2.72	100	102824.5	80	120	ICSB Main CR1 Failed
V	51	2	He	97.652	1.549	91136	0.45	100	97.7	80	120	
Cr	52	2	He	97.187	4.014	124867	2.75	100	97.2	80	120	
Mn	55	2	He	98.988	1.769	48604	1.39	100	99.0	80	120	
Fe	56	2	He	103441.688	2.065	104133205	1.09	100	103441.7	80	120	ICSB Main CR1 Failed
Co	59	2	He	96.838	2.926	210901	1.47	100	96.8	80	120	
Ni	60	2	He	95.190	2.794	59270	1.35	100	95.2	80	120	
Cu	63	2	He	96.197	3.402	169121	1.95	100	96.2	80	120	
Zn	66	2	He	97.070	3.344	24560	1.89	100	97.1	80	120	
As	75	2	He	99.290	1.761	15943	2.21	100	99.3	80	120	
Se	78	2	He	101.663	7.447	599	7.74	100	101.7	80	120	
B	11	1	nogas	468.265	5.363	762586	1.60	100	468.3	80	120	
Si	28	1	nogas	5416.437	6.814	19460907	1.29	100	5416.4	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	109901.412	5.297	1638061	2.38	100	109901.4	80	120	ICSB Main CR1 Failed
Ca	44	1	nogas	114447.478	6.872	26787465	2.23	100	114447.5	80	120	ICSB Main CR1 Failed
Fe	56	1	nogas	110794.941	6.749	1274571395	3.40	100	110794.9	80	120	ICSB Main CR1 Failed
Se	77	1	nogas	90.400	13.463	31237	3.19	100	90.4	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	96.559	8.413	10056	2.55	100	96.6	80	120	
Mo	95	1	nogas	2151.977	4.602	6022779	1.82	100	2152.0	80	120	ICSB Main CR1 Failed
Sn	118	1	nogas	102.019	3.791	470667	1.52	100	102.0	80	120	
Ba	137	1	nogas	101.745	4.630	219989	1.09	100	101.7	80	120	
Sb	121	2	He	97.890	1.180	69207	2.48	100	97.9	80	120	
La	139	1	nogas	280.124	26.683	503	27.55	100	280.1	80	120	ICSB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	326982	3.59	327043	99.98	70	125	
Ge	72	1	nogas	1400341	6.29	1420865	98.56	70	125	
In	115	1	nogas	1476770	5.08	1584599	93.20	70	125	
Bi	209	1	nogas	1341994	3.56	1610392	83.33	70	125	
Ge	72	2	He	105870	1.45	106219	99.67	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	133_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:33:07-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.118	61.0	297	55.6	1	
Na	23	1	nogas	-230.614	-5.1	2746681	2.1	100	
Mg	24	1	nogas	-0.596	-1382.0	111233	46.2	100	
Al	27	1	nogas	1.124	1.5	24400	2.0	5	
K	39	1	nogas	-31.302	-29.7	3670357	0.6	100	
Ti	47	1	nogas	0.409	24.6	493	15.5	2.5	
V	51	1	nogas	-13.196	-9.3	261972	4.8	2.5	
Cr	52	1	nogas	0.111	28.2	14222	4.2	2.5	
Mn	55	1	nogas	0.029	369.8	11420	13.1	2.5	
Co	59	1	nogas	0.092	72.5	1300	59.3	2.5	
Ni	60	1	nogas	-0.403	-25.2	1577	17.6	2.5	
Cu	63	1	nogas	0.124	37.2	3324	8.2	2.5	
Zn	66	1	nogas	-0.242	-41.0	873	24.6	2.5	
As	75	1	nogas	-8.284	-18.0	48642	5.9	2.5	
Sr	88	1	nogas	-0.970	-5.6	2597	30.4	2.5	
Ag	107	1	nogas	0.117	23.7	1423	17.0	2.5	
Cd	111	1	nogas	0.084	108.6	157	102.6	1	
Sb	121	1	nogas	2.316	14.6	17122	15.1	2.5	
Tl	205	1	nogas	0.130	40.7	2044	38.8	1	
Pb	208	1	nogas	0.142	48.3	3500	38.3	2.5	
U	238	1	nogas	0.219	37.8	4611	37.5	2.5	
[Pb]	206	1	nogas	0.159	51.3	927	44.8	2.5	
[Pb]	207	1	nogas	0.120	49.9	747	37.6	2.5	
Na	23	2	He	-277.053	-5.3	71598	1.5	100	
Mg	24	2	He	-4.373	-13.7	843	6.5	100	
Al	27	2	He	0.179	128.7	147	3.9	5	
K	39	2	He	-7.136	-193.7	10810	5.1	100	
Ca	43	2	He	43.976	272.8	10	173.2	100	
Ca	44	2	He	-29.626	-47.9	157	22.4	100	
V	51	2	He	0.061	32.0	396	4.0	2.5	
Cr	52	2	He	0.329	35.1	1487	9.8	2.5	
Mn	55	2	He	-0.001	-6122.5	137	18.4	2.5	
Fe	56	2	He	22.825	4.6	27985	2.9	100	
Co	59	2	He	0.006	90.4	47	24.7	2.5	
Ni	60	2	He	-0.261	-14.4	310	8.5	2.5	
Cu	63	2	He	0.034	82.5	623	8.1	2.5	
Zn	66	2	He	0.039	279.6	80	33.1	2.5	
As	75	2	He	0.210	4.7	46	4.2	2.5	
Se	78	2	He	-0.198	-251.3	5	65.5	2.5	
B	11	1	nogas	-5.984	-27.0	41793	3.0	10	
Si	28	1	nogas	8.059	63.8	973695	2.0	5	CCB Main CR1 Failed
Ca	43	1	nogas	-17.962	-56.1	1157	15.7	100	
Ca	44	1	nogas	-42.999	-40.2	153862	2.1	100	
Fe	56	1	nogas	31.797	32.8	1229162	10.9	100	
Se	77	1	nogas	-16.171	-52.4	16451	7.1	2.5	
Se	82	1	nogas	-0.163	-101.4	557	2.7	2.5	
Mo	95	1	nogas	0.551	26.4	1753	26.5	2.5	
Sn	118	1	nogas	0.336	19.3	2444	14.7	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.037	133.4	357	33.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	1.453	8.6	1123	9.9	2.5	
P	31	1	nogas	-1.773	-228.1	46892	2.5	10	
La	139	1	nogas	90.882	35.3	217	27.0	2.5	CCB Main CR1 Failed
Au	197	1	nogas	104.602	0.8	10	0.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	339101	3.18	327043	103.69	70	125	
Ge	72	1	nogas	1472892	2.26	1420865	103.66	70	125	
In	115	1	nogas	1615606	1.39	1584599	101.96	70	125	
Bi	209	1	nogas	1524510	0.59	1610392	94.67	70	125	
Ge	72	2	He	107708	1.94	106219	101.40	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	134_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:35:37-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	96.938	6.895	210064	2.50	100	96.9	90	110	
Na	23	1	nogas	9637.823	3.369	95838288	4.60	10000	96.4	90	110	
Mg	24	1	nogas	9979.793	3.825	65708922	5.35	10000	99.8	90	110	
Al	27	1	nogas	104.435	5.063	806842	2.92	100	104.4	90	110	
K	39	1	nogas	9784.487	2.416	77521829	1.18	10000	97.8	90	110	
Ti	47	1	nogas	95.639	3.381	78089	1.21	100	95.6	90	110	
V	51	1	nogas	78.312	8.315	1404073	5.36	100	78.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	98.143	3.811	1024321	1.43	100	98.1	90	110	
Mn	55	1	nogas	99.200	2.200	1298073	1.09	100	99.2	90	110	
Co	59	1	nogas	103.200	2.813	1144514	0.45	100	103.2	90	110	
Ni	60	1	nogas	101.204	4.879	255985	1.83	100	101.2	90	110	
Cu	63	1	nogas	100.430	6.315	610172	3.14	100	100.4	90	110	
Zn	66	1	nogas	100.730	4.991	198687	1.84	100	100.7	90	110	
As	75	1	nogas	84.880	5.776	250669	3.75	100	84.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	93.835	3.735	1271961	2.81	100	93.8	90	110	
Ag	107	1	nogas	96.367	4.080	769592	1.21	100	96.4	90	110	
Cd	111	1	nogas	98.848	0.345	167258	1.96	100	98.8	90	110	
Sb	121	1	nogas	107.792	3.822	751931	1.45	100	107.8	90	110	
Tl	205	1	nogas	101.054	4.728	1511240	1.07	100	101.1	90	110	
Pb	208	1	nogas	104.310	2.562	2047752	2.56	100	104.3	90	110	
U	238	1	nogas	100.968	6.454	2110191	2.98	100	101.0	90	110	
[Pb]	206	1	nogas	101.202	6.034	516928	2.26	100	101.2	90	110	
[Pb]	207	1	nogas	93.041	6.213	436081	2.51	100	93.0	90	110	
Na	23	2	He	10049.721	0.845	1730858	0.15	10000	100.5	90	110	
Mg	24	2	He	10096.160	1.667	807086	1.09	10000	101.0	90	110	
Al	27	2	He	112.832	6.195	2414	5.34	100	112.8	90	110	CCV Main CR1-2 Failed
K	39	2	He	10045.037	0.884	414901	0.86	10000	100.5	90	110	
Ca	43	2	He	10118.615	4.489	1387	3.70	10000	101.2	90	110	
Ca	44	2	He	9882.246	1.115	24306	0.97	10000	98.8	90	110	
V	51	2	He	102.574	1.068	94306	1.06	100	102.6	90	110	
Cr	52	2	He	103.982	1.446	131588	1.38	100	104.0	90	110	
Mn	55	2	He	100.396	2.254	48565	1.78	100	100.4	90	110	
Fe	56	2	He	9690.442	0.128	9616388	0.75	10000	96.9	90	110	
Co	59	2	He	101.966	1.013	218827	0.37	100	102.0	90	110	
Ni	60	2	He	102.834	2.208	63056	1.78	100	102.8	90	110	
Cu	63	2	He	104.653	1.025	181272	1.28	100	104.7	90	110	
Zn	66	2	He	103.799	2.448	25875	2.14	100	103.8	90	110	
As	75	2	He	105.065	2.082	16618	1.33	100	105.1	90	110	
Se	78	2	He	109.018	1.833	632	2.08	100	109.0	90	110	
B	11	1	nogas	463.728	9.352	725913	4.67	500	92.7	90	110	
Si	28	1	nogas	5136.273	3.717	19388084	1.06	5000	102.7	90	110	
Ca	43	1	nogas	9761.476	3.721	153706	2.70	10000	97.6	90	110	
Ca	44	1	nogas	9691.679	2.895	2527348	0.83	10000	96.9	90	110	
Fe	56	1	nogas	9815.194	3.239	119104857	2.77	10000	98.2	90	110	
Se	77	1	nogas	33.263	26.438	23949	5.20	100	33.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.566	3.339	10757	3.52	100	98.6	90	110	
Mo	95	1	nogas	96.382	3.990	282554	0.76	100	96.4	90	110	
Sn	118	1	nogas	93.582	1.931	460368	2.31	100	93.6	90	110	
Ba	137	1	nogas	96.769	1.449	223158	2.35	100	96.8	90	110	
Sb	121	2	He	107.462	1.080	74831	0.39	100	107.5	90	110	
Li	7	1	nogas	101.500	5.350	577688	0.74	100	101.5	90	110	
P	31	1	nogas	509.031	4.286	294048	0.86	500	101.8	90	110	
La	139	1	nogas	125.839	6.215	270	6.41	100	125.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	65.199	231.216	13	86.60	100	65.2	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	nogas	314566	4.78	327043	96.18	70	125	
Ge	72	1	nogas	1464628	3.19	1420865	103.08	70	125	
In	115	1	nogas	1572664	2.29	1584599	99.25	70	125	
Bi	209	1	nogas	1552914	3.91	1610392	96.43	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	104302	0.83	106219	98.20	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	145_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:58:00-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.982	4.082	215054	3.71	100	101.0	90	110	
Na	23	1	nogas	10206.532	0.823	96871879	1.17	10000	102.1	90	110	
Mg	24	1	nogas	10362.064	2.454	65298391	2.85	10000	103.6	90	110	
Al	27	1	nogas	105.334	3.409	768538	0.88	100	105.3	90	110	
K	39	1	nogas	9796.840	4.551	73269958	2.00	10000	98.0	90	110	
Ti	47	1	nogas	96.275	4.252	74219	1.31	100	96.3	90	110	
V	51	1	nogas	97.957	7.615	1556868	2.76	100	98.0	90	110	
Cr	52	1	nogas	101.330	5.225	998037	2.24	100	101.3	90	110	
Mn	55	1	nogas	101.914	2.931	1258964	1.18	100	101.9	90	110	
Co	59	1	nogas	101.582	4.816	1063641	2.82	100	101.6	90	110	
Ni	60	1	nogas	102.374	5.471	244488	2.52	100	102.4	90	110	
Cu	63	1	nogas	103.155	5.409	591952	2.77	100	103.2	90	110	
Zn	66	1	nogas	101.700	5.171	189429	2.41	100	101.7	90	110	
As	75	1	nogas	95.042	5.323	257472	1.10	100	95.0	90	110	
Sr	88	1	nogas	96.707	6.528	1236566	3.51	100	96.7	90	110	
Ag	107	1	nogas	98.319	3.780	741574	1.66	100	98.3	90	110	
Cd	111	1	nogas	102.480	2.058	160668	4.38	100	102.5	90	110	
Sb	121	1	nogas	107.336	6.893	706682	4.05	100	107.3	90	110	
Tl	205	1	nogas	102.908	7.441	1477814	5.12	100	102.9	90	110	
Pb	208	1	nogas	100.744	3.127	1977762	3.13	100	100.7	90	110	
U	238	1	nogas	103.511	4.834	2079272	2.97	100	103.5	90	110	
[Pb]	206	1	nogas	101.536	6.980	498233	4.60	100	101.5	90	110	
[Pb]	207	1	nogas	93.586	6.004	421465	3.63	100	93.6	90	110	
Na	23	2	He	10566.397	2.268	1684774	1.53	10000	105.7	90	110	
Mg	24	2	He	10390.429	3.120	771250	0.52	10000	103.9	90	110	
Al	27	2	He	109.698	5.191	2183	4.90	100	109.7	90	110	
K	39	2	He	9274.793	1.921	383937	1.87	10000	92.7	90	110	
Ca	43	2	He	10605.426	14.947	1350	14.87	10000	106.1	90	110	
Ca	44	2	He	9954.795	2.299	22738	1.14	10000	99.5	90	110	
V	51	2	He	103.016	3.851	87936	1.88	100	103.0	90	110	
Cr	52	2	He	104.259	1.173	122569	2.77	100	104.3	90	110	
Mn	55	2	He	102.807	5.660	46155	3.05	100	102.8	90	110	
Fe	56	2	He	10053.111	4.949	9259459	2.06	10000	100.5	90	110	
Co	59	2	He	106.225	5.259	211606	2.91	100	106.2	90	110	
Ni	60	2	He	108.601	7.206	61764	4.49	100	108.6	90	110	
Cu	63	2	He	107.179	5.123	172291	2.16	100	107.2	90	110	
Zn	66	2	He	102.832	3.763	23809	3.38	100	102.8	90	110	
As	75	2	He	103.522	4.563	15200	1.19	100	103.5	90	110	
Se	78	2	He	105.524	12.568	568	11.61	100	105.5	90	110	
B	11	1	nogas	500.828	4.246	767367	4.83	500	100.2	90	110	
Si	28	1	nogas	5187.461	2.277	18487832	1.02	5000	103.7	90	110	
Ca	43	1	nogas	9861.613	4.409	146580	1.47	10000	98.6	90	110	
Ca	44	1	nogas	9940.976	4.188	2443563	1.16	10000	99.4	90	110	
Fe	56	1	nogas	9733.611	5.727	111474257	2.90	10000	97.3	90	110	
Se	77	1	nogas	93.199	10.640	31294	1.66	100	93.2	90	110	
Se	82	1	nogas	103.505	6.524	10630	3.36	100	103.5	90	110	
Mo	95	1	nogas	97.856	6.501	270789	3.59	100	97.9	90	110	
Sn	118	1	nogas	93.425	1.658	425637	1.22	100	93.4	90	110	
Ba	137	1	nogas	99.591	1.962	212694	2.26	100	99.6	90	110	
Sb	121	2	He	106.788	3.227	69047	0.19	100	106.8	90	110	
Li	7	1	nogas	104.966	2.290	585722	0.68	100	105.0	90	110	
P	31	1	nogas	506.224	4.095	276417	1.04	500	101.2	90	110	
La	139	1	nogas	145.584	35.794	280	26.96	100	145.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	98.901	245.379	10	173.21	100	98.9	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	nogas	308539	1.90	327043	94.34	70	125	
Ge	72	1	nogas	1383057	2.89	1420865	97.34	70	125	
In	115	1	nogas	1456645	2.48	1584599	91.93	70	125	
Bi	209	1	nogas	1491197	2.47	1610392	92.60	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	96912	3.40	106219	91.24	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	146_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010
Acq Date Time	2018-01-02T15:59:58-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.160	23.9	413	22.5	1	
Na	23	1	nogas	-220.662	-5.5	2734932	1.4	100	
Mg	24	1	nogas	-1.142	-682.8	103474	44.5	100	
Al	27	1	nogas	0.751	7.1	20959	1.4	5	
K	39	1	nogas	-26.586	-56.5	3603330	1.5	100	
Ti	47	1	nogas	0.304	21.8	397	11.6	2.5	
V	51	1	nogas	-5.733	-26.1	346088	5.3	2.5	
Cr	52	1	nogas	0.223	17.5	14950	0.9	2.5	
Mn	55	1	nogas	0.066	190.5	11554	13.3	2.5	
Co	59	1	nogas	0.101	79.2	1353	63.8	2.5	
Ni	60	1	nogas	-0.391	-19.6	1560	10.6	2.5	
Cu	63	1	nogas	0.133	77.3	3287	18.3	2.5	
Zn	66	1	nogas	-0.232	-54.3	863	27.6	2.5	
As	75	1	nogas	-3.863	-11.1	56712	2.1	2.5	
Sr	88	1	nogas	-0.967	-6.5	2550	31.8	2.5	
Ag	107	1	nogas	0.113	43.2	1347	27.8	2.5	
Cd	111	1	nogas	0.113	86.1	200	83.2	1	
Sb	121	1	nogas	0.358	10.3	3287	7.5	2.5	
Tl	205	1	nogas	0.165	41.6	2547	41.1	1	
Pb	208	1	nogas	0.174	55.6	4137	45.9	2.5	
U	238	1	nogas	0.244	35.3	5104	36.2	2.5	
[Pb]	206	1	nogas	0.186	39.3	1057	36.3	2.5	
[Pb]	207	1	nogas	0.134	58.0	807	45.5	2.5	
Na	23	2	He	-257.597	-4.9	68523	2.2	100	
Mg	24	2	He	-3.101	-37.0	867	7.7	100	
Al	27	2	He	2.031	66.3	170	17.6	5	
K	39	2	He	-33.353	-16.5	9756	2.3	100	
Ca	43	2	He	0.799	5656.1	3	173.2	100	
Ca	44	2	He	-23.516	-109.9	157	35.2	100	
V	51	2	He	0.118	25.2	413	9.3	2.5	
Cr	52	2	He	0.194	105.8	1197	17.7	2.5	
Mn	55	2	He	0.015	757.3	133	41.3	2.5	
Fe	56	2	He	24.790	2.9	27464	1.4	100	
Co	59	2	He	0.041	11.5	113	10.2	2.5	
Ni	60	2	He	-0.199	-50.9	320	19.0	2.5	
Cu	63	2	He	0.080	80.3	647	18.1	2.5	
Zn	66	2	He	-0.009	-2037.6	63	71.2	2.5	
As	75	2	He	0.226	45.5	44	38.5	2.5	
Se	78	2	He	-0.604	-61.7	2	100.0	2.5	
B	11	1	nogas	2.255	48.6	57297	1.9	10	
Si	28	1	nogas	86.409	11.3	1221905	1.0	5	CCB Main CR1 Failed
Ca	43	1	nogas	-26.357	-30.0	993	10.8	100	
Ca	44	1	nogas	-101.144	-11.2	135744	0.8	100	
Fe	56	1	nogas	21.194	63.4	1069456	14.5	100	
Se	77	1	nogas	1.542	275.5	18663	3.0	2.5	
Se	82	1	nogas	-1.145	-134.9	443	36.7	2.5	
Mo	95	1	nogas	0.471	39.9	1470	36.3	2.5	
Sn	118	1	nogas	0.337	20.0	2350	15.2	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.049	188.7	370	57.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.379	16.3	320	9.4	2.5	
P	31	1	nogas	-1.060	-99.4	45953	0.8	10	
La	139	1	nogas	82.428	16.2	193	10.8	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-119.835	-168.2	27	57.3	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	nogas	354154	1.28	327043	108.29	70	125	
Ge	72	1	nogas	1432157	1.77	1420865	100.79	70	125	
In	115	1	nogas	1551932	1.65	1584599	97.94	70	125	
Bi	209	1	nogas	1512606	1.78	1610392	93.93	70	125	
Ge	72	2	He	98638	3.57	106219	92.86	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	159_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T16:35:46-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.423	6.023	218418	0.94	100	100.4	90	110	
Na	23	1	nogas	10197.088	2.738	100292831	0.61	10000	102.0	90	110	
Mg	24	1	nogas	10334.984	4.602	67458406	1.72	10000	103.3	90	110	
Al	27	1	nogas	105.576	3.165	804228	2.43	100	105.6	90	110	
K	39	1	nogas	9525.566	5.852	74468316	3.90	10000	95.3	90	110	
Ti	47	1	nogas	96.264	1.725	77520	2.85	100	96.3	90	110	
V	51	1	nogas	98.407	2.178	1631995	1.75	100	98.4	90	110	
Cr	52	1	nogas	98.291	2.066	1011553	0.94	100	98.3	90	110	
Mn	55	1	nogas	100.946	4.849	1301499	3.08	100	100.9	90	110	
Co	59	1	nogas	100.129	4.722	1094404	2.79	100	100.1	90	110	
Ni	60	1	nogas	101.928	4.241	254190	2.26	100	101.9	90	110	
Cu	63	1	nogas	102.359	1.474	613587	1.30	100	102.4	90	110	
Zn	66	1	nogas	102.173	3.591	198766	3.11	100	102.2	90	110	
As	75	1	nogas	92.694	4.339	263793	1.43	100	92.7	90	110	
Sr	88	1	nogas	94.887	2.288	1267832	0.90	100	94.9	90	110	
Ag	107	1	nogas	95.401	1.743	751363	0.63	100	95.4	90	110	
Cd	111	1	nogas	101.020	1.093	165627	1.05	100	101.0	90	110	
Sb	121	1	nogas	105.062	2.429	722678	1.13	100	105.1	90	110	
Tl	205	1	nogas	105.442	2.362	1503196	1.35	100	105.4	90	110	
Pb	208	1	nogas	102.874	2.170	2019555	2.17	100	102.9	90	110	
U	238	1	nogas	102.701	3.883	2046793	2.98	100	102.7	90	110	
[Pb]	206	1	nogas	105.981	2.660	516184	0.84	100	106.0	90	110	
[Pb]	207	1	nogas	96.466	0.494	431354	2.95	100	96.5	90	110	
Na	23	2	He	10317.639	1.458	1716274	0.23	10000	103.2	90	110	
Mg	24	2	He	10304.056	1.535	796955	1.36	10000	103.0	90	110	
Al	27	2	He	107.188	10.610	2227	10.87	100	107.2	90	110	
K	39	2	He	9751.782	0.797	403112	0.78	10000	97.5	90	110	
Ca	43	2	He	11047.076	11.885	1463	10.51	10000	110.5	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9785.646	3.140	23288	2.94	10000	97.9	90	110	
V	51	2	He	103.975	2.023	92481	1.68	100	104.0	90	110	
Cr	52	2	He	102.161	0.094	125109	1.35	100	102.2	90	110	
Mn	55	2	He	104.021	3.151	48685	3.37	100	104.0	90	110	
Fe	56	2	He	10001.485	0.389	9602789	1.23	10000	100.0	90	110	
Co	59	2	He	105.490	1.190	219031	0.15	100	105.5	90	110	
Ni	60	2	He	107.771	1.964	63912	0.71	100	107.8	90	110	
Cu	63	2	He	105.203	2.827	176273	1.90	100	105.2	90	110	
Zn	66	2	He	103.385	3.065	24937	3.24	100	103.4	90	110	
As	75	2	He	104.654	1.869	16015	0.84	100	104.7	90	110	
Se	78	2	He	102.186	3.785	573	2.62	100	102.2	90	110	
B	11	1	nogas	480.165	6.947	752928	0.93	500	96.0	90	110	
Si	28	1	nogas	5211.026	2.827	19385725	3.04	5000	104.2	90	110	
Ca	43	1	nogas	9601.474	5.445	149038	4.25	10000	96.0	90	110	
Ca	44	1	nogas	9500.989	5.218	2445842	4.50	10000	95.0	90	110	
Fe	56	1	nogas	9694.874	6.718	115905215	4.76	10000	96.9	90	110	
Se	77	1	nogas	80.472	8.770	30750	1.66	100	80.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	100.249	1.755	10773	0.37	100	100.2	90	110	
Mo	95	1	nogas	97.596	3.237	282100	1.41	100	97.6	90	110	
Sn	118	1	nogas	90.940	0.379	433537	0.37	100	90.9	90	110	
Ba	137	1	nogas	100.506	1.727	224575	1.72	100	100.5	90	110	
Sb	121	2	He	110.524	0.296	74469	1.53	100	110.5	90	110	CCV Main CR1-2 Failed
Li	7	1	nogas	122.260	2.266	692755	3.71	100	122.3	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	491.703	4.607	281665	3.22	500	98.3	90	110	
La	139	1	nogas	141.099	23.658	287	19.21	100	141.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-35.402	-657.608	20	86.60	100	-35.4	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	nogas	315740	5.60	327043	96.54	70	125	
Ge	72	1	nogas	1443491	2.00	1420865	101.59	70	125	
In	115	1	nogas	1523772	0.04	1584599	96.16	70	125	
Bi	209	1	nogas	1479262	3.18	1610392	91.86	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	100917	1.28	106219	95.01	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	160_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T16:37:44-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.131	61.1	340	56.1	1	
Na	23	1	nogas	-249.690	-0.9	2539602	1.1	100	
Mg	24	1	nogas	-4.127	-151.1	87964	46.6	100	
Al	27	1	nogas	0.467	8.1	18453	2.5	5	
K	39	1	nogas	-11.910	-192.3	3630250	0.8	100	
Ti	47	1	nogas	0.478	30.6	523	21.0	2.5	
V	51	1	nogas	1.932	33.1	430706	5.1	2.5	
Cr	52	1	nogas	0.280	21.2	15190	0.2	2.5	
Mn	55	1	nogas	0.051	300.3	11087	13.2	2.5	
Co	59	1	nogas	0.105	71.3	1357	54.6	2.5	
Ni	60	1	nogas	-0.382	-31.8	1543	14.8	2.5	
Cu	63	1	nogas	0.116	82.0	3104	13.7	2.5	
Zn	66	1	nogas	-0.262	-55.3	783	30.5	2.5	
As	75	1	nogas	-0.568	-84.8	62383	4.8	2.5	
Sr	88	1	nogas	-0.980	-5.7	2317	27.1	2.5	
Ag	107	1	nogas	0.117	55.1	1340	32.3	2.5	
Cd	111	1	nogas	0.093	111.3	163	104.7	1	
Sb	121	1	nogas	0.367	8.9	3274	3.0	2.5	
Tl	205	1	nogas	0.132	59.9	2067	56.2	1	
Pb	208	1	nogas	0.152	45.2	3714	36.4	2.5	
U	238	1	nogas	0.205	31.9	4307	31.5	2.5	
[Pb]	206	1	nogas	0.151	57.0	883	49.0	2.5	
[Pb]	207	1	nogas	0.141	48.3	840	37.5	2.5	
Na	23	2	He	-300.121	-4.1	62419	1.4	100	
Mg	24	2	He	-7.259	-28.3	557	27.0	100	
Al	27	2	He	-2.532	-76.4	83	45.4	5	
K	39	2	He	-22.235	-52.1	10203	4.6	100	
Ca	43	2	He	50.834	148.2	10	100.0	100	
Ca	44	2	He	-31.307	-52.5	140	25.8	100	
V	51	2	He	0.142	15.3	435	5.7	2.5	
Cr	52	2	He	0.322	21.2	1360	5.3	2.5	
Mn	55	2	He	0.111	142.0	177	39.8	2.5	
Fe	56	2	He	23.945	1.7	26843	3.1	100	
Co	59	2	He	0.014	34.7	60	16.7	2.5	
Ni	60	2	He	-0.117	-174.9	370	33.9	2.5	
Cu	63	2	He	0.058	39.9	613	5.2	2.5	
Zn	66	2	He	-0.005	-2796.9	63	48.2	2.5	
As	75	2	He	0.190	54.3	39	38.7	2.5	
Se	78	2	He	0.001	128062.0	5	78.1	2.5	
B	11	1	nogas	-0.533	-376.7	52570	4.5	10	
Si	28	1	nogas	94.955	26.2	1223877	3.5	5	CCB Main CR1 Failed
Ca	43	1	nogas	-26.050	-50.8	973	16.4	100	
Ca	44	1	nogas	-134.099	-20.3	125055	1.3	100	
Fe	56	1	nogas	22.012	62.9	1052934	11.2	100	
Se	77	1	nogas	13.939	49.2	20095	6.2	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.607	-197.0	487	25.7	2.5	
Mo	95	1	nogas	0.484	32.8	1467	26.2	2.5	
Sn	118	1	nogas	0.339	23.6	2340	14.4	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.026	197.3	317	37.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.350	41.3	303	30.6	2.5	
P	31	1	nogas	0.093	4884.1	45478	2.2	10	
La	139	1	nogas	100.287	41.8	223	33.9	2.5	CCB Main CR1 Failed
Au	197	1	nogas	58.396	140.1	13	43.3	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	353537	2.48	327043	108.10	70	125	
Ge	72	1	nogas	1401938	3.68	1420865	98.67	70	125	
In	115	1	nogas	1544308	2.40	1584599	97.46	70	125	
Bi	209	1	nogas	1520782	2.02	1610392	94.44	70	125	
Ge	72	2	He	99200	1.80	106219	93.39	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	171_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T16:59:49-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	107.162	1.340	200410	1.52	100	107.2	90	110	
Na	23	1	nogas	11346.694	1.477	112167390	0.63	10000	113.5	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10099.823	3.790	66608012	3.00	10000	101.0	90	110	
Al	27	1	nogas	96.701	5.106	773087	3.74	100	96.7	90	110	
K	39	1	nogas	9222.292	3.518	75702298	2.10	10000	92.2	90	110	
Ti	47	1	nogas	93.707	1.914	79060	1.05	100	93.7	90	110	
V	51	1	nogas	119.227	2.632	1978835	1.38	100	119.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	94.781	3.606	1022589	2.81	100	94.8	90	110	
Mn	55	1	nogas	93.540	7.319	1264537	6.09	100	93.5	90	110	
Co	59	1	nogas	96.687	5.834	1107487	4.60	100	96.7	90	110	
Ni	60	1	nogas	100.251	4.298	262060	2.99	100	100.3	90	110	
Cu	63	1	nogas	101.588	3.379	638071	2.58	100	101.6	90	110	
Zn	66	1	nogas	98.785	3.417	201430	2.95	100	98.8	90	110	
As	75	1	nogas	110.604	1.717	316675	0.66	100	110.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	100.642	2.856	1408157	1.84	100	100.6	90	110	
Ag	107	1	nogas	93.222	3.170	769287	1.88	100	93.2	90	110	
Cd	111	1	nogas	98.592	1.830	165989	0.50	100	98.6	90	110	
Sb	121	1	nogas	103.570	3.818	746513	2.85	100	103.6	90	110	
Tl	205	1	nogas	104.060	2.586	1490256	2.24	100	104.1	90	110	
Pb	208	1	nogas	103.474	1.383	2031339	1.38	100	103.5	90	110	
U	238	1	nogas	101.189	2.224	2026302	2.67	100	101.2	90	110	
[Pb]	206	1	nogas	105.696	1.605	517208	1.42	100	105.7	90	110	
[Pb]	207	1	nogas	96.808	1.575	434714	1.84	100	96.8	90	110	
Na	23	2	He	11191.240	0.493	2046377	0.26	10000	111.9	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	9732.892	2.398	831689	2.24	10000	97.3	90	110	
Al	27	2	He	99.359	8.086	2290	7.87	100	99.4	90	110	
K	39	2	He	10899.894	1.387	449265	1.35	10000	109.0	90	110	
Ca	43	2	He	10739.635	19.034	1573	19.08	10000	107.4	90	110	
Ca	44	2	He	9776.109	2.029	25705	2.27	10000	97.8	90	110	
V	51	2	He	100.752	0.383	99016	0.50	100	100.8	90	110	
Cr	52	2	He	98.417	2.479	133181	2.51	100	98.4	90	110	
Mn	55	2	He	98.749	3.956	51065	4.09	100	98.7	90	110	
Fe	56	2	He	9527.926	1.446	10105774	1.12	10000	95.3	90	110	
Co	59	2	He	101.354	3.574	232485	3.33	100	101.4	90	110	
Ni	60	2	He	102.543	5.138	67207	4.88	100	102.5	90	110	
Cu	63	2	He	100.503	1.616	186085	1.29	100	100.5	90	110	
Zn	66	2	He	98.091	3.213	26142	3.39	100	98.1	90	110	
As	75	2	He	102.172	0.784	17275	1.03	100	102.2	90	110	
Se	78	2	He	100.846	1.902	625	2.18	100	100.8	90	110	
B	11	1	nogas	525.090	0.726	704370	1.95	500	105.0	90	110	
Si	28	1	nogas	4735.559	4.550	18542263	3.04	5000	94.7	90	110	
Ca	43	1	nogas	9531.904	3.739	155085	2.84	10000	95.3	90	110	
Ca	44	1	nogas	9364.425	2.405	2529059	2.70	10000	93.6	90	110	
Fe	56	1	nogas	9122.510	5.949	114372765	4.63	10000	91.2	90	110	
Se	77	1	nogas	182.490	5.133	48408	2.22	100	182.5	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.592	2.403	11007	2.24	100	97.6	90	110	
Mo	95	1	nogas	95.773	4.441	290088	3.19	100	95.8	90	110	
Sn	118	1	nogas	91.625	2.599	448576	2.60	100	91.6	90	110	
Ba	137	1	nogas	99.742	1.570	228869	0.97	100	99.7	90	110	
Sb	121	2	He	106.155	0.921	79015	1.14	100	106.2	90	110	
Li	7	1	nogas	111.430	2.831	544338	1.44	100	111.4	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	467.113	4.644	282824	2.78	500	93.4	90	110	
La	139	1	nogas	179.838	9.532	360	8.33	100	179.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	147.203	54.020	7	86.60	100	147.2	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	nogas	270902	1.31	327043	82.83	70	125	
Ge	72	1	nogas	1512537	1.32	1420865	106.45	70	125	
In	115	1	nogas	1564973	1.39	1584599	98.76	70	125	
Bi	209	1	nogas	1485439	0.90	1610392	92.24	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	111481	0.32	106219	104.95	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	172_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T17:01:47-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.148	60.2	330	55.1	1	
Na	23	1	nogas	1277.953	6.7	16935195	3.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	25.055	67.5	279002	37.8	100	
Al	27	1	nogas	0.198	53.3	17275	2.9	5	
K	39	1	nogas	7.157	117.3	3949769	1.2	100	
Ti	47	1	nogas	0.306	64.0	407	37.3	2.5	
V	51	1	nogas	22.488	3.3	708534	1.0	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.653	25.0	19767	7.3	2.5	
Mn	55	1	nogas	0.096	25.4	12241	0.9	2.5	
Co	59	1	nogas	0.114	61.1	1530	48.9	2.5	
Ni	60	1	nogas	0.549	30.7	3957	8.7	2.5	
Cu	63	1	nogas	0.659	10.6	6561	4.6	2.5	
Zn	66	1	nogas	-0.274	-40.9	803	26.2	2.5	
As	75	1	nogas	16.084	6.7	101575	1.9	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	1.141	73.5	30840	34.8	2.5	
Ag	107	1	nogas	0.119	38.9	1430	25.6	2.5	
Cd	111	1	nogas	0.100	57.7	183	56.8	1	
Sb	121	1	nogas	0.214	22.5	2360	13.5	2.5	
Tl	205	1	nogas	0.135	54.1	2130	55.6	1	
Pb	208	1	nogas	0.114	61.7	2964	46.6	2.5	
U	238	1	nogas	0.221	30.8	4661	34.5	2.5	
[Pb]	206	1	nogas	0.115	46.8	707	43.5	2.5	
[Pb]	207	1	nogas	0.095	68.8	633	52.0	2.5	
Na	23	2	He	1255.946	5.4	334585	0.5	100	CCB Main CR1 Failed
Mg	24	2	He	12.667	39.8	2307	18.7	100	
Al	27	2	He	-1.748	-86.0	110	32.8	5	
K	39	2	He	28.541	19.4	12244	1.8	100	
Ca	43	2	He	110.691	120.4	20	100.0	100	CCB Main CR1 Failed
Ca	44	2	He	-3.633	-752.9	227	28.4	100	
V	51	2	He	0.297	18.2	634	5.5	2.5	
Cr	52	2	He	0.198	38.7	1350	6.3	2.5	
Mn	55	2	He	0.046	128.9	163	15.4	2.5	
Fe	56	2	He	22.085	5.2	27925	2.9	100	
Co	59	2	He	0.017	19.4	73	7.9	2.5	
Ni	60	2	He	-0.127	-50.0	403	7.2	2.5	
Cu	63	2	He	0.176	32.6	900	11.3	2.5	
Zn	66	2	He	-0.021	-389.6	67	31.2	2.5	
As	75	2	He	0.368	63.0	73	52.4	2.5	
Se	78	2	He	-0.222	-212.8	5	65.5	2.5	
B	11	1	nogas	3.743	43.0	51741	3.3	10	
Si	28	1	nogas	-1.454	-723.5	936114	2.3	5	
Ca	43	1	nogas	44.749	78.6	2130	25.1	100	
Ca	44	1	nogas	-121.354	-36.8	134145	6.5	100	
Fe	56	1	nogas	34.592	18.5	1258142	4.7	100	
Se	77	1	nogas	89.299	12.1	32656	5.7	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.781	64.9	653	9.4	2.5	
Mo	95	1	nogas	0.512	41.2	1623	36.2	2.5	
Sn	118	1	nogas	0.371	19.2	2594	14.9	5	
Ba	137	1	nogas	0.361	46.2	1117	37.5	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.282	40.8	287	26.6	2.5	
P	31	1	nogas	8.539	19.5	51778	1.3	10	
La	139	1	nogas	88.439	15.9	210	12.6	2.5	CCB Main CR1 Failed
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	144.817	112.7	7	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	306722	2.22	327043	93.79	70	125	
Ge	72	1	nogas	1468376	2.01	1420865	103.34	70	125	
In	115	1	nogas	1599833	2.11	1584599	100.96	70	125	
Bi	209	1	nogas	1515589	4.98	1610392	94.11	70	125	
Ge	72	2	He	110509	3.24	106219	104.04	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	183_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T17:23:59-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	104.119	4.936	206699	1.93	100	104.1	90	110	
Na	23	1	nogas	10115.692	1.430	102209623	1.69	10000	101.2	90	110	
Mg	24	1	nogas	9538.969	1.346	63967224	0.79	10000	95.4	90	110	
Al	27	1	nogas	101.289	4.544	769339	2.68	100	101.3	90	110	
K	39	1	nogas	9994.556	5.137	77676118	2.55	10000	99.9	90	110	
Ti	47	1	nogas	96.986	2.493	77805	0.37	100	97.0	90	110	
V	51	1	nogas	134.828	3.311	2073169	0.45	100	134.8	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	100.269	4.697	1027694	2.37	100	100.3	90	110	
Mn	55	1	nogas	100.422	5.624	1290127	3.43	100	100.4	90	110	
Co	59	1	nogas	101.303	2.295	1103837	0.80	100	101.3	90	110	
Ni	60	1	nogas	104.974	3.865	260821	1.48	100	105.0	90	110	
Cu	63	1	nogas	105.528	3.434	630148	1.26	100	105.5	90	110	
Zn	66	1	nogas	103.189	1.605	200066	1.61	100	103.2	90	110	
As	75	1	nogas	121.570	5.027	324433	1.68	100	121.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	104.799	2.428	1393858	0.72	100	104.8	90	110	
Ag	107	1	nogas	96.667	5.721	758259	3.43	100	96.7	90	110	
Cd	111	1	nogas	97.554	2.461	168069	2.09	100	97.6	90	110	
Sb	121	1	nogas	109.320	2.009	749553	2.56	100	109.3	90	110	
Tl	205	1	nogas	106.915	7.936	1520690	3.39	100	106.9	90	110	
Pb	208	1	nogas	102.332	1.682	2008923	1.68	100	102.3	90	110	
U	238	1	nogas	101.844	4.683	2028966	5.31	100	101.8	90	110	
[Pb]	206	1	nogas	105.758	7.765	513976	3.12	100	105.8	90	110	
[Pb]	207	1	nogas	97.024	5.122	433046	1.36	100	97.0	90	110	
Na	23	2	He	10707.814	2.415	1907459	1.24	10000	107.1	90	110	
Mg	24	2	He	10001.134	1.124	830415	1.22	10000	100.0	90	110	
Al	27	2	He	101.210	5.419	2264	4.72	100	101.2	90	110	
K	39	2	He	10573.828	1.046	436158	1.02	10000	105.7	90	110	
Ca	43	2	He	10143.879	11.709	1443	11.05	10000	101.4	90	110	
Ca	44	2	He	9809.805	4.334	25064	4.62	10000	98.1	90	110	
V	51	2	He	104.325	1.149	99609	0.38	100	104.3	90	110	
Cr	52	2	He	100.688	1.219	132384	1.96	100	100.7	90	110	
Mn	55	2	He	100.528	1.761	50510	1.93	100	100.5	90	110	
Fe	56	2	He	9565.197	2.810	9857037	1.92	10000	95.7	90	110	
Co	59	2	He	102.818	3.554	229134	2.51	100	102.8	90	110	
Ni	60	2	He	104.264	2.993	66387	2.02	100	104.3	90	110	
Cu	63	2	He	104.713	2.137	188354	1.19	100	104.7	90	110	
Zn	66	2	He	103.756	1.920	26863	1.56	100	103.8	90	110	
As	75	2	He	105.008	1.330	17250	0.32	100	105.0	90	110	
Se	78	2	He	108.544	5.926	653	4.95	100	108.5	90	110	
B	11	1	nogas	478.911	5.509	685661	1.98	500	95.8	90	110	
Si	28	1	nogas	5134.050	6.151	19035712	4.12	5000	102.7	90	110	
Ca	43	1	nogas	10114.235	4.062	156382	2.08	10000	101.1	90	110	
Ca	44	1	nogas	9976.628	3.375	2550961	0.86	10000	99.8	90	110	
Fe	56	1	nogas	9797.696	3.993	116764611	1.73	10000	98.0	90	110	
Se	77	1	nogas	211.862	6.338	50460	2.68	100	211.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	104.680	3.849	11194	5.45	100	104.7	90	110	
Mo	95	1	nogas	102.714	2.628	295940	2.13	100	102.7	90	110	
Sn	118	1	nogas	92.924	3.334	465372	1.60	100	92.9	90	110	
Ba	137	1	nogas	95.152	1.899	223425	1.43	100	95.2	90	110	
Sb	121	2	He	104.903	2.792	75862	1.76	100	104.9	90	110	
Li	7	1	nogas	110.950	5.569	575509	2.06	100	111.0	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	516.090	5.682	292204	2.74	500	103.2	90	110	
La	139	1	nogas	206.149	13.466	413	9.78	100	206.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	96.620	151.341	10	100.00	100	96.6	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	nogas	287846	3.15	327043	88.01	70	125	
Ge	72	1	nogas	1438658	2.40	1420865	101.25	70	125	
In	115	1	nogas	1601442	1.90	1584599	101.06	70	125	
Bi	209	1	nogas	1478629	4.45	1610392	91.82	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	108330	1.06	106219	101.99	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	184_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T17:25:57-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.137	50.2	310	47.5	1	
Na	23	1	nogas	372.893	9.2	8532603	0.7	100	CCB Main CR1 Failed
Mg	24	1	nogas	5.177	134.6	151238	28.0	100	
Al	27	1	nogas	0.221	55.1	17452	4.0	5	
K	39	1	nogas	-1.794	-983.1	3881094	2.1	100	
Ti	47	1	nogas	0.250	39.6	363	23.4	2.5	
V	51	1	nogas	24.317	4.6	731424	2.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.723	10.4	20502	3.0	2.5	
Mn	55	1	nogas	0.057	143.1	11727	7.8	2.5	
Co	59	1	nogas	0.089	83.3	1250	64.1	2.5	
Ni	60	1	nogas	-0.125	-15.7	2267	0.9	2.5	
Cu	63	1	nogas	0.286	35.7	4294	13.1	2.5	
Zn	66	1	nogas	-0.340	-23.1	673	21.5	2.5	
As	75	1	nogas	16.484	5.6	102456	2.8	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	-0.394	-49.8	10297	24.2	2.5	
Ag	107	1	nogas	0.095	51.8	1233	31.1	2.5	
Cd	111	1	nogas	0.100	84.5	180	82.2	1	
Sb	121	1	nogas	0.228	18.0	2460	10.4	2.5	
Tl	205	1	nogas	0.127	40.3	2004	40.0	1	
Pb	208	1	nogas	0.125	58.0	3184	44.8	2.5	
U	238	1	nogas	0.205	36.2	4354	38.3	2.5	
[Pb]	206	1	nogas	0.128	60.8	777	54.0	2.5	
[Pb]	207	1	nogas	0.122	40.9	760	33.2	2.5	
Na	23	2	He	374.093	10.6	189480	0.6	100	CCB Main CR1 Failed
Mg	24	2	He	4.786	25.7	1683	3.6	100	
Al	27	2	He	-3.544	-26.2	73	31.5	5	
K	39	2	He	14.769	44.7	11690	2.3	100	
Ca	43	2	He	-2.936	-1319.0	3	173.2	100	
Ca	44	2	He	-5.546	-247.4	230	19.0	100	
V	51	2	He	0.321	9.8	677	7.1	2.5	
Cr	52	2	He	0.249	29.1	1457	3.2	2.5	
Mn	55	2	He	0.037	418.4	163	49.5	2.5	
Fe	56	2	He	21.083	5.4	27614	1.5	100	
Co	59	2	He	0.055	32.4	163	27.6	2.5	
Ni	60	2	He	-0.310	-39.7	297	31.3	2.5	
Cu	63	2	He	0.044	111.7	677	14.8	2.5	
Zn	66	2	He	-0.043	-245.9	63	48.2	2.5	
As	75	2	He	0.352	20.3	72	13.3	2.5	
Se	78	2	He	-0.342	-88.7	4	50.0	2.5	
B	11	1	nogas	-0.547	-86.4	45702	2.4	10	
Si	28	1	nogas	-4.462	-196.7	925340	2.3	5	
Ca	43	1	nogas	-10.468	-124.0	1267	15.0	100	
Ca	44	1	nogas	-197.210	-9.4	115645	2.6	100	
Fe	56	1	nogas	40.578	19.9	1330309	6.1	100	
Se	77	1	nogas	93.890	10.2	33367	5.7	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.156	-730.9	557	22.2	2.5	
Mo	95	1	nogas	0.443	28.4	1423	25.3	2.5	
Sn	118	1	nogas	0.307	18.5	2234	14.6	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.116	33.0	530	19.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.256	41.7	277	29.2	2.5	
P	31	1	nogas	4.918	41.8	50010	0.7	10	
La	139	1	nogas	102.848	38.2	230	28.5	2.5	CCB Main CR1 Failed
Au	197	1	nogas	193.504	40.7	3	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	307210	1.67	327043	93.94	70	125	
Ge	72	1	nogas	1468139	1.32	1420865	103.33	70	125	
In	115	1	nogas	1570154	2.67	1584599	99.09	70	125	
Bi	209	1	nogas	1524017	2.84	1610392	94.64	70	125	
Ge	72	2	He	113599	3.77	106219	106.95	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	195_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T17:47:58-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	111.624	2.461	220442	0.24	100	111.6	90	110	CCV Main CR1-2 Failed
Na	23	1	nogas	10720.309	1.315	108737294	0.25	10000	107.2	90	110	
Mg	24	1	nogas	10407.157	2.604	70246379	2.13	10000	104.1	90	110	
Al	27	1	nogas	106.544	3.659	829419	2.53	100	106.5	90	110	
K	39	1	nogas	9796.544	1.427	78214912	0.38	10000	98.0	90	110	
Ti	47	1	nogas	97.927	2.054	80587	0.96	100	97.9	90	110	
V	51	1	nogas	141.994	4.026	2216814	2.19	100	142.0	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	103.291	3.716	1085834	2.54	100	103.3	90	110	
Mn	55	1	nogas	103.216	2.513	1360529	1.41	100	103.2	90	110	
Co	59	1	nogas	103.645	0.950	1158549	0.36	100	103.6	90	110	
Ni	60	1	nogas	101.732	1.932	259431	0.77	100	101.7	90	110	
Cu	63	1	nogas	104.326	3.359	639110	2.30	100	104.3	90	110	
Zn	66	1	nogas	103.580	3.534	205936	2.37	100	103.6	90	110	
As	75	1	nogas	120.119	5.023	329664	2.85	100	120.1	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.785	0.830	1362333	1.27	100	99.8	90	110	
Ag	107	1	nogas	98.764	4.375	794952	3.19	100	98.8	90	110	
Cd	111	1	nogas	100.301	0.892	170285	3.48	100	100.3	90	110	
Sb	121	1	nogas	109.734	2.196	771582	1.10	100	109.7	90	110	
Tl	205	1	nogas	103.369	1.727	1556070	0.35	100	103.4	90	110	
Pb	208	1	nogas	107.501	1.819	2110371	1.82	100	107.5	90	110	
U	238	1	nogas	100.605	1.832	2117580	1.96	100	100.6	90	110	
[Pb]	206	1	nogas	102.888	0.660	529265	1.21	100	102.9	90	110	
[Pb]	207	1	nogas	95.877	0.785	452589	1.68	100	95.9	90	110	
Na	23	2	He	10549.609	3.869	1953550	1.61	10000	105.5	90	110	
Mg	24	2	He	9879.984	3.593	851897	1.53	10000	98.8	90	110	
Al	27	2	He	102.819	13.345	2384	10.73	100	102.8	90	110	
K	39	2	He	10996.968	0.519	453168	0.51	10000	110.0	90	110	
Ca	43	2	He	10549.222	5.369	1560	5.55	10000	105.5	90	110	
Ca	44	2	He	10046.449	1.968	26660	2.80	10000	100.5	90	110	
V	51	2	He	101.363	0.786	100558	1.71	100	101.4	90	110	
Cr	52	2	He	100.788	2.099	137656	2.65	100	100.8	90	110	
Mn	55	2	He	102.849	4.406	53652	2.28	100	102.8	90	110	
Fe	56	2	He	9740.936	2.117	10428980	2.14	10000	97.4	90	110	
Co	59	2	He	101.329	1.950	234601	0.90	100	101.3	90	110	
Ni	60	2	He	101.886	2.588	67398	0.56	100	101.9	90	110	
Cu	63	2	He	100.129	3.416	187088	1.70	100	100.1	90	110	
Zn	66	2	He	101.388	2.223	27271	2.03	100	101.4	90	110	
As	75	2	He	104.759	3.484	17875	2.78	100	104.8	90	110	
Se	78	2	He	104.780	4.884	656	6.60	100	104.8	90	110	
B	11	1	nogas	533.532	2.278	755031	0.28	500	106.7	90	110	
Si	28	1	nogas	5270.547	3.391	20026710	2.08	5000	105.4	90	110	
Ca	43	1	nogas	9849.578	1.584	156302	1.25	10000	98.5	90	110	
Ca	44	1	nogas	9759.695	1.143	2564030	0.86	10000	97.6	90	110	
Fe	56	1	nogas	9992.042	3.646	122152994	2.59	10000	99.9	90	110	
Se	77	1	nogas	205.152	6.714	50721	3.02	100	205.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	102.222	3.132	11220	3.36	100	102.2	90	110	
Mo	95	1	nogas	101.203	3.539	299060	2.76	100	101.2	90	110	
Sn	118	1	nogas	93.479	0.754	461381	2.91	100	93.5	90	110	
Ba	137	1	nogas	102.715	0.650	237588	2.00	100	102.7	90	110	
Sb	121	2	He	108.992	2.916	81892	3.35	100	109.0	90	110	
Li	7	1	nogas	111.182	1.977	573862	2.40	100	111.2	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	507.860	3.689	295797	1.91	500	101.6	90	110	
La	139	1	nogas	184.469	16.368	370	11.78	100	184.5	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	20.500	1338.084	17	124.90	100	20.5	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	nogas	286168	2.40	327043	87.50	70	125	
Ge	72	1	nogas	1475452	1.19	1420865	103.84	70	125	
In	115	1	nogas	1577608	2.60	1584599	99.56	70	125	
Bi	209	1	nogas	1561527	1.45	1610392	96.97	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	112545	2.08	106219	105.96	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	196_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T17:49:55-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.125	11.2	307	10.0	1	
Na	23	1	nogas	216.171	1.3	7219053	1.3	100	CCB Main CR1 Failed
Mg	24	1	nogas	-0.703	-825.7	115304	32.9	100	
Al	27	1	nogas	0.283	14.4	18590	2.6	5	
K	39	1	nogas	-4.693	-105.0	4001570	0.4	100	
Ti	47	1	nogas	0.247	17.8	373	9.4	2.5	
V	51	1	nogas	28.429	7.1	811541	2.6	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.682	9.5	20809	2.4	2.5	
Mn	55	1	nogas	0.103	67.5	12795	8.2	2.5	
Co	59	1	nogas	0.096	65.2	1387	53.0	2.5	
Ni	60	1	nogas	-0.279	-20.8	1950	8.3	2.5	
Cu	63	1	nogas	0.166	76.8	3707	22.7	2.5	
Zn	66	1	nogas	-0.350	-11.3	680	12.6	2.5	
As	75	1	nogas	17.190	9.9	107780	3.1	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	-0.695	-1.7	6498	1.6	2.5	
Ag	107	1	nogas	0.095	44.1	1283	27.8	2.5	
Cd	111	1	nogas	0.094	77.3	177	71.7	1	
Sb	121	1	nogas	0.209	19.2	2410	13.0	2.5	
Tl	205	1	nogas	0.126	38.6	2047	38.2	1	
Pb	208	1	nogas	0.137	54.5	3417	43.0	2.5	
U	238	1	nogas	0.229	30.2	4984	31.7	2.5	
[Pb]	206	1	nogas	0.159	38.9	957	35.4	2.5	
[Pb]	207	1	nogas	0.092	50.6	637	36.8	2.5	
Na	23	2	He	261.108	7.2	166832	0.3	100	CCB Main CR1 Failed
Mg	24	2	He	-0.345	-325.7	1217	6.2	100	
Al	27	2	He	-1.768	-94.7	110	32.8	5	
K	39	2	He	16.345	23.7	11754	1.3	100	
Ca	43	2	He	87.805	117.1	17	91.7	100	
Ca	44	2	He	-10.186	-202.5	213	25.8	100	
V	51	2	He	0.367	13.2	709	5.2	2.5	
Cr	52	2	He	0.161	56.3	1313	8.4	2.5	
Mn	55	2	He	0.034	404.5	160	45.1	2.5	
Fe	56	2	He	22.204	5.5	28332	3.0	100	
Co	59	2	He	0.034	42.5	113	28.4	2.5	
Ni	60	2	He	-0.303	-17.6	293	11.0	2.5	
Cu	63	2	He	0.077	117.8	727	23.5	2.5	
Zn	66	2	He	0.001	15996.7	73	41.7	2.5	
As	75	2	He	0.306	35.8	63	27.9	2.5	
Se	78	2	He	0.651	134.3	10	52.9	2.5	
B	11	1	nogas	-0.516	-284.9	49401	4.8	10	
Si	28	1	nogas	61.717	14.6	1206803	3.4	5	CCB Main CR1 Failed
Ca	43	1	nogas	-21.685	-73.6	1133	23.2	100	
Ca	44	1	nogas	-213.255	-2.2	115846	0.5	100	
Fe	56	1	nogas	38.690	17.6	1356696	7.2	100	
Se	77	1	nogas	100.716	4.0	35662	0.8	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.775	-78.9	510	13.7	2.5	
Mo	95	1	nogas	0.444	21.2	1483	20.2	2.5	
Sn	118	1	nogas	0.346	25.0	2547	16.3	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.096	34.0	507	14.3	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.164	75.2	203	44.6	2.5	
P	31	1	nogas	4.562	72.0	51667	3.0	10	
La	139	1	nogas	82.601	43.9	207	32.2	2.5	CCB Main CR1 Failed
Au	197	1	nogas	107.690	120.4	10	100.0	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	331745	0.74	327043	101.44	70	125	
Ge	72	1	nogas	1521928	1.03	1420865	107.11	70	125	
In	115	1	nogas	1652991	1.25	1584599	104.32	70	125	
Bi	209	1	nogas	1571135	2.99	1610392	97.56	70	125	
Ge	72	2	He	111602	1.73	106219	105.07	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	207_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:11:51-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.514	2.192	231982	1.71	100	100.5	90	110	
Na	23	1	nogas	10454.526	2.756	108068598	2.03	10000	104.5	90	110	
Mg	24	1	nogas	10278.782	1.225	70636541	1.81	10000	102.8	90	110	
Al	27	1	nogas	103.360	1.394	852047	1.60	100	103.4	90	110	
K	39	1	nogas	9932.716	0.461	83852129	0.05	10000	99.3	90	110	
Ti	47	1	nogas	95.032	1.270	82756	0.96	100	95.0	90	110	
V	51	1	nogas	110.487	1.597	1926129	1.54	100	110.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	101.185	3.707	1126044	3.85	100	101.2	90	110	
Mn	55	1	nogas	100.362	1.075	1400205	0.74	100	100.4	90	110	
Co	59	1	nogas	103.148	1.637	1220007	1.93	100	103.1	90	110	
Ni	60	1	nogas	99.960	2.572	269791	2.68	100	100.0	90	110	
Cu	63	1	nogas	100.366	2.752	650801	2.93	100	100.4	90	110	
Zn	66	1	nogas	100.193	0.757	210862	0.92	100	100.2	90	110	
As	75	1	nogas	104.195	2.621	312041	2.40	100	104.2	90	110	
Sr	88	1	nogas	98.480	2.764	1422799	2.94	100	98.5	90	110	
Ag	107	1	nogas	97.083	2.931	827081	3.19	100	97.1	90	110	
Cd	111	1	nogas	100.157	1.968	181632	2.50	100	100.2	90	110	
Sb	121	1	nogas	104.982	3.699	781153	3.72	100	105.0	90	110	
Tl	205	1	nogas	101.714	1.798	1584634	2.11	100	101.7	90	110	
Pb	208	1	nogas	110.641	1.573	2171980	1.57	100	110.6	90	110	CCV Main CR1-2 Failed
U	238	1	nogas	101.354	2.433	2207237	1.50	100	101.4	90	110	
[Pb]	206	1	nogas	102.870	2.135	547523	1.54	100	102.9	90	110	
[Pb]	207	1	nogas	95.486	2.067	466354	1.48	100	95.5	90	110	
Na	23	2	He	10384.434	2.331	1932006	0.57	10000	103.8	90	110	
Mg	24	2	He	9905.449	0.442	857506	2.21	10000	99.1	90	110	
Al	27	2	He	105.264	6.007	2450	7.36	100	105.3	90	110	
K	39	2	He	11204.180	0.569	461497	0.56	10000	112.0	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	11794.105	3.230	1750	4.12	10000	117.9	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9861.433	1.707	26259	0.73	10000	98.6	90	110	
V	51	2	He	104.357	0.312	103886	2.11	100	104.4	90	110	
Cr	52	2	He	104.983	1.361	143823	0.99	100	105.0	90	110	
Mn	55	2	He	101.887	2.270	53361	2.15	100	101.9	90	110	
Fe	56	2	He	9969.755	1.556	10712457	2.48	10000	99.7	90	110	
Co	59	2	He	104.079	0.374	241870	2.10	100	104.1	90	110	
Ni	60	2	He	104.649	1.626	69483	2.99	100	104.6	90	110	
Cu	63	2	He	102.306	1.115	191886	2.07	100	102.3	90	110	
Zn	66	2	He	102.414	4.323	27635	3.03	100	102.4	90	110	
As	75	2	He	105.011	2.251	17981	0.87	100	105.0	90	110	
Se	78	2	He	105.499	3.369	663	5.13	100	105.5	90	110	
B	11	1	nogas	473.664	2.356	789019	1.90	500	94.7	90	110	
Si	28	1	nogas	5245.154	2.784	21097821	3.04	5000	104.9	90	110	
Ca	43	1	nogas	9719.290	0.465	163216	0.81	10000	97.2	90	110	
Ca	44	1	nogas	9543.032	1.730	2656610	1.82	10000	95.4	90	110	
Fe	56	1	nogas	9797.626	1.985	126779407	2.26	10000	98.0	90	110	
Se	77	1	nogas	129.373	5.221	41277	3.07	100	129.4	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.946	6.467	11510	6.30	100	98.9	90	110	
Mo	95	1	nogas	97.465	0.283	304792	0.54	100	97.5	90	110	
Sn	118	1	nogas	91.649	4.299	483067	2.97	100	91.6	90	110	
Ba	137	1	nogas	97.963	3.318	242073	2.73	100	98.0	90	110	
Sb	121	2	He	108.100	1.299	81497	0.57	100	108.1	90	110	
Li	7	1	nogas	107.429	1.325	648970	1.18	100	107.4	90	110	
P	31	1	nogas	514.198	1.806	316317	1.88	500	102.8	90	110	
La	139	1	nogas	168.367	16.575	367	13.73	100	168.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	69.981	277.923	13	114.56	100	70.0	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	nogas	334368	2.01	327043	102.24	70	125	
Ge	72	1	nogas	1561035	0.40	1420865	109.87	70	125	
In	115	1	nogas	1685384	1.31	1584599	106.36	70	125	
Bi	209	1	nogas	1615774	0.94	1610392	100.33	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	112934	1.80	106219	106.32	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	208_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:13:47-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.147	46.1	400	43.6	1	
Na	23	1	nogas	121.389	12.2	6597915	2.5	100	CCB Main CR1 Failed
Mg	24	1	nogas	15.752	13.4	238545	6.4	100	
Al	27	1	nogas	0.423	7.4	20612	2.4	5	
K	39	1	nogas	-4.617	-57.2	4189034	0.8	100	
Ti	47	1	nogas	0.441	2.1	563	2.7	2.5	
V	51	1	nogas	11.055	8.8	613324	2.8	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.543	11.8	20218	2.7	2.5	
Mn	55	1	nogas	0.119	81.3	13599	9.1	2.5	
Co	59	1	nogas	0.124	61.7	1790	50.7	2.5	
Ni	60	1	nogas	-0.395	-23.2	1723	13.4	2.5	
Cu	63	1	nogas	0.167	45.8	3877	12.2	2.5	
Zn	66	1	nogas	-0.312	-20.2	790	16.2	2.5	
As	75	1	nogas	7.773	12.8	90574	2.8	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.091	171.1	18266	12.7	2.5	
Ag	107	1	nogas	0.146	32.6	1790	22.7	2.5	
Cd	111	1	nogas	0.088	24.3	170	21.2	1	
Sb	121	1	nogas	0.229	7.6	2680	6.2	2.5	
Tl	205	1	nogas	0.159	37.4	2614	35.9	1	
Pb	208	1	nogas	0.159	42.1	3847	34.2	2.5	
U	238	1	nogas	0.240	31.5	5328	30.9	2.5	
[Pb]	206	1	nogas	0.168	43.1	1023	37.6	2.5	
[Pb]	207	1	nogas	0.127	40.7	823	31.3	2.5	
Na	23	2	He	108.699	48.2	147106	3.1	100	CCB Main CR1 Failed
Mg	24	2	He	13.932	38.1	2544	15.4	100	
Al	27	2	He	-1.650	-122.3	117	34.6	5	
K	39	2	He	23.647	44.6	12047	3.5	100	
Ca	43	2	He	103.344	104.5	20	86.6	100	CCB Main CR1 Failed
Ca	44	2	He	27.884	39.7	327	7.1	100	
V	51	2	He	0.221	40.5	592	11.4	2.5	
Cr	52	2	He	0.321	45.0	1600	11.1	2.5	
Mn	55	2	He	0.041	231.8	170	27.0	2.5	
Fe	56	2	He	22.935	2.9	30492	1.7	100	
Co	59	2	He	0.019	110.3	80	57.3	2.5	
Ni	60	2	He	-0.112	-74.5	437	9.3	2.5	
Cu	63	2	He	0.117	25.4	837	3.0	2.5	
Zn	66	2	He	0.049	259.2	90	40.1	2.5	
As	75	2	He	0.395	8.3	82	8.4	2.5	
Se	78	2	He	-0.266	-259.1	5	99.0	2.5	
B	11	1	nogas	-5.123	-20.9	47192	4.3	10	
Si	28	1	nogas	57.588	7.9	1246897	2.1	5	CCB Main CR1 Failed
Ca	43	1	nogas	33.486	35.5	2123	10.6	100	
Ca	44	1	nogas	-160.694	-5.5	135217	2.4	100	
Fe	56	1	nogas	31.647	29.4	1326425	8.3	100	
Se	77	1	nogas	50.267	12.3	28900	3.4	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.189	-79.0	487	21.4	2.5	
Mo	95	1	nogas	0.448	33.0	1560	29.5	2.5	
Sn	118	1	nogas	0.327	17.4	2507	9.7	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.225	6.0	840	6.2	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.192	40.8	233	22.0	2.5	
P	31	1	nogas	1.927	130.1	52687	2.0	10	
La	139	1	nogas	86.987	16.1	220	13.6	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-15.518	-816.2	20	50.0	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	nogas	370316	0.59	327043	113.23	70	125	
Ge	72	1	nogas	1592956	1.22	1420865	112.11	70	125	
In	115	1	nogas	1694874	2.27	1584599	106.96	70	125	
Bi	209	1	nogas	1611309	1.43	1610392	100.06	70	125	
Ge	72	2	He	116922	3.95	106219	110.08	70	125	

Sample Report

Sample Table

Sample Name	MBLK-123692
Data File Name	209SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:15:46-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Pass
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.017	0.017	85.53	73	0.02	2000	
Na	23	1	nogas	51.667	51.667	14.70	6148499	0.00	200000	
Mg	24	1	nogas	5.266	5.266	22.75	171068	0.00	200000	
Al	27	1	nogas	5.208	5.208	7.81	62789	0.01	2000	
K	39	1	nogas	-12.116	-12.116	-50.40	4316936	0.00	200000	
Ti	47	1	nogas	0.011	0.011	539.96	190	0.01	2000	
V	51	1	nogas	15.523	15.523	21.87	704576	0.00	2000	
Cr	52	1	nogas	0.271	0.271	22.31	17952	0.00	2000	
Mn	55	1	nogas	-0.141	-0.141	-9.30	10393	0.00	2000	
Co	59	1	nogas	0.006	0.006	83.79	383	0.00	2000	
Ni	60	1	nogas	-0.401	-0.401	-23.15	1787	-0.02	2000	
Cu	63	1	nogas	0.122	0.122	34.81	3744	0.00	2000	
Zn	66	1	nogas	-0.043	-0.043	-168.91	1427	0.00	2000	
As	75	1	nogas	11.397	11.397	24.67	103637	0.01	2000	
Sr	88	1	nogas	-0.591	-0.591	-2.73	8702	-0.01	2000	
Ag	107	1	nogas	-0.014	-0.014	-29.80	413	0.00	2000	
Cd	111	1	nogas	0.006	0.006	191.28	23	0.03	2000	
Sb	121	1	nogas	-0.007	-0.007	-286.25	927	0.00	2000	
Tl	205	1	nogas	0.014	0.014	36.73	383	0.00	2000	
Pb	208	1	nogas	0.020	0.020	24.64	1113	0.00	2000	
U	238	1	nogas	0.006	0.006	48.56	260	0.00	2000	
[Pb]	206	1	nogas	0.023	0.023	41.27	277	0.01	2000	
[Pb]	207	1	nogas	0.006	0.006	218.60	257	0.00	2000	
Na	23	2	He	28.441	28.441	112.39	139059	0.02	200000	
Mg	24	2	He	9.959	9.959	23.28	2297	0.43	200000	
Al	27	2	He	5.020	5.020	42.25	280	1.79	2000	
K	39	2	He	34.350	34.350	26.17	12478	0.28	200000	
Ca	43	2	He	62.311	62.311	243.52	13	467.33	200000	
Ca	44	2	He	-0.127	-0.127	-5121.70	263	-0.05	200000	
V	51	2	He	0.043	0.043	142.39	429	0.01	2000	
Cr	52	2	He	-0.141	-0.141	-47.03	1000	-0.01	2000	
Mn	55	2	He	0.033	0.033	324.33	173	0.02	2000	
Fe	56	2	He	-0.198	-0.198	-73.69	5014	0.00	200000	
Co	59	2	He	-0.001	-0.001	-1331.81	33	0.00	2000	
Ni	60	2	He	-0.291	-0.291	-20.31	330	-0.09	2000	
Cu	63	2	He	0.055	0.055	51.17	753	0.01	2000	
Zn	66	2	He	0.205	0.205	54.93	140	0.15	2000	
As	75	2	He	0.063	0.063	99.84	24	0.26	2000	
Se	78	2	He	-0.675	-0.675	-46.42	2	-33.73	2000	
B	11	1	nogas	-11.320	-11.320	-5.38	39956	-0.03	2000	
Si	28	1	nogas	74.251	74.251	8.92	1371973	0.01	2000	
Ca	43	1	nogas	-9.605	-9.605	-67.85	1453	-0.66	200000	

Sample Report

Ca	44	1	nogas	-233.564	-233.564	-4.29	121162	-0.19	200000	
Fe	56	1	nogas	-9.136	-9.136	-13.86	828760	0.00	200000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Se	77	1	nogas	77.938	77.938	12.38	35051	0.22	2000	
Se	82	1	nogas	-0.782	-0.782	-86.18	557	-0.14	2000	
Mo	95	1	nogas	0.001	0.001	1065.14	143	0.00	2000	
Sn	118	1	nogas	-0.022	-0.022	-1.37	720	0.00	2000	
Ba	137	1	nogas	0.038	0.038	134.12	407	0.01	2000	
Sb	121	2	He	0.037	0.037	188.80	120	0.03	2000	
La	139	1	nogas	-7.591	-7.591	-4.11	50	-15.18	2000	
Au	197	1	nogas	121.961	121.961	3.03	10	1219.61	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	405653	1.88	327043	124.04	70	125	
Ge	72	1	nogas	1666063	1.47	1420865	117.26	70	125	
In	115	1	nogas	1830698	1.23	1584599	115.53	70	125	
Bi	209	1	nogas	1751725	3.20	1610392	108.78	70	125	
Ge	72	2	He	122546	4.69	106219	115.37	70	125	

Sample Report

Sample Table

Sample Name	LCS-123692
Data File Name	210SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:17:45-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	47.537	47.537	2.60	117210	0.04	2000	
Na	23	1	nogas	5027.992	5027.992	3.03	57641480	0.01	200000	
Mg	24	1	nogas	5024.304	5024.304	4.07	36468825	0.01	200000	
Al	27	1	nogas	110.648	110.648	4.70	957963	0.01	2000	
K	39	1	nogas	4923.039	4923.039	2.04	45923960	0.01	200000	
Ti	47	1	nogas	138.029	138.029	4.33	126345	0.11	2000	
V	51	1	nogas	66.926	66.926	4.52	1415333	0.00	2000	
Cr	52	1	nogas	46.633	46.633	3.82	553698	0.01	2000	
Mn	55	1	nogas	47.781	47.781	2.53	707684	0.01	2000	
Co	59	1	nogas	47.917	47.917	3.02	596314	0.01	2000	
Ni	60	1	nogas	47.310	47.310	5.03	135814	0.03	2000	
Cu	63	1	nogas	48.675	48.675	3.74	333438	0.01	2000	
Zn	66	1	nogas	49.026	49.026	1.23	109317	0.04	2000	
As	75	1	nogas	60.859	60.859	5.48	222639	0.03	2000	
Sr	88	1	nogas	95.914	95.914	4.60	1457723	0.01	2000	
Ag	107	1	nogas	48.482	48.482	3.82	434667	0.01	2000	
Cd	111	1	nogas	47.432	47.432	2.97	90788	0.05	2000	
Sb	121	1	nogas	52.407	52.407	1.08	410753	0.01	2000	
Tl	205	1	nogas	44.435	44.435	3.76	727043	0.01	2000	
Pb	208	1	nogas	54.535	54.535	1.04	1070948	0.01	2000	
U	238	1	nogas	97.520	97.520	6.07	2229987	0.00	2000	
[Pb]	206	1	nogas	46.954	46.954	3.40	262579	0.02	2000	
[Pb]	207	1	nogas	46.226	46.226	2.46	237287	0.02	2000	
Na	23	2	He	4828.683	4828.683	2.20	1034678	0.47	200000	
Mg	24	2	He	4848.553	4848.553	0.81	450916	1.08	200000	
Al	27	2	He	116.045	116.045	15.00	2884	4.02	2000	
K	39	2	He	5823.838	5823.838	2.14	245211	2.38	200000	
Ca	43	2	He	5019.040	5019.040	8.78	800	627.35	200000	
Ca	44	2	He	5138.931	5138.931	5.27	14793	34.74	200000	
V	51	2	He	47.842	47.842	0.68	51287	0.09	2000	
Cr	52	2	He	47.918	47.918	0.91	71081	0.07	2000	
Mn	55	2	He	48.834	48.834	2.72	27504	0.18	2000	
Fe	56	2	He	4675.461	4675.461	3.69	5387995	0.09	200000	
Co	59	2	He	48.513	48.513	3.58	120871	0.04	2000	
Ni	60	2	He	47.857	47.857	2.96	34353	0.14	2000	
Cu	63	2	He	48.685	48.685	0.28	98278	0.05	2000	
Zn	66	2	He	51.606	51.606	3.39	14987	0.34	2000	
As	75	2	He	47.986	47.986	2.89	8819	0.54	2000	
Se	78	2	He	51.605	51.605	16.26	350	14.74	2000	
B	11	1	nogas	453.532	453.532	2.87	809278	0.06	2000	
Si	28	1	nogas	4929.434	4929.434	2.35	20919685	0.02	2000	>LDR
Ca	43	1	nogas	4742.156	4742.156	2.57	84587	5.61	200000	
Ca	44	1	nogas	4706.584	4706.584	2.97	1471169	0.32	200000	
Fe	56	1	nogas	4723.978	4723.978	2.75	64787535	0.01	200000	

Sample Report

Se	77	1	nogas	127.008	127.008	10.64	42994	0.30	2000	
Se	82	1	nogas	48.803	48.803	5.58	6295	0.78	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	47.894	47.894	2.82	157617	0.03	2000	
Sn	118	1	nogas	89.821	89.821	1.54	499729	0.02	2000	
Ba	137	1	nogas	45.513	45.513	2.52	118855	0.04	2000	
Sb	121	2	He	51.037	51.037	4.74	41292	0.12	2000	
La	139	1	nogas	60.872	60.872	46.06	180	33.82	2000	
Au	197	1	nogas	239.014	239.014	0.00	0	#DIV/0!	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	357354	4.01	327043	109.27	70	125	
Ge	72	1	nogas	1642550	1.80	1420865	115.60	70	125	
In	115	1	nogas	1778442	0.95	1584599	112.23	70	125	
Bi	209	1	nogas	1697715	2.20	1610392	105.42	70	125	
Ge	72	2	He	121135	2.52	106219	114.04	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-01
Data File Name	211SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:19:42-06:00
Sample Type	Sample
Dilution	5
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.082	0.409	29.04	223	0.04	2000	
Na	23	1	nogas	83635.007	418175.033	1.31	828185219	0.01	200000	
Mg	24	1	nogas	10661.047	53305.234	3.58	73203637	0.01	200000	
Al	27	1	nogas	4.097	20.483	7.46	50114	0.01	2000	
K	39	1	nogas	3472.536	17362.679	5.00	32148176	0.01	200000	
Ti	47	1	nogas	0.456	2.279	57.23	567	0.08	2000	
V	51	1	nogas	25.583	127.917	9.08	798320	0.00	2000	
Cr	52	1	nogas	9.207	46.037	6.30	115576	0.01	2000	
Mn	55	1	nogas	737.231	3686.156	2.94	10260675	0.01	2000	
Co	59	1	nogas	7.303	36.513	2.39	87034	0.01	2000	
Ni	60	1	nogas	67.257	336.286	2.63	183252	0.04	2000	
Cu	63	1	nogas	1.041	5.207	10.57	9493	0.01	2000	
Zn	66	1	nogas	153.443	767.217	2.67	323612	0.05	2000	
As	75	1	nogas	27.556	137.782	9.80	135184	0.02	2000	
Sr	88	1	nogas	762.021	3810.106	3.98	10946362	0.01	2000	
Ag	107	1	nogas	0.013	0.064	101.35	620	0.00	2000	
Cd	111	1	nogas	0.158	0.790	34.09	297	0.05	2000	
Sb	121	1	nogas	0.024	0.122	83.27	1107	0.00	2000	
Tl	205	1	nogas	0.507	2.537	59.13	8046	0.01	2000	
Pb	208	1	nogas	0.075	0.374	28.60	2190	0.00	2000	
U	238	1	nogas	0.153	0.766	51.39	3444	0.00	2000	
[Pb]	206	1	nogas	0.080	0.400	23.85	553	0.01	2000	
[Pb]	207	1	nogas	0.058	0.290	39.54	483	0.01	2000	
Na	23	2	He	82115.809	410579.044	3.12	14508352	0.57	200000	
Mg	24	2	He	10337.617	51688.083	1.84	900054	1.15	200000	
Al	27	2	He	1.310	6.552	139.82	180	0.73	2000	
K	39	2	He	4022.904	20114.520	3.30	172815	2.33	200000	
Ca	43	2	He	22676.003	113380.014	7.18	3377	671.47	200000	
Ca	44	2	He	20865.777	104328.884	4.68	55587	37.54	200000	
V	51	2	He	0.047	0.235	168.58	402	0.01	2000	
Cr	52	2	He	8.858	44.288	2.61	13228	0.07	2000	
Mn	55	2	He	764.057	3820.287	1.69	401589	0.19	2000	
Fe	56	2	He	17986.391	89931.956	3.46	19428336	0.09	200000	
Co	59	2	He	7.688	38.439	7.11	17983	0.04	2000	
Ni	60	2	He	72.357	361.784	4.69	48441	0.15	2000	
Cu	63	2	He	0.783	3.917	8.50	2067	0.04	2000	
Zn	66	2	He	152.890	764.451	0.17	41487	0.37	2000	
As	75	2	He	0.350	1.750	27.11	72	0.48	2000	
Se	78	2	He	-0.874	-4.368	-20.78	1	-131.03	2000	
B	11	1	nogas	3.666	18.331	66.26	60145	0.01	2000	
Si	28	1	nogas	2986.669	14933.346	2.09	12500374	0.02	2000	>LDR
Ca	43	1	nogas	18151.486	90757.432	2.44	304849	5.95	200000	
Ca	44	1	nogas	18168.596	90842.979	1.99	4922465	0.37	200000	
Fe	56	1	nogas	17258.165	86290.825	3.10	223697872	0.01	200000	

Sample Report

Se	77	1	nogas	144.950	724.752	4.78	44023	0.33	2000	
Se	82	1	nogas	-1.545	-7.726	-13.95	440	-0.35	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.290	1.451	46.30	1043	0.03	2000	
Sn	118	1	nogas	0.174	0.872	32.96	1693	0.01	2000	
Ba	137	1	nogas	49.124	245.621	2.73	121395	0.04	2000	
Sb	121	2	He	0.011	0.053	537.00	90	0.01	2000	
La	139	1	nogas	1068.321	5341.605	12.24	2003	53.32	2000	
Au	197	1	nogas	153.212	766.059	48.62	7	2298.18	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	357342	1.93	327043	109.26	70	125	
Ge	72	1	nogas	1568289	1.13	1420865	110.38	70	125	
In	115	1	nogas	1683388	0.92	1584599	106.23	70	125	
Bi	209	1	nogas	1591920	4.09	1610392	98.85	70	125	
Ge	72	2	He	113621	2.93	106219	106.97	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-02
Data File Name	212SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:21:44-06:00
Sample Type	Sample
Dilution	5
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.065	0.325	30.58	180	0.04	2000	
Na	23	1	nogas	84396.908	421984.542	2.60	837156152	0.01	200000	
Mg	24	1	nogas	10933.523	54667.617	3.03	75227354	0.01	200000	
Al	27	1	nogas	3.830	19.152	3.07	47514	0.01	2000	
K	39	1	nogas	3697.068	18485.342	3.42	33653871	0.01	200000	
Ti	47	1	nogas	0.282	1.409	42.69	410	0.07	2000	
V	51	1	nogas	20.822	104.112	10.71	727859	0.00	2000	
Cr	52	1	nogas	9.645	48.227	0.65	119380	0.01	2000	
Mn	55	1	nogas	761.795	3808.977	1.10	10506612	0.01	2000	
Co	59	1	nogas	7.284	36.420	1.96	86035	0.01	2000	
Ni	60	1	nogas	68.605	343.025	3.16	185171	0.04	2000	
Cu	63	1	nogas	1.252	6.258	9.28	10763	0.01	2000	
Zn	66	1	nogas	154.391	771.953	2.99	322686	0.05	2000	
As	75	1	nogas	27.245	136.224	6.97	133314	0.02	2000	
Sr	88	1	nogas	764.710	3823.548	2.32	10885359	0.01	2000	
Ag	107	1	nogas	0.001	0.003	1506.88	510	0.00	2000	
Cd	111	1	nogas	0.136	0.681	27.60	250	0.05	2000	
Sb	121	1	nogas	-0.028	-0.139	-30.24	710	0.00	2000	
Tl	205	1	nogas	0.040	0.200	26.88	733	0.01	2000	
Pb	208	1	nogas	0.014	0.069	28.04	993	0.00	2000	
U	238	1	nogas	0.014	0.068	35.38	393	0.00	2000	
[Pb]	206	1	nogas	0.020	0.101	60.31	233	0.01	2000	
[Pb]	207	1	nogas	0.003	0.013	248.40	210	0.00	2000	
Na	23	2	He	79480.340	397401.700	1.67	14197980	0.56	200000	
Mg	24	2	He	10197.489	50987.446	1.85	897078	1.14	200000	
Al	27	2	He	1.407	7.037	289.32	183	0.77	2000	
K	39	2	He	4143.347	20716.734	1.48	177657	2.33	200000	
Ca	43	2	He	22922.925	114614.624	0.70	3454	663.71	200000	
Ca	44	2	He	21034.546	105172.728	0.94	56667	37.12	200000	
V	51	2	He	0.022	0.112	82.97	383	0.01	2000	
Cr	52	2	He	9.442	47.212	2.20	14182	0.07	2000	
Mn	55	2	He	761.543	3807.713	0.93	404516	0.19	2000	
Fe	56	2	He	17900.326	89501.630	2.03	19544071	0.09	200000	
Co	59	2	He	7.570	37.849	1.89	17916	0.04	2000	
Ni	60	2	He	69.373	346.866	3.83	46964	0.15	2000	
Cu	63	2	He	0.735	3.676	13.30	1997	0.04	2000	
Zn	66	2	He	154.234	771.169	1.73	42276	0.36	2000	
As	75	2	He	0.429	2.144	15.83	87	0.49	2000	
Se	78	2	He	-0.232	-1.158	-324.47	5	-4.96	2000	
B	11	1	nogas	-1.690	-8.448	-5.17	50324	0.00	2000	
Si	28	1	nogas	3042.339	15211.693	0.88	12602672	0.02	2000	>LDR
Ca	43	1	nogas	19163.012	95815.062	3.38	318801	6.01	200000	
Ca	44	1	nogas	18566.689	92833.445	3.93	4979790	0.37	200000	
Fe	56	1	nogas	17947.645	89738.224	0.57	230523622	0.01	200000	

Sample Report

Se	77	1	nogas	143.147	715.737	5.65	43342	0.33	2000	
Se	82	1	nogas	-1.433	-7.163	-69.84	450	-0.32	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.104	0.518	28.85	453	0.02	2000	
Sn	118	1	nogas	0.022	0.110	45.63	877	0.00	2000	
Ba	137	1	nogas	52.106	260.529	5.17	126084	0.04	2000	
Sb	121	2	He	-0.009	-0.044	-335.06	77	-0.01	2000	
La	139	1	nogas	989.798	4948.990	15.37	1820	54.38	2000	
Au	197	1	nogas	19.046	95.231	1060.51	17	114.28	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	350853	2.63	327043	107.28	70	125	
Ge	72	1	nogas	1554535	2.78	1420865	109.41	70	125	
In	115	1	nogas	1651022	5.12	1584599	104.19	70	125	
Bi	209	1	nogas	1562297	1.02	1610392	97.01	70	125	
Ge	72	2	He	114798	1.93	106219	108.08	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-03
Data File Name	213SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:23:48-06:00
Sample Type	Sample
Dilution	10
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.029	0.293	52.76	97	0.03	2000	
Na	23	1	nogas	56382.864	563828.636	1.93	567454396	0.01	200000	
Mg	24	1	nogas	17319.944	173199.441	1.64	120467903	0.01	200000	
Al	27	1	nogas	1.431	14.309	7.47	28272	0.01	2000	
K	39	1	nogas	214.556	2145.563	6.39	5850538	0.00	200000	
Ti	47	1	nogas	0.095	0.954	68.84	250	0.04	2000	
V	51	1	nogas	19.923	199.229	7.19	717845	0.00	2000	
Cr	52	1	nogas	191.179	1911.791	1.62	2110528	0.01	2000	
Mn	55	1	nogas	312.046	3120.459	0.63	4320551	0.01	2000	
Co	59	1	nogas	14.451	144.509	2.49	170744	0.01	2000	
Ni	60	1	nogas	245.065	2450.649	4.79	655601	0.04	2000	
Cu	63	1	nogas	7.884	78.838	4.41	53486	0.01	2000	
Zn	66	1	nogas	2.982	29.816	5.62	7642	0.04	2000	
As	75	1	nogas	24.997	249.967	8.81	128356	0.02	2000	
Sr	88	1	nogas	412.068	4120.682	2.73	5885754	0.01	2000	
Ag	107	1	nogas	-0.011	-0.110	-49.50	413	0.00	2000	
Cd	111	1	nogas	0.127	1.270	31.17	243	0.05	2000	
Sb	121	1	nogas	-0.016	-0.158	-69.11	800	0.00	2000	
Tl	205	1	nogas	0.019	0.186	11.42	417	0.00	2000	
Pb	208	1	nogas	0.022	0.217	27.63	1150	0.00	2000	
U	238	1	nogas	0.017	0.171	8.41	477	0.00	2000	
[Pb]	206	1	nogas	0.037	0.368	29.68	323	0.01	2000	
[Pb]	207	1	nogas	0.014	0.140	145.61	267	0.01	2000	
Na	23	2	He	54232.349	542323.489	1.79	9900934	0.55	200000	
Mg	24	2	He	16310.435	163104.348	1.98	1459675	1.12	200000	
Al	27	2	He	0.664	6.643	137.03	170	0.39	2000	
K	39	2	He	292.396	2923.961	1.58	22851	1.28	200000	
Ca	43	2	He	20987.214	209872.140	8.13	3220	651.71	200000	
Ca	44	2	He	20998.116	209981.163	4.10	57577	36.47	200000	
V	51	2	He	0.169	1.690	26.97	540	0.03	2000	
Cr	52	2	He	194.146	1941.456	0.46	274219	0.07	2000	
Mn	55	2	He	314.854	3148.539	1.45	170304	0.18	2000	
Fe	56	2	He	2087.579	20875.793	1.25	2324662	0.09	200000	
Co	59	2	He	14.226	142.264	4.12	34236	0.04	2000	
Ni	60	2	He	248.056	2480.564	2.18	169646	0.15	2000	
Cu	63	2	He	7.590	75.897	7.99	15283	0.05	2000	
Zn	66	2	He	3.387	33.875	16.09	1020	0.33	2000	
As	75	2	He	0.113	1.130	60.04	32	0.35	2000	
Se	78	2	He	-0.873	-8.733	-20.83	1	-131.00	2000	
B	11	1	nogas	-10.156	-101.560	-10.57	38179	-0.03	2000	
Si	28	1	nogas	2510.719	25107.192	1.51	10596830	0.02	2000	>LDR
Ca	43	1	nogas	20599.489	205994.894	2.66	343383	6.00	200000	
Ca	44	1	nogas	20323.660	203236.597	3.88	5446326	0.37	200000	
Fe	56	1	nogas	2106.353	21063.529	1.48	27894429	0.01	200000	

Sample Report

Se	77	1	nogas	141.067	1410.670	5.79	43105	0.33	2000	
Se	82	1	nogas	-0.364	-3.641	-59.25	567	-0.06	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	1.025	10.251	7.41	3327	0.03	2000	
Sn	118	1	nogas	0.031	0.314	78.63	950	0.00	2000	
Ba	137	1	nogas	740.291	7402.907	4.15	1840349	0.04	2000	
Sb	121	2	He	-0.011	-0.106	-381.98	77	-0.01	2000	
La	139	1	nogas	2660.216	26602.160	1.85	4944	53.81	2000	>LDR
Au	197	1	nogas	24.660	246.604	786.87	17	147.96	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	367578	2.66	327043	112.39	70	125	
Ge	72	1	nogas	1557848	2.43	1420865	109.64	70	125	
In	115	1	nogas	1697645	2.19	1584599	107.13	70	125	
Bi	209	1	nogas	1585264	2.52	1610392	98.44	70	125	
Ge	72	2	He	116838	1.23	106219	110.00	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-04
Data File Name	214SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:25:46-06:00
Sample Type	Sample
Dilution	5
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.006	0.028	165.02	37	0.02	2000	
Na	23	1	nogas	73593.989	367969.947	2.11	765539950	0.01	200000	
Mg	24	1	nogas	6354.413	31772.064	0.73	45871972	0.01	200000	
Al	27	1	nogas	2.451	12.255	6.68	36897	0.01	2000	
K	39	1	nogas	376.966	1884.831	9.01	7228821	0.01	200000	
Ti	47	1	nogas	0.310	1.548	28.61	443	0.07	2000	
V	51	1	nogas	20.509	102.545	4.59	734031	0.00	2000	
Cr	52	1	nogas	4.351	21.757	3.72	62225	0.01	2000	
Mn	55	1	nogas	138.123	690.613	2.21	1939948	0.01	2000	
Co	59	1	nogas	11.967	59.836	2.20	143059	0.01	2000	
Ni	60	1	nogas	137.083	685.414	3.72	372129	0.04	2000	
Cu	63	1	nogas	1.216	6.079	5.94	10663	0.01	2000	
Zn	66	1	nogas	0.423	2.117	10.75	2337	0.02	2000	
As	75	1	nogas	21.608	108.039	2.68	121955	0.02	2000	
Sr	88	1	nogas	310.046	1550.229	2.76	4482660	0.01	2000	
Ag	107	1	nogas	-0.010	-0.048	-33.55	430	0.00	2000	
Cd	111	1	nogas	0.297	1.486	28.08	563	0.05	2000	
Sb	121	1	nogas	-0.012	-0.060	-183.34	840	0.00	2000	
Tl	205	1	nogas	0.011	0.055	2.41	307	0.00	2000	
Pb	208	1	nogas	0.006	0.029	111.73	837	0.00	2000	
U	238	1	nogas	0.506	2.531	3.51	11144	0.00	2000	
[Pb]	206	1	nogas	0.012	0.059	38.02	197	0.01	2000	
[Pb]	207	1	nogas	-0.007	-0.037	-143.28	170	0.00	2000	
Na	23	2	He	74163.855	370819.275	1.80	13662703	0.54	200000	
Mg	24	2	He	6139.883	30699.414	0.70	557219	1.10	200000	
Al	27	2	He	1.735	8.676	29.86	197	0.88	2000	
K	39	2	He	453.151	2265.754	5.29	29313	1.55	200000	
Ca	43	2	He	21164.404	105822.019	6.66	3287	643.88	200000	
Ca	44	2	He	19830.706	99153.528	1.54	55066	36.01	200000	
V	51	2	He	0.107	0.533	33.26	482	0.02	2000	
Cr	52	2	He	3.520	17.600	10.10	6178	0.06	2000	
Mn	55	2	He	135.669	678.346	1.66	74381	0.18	2000	
Fe	56	2	He	116.856	584.279	1.07	136524	0.09	200000	
Co	59	2	He	11.803	59.016	0.12	28763	0.04	2000	
Ni	60	2	He	133.677	668.387	2.22	92815	0.14	2000	
Cu	63	2	He	1.057	5.283	13.63	2687	0.04	2000	
Zn	66	2	He	0.931	4.657	6.09	340	0.27	2000	
As	75	2	He	0.129	0.643	71.84	36	0.36	2000	
Se	78	2	He	-0.465	-2.323	-138.21	3	-13.94	2000	
B	11	1	nogas	-9.542	-47.711	-3.62	39194	-0.02	2000	
Si	28	1	nogas	4596.469	22982.343	4.23	18770193	0.02	2000	>LDR
Ca	43	1	nogas	20186.107	100930.534	3.06	340294	5.93	200000	
Ca	44	1	nogas	20103.132	100515.662	1.90	5452872	0.37	200000	
Fe	56	1	nogas	121.085	605.426	4.94	2471533	0.00	200000	

Sample Report

Se	77	1	nogas	123.224	616.119	3.32	40636	0.30	2000	
Se	82	1	nogas	-0.932	-4.659	-44.05	510	-0.18	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	3.056	15.278	2.70	9780	0.03	2000	
Sn	118	1	nogas	-0.008	-0.038	-113.99	757	0.00	2000	
Ba	137	1	nogas	204.691	1023.455	2.04	518508	0.04	2000	
Sb	121	2	He	0.009	0.045	213.92	93	0.01	2000	
La	139	1	nogas	76.051	380.253	41.65	203	37.40	2000	
Au	197	1	nogas	113.998	569.992	108.15	10	1139.98	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	366924	0.29	327043	112.19	70	125	
Ge	72	1	nogas	1575700	3.28	1420865	110.90	70	125	
In	115	1	nogas	1728520	0.64	1584599	109.08	70	125	
Bi	209	1	nogas	1617569	2.41	1610392	100.45	70	125	
Ge	72	2	He	118295	0.57	106219	111.37	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-08
Data File Name	215SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:27:46-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.315	0.315	25.11	863	0.04	2000	
Na	23	1	nogas	53858.367	53858.367	2.40	576235680	0.01	200000	
Mg	24	1	nogas	3793.314	3793.314	1.60	28132040	0.01	200000	
Al	27	1	nogas	33.459	33.459	11.95	298694	0.01	2000	
K	39	1	nogas	1004.359	1004.359	2.10	12697847	0.01	200000	
Ti	47	1	nogas	0.917	0.917	12.72	1007	0.09	2000	
V	51	1	nogas	26.881	26.881	14.44	844717	0.00	2000	
Cr	52	1	nogas	304.122	304.122	3.72	3492133	0.01	2000	
Mn	55	1	nogas	251.654	251.654	2.96	3635504	0.01	2000	
Co	59	1	nogas	32.603	32.603	4.65	401239	0.01	2000	
Ni	60	1	nogas	1895.489	1895.489	4.26	5269505	0.04	2000	>LDR
Cu	63	1	nogas	30.670	30.670	1.90	208898	0.01	2000	
Zn	66	1	nogas	4.936	4.936	3.63	12218	0.04	2000	
As	75	1	nogas	17.688	17.688	12.98	116239	0.02	2000	
Sr	88	1	nogas	105.109	105.109	3.46	1578509	0.01	2000	
Ag	107	1	nogas	-0.015	-0.015	-15.49	393	0.00	2000	
Cd	111	1	nogas	0.168	0.168	26.03	330	0.05	2000	
Sb	121	1	nogas	0.109	0.109	3.24	1803	0.01	2000	
Tl	205	1	nogas	0.005	0.005	71.33	217	0.00	2000	
Pb	208	1	nogas	0.111	0.111	7.85	2900	0.00	2000	
U	238	1	nogas	0.139	0.139	13.62	3260	0.00	2000	
[Pb]	206	1	nogas	0.111	0.111	20.88	753	0.01	2000	
[Pb]	207	1	nogas	0.080	0.080	1.00	620	0.01	2000	
Na	23	2	He	55658.239	55658.239	1.32	10212812	0.54	200000	
Mg	24	2	He	3881.630	3881.630	3.51	350228	1.11	200000	
Al	27	2	He	31.138	31.138	9.69	863	3.61	2000	
K	39	2	He	1184.397	1184.397	2.75	58709	2.02	200000	
Ca	43	2	He	5671.593	5671.593	15.41	877	646.92	200000	
Ca	44	2	He	5411.674	5411.674	1.36	15103	35.83	200000	
V	51	2	He	0.880	0.880	5.49	1277	0.07	2000	
Cr	52	2	He	305.912	305.912	3.18	433721	0.07	2000	
Mn	55	2	He	255.496	255.496	1.58	138955	0.18	2000	
Fe	56	2	He	1947.590	1947.590	1.23	2180442	0.09	200000	
Co	59	2	He	32.966	32.966	2.59	79691	0.04	2000	
Ni	60	2	He	1910.955	1910.955	4.02	1310372	0.15	2000	>LDR
Cu	63	2	He	29.846	29.846	3.50	58648	0.05	2000	
Zn	66	2	He	5.214	5.214	3.03	1537	0.34	2000	
As	75	2	He	0.206	0.206	47.40	49	0.42	2000	
Se	78	2	He	2.216	2.216	21.16	21	10.72	2000	
B	11	1	nogas	91.306	91.306	5.15	221641	0.04	2000	
Si	28	1	nogas	19717.267	19717.267	2.99	79632534	0.02	2000	>LDR
Ca	43	1	nogas	5347.913	5347.913	3.07	94181	5.68	200000	
Ca	44	1	nogas	5322.263	5322.263	7.76	1620967	0.33	200000	
Fe	56	1	nogas	1923.967	1923.967	3.63	26647173	0.01	200000	

Sample Report

Se	77	1	nogas	106.940	106.940	11.72	39142	0.27	2000	
Se	82	1	nogas	1.740	1.740	70.83	830	0.21	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.193	0.193	16.61	767	0.03	2000	
Sn	118	1	nogas	-0.035	-0.035	-31.19	630	-0.01	2000	
Ba	137	1	nogas	213.123	213.123	1.58	556167	0.04	2000	
Sb	121	2	He	0.159	0.159	7.99	210	0.08	2000	
La	139	1	nogas	2992.132	2992.132	2.28	5831	51.31	2000	>LDR
Au	197	1	nogas	117.525	117.525	4.21	10	1175.25	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	384357	3.32	327043	117.52	70	125	
Ge	72	1	nogas	1624817	2.70	1420865	114.35	70	125	
In	115	1	nogas	1781363	3.78	1584599	112.42	70	125	
Bi	209	1	nogas	1688542	4.17	1610392	104.85	70	125	
Ge	72	2	He	117456	0.63	106219	110.58	70	125	

Sample Report

Sample Table

Sample Name	HS17121008-07SD
Data File Name	217SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:31:45-06:00
Sample Type	Sample
Dilution	5
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.000	-0.001	-1890.25	23	0.00	2000	
Na	23	1	nogas	2539.220	12696.102	1.89	31044961	0.01	200000	
Mg	24	1	nogas	6934.668	34673.339	1.37	49108207	0.01	200000	
Al	27	1	nogas	9.647	48.233	5.59	93052	0.01	2000	
K	39	1	nogas	240.723	1203.615	5.03	5967397	0.00	200000	
Ti	47	1	nogas	0.408	2.038	9.42	513	0.08	2000	
V	51	1	nogas	28.655	143.273	10.62	820798	0.00	2000	
Cr	52	1	nogas	0.900	4.500	9.68	23328	0.00	2000	
Mn	55	1	nogas	24.250	121.248	0.03	341109	0.01	2000	
Co	59	1	nogas	0.361	1.805	8.30	4474	0.01	2000	
Ni	60	1	nogas	1.589	7.944	8.76	6868	0.02	2000	
Cu	63	1	nogas	0.716	3.580	9.25	7218	0.01	2000	
Zn	66	1	nogas	2.587	12.933	3.84	6715	0.04	2000	
As	75	1	nogas	20.513	102.565	12.92	116168	0.02	2000	
Sr	88	1	nogas	125.837	629.186	1.62	1781465	0.01	2000	
Ag	107	1	nogas	-0.008	-0.042	-129.67	430	0.00	2000	
Cd	111	1	nogas	0.014	0.071	142.80	37	0.04	2000	
Sb	121	1	nogas	-0.059	-0.293	-8.38	477	-0.01	2000	
Tl	205	1	nogas	0.003	0.013	70.38	173	0.00	2000	
Pb	208	1	nogas	0.052	0.262	4.38	1753	0.00	2000	
U	238	1	nogas	0.058	0.290	5.00	1360	0.00	2000	
[Pb]	206	1	nogas	0.046	0.230	16.39	373	0.01	2000	
[Pb]	207	1	nogas	0.040	0.198	17.60	393	0.01	2000	
Na	23	2	He	2617.212	13086.060	5.96	582014	0.45	200000	
Mg	24	2	He	6948.236	34741.181	7.15	604311	1.15	200000	
Al	27	2	He	9.454	47.272	75.42	357	2.65	2000	
K	39	2	He	245.737	1228.687	2.35	20975	1.17	200000	
Ca	43	2	He	13131.715	65658.576	6.64	1960	669.94	200000	
Ca	44	2	He	12739.761	63698.804	2.64	34032	37.44	200000	
V	51	2	He	1.960	9.801	11.28	2307	0.08	2000	
Cr	52	2	He	0.386	1.931	5.14	1647	0.02	2000	
Mn	55	2	He	23.418	117.089	3.23	12448	0.19	2000	
Fe	56	2	He	38.185	190.926	3.39	46132	0.08	200000	
Co	59	2	He	0.372	1.858	2.14	903	0.04	2000	
Ni	60	2	He	1.866	9.329	17.14	1733	0.11	2000	
Cu	63	2	He	0.658	3.289	5.68	1830	0.04	2000	
Zn	66	2	He	3.418	17.089	20.91	997	0.34	2000	
As	75	2	He	0.059	0.296	43.44	22	0.27	2000	
Se	78	2	He	-0.434	-2.172	-114.49	3	-13.03	2000	
B	11	1	nogas	-13.769	-68.844	-6.16	33704	-0.04	2000	
Si	28	1	nogas	5095.370	25476.850	2.81	20160340	0.03	2000	>LDR
Ca	43	1	nogas	12957.424	64787.121	3.16	213274	6.08	200000	
Ca	44	1	nogas	12589.724	62948.622	3.09	3388476	0.37	200000	
Fe	56	1	nogas	42.209	211.046	5.87	1410947	0.00	200000	

Sample Report

Se	77	1	nogas	116.770	583.850	16.98	38515	0.30	2000	
Se	82	1	nogas	-1.241	-6.207	-71.08	463	-0.27	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.321	1.603	14.77	1113	0.03	2000	
Sn	118	1	nogas	0.028	0.141	67.73	930	0.00	2000	
Ba	137	1	nogas	8.186	40.930	2.05	20569	0.04	2000	
Sb	121	2	He	-0.074	-0.369	-11.88	27	-0.28	2000	
La	139	1	nogas	32.763	163.816	30.35	120	27.30	2000	
Au	197	1	nogas	154.683	773.416	47.30	7	2320.25	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	387401	4.07	327043	118.46	70	125	
Ge	72	1	nogas	1533674	0.68	1420865	107.94	70	125	
In	115	1	nogas	1692403	1.69	1584599	106.80	70	125	
Bi	209	1	nogas	1596116	4.59	1610392	99.11	70	125	
Ge	72	2	He	113584	3.80	106219	106.93	70	125	

Sample Report

Sample Table

Sample Name	HS17121008-07MS
Data File Name	218SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:33:43-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	50.331	50.331	4.41	122487	0.04	2000	
Na	23	1	nogas	17343.445	17343.445	0.93	186045942	0.01	200000	
Mg	24	1	nogas	37143.923	37143.923	2.42	269578973	0.01	200000	
Al	27	1	nogas	140.441	140.441	7.44	1174863	0.01	2000	
K	39	1	nogas	5972.042	5972.042	8.30	53102437	0.01	200000	
Ti	47	1	nogas	145.426	145.426	3.80	129235	0.11	2000	
V	51	1	nogas	88.343	88.343	8.08	1664363	0.01	2000	
Cr	52	1	nogas	50.944	50.944	6.91	585358	0.01	2000	
Mn	55	1	nogas	155.864	155.864	6.88	2211754	0.01	2000	
Co	59	1	nogas	49.624	49.624	7.71	598722	0.01	2000	
Ni	60	1	nogas	55.936	55.936	8.22	155187	0.04	2000	
Cu	63	1	nogas	51.360	51.360	7.79	341063	0.02	2000	
Zn	66	1	nogas	62.471	62.471	3.43	134827	0.05	2000	
As	75	1	nogas	67.999	67.999	8.01	232939	0.03	2000	
Sr	88	1	nogas	705.921	705.921	10.28	10287287	0.01	2000	
Ag	107	1	nogas	49.395	49.395	6.35	429595	0.01	2000	
Cd	111	1	nogas	48.263	48.263	4.82	89596	0.05	2000	
Sb	121	1	nogas	53.396	53.396	6.37	405840	0.01	2000	
Tl	205	1	nogas	46.446	46.446	8.18	721505	0.01	2000	
Pb	208	1	nogas	54.721	54.721	1.56	1074589	0.01	2000	
U	238	1	nogas	106.987	106.987	5.14	2326167	0.00	2000	
[Pb]	206	1	nogas	49.482	49.482	5.45	262958	0.02	2000	
[Pb]	207	1	nogas	49.110	49.110	3.69	239693	0.02	2000	
Na	23	2	He	17161.642	17161.642	1.04	3194641	0.54	200000	
Mg	24	2	He	37241.698	37241.698	0.74	3304099	1.13	200000	
Al	27	2	He	142.169	142.169	9.67	3337	4.26	2000	
K	39	2	He	6710.709	6710.709	1.65	280863	2.39	200000	
Ca	43	2	He	68507.846	68507.846	5.23	10406	658.32	200000	
Ca	44	2	He	65722.249	65722.249	1.03	178208	36.88	200000	
V	51	2	He	58.308	58.308	3.97	59684	0.10	2000	
Cr	52	2	He	49.490	49.490	3.07	70154	0.07	2000	
Mn	55	2	He	153.492	153.492	0.95	82410	0.19	2000	
Fe	56	2	He	4979.063	4979.063	0.82	5491147	0.09	200000	
Co	59	2	He	51.432	51.432	0.89	122641	0.04	2000	
Ni	60	2	He	57.636	57.636	1.87	39486	0.15	2000	
Cu	63	2	He	51.236	51.236	1.24	98898	0.05	2000	
Zn	66	2	He	64.110	64.110	4.43	17776	0.36	2000	
As	75	2	He	51.938	51.938	1.59	9132	0.57	2000	
Se	78	2	He	49.591	49.591	4.31	323	15.37	2000	
B	11	1	nogas	470.933	470.933	5.09	826723	0.06	2000	
Si	28	1	nogas	29147.345	29147.345	6.62	114948018	0.03	2000	>LDR
Ca	43	1	nogas	64708.249	64708.249	5.85	1100131	5.88	200000	
Ca	44	1	nogas	65672.112	65672.112	4.29	17622985	0.37	200000	
Fe	56	1	nogas	5046.990	5046.990	7.73	67044752	0.01	200000	

Sample Report

Se	77	1	nogas	147.741	147.741	14.13	45160	0.33	2000	
Se	82	1	nogas	49.267	49.267	5.85	6161	0.80	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	51.812	51.812	8.17	165273	0.03	2000	
Sn	118	1	nogas	93.420	93.420	2.35	504250	0.02	2000	
Ba	137	1	nogas	85.804	85.804	1.74	217135	0.04	2000	
Sb	121	2	He	52.836	52.836	1.35	40925	0.13	2000	
La	139	1	nogas	320.842	320.842	7.29	660	48.61	2000	
Au	197	1	nogas	195.458	195.458	38.60	3	5863.75	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	352645	4.11	327043	107.83	70	125	
Ge	72	1	nogas	1596160	5.11	1420865	112.34	70	125	
In	115	1	nogas	1725405	0.34	1584599	108.89	70	125	
Bi	209	1	nogas	1616060	5.77	1610392	100.35	70	125	
Ge	72	2	He	115874	1.92	106219	109.09	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	219_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:35:45-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	99.546	3.835	229066	1.86	100	99.5	90	110	
Na	23	1	nogas	10247.133	2.836	105620040	1.42	10000	102.5	90	110	
Mg	24	1	nogas	10397.076	2.890	71169481	2.42	10000	104.0	90	110	
Al	27	1	nogas	101.888	1.966	844723	0.89	100	101.9	90	110	
K	39	1	nogas	9447.067	0.752	80431146	3.47	10000	94.5	90	110	
Ti	47	1	nogas	94.621	2.467	82870	3.16	100	94.6	90	110	
V	51	1	nogas	111.821	4.781	1954918	4.17	100	111.8	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.172	3.176	1065482	1.04	100	95.2	90	110	
Mn	55	1	nogas	96.078	3.708	1347873	1.20	100	96.1	90	110	
Co	59	1	nogas	96.833	2.090	1151509	0.74	100	96.8	90	110	
Ni	60	1	nogas	97.404	1.026	264477	2.76	100	97.4	90	110	
Cu	63	1	nogas	99.487	1.840	648975	4.07	100	99.5	90	110	
Zn	66	1	nogas	99.902	0.581	211490	3.15	100	99.9	90	110	
As	75	1	nogas	101.323	2.316	307062	1.55	100	101.3	90	110	
Sr	88	1	nogas	94.876	2.524	1378630	0.35	100	94.9	90	110	
Ag	107	1	nogas	96.345	2.539	825154	0.75	100	96.3	90	110	
Cd	111	1	nogas	101.108	0.141	177574	3.06	100	101.1	90	110	
Sb	121	1	nogas	102.518	1.296	767103	1.63	100	102.5	90	110	
Tl	205	1	nogas	101.413	2.890	1565878	2.07	100	101.4	90	110	
Pb	208	1	nogas	108.294	1.534	2125922	1.53	100	108.3	90	110	
U	238	1	nogas	101.400	2.865	2189388	3.16	100	101.4	90	110	
[Pb]	206	1	nogas	100.878	3.782	532171	2.84	100	100.9	90	110	
[Pb]	207	1	nogas	93.476	1.752	452556	0.86	100	93.5	90	110	
Na	23	2	He	10149.376	1.991	1879032	1.93	10000	101.5	90	110	
Mg	24	2	He	9865.706	2.118	848385	2.24	10000	98.7	90	110	
Al	27	2	He	95.022	3.040	2210	2.75	100	95.0	90	110	
K	39	2	He	10618.653	0.777	437960	0.76	10000	106.2	90	110	
Ca	43	2	He	10078.998	15.512	1487	15.94	10000	100.8	90	110	
Ca	44	2	He	9843.858	4.399	26042	4.13	10000	98.4	90	110	
V	51	2	He	102.874	1.681	101728	1.21	100	102.9	90	110	
Cr	52	2	He	101.516	2.658	138197	2.13	100	101.5	90	110	
Mn	55	2	He	102.908	2.616	53542	2.41	100	102.9	90	110	
Fe	56	2	He	9861.570	0.104	10525950	0.42	10000	98.6	90	110	
Co	59	2	He	103.117	1.258	238049	1.73	100	103.1	90	110	
Ni	60	2	He	102.845	1.759	67837	2.04	100	102.8	90	110	
Cu	63	2	He	99.247	1.644	184942	1.98	100	99.2	90	110	
Zn	66	2	He	102.507	0.200	27488	0.53	100	102.5	90	110	
As	75	2	He	102.556	2.976	17448	2.77	100	102.6	90	110	
Se	78	2	He	107.446	12.209	670	12.03	100	107.4	90	110	
B	11	1	nogas	465.629	6.828	773755	3.71	500	93.1	90	110	
Si	28	1	nogas	5155.735	2.646	20866409	1.56	5000	103.1	90	110	
Ca	43	1	nogas	9342.717	2.253	157828	2.49	10000	93.4	90	110	
Ca	44	1	nogas	9377.944	4.714	2628300	4.62	10000	93.8	90	110	
Fe	56	1	nogas	9425.601	4.347	122612628	2.01	10000	94.3	90	110	
Se	77	1	nogas	130.000	5.280	41601	1.85	100	130.0	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	93.652	3.787	10983	1.65	100	93.7	90	110	
Mo	95	1	nogas	93.196	2.891	293033	2.25	100	93.2	90	110	
Sn	118	1	nogas	90.187	0.321	460582	3.25	100	90.2	90	110	
Ba	137	1	nogas	102.019	3.782	244026	2.20	100	102.0	90	110	
Sb	121	2	He	105.162	1.511	78771	1.59	100	105.2	90	110	
Li	7	1	nogas	109.242	2.864	657703	3.38	100	109.2	90	110	
P	31	1	nogas	485.701	1.919	303248	1.25	500	97.1	90	110	
La	139	1	nogas	200.051	19.952	410	14.63	100	200.1	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	239.014	0.000	0	#DIV/0!	100	239.0	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	nogas	333512	2.68	327043	101.98	70	125	
Ge	72	1	nogas	1570114	2.77	1420865	110.50	70	125	
In	115	1	nogas	1632243	3.00	1584599	103.01	70	125	
Bi	209	1	nogas	1601701	1.14	1610392	99.46	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	112186	0.51	106219	105.62	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	220_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:37:45-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.147	36.8	390	28.6	1	
Na	23	1	nogas	-76.507	-21.0	4441607	1.4	100	
Mg	24	1	nogas	0.213	2074.9	123704	22.5	100	
Al	27	1	nogas	0.264	46.5	18623	1.4	5	
K	39	1	nogas	-15.677	-148.6	3956252	0.5	100	
Ti	47	1	nogas	0.336	43.0	457	29.9	2.5	
V	51	1	nogas	12.429	25.5	609723	3.0	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.533	20.6	19410	1.4	2.5	
Mn	55	1	nogas	0.124	35.1	13215	3.8	2.5	
Co	59	1	nogas	0.104	43.8	1507	36.5	2.5	
Ni	60	1	nogas	-0.372	-17.9	1723	7.7	2.5	
Cu	63	1	nogas	0.165	31.7	3727	5.6	2.5	
Zn	66	1	nogas	-0.283	-25.9	830	23.1	2.5	
As	75	1	nogas	7.983	35.7	87854	3.6	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	-0.876	-2.5	4021	5.1	2.5	
Ag	107	1	nogas	0.121	33.6	1520	23.3	2.5	
Cd	111	1	nogas	0.105	42.5	200	39.1	1	
Sb	121	1	nogas	0.199	10.7	2367	4.9	2.5	
Tl	205	1	nogas	0.186	29.3	3037	32.6	1	
Pb	208	1	nogas	0.141	40.8	3484	32.3	2.5	
U	238	1	nogas	0.230	20.8	5134	24.5	2.5	
[Pb]	206	1	nogas	0.133	42.2	843	39.8	2.5	
[Pb]	207	1	nogas	0.112	19.5	753	18.6	2.5	
Na	23	2	He	-102.188	-17.2	104658	0.7	100	
Mg	24	2	He	0.598	115.1	1303	5.8	100	
Al	27	2	He	-1.477	-63.0	117	17.8	5	
K	39	2	He	-8.462	-37.2	10757	1.2	100	
Ca	43	2	He	89.934	119.5	17	91.7	100	
Ca	44	2	He	-36.224	-55.6	147	38.8	100	
V	51	2	He	0.253	6.7	601	6.2	2.5	
Cr	52	2	He	0.404	30.5	1643	6.5	2.5	
Mn	55	2	He	0.007	1065.3	147	27.6	2.5	
Fe	56	2	He	24.832	1.4	31257	3.7	100	
Co	59	2	He	0.044	30.6	137	25.7	2.5	
Ni	60	2	He	-0.055	-217.3	457	16.4	2.5	
Cu	63	2	He	0.112	44.5	793	11.4	2.5	
Zn	66	2	He	0.026	843.3	80	75.0	2.5	
As	75	2	He	0.232	37.9	51	29.4	2.5	
Se	78	2	He	0.207	171.7	7	31.5	2.5	
B	11	1	nogas	-4.726	-70.4	47162	6.3	10	
Si	28	1	nogas	76.946	28.0	1276044	2.6	5	CCB Main CR1 Failed
Ca	43	1	nogas	-15.083	-23.1	1253	4.8	100	
Ca	44	1	nogas	-214.885	-11.4	116604	0.6	100	
Fe	56	1	nogas	28.356	20.0	1239807	4.7	100	
Se	77	1	nogas	55.652	15.3	28776	3.2	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.479	-48.6	437	13.0	2.5	
Mo	95	1	nogas	0.460	22.5	1550	21.7	2.5	
Sn	118	1	nogas	0.373	8.0	2734	3.7	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.052	78.0	407	22.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.125	81.4	173	40.5	2.5	
P	31	1	nogas	0.980	466.8	50384	1.0	10	
La	139	1	nogas	103.085	45.4	247	33.0	2.5	CCB Main CR1 Failed
Au	197	1	nogas	195.660	38.4	3	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	366487	5.79	327043	112.06	70	125	
Ge	72	1	nogas	1539937	4.86	1420865	108.38	70	125	
In	115	1	nogas	1683471	2.29	1584599	106.24	70	125	
Bi	209	1	nogas	1607895	4.27	1610392	99.84	70	125	
Ge	72	2	He	112035	3.47	106219	105.48	70	125	

Sample Report

Sample Table

Sample Name	HS17121008-07MSD
Data File Name	221SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:39:44-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	48.217	48.217	6.80	116323	0.04	2000	
Na	23	1	nogas	16727.836	16727.836	2.88	178880291	0.01	200000	
Mg	24	1	nogas	36130.516	36130.516	4.55	261094798	0.01	200000	
Al	27	1	nogas	133.041	133.041	4.79	1118514	0.01	2000	
K	39	1	nogas	5866.977	5866.977	2.20	52471475	0.01	200000	
Ti	47	1	nogas	143.026	143.026	0.69	127510	0.11	2000	
V	51	1	nogas	71.807	71.807	6.18	1444876	0.00	2000	
Cr	52	1	nogas	48.997	48.997	2.20	565907	0.01	2000	
Mn	55	1	nogas	152.156	152.156	2.73	2168469	0.01	2000	
Co	59	1	nogas	48.581	48.581	3.29	588657	0.01	2000	
Ni	60	1	nogas	53.175	53.175	4.33	148294	0.04	2000	
Cu	63	1	nogas	51.027	51.027	6.25	340167	0.02	2000	
Zn	66	1	nogas	62.975	62.975	4.17	136275	0.05	2000	
As	75	1	nogas	57.786	57.786	4.17	209541	0.03	2000	
Sr	88	1	nogas	683.378	683.378	1.57	10012036	0.01	2000	
Ag	107	1	nogas	49.264	49.264	1.89	430148	0.01	2000	
Cd	111	1	nogas	49.958	49.958	2.54	88865	0.06	2000	
Sb	121	1	nogas	51.670	51.670	1.42	394300	0.01	2000	
Tl	205	1	nogas	46.097	46.097	7.14	723399	0.01	2000	
Pb	208	1	nogas	54.068	54.068	1.68	1061770	0.01	2000	
U	238	1	nogas	101.992	101.992	5.72	2238565	0.00	2000	
[Pb]	206	1	nogas	48.632	48.632	6.16	260920	0.02	2000	
[Pb]	207	1	nogas	48.075	48.075	5.09	236793	0.02	2000	
Na	23	2	He	16934.732	16934.732	2.87	3148200	0.54	200000	
Mg	24	2	He	36182.992	36182.992	1.71	3204758	1.13	200000	
Al	27	2	He	135.743	135.743	3.75	3190	4.25	2000	
K	39	2	He	6630.871	6630.871	1.74	277653	2.39	200000	
Ca	43	2	He	68141.842	68141.842	2.15	10340	659.03	200000	
Ca	44	2	He	63422.940	63422.940	2.35	171648	36.95	200000	
V	51	2	He	58.298	58.298	2.96	59591	0.10	2000	
Cr	52	2	He	50.802	50.802	4.16	71861	0.07	2000	
Mn	55	2	He	150.857	150.857	3.69	80852	0.19	2000	
Fe	56	2	He	4919.097	4919.097	3.23	5415150	0.09	200000	
Co	59	2	He	50.579	50.579	3.03	120389	0.04	2000	
Ni	60	2	He	56.598	56.598	2.58	38728	0.15	2000	
Cu	63	2	He	50.728	50.728	3.72	97739	0.05	2000	
Zn	66	2	He	62.593	62.593	2.40	17342	0.36	2000	
As	75	2	He	50.425	50.425	0.80	8853	0.57	2000	
Se	78	2	He	48.474	48.474	7.26	315	15.37	2000	
B	11	1	nogas	470.426	470.426	8.39	819006	0.06	2000	
Si	28	1	nogas	28220.066	28220.066	3.35	111780008	0.03	2000	>LDR
Ca	43	1	nogas	62680.681	62680.681	2.05	1069657	5.86	200000	
Ca	44	1	nogas	63394.822	63394.822	2.40	17068489	0.37	200000	
Fe	56	1	nogas	4936.228	4936.228	3.51	65875716	0.01	200000	

Sample Report

Se	77	1	nogas	110.165	110.165	9.54	39049	0.28	2000	
Se	82	1	nogas	48.422	48.422	9.56	6084	0.80	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	51.153	51.153	1.90	163920	0.03	2000	
Sn	118	1	nogas	95.164	95.164	1.97	492175	0.02	2000	
Ba	137	1	nogas	90.489	90.489	0.77	219402	0.04	2000	
Sb	121	2	He	53.159	53.159	2.92	41092	0.13	2000	
La	139	1	nogas	276.096	276.096	33.40	553	49.90	2000	
Au	197	1	nogas	-65.460	-65.460	-645.29	23	-280.54	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	350049	4.53	327043	107.03	70	125	
Ge	72	1	nogas	1599199	1.15	1420865	112.55	70	125	
In	115	1	nogas	1653295	1.71	1584599	104.34	70	125	
Bi	209	1	nogas	1631004	4.67	1610392	101.28	70	125	
Ge	72	2	He	115698	1.90	106219	108.92	70	125	

Sample Report

Sample Table

Sample Name	HS17121008-07PDS
Data File Name	222SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:41:44-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	85.319	85.319	2.70	223815	0.04	2000	
Na	23	1	nogas	21963.164	21963.164	4.94	227535055	0.01	200000	
Mg	24	1	nogas	42350.680	42350.680	5.09	298712273	0.01	200000	
Al	27	1	nogas	125.736	125.736	4.08	1045878	0.01	2000	
K	39	1	nogas	10606.347	10606.347	2.57	90410304	0.01	200000	
Ti	47	1	nogas	188.036	188.036	3.32	165668	0.11	2000	
V	51	1	nogas	116.136	116.136	6.21	2026442	0.01	2000	
Cr	52	1	nogas	95.174	95.174	6.99	1072967	0.01	2000	
Mn	55	1	nogas	195.769	195.769	5.71	2754078	0.01	2000	
Co	59	1	nogas	93.914	93.914	4.15	1124790	0.01	2000	
Ni	60	1	nogas	99.328	99.328	3.27	271520	0.04	2000	
Cu	63	1	nogas	95.042	95.042	1.48	624357	0.02	2000	
Zn	66	1	nogas	108.581	108.581	0.66	231360	0.05	2000	
As	75	1	nogas	103.068	103.068	5.23	313316	0.03	2000	
Sr	88	1	nogas	687.211	687.211	4.62	9954225	0.01	2000	
Ag	107	1	nogas	94.096	94.096	4.61	811682	0.01	2000	
Cd	111	1	nogas	97.002	97.002	0.54	174097	0.06	2000	
Sb	121	1	nogas	99.027	99.027	1.52	746395	0.01	2000	
Tl	205	1	nogas	94.221	94.221	2.86	1444761	0.01	2000	
Pb	208	1	nogas	103.498	103.498	1.71	2031811	0.01	2000	
U	238	1	nogas	0.453	0.453	10.25	9837	0.00	2000	
[Pb]	206	1	nogas	93.127	93.127	2.67	487919	0.02	2000	
[Pb]	207	1	nogas	93.828	93.828	2.63	451128	0.02	2000	
Na	23	2	He	22090.961	22090.961	1.57	3962314	0.56	200000	
Mg	24	2	He	40925.111	40925.111	2.19	3530008	1.16	200000	
Al	27	2	He	124.596	124.596	8.16	2864	4.35	2000	
K	39	2	He	11772.605	11772.605	0.77	484348	2.43	200000	
Ca	43	2	He	71193.811	71193.811	0.55	10520	676.75	200000	
Ca	44	2	He	68738.377	68738.377	1.21	181193	37.94	200000	
V	51	2	He	107.951	107.951	1.24	107189	0.10	2000	
Cr	52	2	He	98.406	98.406	1.11	134586	0.07	2000	
Mn	55	2	He	199.838	199.838	1.31	104292	0.19	2000	
Fe	56	2	He	9692.689	9692.689	2.38	10390662	0.09	200000	
Co	59	2	He	97.037	97.037	1.56	224981	0.04	2000	
Ni	60	2	He	101.514	101.514	2.12	67244	0.15	2000	
Cu	63	2	He	97.028	97.028	1.23	181579	0.05	2000	
Zn	66	2	He	109.478	109.478	4.86	29471	0.37	2000	
As	75	2	He	101.512	101.512	1.27	17345	0.59	2000	
Se	78	2	He	104.839	104.839	2.58	657	15.97	2000	
B	11	1	nogas	906.280	906.280	4.57	1662782	0.05	2000	
Si	28	1	nogas	32404.411	32404.411	3.89	126728845	0.03	2000	>LDR
Ca	43	1	nogas	67660.677	67660.677	1.47	1142026	5.92	200000	
Ca	44	1	nogas	68222.975	68222.975	1.18	18155947	0.38	200000	
Fe	56	1	nogas	9444.600	9444.600	5.43	123762524	0.01	200000	

Sample Report

Se	77	1	nogas	140.207	140.207	6.98	43592	0.32	2000	
Se	82	1	nogas	98.667	98.667	4.25	11624	0.85	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	96.578	96.578	3.14	305903	0.03	2000	
Sn	118	1	nogas	96.861	96.861	3.53	504854	0.02	2000	
Ba	137	1	nogas	132.035	132.035	4.94	322357	0.04	2000	
Sb	121	2	He	100.273	100.273	1.71	75429	0.13	2000	
La	139	1	nogas	467.703	467.703	2.47	903	51.77	2000	
Au	197	1	nogas	152.563	152.563	49.08	7	2288.44	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	380095	2.26	327043	116.22	70	125	
Ge	72	1	nogas	1581411	1.62	1420865	111.30	70	125	
In	115	1	nogas	1667978	4.76	1584599	105.26	70	125	
Bi	209	1	nogas	1590778	1.61	1610392	98.78	70	125	
Ge	72	2	He	112668	0.76	106219	106.07	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-01
Data File Name	226SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:49:45-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.241	0.241	14.65	493	0.05	2000	
Na	23	1	nogas	406876.439	406876.439	2.39	3887959820	0.01	200000	>LDR
Mg	24	1	nogas	54476.103	54476.103	2.36	362360375	0.02	200000	
Al	27	1	nogas	17.234	17.234	9.62	149411	0.01	2000	
K	39	1	nogas	17616.954	17616.954	1.97	139253949	0.01	200000	
Ti	47	1	nogas	1.214	1.214	22.89	1170	0.10	2000	
V	51	1	nogas	20.017	20.017	13.22	689147	0.00	2000	
Cr	52	1	nogas	44.881	44.881	4.75	485064	0.01	2000	
Mn	55	1	nogas	3851.427	3851.427	2.80	50984673	0.01	2000	>LDR
Co	59	1	nogas	36.533	36.533	2.89	413578	0.01	2000	
Ni	60	1	nogas	336.714	336.714	2.96	863119	0.04	2000	
Cu	63	1	nogas	9.616	9.616	28.82	62074	0.02	2000	
Zn	66	1	nogas	770.178	770.178	1.14	1541729	0.05	2000	
As	75	1	nogas	36.186	36.186	5.25	147841	0.02	2000	
Sr	88	1	nogas	3850.219	3850.219	2.29	52609668	0.01	2000	>LDR
Ag	107	1	nogas	-0.002	-0.002	-463.73	473	0.00	2000	
Cd	111	1	nogas	0.859	0.859	11.77	1463	0.06	2000	
Sb	121	1	nogas	0.099	0.099	11.03	1587	0.01	2000	
Tl	205	1	nogas	0.016	0.016	45.74	360	0.00	2000	
Pb	208	1	nogas	0.057	0.057	6.06	1847	0.00	2000	
U	238	1	nogas	0.012	0.012	21.20	343	0.00	2000	
[Pb]	206	1	nogas	0.061	0.061	26.76	430	0.01	2000	
[Pb]	207	1	nogas	0.054	0.054	26.30	440	0.01	2000	
Na	23	2	He	396433.223	396433.223	3.84	68304719	0.58	200000	>LDR
Mg	24	2	He	50397.733	50397.733	4.94	4301210	1.17	200000	
Al	27	2	He	16.132	16.132	17.60	497	3.25	2000	
K	39	2	He	19218.992	19218.992	0.83	783688	2.45	200000	
Ca	43	2	He	114870.263	114870.263	0.76	16801	683.70	200000	
Ca	44	2	He	102184.404	102184.404	1.03	266531	38.34	200000	
V	51	2	He	0.026	0.026	193.40	375	0.01	2000	
Cr	52	2	He	43.631	43.631	3.57	59667	0.07	2000	
Mn	55	2	He	3802.099	3802.099	1.83	1961448	0.19	2000	>LDR
Fe	56	2	He	87957.571	87957.571	1.91	93288595	0.09	200000	
Co	59	2	He	37.312	37.312	3.00	85636	0.04	2000	
Ni	60	2	He	336.429	336.429	3.75	219431	0.15	2000	
Cu	63	2	He	3.411	3.411	7.01	6878	0.05	2000	
Zn	66	2	He	739.596	739.596	2.94	196693	0.38	2000	
As	75	2	He	1.585	1.585	24.17	279	0.57	2000	
Se	78	2	He	-0.222	-0.222	-306.46	5	-4.75	2000	
B	11	1	nogas	45.568	45.568	5.75	103851	0.04	2000	
Si	28	1	nogas	15193.700	15193.700	4.15	56640706	0.03	2000	>LDR
Ca	43	1	nogas	93674.446	93674.446	3.65	1493399	6.27	200000	
Ca	44	1	nogas	92380.896	92380.896	1.57	23157470	0.40	200000	
Fe	56	1	nogas	90637.978	90637.978	3.26	1114796558	0.01	200000	

Sample Report

Se	77	1	nogas	183.589	183.589	5.57	47970	0.38	2000	
Se	82	1	nogas	0.785	0.785	142.36	663	0.12	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	0.361	0.361	21.48	1203	0.03	2000	
Sn	118	1	nogas	-0.015	-0.015	-8.65	653	0.00	2000	
Ba	137	1	nogas	259.142	259.142	1.82	596967	0.04	2000	
Sb	121	2	He	0.075	0.075	91.81	137	0.06	2000	
La	139	1	nogas	5032.416	5032.416	8.93	8619	58.39	2000	>LDR
Au	197	1	nogas	104.950	104.950	127.87	10	1049.50	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	285630	2.99	327043	87.34	70	125	
Ge	72	1	nogas	1493803	1.90	1420865	105.13	70	125	
In	115	1	nogas	1572361	1.85	1584599	99.23	70	125	
Bi	209	1	nogas	1516218	1.49	1610392	94.15	70	125	
Ge	72	2	He	111549	2.03	106219	105.02	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-02
Data File Name	227SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:51:47-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.184	0.184	21.12	407	0.05	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	52951.758	52951.758	0.61	369163225	0.01	200000	
Al	27	1	nogas	16.181	16.181	4.43	147086	0.01	2000	
K	39	1	nogas	17366.820	17366.820	2.76	143126545	0.01	200000	
Ti	47	1	nogas	1.029	1.029	5.56	1060	0.10	2000	
V	51	1	nogas	-1.773	-1.773	-5.46	428874	0.00	2000	
Cr	52	1	nogas	45.718	45.718	1.66	514872	0.01	2000	
Mn	55	1	nogas	3679.920	3679.920	3.17	50771994	0.01	2000	>LDR
Co	59	1	nogas	36.207	36.207	4.12	427133	0.01	2000	
Ni	60	1	nogas	334.011	334.011	3.06	892400	0.04	2000	
Cu	63	1	nogas	15.860	15.860	6.63	104790	0.02	2000	
Zn	66	1	nogas	764.938	764.938	1.26	1596133	0.05	2000	
As	75	1	nogas	19.886	19.886	7.47	116463	0.02	2000	
Sr	88	1	nogas	3872.316	3872.316	5.22	55131839	0.01	2000	>LDR
Ag	107	1	nogas	-0.011	-0.011	-115.84	417	0.00	2000	
Cd	111	1	nogas	0.830	0.830	1.70	1450	0.06	2000	
Sb	121	1	nogas	0.092	0.092	22.33	1597	0.01	2000	
Tl	205	1	nogas	0.011	0.011	13.71	283	0.00	2000	
Pb	208	1	nogas	0.067	0.067	16.47	2030	0.00	2000	
U	238	1	nogas	0.013	0.013	14.83	363	0.00	2000	
[Pb]	206	1	nogas	0.076	0.076	6.15	503	0.02	2000	
[Pb]	207	1	nogas	0.038	0.038	44.15	370	0.01	2000	
Na	23	2	He	402982.631	402982.631	1.58	69800457	0.58	200000	>LDR
Mg	24	2	He	51177.530	51177.530	1.77	4391547	1.17	200000	
Al	27	2	He	17.902	17.902	32.20	537	3.34	2000	
K	39	2	He	19703.951	19703.951	0.16	803183	2.45	200000	
Ca	43	2	He	118435.154	118435.154	6.78	17402	680.59	200000	
Ca	44	2	He	105051.256	105051.256	0.72	275379	38.15	200000	
V	51	2	He	-0.056	-0.056	-56.70	297	-0.02	2000	
Cr	52	2	He	45.776	45.776	2.01	62885	0.07	2000	
Mn	55	2	He	3900.403	3900.403	1.04	2022727	0.19	2000	>LDR
Fe	56	2	He	89813.031	89813.031	1.16	95747125	0.09	200000	
Co	59	2	He	37.941	37.941	3.74	87519	0.04	2000	
Ni	60	2	He	343.654	343.654	3.99	225258	0.15	2000	
Cu	63	2	He	3.340	3.340	8.85	6781	0.05	2000	
Zn	66	2	He	745.621	745.621	2.31	199308	0.37	2000	
As	75	2	He	1.654	1.654	16.26	293	0.56	2000	
Se	78	2	He	0.316	0.316	176.60	8	3.95	2000	
B	11	1	nogas	34.122	34.122	7.36	94971	0.04	2000	
Si	28	1	nogas	14794.163	14794.163	3.56	57505776	0.03	2000	>LDR
Ca	43	1	nogas	93596.326	93596.326	1.85	1554308	6.02	200000	
Ca	44	1	nogas	93989.905	93989.905	2.91	24550163	0.38	200000	
Fe	56	1	nogas	86419.775	86419.775	2.85	1107959925	0.01	200000	
Se	77	1	nogas	104.758	104.758	9.01	37132	0.28	2000	
Se	82	1	nogas	0.604	0.604	110.93	673	0.09	2000	

Sample Report

Mo	95	1	nogas	0.431	0.431	13.81	1473	0.03	2000	
Sn	118	1	nogas	-0.035	-0.035	-25.64	570	-0.01	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	258.555	258.555	3.86	610864	0.04	2000	
Sb	121	2	He	0.113	0.113	69.77	167	0.07	2000	
La	139	1	nogas	5136.910	5136.910	5.29	9016	56.98	2000	>LDR
Au	197	1	nogas	55.525	55.525	376.08	13	416.44	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	306012	1.73	327043	93.57	70	125	
Ge	72	1	nogas	1556775	1.30	1420865	109.57	70	125	
In	115	1	nogas	1613513	3.16	1584599	101.82	70	125	
Bi	209	1	nogas	1517000	4.18	1610392	94.20	70	125	
Ge	72	2	He	112102	1.52	106219	105.54	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-03
Data File Name	228SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:53:47-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.211	0.211	31.54	523	0.04	2000	
Na	23	1	nogas	OR	OR	#VALUE!	OR	#VALUE!	200000	
Mg	24	1	nogas	173344.754	173344.754	1.71	1177050093	0.01	200000	
Al	27	1	nogas	9.004	9.004	3.75	86309	0.01	2000	
K	39	1	nogas	2388.852	2388.852	1.82	22465725	0.01	200000	
Ti	47	1	nogas	1.323	1.323	0.79	1270	0.10	2000	
V	51	1	nogas	-2.991	-2.991	-59.76	398560	0.00	2000	
Cr	52	1	nogas	1959.447	1959.447	3.36	20758791	0.01	2000	>LDR
Mn	55	1	nogas	3184.292	3184.292	2.03	42454748	0.01	2000	>LDR
Co	59	1	nogas	143.004	143.004	5.79	1628645	0.01	2000	
Ni	60	1	nogas	2335.548	2335.548	2.13	6013580	0.04	2000	>LDR
Cu	63	1	nogas	76.499	76.499	0.89	478562	0.02	2000	
Zn	66	1	nogas	30.882	30.882	2.50	63565	0.05	2000	
As	75	1	nogas	10.477	10.477	18.58	91519	0.01	2000	
Sr	88	1	nogas	4310.718	4310.718	1.09	59321777	0.01	2000	>LDR
Ag	107	1	nogas	0.037	0.037	25.35	797	0.00	2000	
Cd	111	1	nogas	1.158	1.158	7.47	1967	0.06	2000	
Sb	121	1	nogas	0.264	0.264	18.89	2770	0.01	2000	
Tl	205	1	nogas	0.055	0.055	14.77	873	0.01	2000	
Pb	208	1	nogas	0.236	0.236	4.16	5347	0.00	2000	
U	238	1	nogas	0.150	0.150	9.77	2974	0.01	2000	
[Pb]	206	1	nogas	0.261	0.261	13.52	1343	0.02	2000	
[Pb]	207	1	nogas	0.236	0.236	14.20	1193	0.02	2000	
Na	23	2	He	560806.508	560806.508	0.30	94119635	0.60	200000	>LDR
Mg	24	2	He	167757.097	167757.097	1.07	13951234	1.20	200000	
Al	27	2	He	9.936	9.936	29.26	353	2.81	2000	
K	39	2	He	2547.862	2547.862	2.17	113519	2.24	200000	
Ca	43	2	He	233629.177	233629.177	3.43	33273	702.15	200000	>LDR
Ca	44	2	He	220094.663	220094.663	1.41	558959	39.38	200000	>LDR
V	51	2	He	1.484	1.484	6.58	1757	0.08	2000	
Cr	52	2	He	1992.352	1992.352	1.03	2606931	0.08	2000	>LDR
Mn	55	2	He	3164.185	3164.185	2.68	1590159	0.20	2000	>LDR
Fe	56	2	He	20995.263	20995.263	4.38	21690358	0.10	200000	
Co	59	2	He	143.198	143.198	3.42	320048	0.04	2000	
Ni	60	2	He	2347.140	2347.140	3.54	1488785	0.16	2000	>LDR
Cu	63	2	He	71.420	71.420	2.52	129024	0.06	2000	
Zn	66	2	He	32.057	32.057	2.25	8375	0.38	2000	
As	75	2	He	0.477	0.477	4.36	90	0.53	2000	
Se	78	2	He	0.583	0.583	67.94	9	6.24	2000	
B	11	1	nogas	1.275	1.275	242.89	54753	0.00	2000	
Si	28	1	nogas	26816.884	26816.884	2.62	99938109	0.03	2000	>LDR
Ca	43	1	nogas	208564.867	208564.867	1.51	3345025	6.24	200000	>LDR
Ca	44	1	nogas	206913.470	206913.470	1.53	52029468	0.40	200000	>LDR
Fe	56	1	nogas	21177.451	21177.451	0.62	263036506	0.01	200000	
Se	77	1	nogas	70.248	70.248	16.78	30426	0.23	2000	
Se	82	1	nogas	2.996	2.996	27.44	903	0.33	2000	

Sample Report

Mo	95	1	nogas	10.454	10.454	2.35	31622	0.03	2000	
Sn	118	1	nogas	0.230	0.230	21.19	1860	0.01	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Ba	137	1	nogas	7645.428	7645.428	5.95	17590110	0.04	2000	>LDR
Sb	121	2	He	0.423	0.423	24.66	387	0.11	2000	
La	139	1	nogas	27431.225	27431.225	5.94	46657	58.79	2000	>LDR
Au	197	1	nogas	47.756	47.756	168.63	13	358.17	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	349394	5.72	327043	106.83	70	125	
Ge	72	1	nogas	1504250	1.71	1420865	105.87	70	125	
In	115	1	nogas	1572773	3.38	1584599	99.25	70	125	
Bi	209	1	nogas	1424243	1.15	1610392	88.44	70	125	
Ge	72	2	He	108655	1.39	106219	102.29	70	125	

Sample Report

Sample Table

Sample Name	HS17121113-04
Data File Name	229SMPL.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:55:46-06:00
Sample Type	Sample
Dilution	1
Comment	TW B123692
ISTD Ref FileName	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Be	9	1	nogas	0.010	0.010	24.62	43	0.02	2000	
Na	23	1	nogas	373477.587	373477.587	8.06	3711257683	0.01	200000	>LDR
Mg	24	1	nogas	31414.409	31414.409	4.95	217558047	0.01	200000	
Al	27	1	nogas	9.169	9.169	6.20	87967	0.01	2000	
K	39	1	nogas	1984.416	1984.416	2.72	19417294	0.01	200000	
Ti	47	1	nogas	1.356	1.356	3.60	1303	0.10	2000	
V	51	1	nogas	-0.315	-0.315	-571.44	435161	0.00	2000	
Cr	52	1	nogas	20.631	20.631	3.75	232772	0.01	2000	
Mn	55	1	nogas	688.531	688.531	2.73	9230012	0.01	2000	
Co	59	1	nogas	57.435	57.435	2.37	657457	0.01	2000	
Ni	60	1	nogas	644.951	644.951	1.94	1670367	0.04	2000	
Cu	63	1	nogas	5.727	5.727	4.48	38411	0.01	2000	
Zn	66	1	nogas	2.832	2.832	9.72	7108	0.04	2000	
As	75	1	nogas	6.502	6.502	19.77	83079	0.01	2000	
Sr	88	1	nogas	1580.799	1580.799	1.37	21862838	0.01	2000	
Ag	107	1	nogas	0.007	0.007	48.23	550	0.00	2000	
Cd	111	1	nogas	1.486	1.486	3.42	2564	0.06	2000	
Sb	121	1	nogas	0.280	0.280	4.33	2904	0.01	2000	
Tl	205	1	nogas	0.015	0.015	14.65	353	0.00	2000	
Pb	208	1	nogas	0.052	0.052	10.47	1753	0.00	2000	
U	238	1	nogas	2.632	2.632	3.14	54016	0.00	2000	
[Pb]	206	1	nogas	0.073	0.073	26.73	490	0.01	2000	
[Pb]	207	1	nogas	0.044	0.044	26.02	397	0.01	2000	
Na	23	2	He	370621.789	370621.789	4.79	64683839	0.57	200000	>LDR
Mg	24	2	He	30876.716	30876.716	4.90	2669734	1.16	200000	
Al	27	2	He	9.401	9.401	29.45	357	2.64	2000	
K	39	2	He	2180.791	2180.791	2.17	98763	2.21	200000	
Ca	43	2	He	111524.435	111524.435	2.80	16521	675.05	200000	
Ca	44	2	He	102727.886	102727.886	3.70	271352	37.86	200000	
V	51	2	He	0.347	0.347	8.37	699	0.05	2000	
Cr	52	2	He	19.238	19.238	0.31	27291	0.07	2000	
Mn	55	2	He	687.625	687.625	3.27	359423	0.19	2000	
Fe	56	2	He	591.038	591.038	3.99	639658	0.09	200000	
Co	59	2	He	59.997	59.997	3.32	139477	0.04	2000	
Ni	60	2	He	659.973	659.973	4.75	435490	0.15	2000	
Cu	63	2	He	4.849	4.849	8.02	9649	0.05	2000	
Zn	66	2	He	3.284	3.284	16.79	957	0.34	2000	
As	75	2	He	0.611	0.611	2.83	117	0.52	2000	
Se	78	2	He	-0.322	-0.322	-205.75	4	-8.04	2000	
B	11	1	nogas	6.799	6.799	6.52	60333	0.01	2000	
Si	28	1	nogas	23431.152	23431.152	3.26	87849722	0.03	2000	>LDR
Ca	43	1	nogas	100246.351	100246.351	4.38	1614782	6.21	200000	
Ca	44	1	nogas	100758.812	100758.812	3.76	25524846	0.39	200000	
Fe	56	1	nogas	628.188	628.188	2.74	8675832	0.01	200000	

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Se	77	1	nogas	50.496	50.496	9.36	27454	0.18	2000	
Se	82	1	nogas	1.169	1.169	11.67	713	0.16	2000	
Name	Mass	Tune Step	Tune Mode	Conc	FinalConc	Conc %RSD	CPS	%RSD	LDR	QC Flag
Mo	95	1	nogas	15.541	15.541	2.61	47150	0.03	2000	
Sn	118	1	nogas	0.019	0.019	37.27	833	0.00	2000	
Ba	137	1	nogas	1112.425	1112.425	1.01	2603101	0.04	2000	
Sb	121	2	He	0.268	0.268	32.65	283	0.09	2000	
La	139	1	nogas	266.646	266.646	28.23	517	51.61	2000	
Au	197	1	nogas	193.898	193.898	40.30	3	5816.93	2000	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	329661	0.70	327043	100.80	70	125	
Ge	72	1	nogas	1510699	1.63	1420865	106.32	70	125	
In	115	1	nogas	1597385	0.89	1584599	100.81	70	125	
Bi	209	1	nogas	1519800	1.01	1610392	94.37	70	125	
Ge	72	2	He	113038	3.32	106219	106.42	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	231_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T18:59:46-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	101.459	4.011	229328	4.04	100	101.5	90	110	
Na	23	1	nogas	10653.839	1.639	111044452	1.32	10000	106.5	90	110	
Mg	24	1	nogas	10486.073	1.871	72707325	1.04	10000	104.9	90	110	
Al	27	1	nogas	104.284	0.837	866081	2.13	100	104.3	90	110	
K	39	1	nogas	9653.873	2.601	82213446	0.40	10000	96.5	90	110	
Ti	47	1	nogas	95.651	3.634	83891	1.31	100	95.7	90	110	
V	51	1	nogas	93.671	3.462	1714861	2.74	100	93.7	90	110	
Cr	52	1	nogas	101.346	5.052	1135483	2.16	100	101.3	90	110	
Mn	55	1	nogas	99.781	4.981	1401746	2.17	100	99.8	90	110	
Co	59	1	nogas	97.442	2.388	1160974	0.73	100	97.4	90	110	
Ni	60	1	nogas	97.107	3.252	264047	0.41	100	97.1	90	110	
Cu	63	1	nogas	97.215	3.676	634995	2.16	100	97.2	90	110	
Zn	66	1	nogas	100.629	2.678	213353	2.21	100	100.6	90	110	
As	75	1	nogas	95.380	3.177	293782	1.73	100	95.4	90	110	
Sr	88	1	nogas	98.190	0.316	1429635	2.74	100	98.2	90	110	
Ag	107	1	nogas	96.421	4.589	827108	1.97	100	96.4	90	110	
Cd	111	1	nogas	100.226	2.132	184438	1.12	100	100.2	90	110	
Sb	121	1	nogas	104.276	1.512	781865	2.61	100	104.3	90	110	
Tl	205	1	nogas	102.161	6.719	1567674	3.50	100	102.2	90	110	
Pb	208	1	nogas	108.225	1.528	2124579	1.53	100	108.2	90	110	
U	238	1	nogas	101.184	2.940	2172609	0.79	100	101.2	90	110	
[Pb]	206	1	nogas	100.869	5.019	529054	1.67	100	100.9	90	110	
[Pb]	207	1	nogas	94.846	2.992	456725	1.56	100	94.8	90	110	
Na	23	2	He	10510.066	5.892	1970522	3.01	10000	105.1	90	110	
Mg	24	2	He	9986.571	5.349	871642	2.88	10000	99.9	90	110	
Al	27	2	He	89.230	2.742	2117	0.27	100	89.2	90	110	CCV Main CR1-2 Failed
K	39	2	He	11126.719	2.620	458384	2.56	10000	111.3	90	110	CCV Main CR1-2 Failed
Ca	43	2	He	9764.159	4.153	1463	6.13	10000	97.6	90	110	
Ca	44	2	He	10185.953	2.134	27361	1.16	10000	101.9	90	110	
V	51	2	He	100.441	4.865	100835	2.44	100	100.4	90	110	
Cr	52	2	He	99.946	1.806	138239	2.57	100	99.9	90	110	
Mn	55	2	He	101.371	1.177	53575	1.43	100	101.4	90	110	
Fe	56	2	He	9904.121	1.657	10736529	0.84	10000	99.0	90	110	
Co	59	2	He	102.974	4.092	241332	1.89	100	103.0	90	110	
Ni	60	2	He	102.839	3.335	68876	1.65	100	102.8	90	110	
Cu	63	2	He	100.175	1.877	189589	1.97	100	100.2	90	110	
Zn	66	2	He	102.098	2.548	27805	1.70	100	102.1	90	110	
As	75	2	He	104.245	1.438	18016	1.87	100	104.2	90	110	
Se	78	2	He	107.939	5.281	684	6.45	100	107.9	90	110	
B	11	1	nogas	475.224	2.984	775111	2.97	500	95.0	90	110	
Si	28	1	nogas	5252.685	2.125	21282880	1.46	5000	105.1	90	110	
Ca	43	1	nogas	9660.991	1.283	163479	2.02	10000	96.6	90	110	
Ca	44	1	nogas	9658.117	4.866	2705701	3.09	10000	96.6	90	110	
Fe	56	1	nogas	9675.623	4.646	126073028	1.81	10000	96.8	90	110	
Se	77	1	nogas	87.925	10.092	34743	3.67	100	87.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	102.221	6.255	11958	5.33	100	102.2	90	110	
Mo	95	1	nogas	94.587	0.348	298112	3.03	100	94.6	90	110	
Sn	118	1	nogas	89.104	1.407	476904	2.46	100	89.1	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	98.137	2.722	246109	1.36	100	98.1	90	110	
Sb	121	2	He	109.431	4.720	83204	2.30	100	109.4	90	110	
Li	7	1	nogas	108.958	3.142	644213	3.63	100	109.0	90	110	
P	31	1	nogas	513.238	1.453	318206	1.80	500	102.6	90	110	
La	139	1	nogas	191.960	12.900	417	13.22	100	192.0	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	196.544	37.427	3	173.21	100	196.5	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	nogas	327409	1.10	327043	100.11	70	125	
Ge	72	1	nogas	1573223	2.89	1420865	110.72	70	125	
In	115	1	nogas	1711009	3.09	1584599	107.98	70	125	
Bi	209	1	nogas	1593945	3.55	1610392	98.98	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	113970	2.49	106219	107.30	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	232_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T19:01:42-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.129	25.7	333	25.2	1	
Na	23	1	nogas	59.464	41.1	5776778	0.6	100	
Mg	24	1	nogas	-2.116	-144.3	107359	17.1	100	
Al	27	1	nogas	6.508	130.9	67411	97.8	5	CCB Main CR1 Failed
K	39	1	nogas	-8.903	-123.7	4000850	0.3	100	
Ti	47	1	nogas	0.409	39.2	513	24.7	2.5	
V	51	1	nogas	-5.739	-17.7	370971	5.5	2.5	
Cr	52	1	nogas	0.261	9.4	16431	0.3	2.5	
Mn	55	1	nogas	0.086	72.2	12655	4.8	2.5	
Co	59	1	nogas	0.082	33.4	1233	23.9	2.5	
Ni	60	1	nogas	-0.343	-9.3	1800	5.9	2.5	
Cu	63	1	nogas	0.176	9.1	3794	0.8	2.5	
Zn	66	1	nogas	-0.271	-26.6	847	17.1	2.5	
As	75	1	nogas	-2.521	-27.0	63845	4.3	2.5	
Sr	88	1	nogas	-0.635	-7.8	7405	11.2	2.5	
Ag	107	1	nogas	0.103	13.7	1363	7.2	2.5	
Cd	111	1	nogas	0.088	108.7	163	99.2	1	
Sb	121	1	nogas	0.215	18.3	2474	9.7	2.5	
Tl	205	1	nogas	0.122	23.0	1977	20.3	1	
Pb	208	1	nogas	0.111	30.9	2907	23.2	2.5	
U	238	1	nogas	0.180	24.9	3921	22.9	2.5	
[Pb]	206	1	nogas	0.131	14.3	810	10.7	2.5	
[Pb]	207	1	nogas	0.095	34.7	650	23.0	2.5	
Na	23	2	He	16.595	167.7	129325	1.5	100	
Mg	24	2	He	-0.359	-350.0	1260	6.5	100	
Al	27	2	He	-2.680	-37.7	93	22.3	5	
K	39	2	He	10.288	100.8	11510	3.6	100	
Ca	43	2	He	41.679	164.1	10	100.0	100	
Ca	44	2	He	-15.693	-110.2	207	24.4	100	
V	51	2	He	0.093	54.0	457	11.0	2.5	
Cr	52	2	He	0.241	41.7	1477	11.0	2.5	
Mn	55	2	He	0.060	193.7	180	36.4	2.5	
Fe	56	2	He	23.620	6.4	30933	3.4	100	
Co	59	2	He	0.027	71.8	100	45.8	2.5	
Ni	60	2	He	-0.240	-13.7	347	4.4	2.5	
Cu	63	2	He	0.064	84.6	727	11.7	2.5	
Zn	66	2	He	0.004	1928.7	77	27.2	2.5	
As	75	2	He	0.253	12.5	57	11.8	2.5	
Se	78	2	He	-0.144	-246.2	5	43.3	2.5	
B	11	1	nogas	-6.446	-26.6	42338	7.1	10	
Si	28	1	nogas	64.794	48.6	1226873	7.8	5	CCB Main CR1 Failed
Ca	43	1	nogas	-19.016	-28.5	1187	9.3	100	
Ca	44	1	nogas	-224.759	-3.4	113864	1.8	100	
Fe	56	1	nogas	22.233	71.9	1157222	15.5	100	
Se	77	1	nogas	8.306	36.4	21096	4.1	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.025	-84.2	487	19.0	2.5	
Mo	95	1	nogas	0.400	20.4	1357	16.6	2.5	
Sn	118	1	nogas	0.321	25.9	2424	14.3	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.142	72.0	617	37.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.259	20.8	283	11.3	2.5	
P	31	1	nogas	6.263	71.4	52938	2.4	10	
La	139	1	nogas	99.909	49.9	237	34.2	2.5	CCB Main CR1 Failed
Au	197	1	nogas	196.238	37.8	3	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	349118	1.69	327043	106.75	70	125	
Ge	72	1	nogas	1534608	1.89	1420865	108.01	70	125	
In	115	1	nogas	1661360	3.81	1584599	104.84	70	125	
Bi	209	1	nogas	1577377	1.31	1610392	97.95	70	125	
Ge	72	2	He	115762	3.23	106219	108.98	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	243_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T19:24:02-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	97.896	5.205	215029	1.10	100	97.9	90	110	
Na	23	1	nogas	10891.509	5.158	104186286	4.20	10000	108.9	90	110	
Mg	24	1	nogas	10603.239	3.491	67551389	2.84	10000	106.0	90	110	
Al	27	1	nogas	106.135	2.820	800912	1.37	100	106.1	90	110	
K	39	1	nogas	9850.896	0.695	76235506	2.97	10000	98.5	90	110	
Ti	47	1	nogas	96.371	3.443	76857	1.78	100	96.4	90	110	
V	51	1	nogas	108.282	3.761	1737769	3.57	100	108.3	90	110	
Cr	52	1	nogas	99.738	3.531	1016999	3.82	100	99.7	90	110	
Mn	55	1	nogas	103.875	5.098	1326500	2.88	100	103.9	90	110	
Co	59	1	nogas	99.204	2.831	1074637	1.41	100	99.2	90	110	
Ni	60	1	nogas	98.905	2.134	244539	1.26	100	98.9	90	110	
Cu	63	1	nogas	100.091	0.766	594584	1.73	100	100.1	90	110	
Zn	66	1	nogas	101.771	1.412	196270	3.83	100	101.8	90	110	
As	75	1	nogas	102.243	1.241	281749	2.51	100	102.2	90	110	
Sr	88	1	nogas	96.603	2.609	1278515	0.43	100	96.6	90	110	
Ag	107	1	nogas	97.720	2.071	762576	1.86	100	97.7	90	110	
Cd	111	1	nogas	101.484	0.927	166365	2.79	100	101.5	90	110	
Sb	121	1	nogas	107.071	3.585	729864	3.86	100	107.1	90	110	
Tl	205	1	nogas	105.354	5.993	1491566	3.47	100	105.4	90	110	
Pb	208	1	nogas	102.098	1.574	2004344	1.57	100	102.1	90	110	
U	238	1	nogas	104.253	4.916	2063811	2.22	100	104.3	90	110	
[Pb]	206	1	nogas	103.892	5.864	502536	3.04	100	103.9	90	110	
[Pb]	207	1	nogas	96.438	4.966	428112	2.04	100	96.4	90	110	
Na	23	2	He	10515.653	2.442	1789230	2.19	10000	105.2	90	110	
Mg	24	2	He	10070.193	1.823	797622	1.46	10000	100.7	90	110	
Al	27	2	He	107.455	4.710	2287	7.22	100	107.5	90	110	
K	39	2	He	10122.561	1.675	418017	1.63	10000	101.2	90	110	
Ca	43	2	He	11013.481	10.175	1493	7.99	10000	110.1	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9751.176	4.563	23756	2.63	10000	97.5	90	110	
V	51	2	He	102.131	2.048	93034	1.76	100	102.1	90	110	
Cr	52	2	He	101.450	1.508	127248	2.65	100	101.4	90	110	
Mn	55	2	He	101.156	1.209	48491	2.34	100	101.2	90	110	
Fe	56	2	He	9690.325	1.512	9528447	2.16	10000	96.9	90	110	
Co	59	2	He	102.357	0.775	217680	2.08	100	102.4	90	110	
Ni	60	2	He	102.365	3.849	62169	1.25	100	102.4	90	110	
Cu	63	2	He	102.692	2.808	176224	1.97	100	102.7	90	110	
Zn	66	2	He	102.921	4.116	25415	2.74	100	102.9	90	110	
As	75	2	He	104.648	3.690	16400	3.35	100	104.6	90	110	
Se	78	2	He	111.072	3.374	638	4.24	100	111.1	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	457.903	8.139	726843	2.40	500	91.6	90	110	
Si	28	1	nogas	5309.780	1.363	19552407	1.17	5000	106.2	90	110	
Ca	43	1	nogas	10000.976	3.712	153827	4.14	10000	100.0	90	110	
Ca	44	1	nogas	9794.855	3.977	2493720	3.91	10000	97.9	90	110	
Fe	56	1	nogas	9804.966	2.152	116205903	0.76	10000	98.0	90	110	
Se	77	1	nogas	111.891	9.865	35221	7.02	100	111.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.789	2.394	10630	2.92	100	99.8	90	110	
Mo	95	1	nogas	96.531	1.343	276544	1.59	100	96.5	90	110	
Sn	118	1	nogas	91.837	1.944	437616	1.37	100	91.8	90	110	
Ba	137	1	nogas	99.649	2.800	222524	0.62	100	99.6	90	110	
Sb	121	2	He	109.123	2.725	75279	1.73	100	109.1	90	110	
Li	7	1	nogas	107.407	1.731	618243	3.78	100	107.4	90	110	
P	31	1	nogas	511.245	0.710	288403	2.16	500	102.2	90	110	
La	139	1	nogas	162.876	28.790	323	25.19	100	162.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	192.350	42.019	3	173.21	100	192.4	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	nogas	318742	5.43	327043	97.46	70	125	
Ge	72	1	nogas	1430307	2.44	1420865	100.66	70	125	
In	115	1	nogas	1523718	3.16	1584599	96.16	70	125	
Bi	209	1	nogas	1469934	2.96	1610392	91.28	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	103368	2.83	106219	97.32	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	244_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T19:26:01-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.137	20.8	360	18.2	1	
Na	23	1	nogas	92.307	22.9	5803426	0.3	100	
Mg	24	1	nogas	3.339	159.8	137579	22.1	100	
Al	27	1	nogas	0.344	33.4	17839	1.1	5	
K	39	1	nogas	14.694	132.7	3887615	0.1	100	
Ti	47	1	nogas	0.309	38.6	397	20.2	2.5	
V	51	1	nogas	8.530	4.5	518118	3.1	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.429	1.6	16955	3.4	2.5	
Mn	55	1	nogas	0.204	50.6	13225	6.6	2.5	
Co	59	1	nogas	0.112	65.9	1453	50.3	2.5	
Ni	60	1	nogas	-0.161	-62.9	2110	9.1	2.5	
Cu	63	1	nogas	0.288	24.3	4177	6.3	2.5	
Zn	66	1	nogas	-0.233	-64.8	853	29.5	2.5	
As	75	1	nogas	4.943	25.1	75051	3.5	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	-0.671	-7.2	6391	6.1	2.5	
Ag	107	1	nogas	0.114	35.7	1347	20.1	2.5	
Cd	111	1	nogas	0.143	86.6	253	82.8	1	
Sb	121	1	nogas	0.244	20.6	2490	11.5	2.5	
Tl	205	1	nogas	0.149	35.0	2317	36.8	1	
Pb	208	1	nogas	0.122	60.9	3127	46.8	2.5	
U	238	1	nogas	0.223	26.1	4664	29.1	2.5	
[Pb]	206	1	nogas	0.131	54.5	783	49.2	2.5	
[Pb]	207	1	nogas	0.104	59.5	673	46.1	2.5	
Na	23	2	He	69.339	25.4	127100	0.4	100	
Mg	24	2	He	1.545	35.9	1310	4.0	100	
Al	27	2	He	-1.657	-19.9	107	5.4	5	
K	39	2	He	-9.873	-77.9	10700	2.9	100	
Ca	43	2	He	46.868	152.5	10	100.0	100	
Ca	44	2	He	20.064	157.4	277	27.4	100	
V	51	2	He	0.214	19.9	531	5.8	2.5	
Cr	52	2	He	0.239	61.8	1347	12.4	2.5	
Mn	55	2	He	0.098	99.3	183	26.9	2.5	
Fe	56	2	He	23.854	2.4	28583	1.5	100	
Co	59	2	He	0.031	26.8	100	17.3	2.5	
Ni	60	2	He	-0.149	-82.3	373	18.8	2.5	
Cu	63	2	He	0.114	47.1	753	12.0	2.5	
Zn	66	2	He	0.043	332.6	80	45.1	2.5	
As	75	2	He	0.374	22.2	71	17.7	2.5	
Se	78	2	He	-0.184	-208.9	5	49.5	2.5	
B	11	1	nogas	-6.886	-18.6	42645	4.0	10	
Si	28	1	nogas	45.297	78.0	1070029	7.7	5	CCB Main CR1 Failed
Ca	43	1	nogas	-0.728	-1236.0	1377	7.3	100	
Ca	44	1	nogas	-215.826	-9.7	107802	0.9	100	
Fe	56	1	nogas	38.855	30.4	1269301	7.5	100	
Se	77	1	nogas	37.285	6.3	23926	3.6	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.436	-147.7	510	9.0	2.5	
Mo	95	1	nogas	0.442	45.1	1370	38.0	2.5	
Sn	118	1	nogas	0.338	16.4	2420	9.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.141	79.8	593	43.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.197	38.3	217	25.4	2.5	
P	31	1	nogas	5.286	61.1	48717	1.8	10	
La	139	1	nogas	59.200	50.2	160	34.8	2.5	CCB Main CR1 Failed
Au	197	1	nogas	-78.552	-366.7	23	89.2	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	nogas	357909	2.13	327043	109.44	70	125	
Ge	72	1	nogas	1425758	3.59	1420865	100.34	70	125	
In	115	1	nogas	1598739	2.49	1584599	100.89	70	125	
Bi	209	1	nogas	1508969	3.88	1610392	93.70	70	125	
Ge	72	2	He	106002	1.96	106219	99.80	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	255_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T19:48:16-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	103.753	7.046	203580	6.13	100	103.8	90	110	
Na	23	1	nogas	12315.180	9.374	119386961	8.92	10000	123.2	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10469.573	2.380	67957681	2.74	10000	104.7	90	110	
Al	27	1	nogas	100.076	6.354	794077	4.69	100	100.1	90	110	
K	39	1	nogas	9454.875	3.327	76995150	1.37	10000	94.5	90	110	
Ti	47	1	nogas	92.832	1.081	77821	2.09	100	92.8	90	110	
V	51	1	nogas	105.731	4.559	1792286	1.80	100	105.7	90	110	
Cr	52	1	nogas	95.946	2.064	1028748	4.05	100	95.9	90	110	
Mn	55	1	nogas	96.634	2.044	1297882	0.29	100	96.6	90	110	
Co	59	1	nogas	96.255	5.853	1095021	3.76	100	96.3	90	110	
Ni	60	1	nogas	99.697	6.029	258818	3.99	100	99.7	90	110	
Cu	63	1	nogas	99.677	3.403	621935	2.14	100	99.7	90	110	
Zn	66	1	nogas	100.230	2.303	203071	3.48	100	100.2	90	110	
As	75	1	nogas	107.151	4.710	306791	1.53	100	107.2	90	110	
Sr	88	1	nogas	153.124	22.435	2125280	23.73	100	153.1	90	110	CCV Main CR1-2 Failed
Ag	107	1	nogas	94.824	1.505	777487	1.34	100	94.8	90	110	
Cd	111	1	nogas	98.326	1.472	172208	1.61	100	98.3	90	110	
Sb	121	1	nogas	103.384	3.625	740139	1.42	100	103.4	90	110	
Tl	205	1	nogas	103.716	4.151	1482403	1.01	100	103.7	90	110	
Pb	208	1	nogas	102.217	1.637	2006664	1.64	100	102.2	90	110	
U	238	1	nogas	101.718	4.921	2032386	2.21	100	101.7	90	110	
[Pb]	206	1	nogas	103.540	5.605	505461	2.05	100	103.5	90	110	
[Pb]	207	1	nogas	96.054	5.062	430369	2.17	100	96.1	90	110	
Na	23	2	He	11248.668	2.252	2020408	4.65	10000	112.5	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	9902.882	3.198	831227	4.30	10000	99.0	90	110	
Al	27	2	He	103.782	12.644	2340	10.58	100	103.8	90	110	
K	39	2	He	10616.464	0.963	437872	0.94	10000	106.2	90	110	
Ca	43	2	He	11980.359	2.814	1723	3.73	10000	119.8	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10273.089	2.030	26513	2.05	10000	102.7	90	110	
V	51	2	He	101.010	0.972	97491	1.83	100	101.0	90	110	
Cr	52	2	He	98.850	2.079	131338	0.57	100	98.9	90	110	
Mn	55	2	He	99.305	5.572	50389	3.09	100	99.3	90	110	
Fe	56	2	He	9493.962	4.577	9883335	2.08	10000	94.9	90	110	
Co	59	2	He	100.121	1.331	225548	1.71	100	100.1	90	110	
Ni	60	2	He	99.403	2.849	63996	2.75	100	99.4	90	110	
Cu	63	2	He	99.683	0.854	181300	2.83	100	99.7	90	110	
Zn	66	2	He	100.961	3.279	26433	5.02	100	101.0	90	110	
As	75	2	He	102.629	3.794	17034	1.87	100	102.6	90	110	
Se	78	2	He	99.796	2.055	608	4.20	100	99.8	90	110	
B	11	1	nogas	520.398	3.217	732888	2.14	500	104.1	90	110	
Si	28	1	nogas	4973.153	4.361	19295266	2.66	5000	99.5	90	110	
Ca	43	1	nogas	10614.913	7.502	171532	8.58	10000	106.1	90	110	
Ca	44	1	nogas	10639.573	7.727	2833443	8.64	10000	106.4	90	110	
Fe	56	1	nogas	9487.615	3.762	118139315	1.55	10000	94.9	90	110	
Se	77	1	nogas	152.181	6.766	43305	2.02	100	152.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.850	4.932	11170	3.63	100	99.8	90	110	
Mo	95	1	nogas	95.321	2.175	286873	1.27	100	95.3	90	110	
Sn	118	1	nogas	88.478	0.925	450600	1.40	100	88.5	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	96.827	1.545	231113	1.23	100	96.8	90	110	
Sb	121	2	He	104.616	1.678	76468	1.54	100	104.6	90	110	
Li	7	1	nogas	109.594	4.439	562385	3.58	100	109.6	90	110	
P	31	1	nogas	495.149	2.412	294949	1.59	500	99.0	90	110	
La	139	1	nogas	139.431	42.829	303	34.63	100	139.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	146.789	54.515	7	86.60	100	146.8	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	nogas	284384	2.62	327043	86.96	70	125	
Ge	72	1	nogas	1502703	2.20	1420865	105.76	70	125	
In	115	1	nogas	1627705	0.59	1584599	102.72	70	125	
Bi	209	1	nogas	1483828	3.58	1610392	92.14	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	109500	2.57	106219	103.09	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	256_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T19:50:15-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.147	55.4	350	52.1	1	
Na	23	1	nogas	410.829	8.7	8768787	3.0	100	CCB Main CR1 Failed
Mg	24	1	nogas	14.142	67.2	207857	28.9	100	
Al	27	1	nogas	0.135	55.1	16958	2.2	5	
K	39	1	nogas	14.442	53.5	4042214	1.2	100	
Ti	47	1	nogas	0.364	20.5	460	13.2	2.5	
V	51	1	nogas	14.411	10.9	613063	3.8	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.576	23.1	19147	6.2	2.5	
Mn	55	1	nogas	0.133	15.1	12845	0.9	2.5	
Co	59	1	nogas	0.094	58.9	1327	45.7	2.5	
Ni	60	1	nogas	0.031	443.3	2684	12.2	2.5	
Cu	63	1	nogas	0.251	40.2	4117	13.8	2.5	
Zn	66	1	nogas	-0.237	-41.6	883	21.0	2.5	
As	75	1	nogas	12.764	6.1	95238	2.2	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	3.449	27.1	62426	19.1	2.5	CCB Main CR1 Failed
Ag	107	1	nogas	0.120	31.8	1450	20.4	2.5	
Cd	111	1	nogas	0.094	43.7	173	40.5	1	
Sb	121	1	nogas	0.196	16.9	2254	9.1	2.5	
Tl	205	1	nogas	0.131	41.8	2064	42.6	1	
Pb	208	1	nogas	0.120	47.4	3084	36.3	2.5	
U	238	1	nogas	0.218	30.5	4611	33.3	2.5	
[Pb]	206	1	nogas	0.142	39.3	840	35.8	2.5	
[Pb]	207	1	nogas	0.096	38.4	637	28.6	2.5	
Na	23	2	He	390.987	2.3	186252	0.2	100	CCB Main CR1 Failed
Mg	24	2	He	8.478	10.7	1940	3.1	100	
Al	27	2	He	0.502	379.1	157	26.6	5	
K	39	2	He	5.227	31.0	11307	0.6	100	
Ca	43	2	He	182.408	75.1	30	66.7	100	CCB Main CR1 Failed
Ca	44	2	He	115.763	21.3	533	12.8	100	CCB Main CR1 Failed
V	51	2	He	0.249	14.3	585	4.9	2.5	
Cr	52	2	He	0.077	106.1	1183	9.5	2.5	
Mn	55	2	He	0.053	183.9	167	29.6	2.5	
Fe	56	2	He	22.754	4.8	28482	4.8	100	
Co	59	2	He	0.034	11.8	110	9.1	2.5	
Ni	60	2	He	-0.254	-51.5	320	25.6	2.5	
Cu	63	2	He	0.064	47.1	690	7.2	2.5	
Zn	66	2	He	-0.057	-104.1	57	27.0	2.5	
As	75	2	He	0.337	33.0	68	28.4	2.5	
Se	78	2	He	-0.098	-511.8	5	57.3	2.5	
B	11	1	nogas	4.587	35.2	56338	4.4	10	
Si	28	1	nogas	-14.658	-40.1	897072	1.4	5	
Ca	43	1	nogas	71.075	47.8	2564	19.6	100	
Ca	44	1	nogas	-174.512	-21.3	122316	6.5	100	
Fe	56	1	nogas	34.366	19.0	1267235	5.1	100	
Se	77	1	nogas	82.222	4.5	31858	2.7	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.131	-559.6	563	13.1	2.5	
Mo	95	1	nogas	0.459	30.4	1483	26.6	2.5	
Sn	118	1	nogas	0.343	31.4	2484	21.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.214	25.8	777	15.7	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.141	29.5	183	17.5	2.5	
P	31	1	nogas	8.119	14.9	52062	2.1	10	
La	139	1	nogas	115.292	29.8	260	23.4	2.5	CCB Main CR1 Failed
Au	197	1	nogas	56.816	375.5	13	114.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	326201	0.54	327043	99.74	70	125	
Ge	72	1	nogas	1481965	1.22	1420865	104.30	70	125	
In	115	1	nogas	1622431	1.11	1584599	102.39	70	125	
Bi	209	1	nogas	1520050	3.58	1610392	94.39	70	125	
Ge	72	2	He	109852	0.97	106219	103.42	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	266_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T20:10:11-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	106.548	7.831	211888	3.65	100	106.5	90	110	
Na	23	1	nogas	13220.511	5.136	131954620	3.93	10000	132.2	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10396.036	0.563	69692206	1.78	10000	104.0	90	110	
Al	27	1	nogas	101.463	6.419	821835	1.60	100	101.5	90	110	
K	39	1	nogas	9476.850	8.685	78690231	1.41	10000	94.8	90	110	
Ti	47	1	nogas	94.225	6.002	80628	3.00	100	94.2	90	110	
V	51	1	nogas	115.804	7.126	1962300	2.43	100	115.8	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.871	3.801	1050004	4.03	100	95.9	90	110	
Mn	55	1	nogas	97.030	2.519	1332576	5.04	100	97.0	90	110	
Co	59	1	nogas	95.930	7.395	1113815	1.33	100	95.9	90	110	
Ni	60	1	nogas	98.988	9.428	262040	2.53	100	99.0	90	110	
Cu	63	1	nogas	99.489	9.213	632721	2.34	100	99.5	90	110	
Zn	66	1	nogas	99.521	7.222	205662	1.93	100	99.5	90	110	
As	75	1	nogas	104.460	8.704	307024	1.66	100	104.5	90	110	
Sr	88	1	nogas	101.186	11.203	1432018	4.43	100	101.2	90	110	
Ag	107	1	nogas	92.115	6.077	770831	1.07	100	92.1	90	110	
Cd	111	1	nogas	99.761	1.489	169052	3.03	100	99.8	90	110	
Sb	121	1	nogas	103.912	7.323	759047	0.94	100	103.9	90	110	
Tl	205	1	nogas	104.215	4.094	1496221	1.70	100	104.2	90	110	
Pb	208	1	nogas	101.944	2.010	2001308	2.01	100	101.9	90	110	
U	238	1	nogas	101.169	0.868	2032022	2.47	100	101.2	90	110	
[Pb]	206	1	nogas	102.874	1.784	504849	1.16	100	102.9	90	110	
[Pb]	207	1	nogas	95.192	1.254	428734	2.10	100	95.2	90	110	
Na	23	2	He	12165.714	4.071	2236946	0.92	10000	121.7	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	10047.863	3.454	867589	1.04	10000	100.5	90	110	
Al	27	2	He	108.559	10.886	2514	9.18	100	108.6	90	110	
K	39	2	He	10853.791	2.723	447412	2.66	10000	108.5	90	110	
Ca	43	2	He	11545.176	4.073	1710	5.36	10000	115.5	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10170.171	5.524	27003	3.28	10000	101.7	90	110	
V	51	2	He	103.170	2.658	102460	0.35	100	103.2	90	110	
Cr	52	2	He	98.920	2.149	135310	2.23	100	98.9	90	110	
Mn	55	2	He	99.894	2.102	52221	3.01	100	99.9	90	110	
Fe	56	2	He	9659.593	2.492	10356040	2.00	10000	96.6	90	110	
Co	59	2	He	101.898	5.440	236121	2.92	100	101.9	90	110	
Ni	60	2	He	101.780	5.733	67384	2.82	100	101.8	90	110	
Cu	63	2	He	100.046	4.072	187173	1.83	100	100.0	90	110	
Zn	66	2	He	101.372	2.710	27328	5.48	100	101.4	90	110	
As	75	2	He	105.813	1.851	18085	2.15	100	105.8	90	110	
Se	78	2	He	105.648	5.179	663	7.87	100	105.6	90	110	
B	11	1	nogas	520.465	8.004	742781	3.37	500	104.1	90	110	
Si	28	1	nogas	5044.646	5.660	19973982	1.63	5000	100.9	90	110	
Ca	43	1	nogas	9612.247	7.796	158446	1.10	10000	96.1	90	110	
Ca	44	1	nogas	9426.965	8.567	2577375	1.13	10000	94.3	90	110	
Fe	56	1	nogas	9361.087	4.816	119089457	2.25	10000	93.6	90	110	
Se	77	1	nogas	140.776	10.745	42390	2.51	100	140.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	94.661	8.649	10833	2.70	100	94.7	90	110	
Mo	95	1	nogas	94.350	5.614	289885	1.45	100	94.4	90	110	
Sn	118	1	nogas	91.081	2.556	448588	0.90	100	91.1	90	110	
Ba	137	1	nogas	98.553	3.745	227540	3.46	100	98.6	90	110	
Sb	121	2	He	107.688	5.608	80959	2.69	100	107.7	90	110	
Li	7	1	nogas	108.470	2.715	565225	2.43	100	108.5	90	110	
P	31	1	nogas	483.301	7.907	294943	0.77	500	96.7	90	110	
La	139	1	nogas	174.880	27.256	353	21.98	100	174.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	11.039	1912.130	17	91.65	100	11.0	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	nogas	288720	4.46	327043	88.28	70	125	
Ge	72	1	nogas	1537804	7.20	1420865	108.23	70	125	
In	115	1	nogas	1574763	2.07	1584599	99.38	70	125	
Bi	209	1	nogas	1490052	2.55	1610392	92.53	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	112723	2.98	106219	106.12	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	267_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T20:12:09-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.212	58.2	483	57.2	1	
Na	23	1	nogas	936.840	2.4	13839745	0.8	100	CCB Main CR1 Failed
Mg	24	1	nogas	10.947	25.7	189357	10.9	100	
Al	27	1	nogas	0.102	38.5	16824	2.5	5	
K	39	1	nogas	17.709	150.2	4091869	0.7	100	
Ti	47	1	nogas	0.356	26.3	457	16.6	2.5	
V	51	1	nogas	10.722	32.4	569307	3.7	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.527	15.2	18760	0.3	2.5	
Mn	55	1	nogas	0.162	13.6	13322	4.1	2.5	
Co	59	1	nogas	0.099	21.4	1403	20.8	2.5	
Ni	60	1	nogas	0.683	24.1	4364	7.7	2.5	
Cu	63	1	nogas	0.485	9.1	5591	1.0	2.5	
Zn	66	1	nogas	-0.114	-22.9	1140	8.8	2.5	
As	75	1	nogas	8.183	33.4	85637	3.5	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.511	33.7	22802	8.2	2.5	
Ag	107	1	nogas	0.158	15.6	1773	14.5	2.5	
Cd	111	1	nogas	0.108	25.7	193	26.0	1	
Sb	121	1	nogas	0.235	15.2	2554	13.9	2.5	
Tl	205	1	nogas	0.150	30.5	2307	30.6	1	
Pb	208	1	nogas	0.141	35.5	3487	28.2	2.5	
U	238	1	nogas	0.219	20.6	4554	21.8	2.5	
[Pb]	206	1	nogas	0.127	27.8	757	24.6	2.5	
[Pb]	207	1	nogas	0.143	33.2	843	26.5	2.5	
Na	23	2	He	978.827	3.2	292072	0.2	100	CCB Main CR1 Failed
Mg	24	2	He	11.744	0.6	2264	1.4	100	
Al	27	2	He	-1.468	-154.7	117	40.5	5	
K	39	2	He	30.700	22.7	12331	2.3	100	
Ca	43	2	He	19.361	399.5	7	173.2	100	
Ca	44	2	He	33.874	54.0	330	15.2	100	
V	51	2	He	0.227	13.6	577	6.8	2.5	
Cr	52	2	He	0.073	82.5	1203	7.3	2.5	
Mn	55	2	He	0.104	76.1	197	19.3	2.5	
Fe	56	2	He	25.258	4.0	31768	3.1	100	
Co	59	2	He	0.032	33.2	110	24.1	2.5	
Ni	60	2	He	-0.220	-65.7	350	27.3	2.5	
Cu	63	2	He	0.007	364.2	600	9.3	2.5	
Zn	66	2	He	-0.024	-341.5	67	31.2	2.5	
As	75	2	He	0.348	21.1	71	19.0	2.5	
Se	78	2	He	0.096	374.8	7	34.6	2.5	
B	11	1	nogas	7.986	35.9	59508	4.9	10	
Si	28	1	nogas	-7.966	-126.6	927474	1.8	5	
Ca	43	1	nogas	16.134	81.9	1707	8.0	100	
Ca	44	1	nogas	-221.856	-8.7	111376	0.7	100	
Fe	56	1	nogas	47.239	1.4	1435271	3.9	100	
Se	77	1	nogas	61.255	18.0	28767	3.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.139	-413.6	567	10.8	2.5	
Mo	95	1	nogas	0.484	11.8	1573	13.0	2.5	
Sn	118	1	nogas	0.349	5.5	2444	3.5	5	
Ba	137	1	nogas	0.108	44.6	510	19.9	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.225	22.9	250	16.0	2.5	
P	31	1	nogas	2.906	283.3	49766	4.5	10	
La	139	1	nogas	66.980	55.2	170	36.7	2.5	CCB Main CR1 Failed
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	104.521	222.9	10	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	315940	2.55	327043	96.60	70	125	
Ge	72	1	nogas	1492981	4.25	1420865	105.08	70	125	
In	115	1	nogas	1574883	2.93	1584599	99.39	70	125	
Bi	209	1	nogas	1505289	3.32	1610392	93.47	70	125	
Ge	72	2	He	112254	1.60	106219	105.68	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	275_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T21:10:49-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	103.891	5.297	210772	2.57	100	103.9	90	110	
Na	23	1	nogas	10115.012	2.026	97789358	2.21	10000	101.2	90	110	
Mg	24	1	nogas	10044.179	0.722	64442541	0.70	10000	100.4	90	110	
Al	27	1	nogas	100.014	3.895	771861	2.56	100	100.0	90	110	
K	39	1	nogas	10048.655	2.086	79334604	0.62	10000	100.5	90	110	
Ti	47	1	nogas	92.829	4.253	75633	2.87	100	92.8	90	110	
V	51	1	nogas	121.501	6.203	1939306	3.82	100	121.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	97.820	3.713	1018950	2.76	100	97.8	90	110	
Mn	55	1	nogas	99.820	1.548	1303431	1.86	100	99.8	90	110	
Co	59	1	nogas	101.570	0.163	1124283	1.20	100	101.6	90	110	
Ni	60	1	nogas	101.672	1.080	256760	1.22	100	101.7	90	110	
Cu	63	1	nogas	102.022	0.577	619040	0.83	100	102.0	90	110	
Zn	66	1	nogas	100.443	2.265	197814	1.95	100	100.4	90	110	
As	75	1	nogas	110.582	5.304	305762	2.98	100	110.6	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	99.634	3.301	1346873	3.23	100	99.6	90	110	
Ag	107	1	nogas	94.973	1.557	757118	0.55	100	95.0	90	110	
Cd	111	1	nogas	100.642	0.725	167143	2.73	100	100.6	90	110	
Sb	121	1	nogas	105.911	2.780	737362	1.44	100	105.9	90	110	
Tl	205	1	nogas	104.493	4.974	1482457	4.04	100	104.5	90	110	
Pb	208	1	nogas	99.892	0.624	1961041	0.62	100	99.9	90	110	
U	238	1	nogas	101.571	3.852	2014792	2.86	100	101.6	90	110	
[Pb]	206	1	nogas	103.339	1.856	501030	1.03	100	103.3	90	110	
[Pb]	207	1	nogas	94.479	2.022	420333	1.03	100	94.5	90	110	
Na	23	2	He	9704.868	0.949	1778343	0.78	10000	97.0	90	110	
Mg	24	2	He	9440.793	2.449	801122	1.86	10000	94.4	90	110	
Al	27	2	He	101.070	14.451	2310	13.46	100	101.1	90	110	
K	39	2	He	10536.173	1.727	434644	1.68	10000	105.4	90	110	
Ca	43	2	He	9720.408	7.972	1413	6.38	10000	97.2	90	110	
Ca	44	2	He	9845.486	0.924	25708	2.14	10000	98.5	90	110	
V	51	2	He	98.391	2.567	96016	1.02	100	98.4	90	110	
Cr	52	2	He	99.534	0.666	133755	1.68	100	99.5	90	110	
Mn	55	2	He	98.860	1.634	50761	0.13	100	98.9	90	110	
Fe	56	2	He	9461.638	0.862	9966228	0.92	10000	94.6	90	110	
Co	59	2	He	98.020	2.878	223263	2.10	100	98.0	90	110	
Ni	60	2	He	96.648	4.640	62922	3.86	100	96.6	90	110	
Cu	63	2	He	95.574	4.039	175713	2.72	100	95.6	90	110	
Zn	66	2	He	97.124	3.834	25698	2.61	100	97.1	90	110	
As	75	2	He	101.496	0.993	17041	0.97	100	101.5	90	110	
Se	78	2	He	104.022	6.987	640	5.69	100	104.0	90	110	
B	11	1	nogas	487.722	3.466	713141	1.54	500	97.5	90	110	
Si	28	1	nogas	4968.308	3.484	18745882	1.96	5000	99.4	90	110	
Ca	43	1	nogas	9760.265	4.217	153335	2.90	10000	97.6	90	110	
Ca	44	1	nogas	9487.805	4.561	2471934	2.98	10000	94.9	90	110	
Fe	56	1	nogas	9796.854	1.535	118633519	1.66	10000	98.0	90	110	
Se	77	1	nogas	160.344	7.956	43362	3.71	100	160.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	99.952	7.100	10870	5.65	100	100.0	90	110	
Mo	95	1	nogas	98.703	1.677	288849	1.33	100	98.7	90	110	
Sn	118	1	nogas	92.716	0.494	447740	3.03	100	92.7	90	110	
Ba	137	1	nogas	98.885	2.350	223734	1.18	100	98.9	90	110	
Sb	121	2	He	102.926	3.608	76060	2.03	100	102.9	90	110	
Li	7	1	nogas	108.438	4.113	575678	1.36	100	108.4	90	110	
P	31	1	nogas	510.200	2.315	294058	1.26	500	102.0	90	110	
La	139	1	nogas	162.902	17.222	327	14.47	100	162.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-87.552	-516.578	23	137.77	100	-87.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	294172	3.12	327043	89.95	70	125	
Ge	72	1	nogas	1460972	1.36	1420865	102.82	70	125	
In	115	1	nogas	1543678	3.23	1584599	97.42	70	125	
Bi	209	1	nogas	1471938	1.46	1610392	91.40	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	110718	1.63	106219	104.24	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	276_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T21:12:47-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.170	37.6	413	35.3	1	
Na	23	1	nogas	-28.215	-63.3	4612109	2.3	100	
Mg	24	1	nogas	-3.250	-219.2	93352	47.5	100	
Al	27	1	nogas	0.170	76.7	17071	7.2	5	
K	39	1	nogas	-10.160	-57.7	3818044	1.9	100	
Ti	47	1	nogas	0.391	33.7	477	21.0	2.5	
V	51	1	nogas	15.903	9.4	625706	2.4	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.554	6.0	18746	1.8	2.5	
Mn	55	1	nogas	0.147	39.2	12905	6.8	2.5	
Co	59	1	nogas	0.125	54.2	1663	46.6	2.5	
Ni	60	1	nogas	-0.279	-2.1	1880	1.1	2.5	
Cu	63	1	nogas	0.181	43.4	3660	14.0	2.5	
Zn	66	1	nogas	-0.305	-13.0	743	10.3	2.5	
As	75	1	nogas	8.642	24.5	85302	4.0	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	-0.885	-8.6	3727	29.0	2.5	
Ag	107	1	nogas	0.132	37.3	1540	27.0	2.5	
Cd	111	1	nogas	0.117	60.0	200	56.8	1	
Sb	121	1	nogas	0.201	19.2	2274	13.1	2.5	
Tl	205	1	nogas	0.155	39.6	2364	36.7	1	
Pb	208	1	nogas	0.139	40.1	3447	31.7	2.5	
U	238	1	nogas	0.233	41.7	4788	40.0	2.5	
[Pb]	206	1	nogas	0.155	42.6	887	35.8	2.5	
[Pb]	207	1	nogas	0.113	31.5	700	21.6	2.5	
Na	23	2	He	-67.927	-21.1	108342	0.9	100	
Mg	24	2	He	-7.491	-9.3	597	8.4	100	
Al	27	2	He	-2.297	-35.0	97	15.8	5	
K	39	2	He	-21.655	-57.8	10226	4.9	100	
Ca	43	2	He	43.806	158.8	10	100.0	100	
Ca	44	2	He	-27.020	-42.5	167	19.3	100	
V	51	2	He	0.278	13.4	612	4.7	2.5	
Cr	52	2	He	0.354	40.9	1547	11.6	2.5	
Mn	55	2	He	0.040	127.8	160	16.5	2.5	
Fe	56	2	He	23.102	2.6	28803	1.8	100	
Co	59	2	He	0.046	65.1	137	48.7	2.5	
Ni	60	2	He	-0.188	-60.9	363	22.1	2.5	
Cu	63	2	He	0.106	44.5	767	11.8	2.5	
Zn	66	2	He	0.008	2355.3	73	61.5	2.5	
As	75	2	He	0.385	10.3	76	10.2	2.5	
Se	78	2	He	-0.091	-559.5	5	57.3	2.5	
B	11	1	nogas	3.895	56.6	56685	3.0	10	
Si	28	1	nogas	-14.751	-77.0	887841	3.0	5	
Ca	43	1	nogas	-39.428	-36.1	817	28.6	100	
Ca	44	1	nogas	-299.851	-2.7	90534	1.4	100	
Fe	56	1	nogas	40.972	4.6	1335714	3.3	100	
Se	77	1	nogas	61.116	14.9	28289	3.9	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.179	-64.1	553	3.8	2.5	
Mo	95	1	nogas	0.452	37.1	1457	35.2	2.5	
Sn	118	1	nogas	0.376	31.1	2480	21.5	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.039	122.0	340	31.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.218	30.5	240	21.7	2.5	
P	31	1	nogas	2.187	54.5	48673	0.9	10	
La	139	1	nogas	109.109	26.9	233	21.6	2.5	CCB Main CR1 Failed
Au	197	1	nogas	10.623	2707.3	17	124.9	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	334932	3.71	327043	102.41	70	125	
Ge	72	1	nogas	1467751	1.65	1420865	103.30	70	125	
In	115	1	nogas	1517882	1.04	1584599	95.79	70	125	
Bi	209	1	nogas	1496941	2.06	1610392	92.96	70	125	
Ge	72	2	He	109728	1.92	106219	103.30	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	287_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T21:41:35-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	100.124	9.169	191099	2.59	100	100.1	90	110	
Na	23	1	nogas	11074.959	2.313	107312032	2.52	10000	110.7	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10075.623	2.350	65070910	2.72	10000	100.8	90	110	
Al	27	1	nogas	102.553	2.566	778722	2.66	100	102.6	90	110	
K	39	1	nogas	9682.050	4.209	75371233	3.79	10000	96.8	90	110	
Ti	47	1	nogas	95.771	3.053	76814	3.23	100	95.8	90	110	
V	51	1	nogas	121.209	3.784	1905465	2.84	100	121.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	97.328	2.300	997990	2.29	100	97.3	90	110	
Mn	55	1	nogas	102.598	2.446	1318085	2.37	100	102.6	90	110	
Co	59	1	nogas	98.643	3.139	1074491	3.02	100	98.6	90	110	
Ni	60	1	nogas	99.621	2.404	247628	2.18	100	99.6	90	110	
Cu	63	1	nogas	99.583	3.492	594682	3.28	100	99.6	90	110	
Zn	66	1	nogas	97.870	2.281	189724	2.06	100	97.9	90	110	
As	75	1	nogas	117.857	3.911	316504	3.05	100	117.9	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	123.693	9.903	1641951	9.86	100	123.7	90	110	CCV Main CR1-2 Failed
Ag	107	1	nogas	93.968	2.865	737277	2.88	100	94.0	90	110	
Cd	111	1	nogas	97.817	4.095	158570	4.19	100	97.8	90	110	
Sb	121	1	nogas	105.912	2.389	725780	2.19	100	105.9	90	110	
Tl	205	1	nogas	100.639	2.980	1385582	1.84	100	100.6	90	110	
Pb	208	1	nogas	94.856	1.885	1862218	1.88	100	94.9	90	110	
U	238	1	nogas	97.911	4.806	1884445	3.78	100	97.9	90	110	
[Pb]	206	1	nogas	100.134	1.848	471148	2.09	100	100.1	90	110	
[Pb]	207	1	nogas	92.125	2.235	397782	2.76	100	92.1	90	110	
Na	23	2	He	10747.081	1.063	1959130	1.06	10000	107.5	90	110	
Mg	24	2	He	9589.734	2.142	814999	2.41	10000	95.9	90	110	
Al	27	2	He	108.850	3.804	2480	2.82	100	108.8	90	110	
K	39	2	He	10589.561	1.735	436790	1.69	10000	105.9	90	110	
Ca	43	2	He	11617.887	9.657	1693	10.60	10000	116.2	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10038.758	3.458	26242	3.49	10000	100.4	90	110	
V	51	2	He	99.430	3.010	97164	1.96	100	99.4	90	110	
Cr	52	2	He	95.909	2.164	129084	1.14	100	95.9	90	110	
Mn	55	2	He	98.811	0.634	50814	1.17	100	98.8	90	110	
Fe	56	2	He	9224.718	0.605	9730535	0.55	10000	92.2	90	110	
Co	59	2	He	96.938	2.240	221120	1.39	100	96.9	90	110	
Ni	60	2	He	95.410	2.759	62216	1.77	100	95.4	90	110	
Cu	63	2	He	96.260	0.518	177276	0.74	100	96.3	90	110	
Zn	66	2	He	96.374	1.532	25541	0.50	100	96.4	90	110	
As	75	2	He	102.597	1.074	17250	0.92	100	102.6	90	110	
Se	78	2	He	103.053	15.759	635	14.50	100	103.1	90	110	
B	11	1	nogas	533.772	10.206	729851	3.16	500	106.8	90	110	
Si	28	1	nogas	5608.659	5.287	20712177	5.06	5000	112.2	90	110	CCV Main CR1-2 Failed
Ca	43	1	nogas	10054.126	3.768	155445	3.64	10000	100.5	90	110	
Ca	44	1	nogas	10164.441	3.045	2595478	2.74	10000	101.6	90	110	
Fe	56	1	nogas	9709.484	4.992	115715215	4.95	10000	97.1	90	110	
Se	77	1	nogas	191.786	5.237	47422	2.98	100	191.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.569	5.848	10460	5.33	100	97.6	90	110	
Mo	95	1	nogas	95.787	1.239	275876	1.04	100	95.8	90	110	
Sn	118	1	nogas	91.829	1.031	432873	2.15	100	91.8	90	110	
Ba	137	1	nogas	108.782	4.933	240224	3.83	100	108.8	90	110	
Sb	121	2	He	108.729	2.674	80469	1.62	100	108.7	90	110	
Li	7	1	nogas	107.064	3.943	536557	5.36	100	107.1	90	110	
P	31	1	nogas	490.502	5.228	280030	4.23	500	98.1	90	110	
La	139	1	nogas	368.621	22.659	653	19.98	100	368.6	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	0.837	19440.360	17	69.28	100	0.8	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	nogas	277734	7.85	327043	84.92	70	125	
Ge	72	1	nogas	1437702	0.21	1420865	101.18	70	125	
In	115	1	nogas	1506632	1.14	1584599	95.08	70	125	
Bi	209	1	nogas	1428264	1.30	1610392	88.69	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	110869	1.05	106219	104.38	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	288_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T21:43:34-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.166	33.3	367	32.8	1	
Na	23	1	nogas	672.364	2.0	10876897	2.1	100	CCB Main CR1 Failed
Mg	24	1	nogas	18.824	28.7	230929	12.0	100	
Al	27	1	nogas	0.343	24.8	17769	2.0	5	
K	39	1	nogas	21.552	87.5	3921807	1.7	100	
Ti	47	1	nogas	0.301	51.8	390	30.2	2.5	
V	51	1	nogas	24.182	7.2	705686	4.5	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.770	15.6	20271	4.2	2.5	
Mn	55	1	nogas	0.254	31.1	13815	5.5	2.5	
Co	59	1	nogas	0.119	45.5	1533	36.3	2.5	
Ni	60	1	nogas	0.031	269.3	2570	6.6	2.5	
Cu	63	1	nogas	0.307	42.8	4271	16.3	2.5	
Zn	66	1	nogas	-0.243	-29.7	837	15.9	2.5	
As	75	1	nogas	18.366	1.7	102996	1.3	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	2.470	7.7	47180	6.7	2.5	
Ag	107	1	nogas	0.143	33.5	1563	22.0	2.5	
Cd	111	1	nogas	0.097	54.4	170	47.1	1	
Sb	121	1	nogas	0.223	27.3	2337	15.9	2.5	
Tl	205	1	nogas	0.163	48.0	2434	47.3	1	
Pb	208	1	nogas	0.146	37.7	3590	30.1	2.5	
U	238	1	nogas	0.240	33.5	4831	34.6	2.5	
[Pb]	206	1	nogas	0.171	22.4	943	21.3	2.5	
[Pb]	207	1	nogas	0.120	53.2	717	41.0	2.5	
Na	23	2	He	619.660	6.0	233591	0.6	100	CCB Main CR1 Failed
Mg	24	2	He	19.190	27.2	2944	12.9	100	
Al	27	2	He	-3.221	-50.0	80	43.3	5	
K	39	2	He	17.757	71.4	11811	4.3	100	
Ca	43	2	He	84.441	225.1	17	173.2	100	
Ca	44	2	He	61.977	8.8	410	2.4	100	
V	51	2	He	0.266	7.0	625	3.9	2.5	
Cr	52	2	He	0.198	117.3	1390	20.3	2.5	
Mn	55	2	He	0.181	74.0	240	27.3	2.5	
Fe	56	2	He	23.780	2.4	30699	4.5	100	
Co	59	2	He	0.028	25.1	100	17.3	2.5	
Ni	60	2	He	-0.284	-23.0	313	16.1	2.5	
Cu	63	2	He	0.029	183.2	650	13.1	2.5	
Zn	66	2	He	-0.015	-1190.3	70	65.5	2.5	
As	75	2	He	0.347	16.9	72	16.2	2.5	
Se	78	2	He	-0.132	-493.2	5	78.1	2.5	
B	11	1	nogas	35.517	3.0	96267	1.3	10	CCB Main CR1 Failed
Si	28	1	nogas	240.363	24.0	1745240	9.7	5	CCB Main CR1 Failed
Ca	43	1	nogas	46.006	7.8	2080	3.4	100	
Ca	44	1	nogas	-204.103	-2.1	110203	1.8	100	
Fe	56	1	nogas	44.145	18.1	1327386	5.3	100	
Se	77	1	nogas	100.764	5.6	33274	3.9	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.996	158.4	653	24.9	2.5	
Mo	95	1	nogas	0.482	24.5	1487	20.9	2.5	
Sn	118	1	nogas	0.363	15.0	2474	7.1	5	
Ba	137	1	nogas	0.652	17.9	1737	11.0	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.272	2.7	290	3.4	2.5	
P	31	1	nogas	0.066	5790.2	46056	2.5	10	
La	139	1	nogas	95.853	33.7	217	26.2	2.5	CCB Main CR1 Failed
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	191.240	43.3	3	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	303804	2.39	327043	92.89	70	125	
Ge	72	1	nogas	1419313	1.85	1420865	99.89	70	125	
In	115	1	nogas	1556338	4.73	1584599	98.22	70	125	
Bi	209	1	nogas	1458610	1.93	1610392	90.57	70	125	
Ge	72	2	He	114090	2.44	106219	107.41	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	297_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T22:01:40-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	105.261	6.042	195405	4.45	100	105.3	90	110	
Na	23	1	nogas	10785.987	7.398	103688606	3.48	10000	107.9	90	110	
Mg	24	1	nogas	10019.363	4.535	64163360	1.64	10000	100.2	90	110	
Al	27	1	nogas	98.416	1.336	751283	1.58	100	98.4	90	110	
K	39	1	nogas	9466.389	1.398	74126850	2.84	10000	94.7	90	110	
Ti	47	1	nogas	91.061	3.010	73357	2.12	100	91.1	90	110	
V	51	1	nogas	112.274	1.995	1803769	0.83	100	112.3	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	95.144	3.730	979936	2.07	100	95.1	90	110	
Mn	55	1	nogas	100.810	6.434	1300688	5.62	100	100.8	90	110	
Co	59	1	nogas	97.169	2.096	1063147	1.76	100	97.2	90	110	
Ni	60	1	nogas	98.378	1.241	245676	1.42	100	98.4	90	110	
Cu	63	1	nogas	98.986	1.618	593773	1.09	100	99.0	90	110	
Zn	66	1	nogas	97.834	2.736	190514	2.86	100	97.8	90	110	
As	75	1	nogas	108.399	0.949	297688	1.79	100	108.4	90	110	
Sr	88	1	nogas	113.602	6.147	1515622	5.56	100	113.6	90	110	CCV Main CR1-2 Failed
Ag	107	1	nogas	93.430	1.793	736258	0.34	100	93.4	90	110	
Cd	111	1	nogas	97.941	1.655	157948	1.05	100	97.9	90	110	
Sb	121	1	nogas	103.069	1.508	709500	1.55	100	103.1	90	110	
Tl	205	1	nogas	102.011	4.912	1392672	1.62	100	102.0	90	110	
Pb	208	1	nogas	95.024	1.309	1865506	1.31	100	95.0	90	110	
U	238	1	nogas	99.445	6.195	1897484	2.61	100	99.4	90	110	
[Pb]	206	1	nogas	100.521	4.888	468888	1.31	100	100.5	90	110	
[Pb]	207	1	nogas	93.195	3.715	399027	1.04	100	93.2	90	110	
Na	23	2	He	10296.032	0.962	1816494	0.16	10000	103.0	90	110	
Mg	24	2	He	9417.004	1.518	772442	0.87	10000	94.2	90	110	
Al	27	2	He	93.357	8.865	2073	7.96	100	93.4	90	110	
K	39	2	He	10204.192	1.019	421299	0.99	10000	102.0	90	110	
Ca	43	2	He	10831.249	6.281	1523	6.83	10000	108.3	90	110	
Ca	44	2	He	9854.138	2.118	24867	1.82	10000	98.5	90	110	
V	51	2	He	99.006	1.300	93401	0.87	100	99.0	90	110	
Cr	52	2	He	96.382	1.085	125224	1.65	100	96.4	90	110	
Mn	55	2	He	99.701	1.993	49484	1.51	100	99.7	90	110	
Fe	56	2	He	9234.050	1.416	9401281	0.81	10000	92.3	90	110	
Co	59	2	He	98.713	0.483	217360	0.32	100	98.7	90	110	
Ni	60	2	He	98.156	0.414	61778	1.07	100	98.2	90	110	
Cu	63	2	He	97.170	3.271	172696	2.47	100	97.2	90	110	
Zn	66	2	He	98.900	4.016	25295	3.21	100	98.9	90	110	
As	75	2	He	105.385	0.887	17103	0.33	100	105.4	90	110	
Se	78	2	He	105.087	2.662	625	3.42	100	105.1	90	110	
B	11	1	nogas	606.718	6.857	801054	3.11	500	121.3	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	5375.780	1.933	19978219	1.29	5000	107.5	90	110	
Ca	43	1	nogas	9922.064	1.050	154141	2.60	10000	99.2	90	110	
Ca	44	1	nogas	9773.329	2.235	2513259	2.69	10000	97.7	90	110	
Fe	56	1	nogas	9581.632	3.225	114687598	1.92	10000	95.8	90	110	
Se	77	1	nogas	152.753	7.094	41725	4.00	100	152.8	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.687	3.555	10517	1.76	100	97.7	90	110	
Mo	95	1	nogas	91.595	2.512	265017	3.04	100	91.6	90	110	
Sn	118	1	nogas	89.955	0.929	421911	2.38	100	90.0	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	111.931	5.311	245840	3.08	100	111.9	90	110	CCV Main CR1-2 Failed
Sb	121	2	He	108.007	0.714	77171	1.41	100	108.0	90	110	
Li	7	1	nogas	110.595	2.983	536786	1.82	100	110.6	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	477.214	2.629	274977	2.95	500	95.4	90	110	
La	139	1	nogas	143.664	15.571	287	14.52	100	143.7	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	48.476	680.791	13	173.21	100	48.5	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	nogas	269144	3.37	327043	82.30	70	125	
Ge	72	1	nogas	1444254	1.63	1420865	101.65	70	125	
In	115	1	nogas	1499142	2.28	1584599	94.61	70	125	
Bi	209	1	nogas	1417539	3.55	1610392	88.02	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	107012	0.80	106219	100.75	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	298_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T22:03:37-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.155	55.0	340	50.3	1	
Na	23	1	nogas	506.835	1.0	9373030	0.8	100	CCB Main CR1 Failed
Mg	24	1	nogas	25.627	22.6	274447	12.3	100	
Al	27	1	nogas	0.217	48.7	17045	1.6	5	
K	39	1	nogas	0.547	3578.5	3815132	0.2	100	
Ti	47	1	nogas	0.368	17.4	450	13.3	2.5	
V	51	1	nogas	15.559	12.9	608127	0.4	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.620	8.0	19040	6.3	2.5	
Mn	55	1	nogas	0.931	7.8	22611	0.5	2.5	
Co	59	1	nogas	0.133	62.3	1727	55.4	2.5	
Ni	60	1	nogas	-0.093	-58.4	2297	3.3	2.5	
Cu	63	1	nogas	0.251	39.3	4001	15.4	2.5	
Zn	66	1	nogas	-0.267	-8.0	800	5.0	2.5	
As	75	1	nogas	11.714	17.8	90045	2.4	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	1.817	15.0	39106	7.1	2.5	
Ag	107	1	nogas	0.146	23.9	1617	19.1	2.5	
Cd	111	1	nogas	0.149	85.9	250	80.3	1	
Sb	121	1	nogas	0.275	16.8	2734	12.8	2.5	
Tl	205	1	nogas	0.177	35.4	2587	37.3	1	
Pb	208	1	nogas	0.162	47.8	3900	38.9	2.5	
U	238	1	nogas	0.249	29.4	4941	32.6	2.5	
[Pb]	206	1	nogas	0.172	40.7	933	38.7	2.5	
[Pb]	207	1	nogas	0.150	41.2	837	35.9	2.5	
Na	23	2	He	474.691	7.2	198965	0.9	100	CCB Main CR1 Failed
Mg	24	2	He	25.832	11.6	3374	6.4	100	
Al	27	2	He	-2.743	-38.0	87	24.0	5	
K	39	2	He	1.909	389.4	11174	2.7	100	
Ca	43	2	He	158.380	86.5	27	78.1	100	CCB Main CR1 Failed
Ca	44	2	He	82.852	34.7	447	19.3	100	
V	51	2	He	0.243	14.9	575	4.6	2.5	
Cr	52	2	He	0.203	31.9	1340	6.7	2.5	
Mn	55	2	He	0.927	5.2	607	4.1	2.5	
Fe	56	2	He	25.018	7.5	30589	3.1	100	
Co	59	2	He	0.043	18.0	130	15.4	2.5	
Ni	60	2	He	-0.158	-32.6	380	12.1	2.5	
Cu	63	2	He	-0.034	-58.8	510	10.9	2.5	
Zn	66	2	He	-0.067	-98.6	53	28.6	2.5	
As	75	2	He	0.402	17.1	78	13.1	2.5	
Se	78	2	He	0.256	215.0	7	41.7	2.5	
B	11	1	nogas	64.949	8.3	137394	3.5	10	CCB Main CR1 Failed
Si	28	1	nogas	209.219	7.7	1659873	4.5	5	CCB Main CR1 Failed
Ca	43	1	nogas	45.247	12.6	2097	7.3	100	
Ca	44	1	nogas	-215.842	-7.3	108720	0.9	100	
Fe	56	1	nogas	46.424	10.7	1372331	5.4	100	
Se	77	1	nogas	71.662	21.4	29254	4.5	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.081	-1233.8	550	16.2	2.5	
Mo	95	1	nogas	0.545	35.1	1697	35.0	2.5	
Sn	118	1	nogas	0.405	17.3	2620	10.4	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	1.398	2.6	3364	1.8	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.158	49.7	193	26.0	2.5	
P	31	1	nogas	-3.827	-115.6	44764	0.9	10	
La	139	1	nogas	86.748	30.7	197	22.9	2.5	CCB Main CR1 Failed
Au	197	1	nogas	45.159	208.5	13	43.3	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	302735	2.18	327043	92.57	70	125	
Ge	72	1	nogas	1437580	3.76	1420865	101.18	70	125	
In	115	1	nogas	1519925	2.51	1584599	95.92	70	125	
Bi	209	1	nogas	1430806	4.67	1610392	88.85	70	125	
Ge	72	2	He	109120	3.79	106219	102.73	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	309_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T22:25:37-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	103.048	5.953	204768	2.91	100	103.0	90	110	
Na	23	1	nogas	10617.607	0.229	100049815	1.84	10000	106.2	90	110	
Mg	24	1	nogas	10189.526	0.644	63875922	2.58	10000	101.9	90	110	
Al	27	1	nogas	101.835	1.718	772276	1.73	100	101.8	90	110	
K	39	1	nogas	10058.799	1.687	78048198	1.39	10000	100.6	90	110	
Ti	47	1	nogas	90.713	2.469	72653	1.72	100	90.7	90	110	
V	51	1	nogas	107.792	1.661	1738295	0.54	100	107.8	90	110	
Cr	52	1	nogas	95.740	0.975	980532	0.93	100	95.7	90	110	
Mn	55	1	nogas	99.609	4.669	1277978	3.97	100	99.6	90	110	
Co	59	1	nogas	100.270	3.567	1090467	2.52	100	100.3	90	110	
Ni	60	1	nogas	100.999	1.191	250665	0.59	100	101.0	90	110	
Cu	63	1	nogas	103.569	2.390	617574	2.69	100	103.6	90	110	
Zn	66	1	nogas	101.377	2.131	196184	1.16	100	101.4	90	110	
As	75	1	nogas	104.519	3.909	287592	1.59	100	104.5	90	110	
Sr	88	1	nogas	104.881	3.224	1393018	4.53	100	104.9	90	110	
Ag	107	1	nogas	94.153	1.027	737666	0.65	100	94.2	90	110	
Cd	111	1	nogas	99.645	2.925	160374	5.05	100	99.6	90	110	
Sb	121	1	nogas	106.399	2.446	728083	2.22	100	106.4	90	110	
Tl	205	1	nogas	107.842	3.580	1434145	2.28	100	107.8	90	110	
Pb	208	1	nogas	97.170	0.986	1907636	0.99	100	97.2	90	110	
U	238	1	nogas	103.626	6.045	1925442	3.16	100	103.6	90	110	
[Pb]	206	1	nogas	106.797	2.983	485241	0.25	100	106.8	90	110	
[Pb]	207	1	nogas	98.427	1.645	410485	1.55	100	98.4	90	110	
Na	23	2	He	10038.906	2.603	1783139	1.69	10000	100.4	90	110	
Mg	24	2	He	9378.754	3.320	773252	2.68	10000	93.8	90	110	
Al	27	2	He	95.529	3.614	2130	4.17	100	95.5	90	110	
K	39	2	He	9950.097	1.079	411084	1.05	10000	99.5	90	110	
Ca	43	2	He	10823.348	2.520	1530	3.27	10000	108.2	90	110	
Ca	44	2	He	9519.965	1.629	24156	1.01	10000	95.2	90	110	
V	51	2	He	98.907	0.808	93794	0.21	100	98.9	90	110	
Cr	52	2	He	96.774	4.616	126348	3.76	100	96.8	90	110	
Mn	55	2	He	97.762	1.855	48775	1.03	100	97.8	90	110	
Fe	56	2	He	9242.246	1.068	9458741	0.66	10000	92.4	90	110	
Co	59	2	He	98.341	0.219	217672	0.95	100	98.3	90	110	
Ni	60	2	He	97.484	1.157	61674	0.76	100	97.5	90	110	
Cu	63	2	He	96.969	1.882	173249	1.19	100	97.0	90	110	
Zn	66	2	He	96.433	2.667	24797	2.36	100	96.4	90	110	
As	75	2	He	102.237	3.247	16679	3.31	100	102.2	90	110	
Se	78	2	He	100.506	10.781	601	10.71	100	100.5	90	110	
B	11	1	nogas	524.388	6.752	747338	3.30	500	104.9	90	110	
Si	28	1	nogas	5072.601	4.214	18798558	4.81	5000	101.5	90	110	
Ca	43	1	nogas	9946.124	3.683	153542	2.56	10000	99.5	90	110	
Ca	44	1	nogas	9776.385	3.789	2498486	2.44	10000	97.8	90	110	
Fe	56	1	nogas	9736.295	5.348	115844736	4.63	10000	97.4	90	110	
Se	77	1	nogas	133.195	4.226	38541	3.07	100	133.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	98.772	2.174	10567	0.92	100	98.8	90	110	
Mo	95	1	nogas	98.057	1.338	282003	0.58	100	98.1	90	110	
Sn	118	1	nogas	93.728	3.799	438247	2.63	100	93.7	90	110	
Ba	137	1	nogas	102.094	3.868	223721	2.01	100	102.1	90	110	
Sb	121	2	He	108.365	1.566	77820	0.74	100	108.4	90	110	
Li	7	1	nogas	110.878	3.123	576115	0.54	100	110.9	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	492.703	2.033	280696	1.85	500	98.5	90	110	
La	139	1	nogas	212.380	12.292	397	11.37	100	212.4	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-13.853	-2319.347	17	124.90	100	-13.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	288204	3.45	327043	88.12	70	125	
Ge	72	1	nogas	1435779	1.48	1420865	101.05	70	125	
In	115	1	nogas	1495200	2.27	1584599	94.36	70	125	
Bi	209	1	nogas	1380070	3.17	1610392	85.70	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	107569	0.82	106219	101.27	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	310_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T22:27:36-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.156	10.3	363	10.4	1	
Na	23	1	nogas	220.434	2.6	6814117	1.5	100	CCB Main CR1 Failed
Mg	24	1	nogas	5.467	113.0	147426	24.8	100	
Al	27	1	nogas	0.247	85.3	17522	7.6	5	
K	39	1	nogas	-9.633	-150.5	3797002	1.4	100	
Ti	47	1	nogas	0.304	29.9	403	16.9	2.5	
V	51	1	nogas	11.627	10.1	568728	3.5	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.472	14.0	17785	4.0	2.5	
Mn	55	1	nogas	0.212	22.6	13659	4.5	2.5	
Co	59	1	nogas	0.129	60.7	1680	49.5	2.5	
Ni	60	1	nogas	-0.226	-7.0	2000	1.3	2.5	
Cu	63	1	nogas	0.198	64.2	3730	19.0	2.5	
Zn	66	1	nogas	-0.224	-37.4	897	17.9	2.5	
As	75	1	nogas	7.052	16.7	81368	3.2	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	-0.207	-56.2	12748	12.1	2.5	
Ag	107	1	nogas	0.163	32.6	1767	22.3	2.5	
Cd	111	1	nogas	0.106	40.1	187	39.5	1	
Sb	121	1	nogas	0.299	19.1	2934	12.0	2.5	
Tl	205	1	nogas	0.180	26.8	2640	27.2	1	
Pb	208	1	nogas	0.142	47.0	3514	37.3	2.5	
U	238	1	nogas	0.245	32.6	4884	34.0	2.5	
[Pb]	206	1	nogas	0.166	45.9	910	41.2	2.5	
[Pb]	207	1	nogas	0.126	56.0	737	43.9	2.5	
Na	23	2	He	183.742	17.8	148237	1.1	100	CCB Main CR1 Failed
Mg	24	2	He	5.232	34.9	1633	5.7	100	
Al	27	2	He	-0.959	-54.9	123	12.4	5	
K	39	2	He	-16.262	-33.1	10443	2.1	100	
Ca	43	2	He	45.517	6.8	10	0.0	100	
Ca	44	2	He	8.574	177.6	253	16.0	100	
V	51	2	He	0.239	30.1	564	10.5	2.5	
Cr	52	2	He	0.195	116.2	1307	18.4	2.5	
Mn	55	2	He	0.264	57.8	267	24.4	2.5	
Fe	56	2	He	24.001	5.6	29200	1.7	100	
Co	59	2	He	0.069	35.1	187	30.9	2.5	
Ni	60	2	He	-0.216	-40.7	340	20.6	2.5	
Cu	63	2	He	0.060	50.2	670	4.5	2.5	
Zn	66	2	He	-0.026	-246.5	63	24.1	2.5	
As	75	2	He	0.308	43.3	61	32.9	2.5	
Se	78	2	He	-0.079	-900.5	5	78.1	2.5	
B	11	1	nogas	37.528	7.7	103806	1.5	10	CCB Main CR1 Failed
Si	28	1	nogas	38.454	80.9	1072126	8.9	5	CCB Main CR1 Failed
Ca	43	1	nogas	2.479	475.2	1460	12.0	100	
Ca	44	1	nogas	-292.091	-3.1	91851	1.5	100	
Fe	56	1	nogas	30.707	36.6	1203081	10.3	100	
Se	77	1	nogas	46.867	5.4	25945	2.6	2.5	CCB Main CR1 Failed
Se	82	1	nogas	0.446	184.2	613	12.3	2.5	
Mo	95	1	nogas	0.533	24.5	1677	21.2	2.5	
Sn	118	1	nogas	0.314	9.8	2244	8.1	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.292	14.6	923	12.0	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.222	51.0	237	30.6	2.5	
P	31	1	nogas	-3.178	-91.6	45769	1.6	10	
La	139	1	nogas	96.258	16.6	217	11.6	2.5	CCB Main CR1 Failed
Au	197	1	nogas	2.480	3340.7	17	34.6	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	nogas	318374	3.07	327043	97.35	70	125	
Ge	72	1	nogas	1458529	1.47	1420865	102.65	70	125	
In	115	1	nogas	1552902	1.44	1584599	98.00	70	125	
Bi	209	1	nogas	1445611	2.48	1610392	89.77	70	125	
Ge	72	2	He	107856	4.46	106219	101.54	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	321_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T22:49:50-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	96.609	1.904	199018	1.91	100	96.6	90	110	
Na	23	1	nogas	10412.742	1.810	99778098	1.98	10000	104.1	90	110	
Mg	24	1	nogas	10081.652	1.011	64219310	3.07	10000	100.8	90	110	
Al	27	1	nogas	101.183	4.583	762396	4.54	100	101.2	90	110	
K	39	1	nogas	9759.575	7.024	75242995	2.27	10000	97.6	90	110	
Ti	47	1	nogas	93.732	1.828	74598	3.35	100	93.7	90	110	
V	51	1	nogas	118.519	2.953	1857662	2.75	100	118.5	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	97.220	2.977	988878	2.64	100	97.2	90	110	
Mn	55	1	nogas	97.314	5.714	1239518	1.30	100	97.3	90	110	
Co	59	1	nogas	98.444	8.674	1061777	4.26	100	98.4	90	110	
Ni	60	1	nogas	98.699	7.467	243046	3.10	100	98.7	90	110	
Cu	63	1	nogas	98.847	3.207	585618	3.19	100	98.8	90	110	
Zn	66	1	nogas	98.497	0.855	189585	5.31	100	98.5	90	110	
As	75	1	nogas	108.745	4.410	294648	2.51	100	108.7	90	110	
Sr	88	1	nogas	100.527	5.848	1325527	3.20	100	100.5	90	110	
Ag	107	1	nogas	93.397	3.688	727005	4.02	100	93.4	90	110	
Cd	111	1	nogas	96.139	1.140	156690	4.99	100	96.1	90	110	
Sb	121	1	nogas	102.699	6.644	697257	2.05	100	102.7	90	110	
Tl	205	1	nogas	101.421	2.763	1377297	0.70	100	101.4	90	110	
Pb	208	1	nogas	93.354	2.480	1832737	2.48	100	93.4	90	110	
U	238	1	nogas	100.515	4.469	1908057	2.79	100	100.5	90	110	
[Pb]	206	1	nogas	99.200	3.379	460316	2.39	100	99.2	90	110	
[Pb]	207	1	nogas	91.753	2.648	390722	2.05	100	91.8	90	110	
Na	23	2	He	10000.177	3.068	1766958	2.57	10000	100.0	90	110	
Mg	24	2	He	9441.194	3.610	774092	3.11	10000	94.4	90	110	
Al	27	2	He	99.007	2.422	2190	3.00	100	99.0	90	110	
K	39	2	He	10199.553	1.692	421112	1.65	10000	102.0	90	110	
Ca	43	2	He	10248.891	14.585	1440	13.94	10000	102.5	90	110	
Ca	44	2	He	9639.880	3.779	24320	3.10	10000	96.4	90	110	
V	51	2	He	98.970	0.873	93336	0.89	100	99.0	90	110	
Cr	52	2	He	95.341	1.619	123839	2.13	100	95.3	90	110	
Mn	55	2	He	96.652	3.097	47959	3.07	100	96.7	90	110	
Fe	56	2	He	9174.160	0.966	9337421	1.12	10000	91.7	90	110	
Co	59	2	He	97.954	1.748	215602	1.42	100	98.0	90	110	
Ni	60	2	He	98.644	0.300	62059	0.77	100	98.6	90	110	
Cu	63	2	He	96.989	1.791	172330	1.30	100	97.0	90	110	
Zn	66	2	He	97.326	2.688	24887	2.31	100	97.3	90	110	
As	75	2	He	100.162	1.384	16252	2.32	100	100.2	90	110	
Se	78	2	He	99.078	9.780	589	8.96	100	99.1	90	110	
B	11	1	nogas	488.393	2.093	724640	0.32	500	97.7	90	110	
Si	28	1	nogas	5031.789	5.079	18519642	3.17	5000	100.6	90	110	
Ca	43	1	nogas	9683.957	6.731	148379	1.97	10000	96.8	90	110	
Ca	44	1	nogas	9525.938	5.805	2420863	1.44	10000	95.3	90	110	
Fe	56	1	nogas	9634.143	6.060	113795082	2.51	10000	96.3	90	110	
Se	77	1	nogas	159.233	9.027	42139	0.52	100	159.2	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	102.499	6.452	10860	1.26	100	102.5	90	110	
Mo	95	1	nogas	94.262	6.465	268975	2.07	100	94.3	90	110	
Sn	118	1	nogas	88.231	2.720	417790	2.31	100	88.2	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	97.870	4.585	217085	1.40	100	97.9	90	110	
Sb	121	2	He	107.089	3.002	76487	3.17	100	107.1	90	110	
Li	7	1	nogas	105.459	2.695	569295	3.95	100	105.5	90	110	
P	31	1	nogas	487.115	6.190	276012	2.30	500	97.4	90	110	
La	139	1	nogas	199.833	19.138	383	21.88	100	199.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	91.520	161.197	10	100.00	100	91.5	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	nogas	298419	1.80	327043	91.25	70	125	
Ge	72	1	nogas	1427428	5.08	1420865	100.46	70	125	
In	115	1	nogas	1514836	5.09	1584599	95.60	70	125	
Bi	209	1	nogas	1409051	2.41	1610392	87.50	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	106974	0.95	106219	100.71	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	322_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T22:51:49-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.130	5.3	313	8.0	1	
Na	23	1	nogas	165.886	12.4	6364042	1.2	100	CCB Main CR1 Failed
Mg	24	1	nogas	5.327	139.4	147744	30.6	100	
Al	27	1	nogas	0.150	75.4	16798	4.2	5	
K	39	1	nogas	-4.621	-184.2	3834167	0.7	100	
Ti	47	1	nogas	0.312	75.0	410	45.7	2.5	
V	51	1	nogas	12.683	4.6	581642	1.6	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.507	10.7	18142	2.1	2.5	
Mn	55	1	nogas	0.118	51.7	12441	6.1	2.5	
Co	59	1	nogas	0.144	60.2	1860	51.0	2.5	
Ni	60	1	nogas	-0.194	-15.8	2080	3.8	2.5	
Cu	63	1	nogas	0.211	22.5	3817	6.6	2.5	
Zn	66	1	nogas	-0.206	-45.7	930	18.8	2.5	
As	75	1	nogas	6.916	3.6	81056	1.2	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	-0.512	-1.4	8669	0.5	2.5	
Ag	107	1	nogas	0.149	10.5	1657	6.6	2.5	
Cd	111	1	nogas	0.122	47.1	210	43.6	1	
Sb	121	1	nogas	0.240	20.9	2527	13.2	2.5	
Tl	205	1	nogas	0.186	35.8	2760	35.4	1	
Pb	208	1	nogas	0.140	40.6	3470	32.1	2.5	
U	238	1	nogas	0.239	29.2	4841	29.9	2.5	
[Pb]	206	1	nogas	0.155	35.4	873	31.3	2.5	
[Pb]	207	1	nogas	0.116	44.5	703	34.3	2.5	
Na	23	2	He	97.350	29.3	138895	1.0	100	
Mg	24	2	He	1.122	137.7	1347	10.6	100	
Al	27	2	He	-2.268	-66.2	100	34.6	5	
K	39	2	He	-3.650	-321.1	10950	4.3	100	
Ca	43	2	He	89.580	48.3	17	34.6	100	
Ca	44	2	He	21.412	60.1	297	13.6	100	
V	51	2	He	0.194	24.3	541	5.9	2.5	
Cr	52	2	He	0.208	41.0	1380	6.6	2.5	
Mn	55	2	He	0.008	978.4	147	28.4	2.5	
Fe	56	2	He	22.000	4.2	28182	2.9	100	
Co	59	2	He	0.025	18.8	93	16.4	2.5	
Ni	60	2	He	-0.345	-16.8	267	11.5	2.5	
Cu	63	2	He	0.066	82.7	707	12.8	2.5	
Zn	66	2	He	-0.036	-344.8	63	50.8	2.5	
As	75	2	He	0.300	35.8	62	25.3	2.5	
Se	78	2	He	0.527	247.9	9	86.6	2.5	
B	11	1	nogas	22.285	9.2	82991	1.3	10	CCB Main CR1 Failed
Si	28	1	nogas	8.213	79.7	964525	1.8	5	CCB Main CR1 Failed
Ca	43	1	nogas	-7.609	-166.5	1303	14.7	100	
Ca	44	1	nogas	-304.373	-2.4	88847	1.1	100	
Fe	56	1	nogas	32.907	32.8	1229927	10.5	100	
Se	77	1	nogas	56.898	16.8	27468	5.1	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.073	-1213.2	560	15.3	2.5	
Mo	95	1	nogas	0.483	24.3	1533	22.2	2.5	
Sn	118	1	nogas	0.396	18.9	2614	11.9	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.184	34.1	670	19.6	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.196	29.1	227	15.5	2.5	
P	31	1	nogas	-4.337	-44.5	45204	1.0	10	
La	139	1	nogas	93.260	29.7	210	21.8	2.5	CCB Main CR1 Failed
Au	197	1	nogas	145.568	111.2	7	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	325396	3.09	327043	99.50	70	125	
Ge	72	1	nogas	1458137	1.11	1420865	102.62	70	125	
In	115	1	nogas	1540755	1.81	1584599	97.23	70	125	
Bi	209	1	nogas	1470527	1.51	1610392	91.31	70	125	
Ge	72	2	He	111895	4.46	106219	105.34	70	125	

Interference Check Solution A (ICS-A) Report

Sample Table

Sample Name	ICSA
Data File Name	330ICSA.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T23:08:00-06:00
Sample Type	ICSA
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.009	172.6	40	90.1	0	ICSA Main CR1 Failed
Na	23	1	nogas	100910.452	0.5	911438387	1.2	0	
Mg	24	1	nogas	104659.589	1.2	655374248	1.6	0	
Al	27	1	nogas	94613.536	4.1	696935363	4.5	0	
K	39	1	nogas	97730.734	2.5	718500966	1.6	0	
Ti	47	1	nogas	1908.220	2.5	1511553	2.2	0	
V	51	1	nogas	19.437	16.6	648925	2.7	0	
Cr	52	1	nogas	0.877	5.2	21413	1.3	0	ICSA Main CR1 Failed
Mn	55	1	nogas	0.326	8.5	14766	2.2	0	ICSA Main CR1 Failed
Co	59	1	nogas	0.068	4.9	997	7.0	0	ICSA Main CR1 Failed
Ni	60	1	nogas	0.634	15.9	4044	5.1	0	ICSA Main CR1 Failed
Cu	63	1	nogas	0.846	2.8	7465	5.3	0	ICSA Main CR1 Failed
Zn	66	1	nogas	1.008	7.2	3220	2.7	0	ICSA Main CR1 Failed
As	75	1	nogas	25.337	12.0	117865	2.1	0	
Sr	88	1	nogas	0.144	8.7	17008	3.4	0	ICSA Main CR1 Failed
Ag	107	1	nogas	0.008	56.9	523	6.7	0	ICSA Main CR1 Failed
Cd	111	1	nogas	0.973	23.3	1540	20.1	0	ICSA Main CR1 Failed
Sb	121	1	nogas	0.082	44.1	1397	18.9	0	ICSA Main CR1 Failed
Tl	205	1	nogas	0.010	34.5	247	19.2	0	ICSA Main CR1 Failed
Pb	208	1	nogas	0.059	21.6	1880	13.3	0	ICSA Main CR1 Failed
[Pb]	206	1	nogas	0.092	22.1	510	13.7	0	ICSA Main CR1 Failed
[Pb]	207	1	nogas	0.061	54.3	413	31.6	0	ICSA Main CR1 Failed
Na	23	2	He	94953.058	1.6	15480114	0.7	0	
Mg	24	2	He	90613.401	2.4	7275876	1.3	0	
Al	27	2	He	93511.519	3.3	1896553	1.6	0	
K	39	2	He	95814.001	1.8	3862757	1.8	0	
Ca	43	2	He	94116.968	2.9	12945	1.2	0	
Ca	44	2	He	91711.046	2.4	224985	0.8	0	
V	51	2	He	-0.008	-555.1	322	12.4	0	ICSA Main CR1 Failed
Cr	52	2	He	0.232	29.2	1327	7.7	0	ICSA Main CR1 Failed
Mn	55	2	He	0.363	12.8	310	8.5	0	ICSA Main CR1 Failed
Fe	56	2	He	89411.024	2.2	89196959	1.3	0	
Co	59	2	He	0.005	140.8	43	35.3	0	ICSA Main CR1 Failed
Ni	60	2	He	-0.155	-44.7	367	12.3	0	ICSA Main CR1 Failed
Cu	63	2	He	0.261	35.6	1003	17.0	0	ICSA Main CR1 Failed
Zn	66	2	He	0.500	38.0	193	23.3	0	ICSA Main CR1 Failed
As	75	2	He	0.195	35.4	42	27.7	0	ICSA Main CR1 Failed
Se	78	2	He	-0.634	-54.5	2	100.0	0	ICSA Main CR1 Failed
B	11	1	nogas	19.692	29.8	78277	3.9	0	ICSA Main CR1 Failed
Si	28	1	nogas	131.871	5.4	1373181	2.6	0	
Ca	43	1	nogas	95873.071	3.6	1454596	1.9	0	
Ca	44	1	nogas	96634.599	2.5	23064123	1.2	0	
Fe	56	1	nogas	95646.322	2.8	1120763158	2.5	0	
Se	77	1	nogas	132.086	14.7	37973	4.3	0	
Se	82	1	nogas	-0.380	-259.8	517	20.1	0	ICSA Main CR1 Failed
Mo	95	1	nogas	1976.891	3.0	5630924	1.6	0	
Sn	118	1	nogas	0.025	58.8	793	11.7	0	ICSA Main CR1 Failed
Ba	137	1	nogas	0.088	43.3	437	23.1	0	ICSA Main CR1 Failed
Sb	121	2	He	0.062	90.6	120	33.3	0	ICSA Main CR1 Failed

Interference Check Solution A (ICS-A) Report

P	31	1	nogas	92669.751	2.8	43691813	3.7	0	
La	139	1	nogas	124.231	15.0	250	13.9	0	

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	323655	7.15	327043	98.96	70	125	
Ge	72	1	nogas	1423305	3.46	1420865	100.17	70	125	
In	115	1	nogas	1469989	5.16	1584599	92.77	70	125	
Bi	209	1	nogas	1332396	3.67	1610392	82.74	70	125	
Ge	72	2	He	104918	1.75	106219	98.78	70	125	

Interference Check Solution AB (ICS-AB) Report

Sample Table

Sample Name	ICSAB
Data File Name	331ICSB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T23:10:05-06:00
Sample Type	ICSB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High	QC Flag
Be	9	1	nogas	94.465	5.242	208456	1.83	100	94.5	80	120	
Na	23	1	nogas	108049.035	2.920	995438189	2.66	100	108049.0	80	120	ICSB Main CR1 Failed
Mg	24	1	nogas	112250.764	2.927	717075799	1.22	100	112250.8	80	120	ICSB Main CR1 Failed
Al	27	1	nogas	98023.137	2.284	723338629	2.31	100	98023.1	80	120	ICSB Main CR1 Failed
K	39	1	nogas	109296.957	2.147	804592451	0.41	100	109297.0	80	120	
Ti	47	1	nogas	2053.482	1.679	1630236	3.36	100	2053.5	80	120	ICSB Main CR1 Failed
V	51	1	nogas	103.664	2.976	1675614	1.65	100	103.7	80	120	
Cr	52	1	nogas	96.511	3.079	981173	2.50	100	96.5	80	120	
Mn	55	1	nogas	100.271	3.336	1277382	3.05	100	100.3	80	120	
Co	59	1	nogas	95.790	2.592	1034370	1.29	100	95.8	80	120	
Ni	60	1	nogas	97.991	3.305	241497	2.16	100	98.0	80	120	
Cu	63	1	nogas	97.603	1.220	577996	1.84	100	97.6	80	120	
Zn	66	1	nogas	98.602	2.052	189516	2.27	100	98.6	80	120	
As	75	1	nogas	107.233	1.045	291387	2.23	100	107.2	80	120	
Sr	88	1	nogas	104.930	5.251	1382519	3.25	100	104.9	80	120	
Ag	107	1	nogas	91.803	2.419	714410	4.04	100	91.8	80	120	
Cd	111	1	nogas	96.238	3.910	152030	5.38	100	96.2	80	120	
Sb	121	1	nogas	103.328	2.016	701997	0.75	100	103.3	80	120	
Tl	205	1	nogas	96.834	2.227	1239521	3.40	100	96.8	80	120	
Pb	208	1	nogas	91.365	4.773	1793717	4.77	100	91.4	80	120	
U	238	1	nogas	106.078	1.872	1898158	2.56	100	106.1	80	120	
[Pb]	206	1	nogas	99.575	2.354	435511	3.51	100	99.6	80	120	
[Pb]	207	1	nogas	99.756	4.252	400405	5.36	100	99.8	80	120	
Na	23	2	He	104097.519	1.844	17064142	0.69	100	104097.5	80	120	
Mg	24	2	He	100536.895	1.952	8122613	0.66	100	100536.9	80	120	
Al	27	2	He	94261.274	2.953	1923555	0.51	100	94261.3	80	120	ICSB Main CR1 Failed
K	39	2	He	106537.245	1.808	4293824	1.80	100	106537.2	80	120	
Ca	43	2	He	101727.446	2.941	14082	3.44	100	101727.4	80	120	ICSB Main CR1 Failed
Ca	44	2	He	100932.438	3.194	249082	1.23	100	100932.4	80	120	
V	51	2	He	97.548	2.162	90771	1.23	100	97.5	80	120	
Cr	52	2	He	94.299	3.089	120838	1.42	100	94.3	80	120	
Mn	55	2	He	93.727	4.691	45871	2.24	100	93.7	80	120	
Fe	56	2	He	99387.845	2.467	99752079	0.21	100	99387.8	80	120	
Co	59	2	He	95.879	2.045	208224	0.53	100	95.9	80	120	
Ni	60	2	He	96.194	0.210	59741	2.63	100	96.2	80	120	
Cu	63	2	He	95.040	2.563	166615	0.42	100	95.0	80	120	
Zn	66	2	He	96.000	1.904	24223	0.63	100	96.0	80	120	
As	75	2	He	97.732	4.490	15638	2.04	100	97.7	80	120	
Se	78	2	He	93.294	4.360	548	3.24	100	93.3	80	120	
B	11	1	nogas	460.233	8.888	733788	4.76	100	460.2	80	120	
Si	28	1	nogas	5126.957	2.329	18850246	2.18	100	5127.0	80	120	ICSB Main CR1 Failed
Ca	43	1	nogas	107400.140	0.883	1633277	2.71	100	107400.1	80	120	
Ca	44	1	nogas	104962.730	1.917	25099304	3.88	100	104962.7	80	120	
Fe	56	1	nogas	106320.170	0.229	1248310261	1.83	100	106320.2	80	120	
Se	77	1	nogas	148.110	2.026	40495	2.23	100	148.1	80	120	ICSB Main CR1 Failed
Se	82	1	nogas	100.542	3.951	10667	1.75	100	100.5	80	120	
Mo	95	1	nogas	2078.526	3.593	5930872	1.62	100	2078.5	80	120	
Sn	118	1	nogas	100.331	1.932	460518	0.81	100	100.3	80	120	
Ba	137	1	nogas	98.776	0.902	212607	2.71	100	98.8	80	120	
Sb	121	2	He	102.299	2.531	72086	0.93	100	102.3	80	120	
La	139	1	nogas	348.645	11.682	607	13.22	100	348.6	80	120	ICSB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	320047	3.80	327043	97.86	70	125	
Ge	72	1	nogas	1425626	1.98	1420865	100.34	70	125	
In	115	1	nogas	1467847	2.74	1584599	92.63	70	125	
Bi	209	1	nogas	1327468	2.00	1610392	82.43	70	125	
Ge	72	2	He	105576	2.46	106219	99.40	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	335_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T23:18:07-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	101.160	2.467	208841	0.96	100	101.2	90	110	
Na	23	1	nogas	10352.946	4.457	102620529	5.01	10000	103.5	90	110	
Mg	24	1	nogas	10242.896	4.588	67458735	5.42	10000	102.4	90	110	
Al	27	1	nogas	107.305	7.614	833643	3.26	100	107.3	90	110	
K	39	1	nogas	9698.411	4.924	77369145	0.47	10000	97.0	90	110	
Ti	47	1	nogas	95.435	5.031	78450	2.71	100	95.4	90	110	
V	51	1	nogas	94.867	5.686	1621954	2.38	100	94.9	90	110	
Cr	52	1	nogas	98.061	3.790	1031158	4.08	100	98.1	90	110	
Mn	55	1	nogas	99.867	4.417	1315804	3.70	100	99.9	90	110	
Co	59	1	nogas	99.065	5.763	1105716	2.65	100	99.1	90	110	
Ni	60	1	nogas	98.080	7.859	249694	3.70	100	98.1	90	110	
Cu	63	1	nogas	97.979	8.198	599116	3.88	100	98.0	90	110	
Zn	66	1	nogas	99.515	3.770	197741	1.17	100	99.5	90	110	
As	75	1	nogas	94.431	6.669	273267	4.02	100	94.4	90	110	
Sr	88	1	nogas	98.627	10.090	1342804	5.50	100	98.6	90	110	
Ag	107	1	nogas	93.411	3.713	751332	1.50	100	93.4	90	110	
Cd	111	1	nogas	96.675	2.421	161502	1.22	100	96.7	90	110	
Sb	121	1	nogas	104.084	6.287	730740	2.74	100	104.1	90	110	
Tl	205	1	nogas	101.529	1.179	1424285	0.85	100	101.5	90	110	
Pb	208	1	nogas	97.676	1.403	1917553	1.40	100	97.7	90	110	
U	238	1	nogas	98.199	5.788	1925473	5.03	100	98.2	90	110	
[Pb]	206	1	nogas	100.994	0.827	484087	0.33	100	101.0	90	110	
[Pb]	207	1	nogas	93.376	1.608	410690	1.00	100	93.4	90	110	
Na	23	2	He	10005.591	3.004	1773546	1.64	10000	100.1	90	110	
Mg	24	2	He	9687.890	3.801	796672	0.91	10000	96.9	90	110	
Al	27	2	He	96.774	3.385	2150	0.47	100	96.8	90	110	
K	39	2	He	10225.703	2.081	422163	2.03	10000	102.3	90	110	
Ca	43	2	He	10072.717	4.849	1420	2.54	10000	100.7	90	110	
Ca	44	2	He	9793.300	2.138	24787	1.18	10000	97.9	90	110	
V	51	2	He	100.161	3.481	94736	1.08	100	100.2	90	110	
Cr	52	2	He	99.109	2.608	129103	2.07	100	99.1	90	110	
Mn	55	2	He	101.199	5.029	50353	3.33	100	101.2	90	110	
Fe	56	2	He	9505.305	3.663	9703883	2.34	10000	95.1	90	110	
Co	59	2	He	100.263	3.216	221365	1.35	100	100.3	90	110	
Ni	60	2	He	99.629	3.944	62854	1.30	100	99.6	90	110	
Cu	63	2	He	96.410	3.984	171803	1.13	100	96.4	90	110	
Zn	66	2	He	96.521	4.848	24750	2.05	100	96.5	90	110	
As	75	2	He	103.669	2.814	16877	3.42	100	103.7	90	110	
Se	78	2	He	99.397	2.509	593	0.51	100	99.4	90	110	
B	11	1	nogas	509.656	7.763	755345	4.95	500	101.9	90	110	
Si	28	1	nogas	5004.219	8.085	19025884	3.70	5000	100.1	90	110	
Ca	43	1	nogas	9516.001	4.871	150912	3.67	10000	95.2	90	110	
Ca	44	1	nogas	9445.477	6.946	2482670	3.35	10000	94.5	90	110	
Fe	56	1	nogas	9734.228	5.207	118942836	4.51	10000	97.3	90	110	
Se	77	1	nogas	92.342	15.731	33221	3.40	100	92.3	90	110	
Se	82	1	nogas	101.690	13.186	11124	7.92	100	101.7	90	110	
Mo	95	1	nogas	95.833	5.083	282833	1.19	100	95.8	90	110	
Sn	118	1	nogas	91.216	1.083	443200	2.27	100	91.2	90	110	
Ba	137	1	nogas	98.343	1.981	223910	0.45	100	98.3	90	110	
Sb	121	2	He	108.469	5.245	77672	2.52	100	108.5	90	110	
Li	7	1	nogas	108.524	1.236	586337	2.97	100	108.5	90	110	
P	31	1	nogas	488.305	7.651	285778	1.98	500	97.7	90	110	
La	139	1	nogas	184.828	23.186	367	22.04	100	184.8	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-370.640	-78.476	43	48.04	100	-370.6	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	299184	3.16	327043	91.48	70	125	
Ge	72	1	nogas	1475370	4.38	1420865	103.84	70	125	
In	115	1	nogas	1553066	2.18	1584599	98.01	70	125	
Bi	209	1	nogas	1455009	0.79	1610392	90.35	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	107360	2.97	106219	101.07	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	336_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T23:20:04-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.176	14.7	440	12.7	1	
Na	23	1	nogas	16.320	87.2	5052361	0.9	100	
Mg	24	1	nogas	4.613	149.8	144675	27.6	100	
Al	27	1	nogas	2.038	23.6	30523	8.7	5	
K	39	1	nogas	22.028	101.5	3971562	1.3	100	
Ti	47	1	nogas	0.395	25.6	470	14.9	2.5	
V	51	1	nogas	-1.562	-82.5	398089	2.3	2.5	
Cr	52	1	nogas	0.351	37.7	16277	5.3	2.5	
Mn	55	1	nogas	0.109	64.3	12134	4.9	2.5	
Co	59	1	nogas	0.138	46.9	1760	37.3	2.5	
Ni	60	1	nogas	-0.219	-30.8	1987	7.9	2.5	
Cu	63	1	nogas	0.213	20.5	3770	4.5	2.5	
Zn	66	1	nogas	-0.227	-41.2	873	17.5	2.5	
As	75	1	nogas	0.002	25233.5	65113	2.4	2.5	
Sr	88	1	nogas	-0.675	-13.3	6378	15.8	2.5	
Ag	107	1	nogas	0.169	30.6	1787	19.6	2.5	
Cd	111	1	nogas	0.149	74.1	250	66.8	1	
Sb	121	1	nogas	0.243	29.2	2500	16.8	2.5	
Tl	205	1	nogas	0.213	32.5	3010	31.1	1	
Pb	208	1	nogas	0.151	34.1	3690	27.4	2.5	
U	238	1	nogas	0.248	28.9	4818	27.9	2.5	
[Pb]	206	1	nogas	0.199	26.0	1043	23.0	2.5	
[Pb]	207	1	nogas	0.144	37.4	793	28.1	2.5	
Na	23	2	He	-33.341	-60.3	114709	1.9	100	
Mg	24	2	He	3.612	54.0	1537	11.0	100	
Al	27	2	He	-0.935	-223.2	127	36.5	5	
K	39	2	He	11.948	97.8	11577	4.1	100	
Ca	43	2	He	20.812	383.7	7	173.2	100	
Ca	44	2	He	-2.657	-1291.4	230	38.6	100	
V	51	2	He	0.102	31.4	445	8.3	2.5	
Cr	52	2	He	0.235	26.5	1397	7.0	2.5	
Mn	55	2	He	0.025	449.2	153	38.2	2.5	
Fe	56	2	He	26.510	2.1	32512	2.8	100	
Co	59	2	He	0.028	50.3	97	33.3	2.5	
Ni	60	2	He	-0.168	-107.1	377	30.8	2.5	
Cu	63	2	He	0.121	21.3	797	6.3	2.5	
Zn	66	2	He	0.031	451.5	80	45.1	2.5	
As	75	2	He	0.389	32.2	77	28.5	2.5	
Se	78	2	He	-0.543	-91.3	3	114.6	2.5	
B	11	1	nogas	13.233	19.8	73285	4.2	10	CCB Main CR1 Failed
Si	28	1	nogas	80.770	21.8	1205073	2.6	5	CCB Main CR1 Failed
Ca	43	1	nogas	-2.734	-156.4	1360	7.2	100	
Ca	44	1	nogas	-274.677	-7.9	94554	2.6	100	
Fe	56	1	nogas	30.885	47.8	1185546	12.8	100	
Se	77	1	nogas	23.469	9.1	22024	2.3	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.231	-146.3	537	8.8	2.5	
Mo	95	1	nogas	0.646	20.5	1977	19.1	2.5	
Sn	118	1	nogas	0.417	22.9	2687	11.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.156	55.3	600	27.5	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.199	50.7	227	33.7	2.5	
P	31	1	nogas	2.725	145.5	47867	1.8	10	
La	139	1	nogas	80.551	32.3	187	18.8	2.5	CCB Main CR1 Failed
Au	197	1	nogas	141.667	59.5	7	86.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	344237	1.72	327043	105.26	70	125	
Ge	72	1	nogas	1436557	2.87	1420865	101.10	70	125	
In	115	1	nogas	1531412	4.73	1584599	96.64	70	125	
Bi	209	1	nogas	1411193	1.04	1610392	87.63	70	125	
Ge	72	2	He	110218	1.32	106219	103.77	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	347_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T23:42:14-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	94.335	3.388	201307	0.88	100	94.3	90	110	
Na	23	1	nogas	9977.574	2.170	96643229	1.36	10000	99.8	90	110	
Mg	24	1	nogas	9918.642	1.748	63740847	3.38	10000	99.2	90	110	
Al	27	1	nogas	103.735	5.464	792554	4.06	100	103.7	90	110	
K	39	1	nogas	9855.598	1.612	77181258	1.68	10000	98.6	90	110	
Ti	47	1	nogas	95.155	3.514	76834	3.25	100	95.2	90	110	
V	51	1	nogas	103.425	4.082	1698962	3.72	100	103.4	90	110	
Cr	52	1	nogas	100.108	4.378	1033600	5.76	100	100.1	90	110	
Mn	55	1	nogas	105.850	1.665	1369065	2.94	100	105.9	90	110	
Co	59	1	nogas	98.416	2.937	1079076	1.05	100	98.4	90	110	
Ni	60	1	nogas	99.140	3.369	248076	2.09	100	99.1	90	110	
Cu	63	1	nogas	99.626	4.908	598742	3.20	100	99.6	90	110	
Zn	66	1	nogas	98.443	2.223	192108	0.95	100	98.4	90	110	
As	75	1	nogas	100.791	2.712	282054	2.81	100	100.8	90	110	
Sr	88	1	nogas	102.139	2.267	1367510	0.90	100	102.1	90	110	
Ag	107	1	nogas	91.938	2.704	726231	2.41	100	91.9	90	110	
Cd	111	1	nogas	95.381	0.709	161681	2.28	100	95.4	90	110	
Sb	121	1	nogas	104.820	1.036	723266	1.77	100	104.8	90	110	
Tl	205	1	nogas	101.468	4.144	1392436	0.89	100	101.5	90	110	
Pb	208	1	nogas	94.331	0.891	1851923	0.89	100	94.3	90	110	
U	238	1	nogas	100.190	3.088	1922677	0.43	100	100.2	90	110	
[Pb]	206	1	nogas	99.362	6.212	465660	2.74	100	99.4	90	110	
[Pb]	207	1	nogas	91.614	5.179	394078	1.70	100	91.6	90	110	
Na	23	2	He	10158.551	1.311	1748859	2.24	10000	101.6	90	110	
Mg	24	2	He	9765.477	0.489	780892	1.47	10000	97.7	90	110	
Al	27	2	He	103.068	16.925	2214	14.26	100	103.1	90	110	
K	39	2	He	9797.943	2.957	404968	2.88	10000	98.0	90	110	
Ca	43	2	He	11052.562	9.823	1513	8.21	10000	110.5	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	9745.779	4.249	23973	3.45	10000	97.5	90	110	
V	51	2	He	101.166	2.445	93012	0.66	100	101.2	90	110	
Cr	52	2	He	96.913	1.249	122753	2.70	100	96.9	90	110	
Mn	55	2	He	99.826	2.005	48297	1.56	100	99.8	90	110	
Fe	56	2	He	9454.757	2.331	9382753	1.48	10000	94.5	90	110	
Co	59	2	He	100.732	2.454	216178	0.86	100	100.7	90	110	
Ni	60	2	He	101.169	1.680	62052	1.28	100	101.2	90	110	
Cu	63	2	He	100.293	3.193	173720	1.61	100	100.3	90	110	
Zn	66	2	He	99.510	4.911	24804	3.53	100	99.5	90	110	
As	75	2	He	105.617	1.498	16708	0.54	100	105.6	90	110	
Se	78	2	He	105.140	5.157	610	6.01	100	105.1	90	110	
B	11	1	nogas	466.675	2.132	719604	0.49	500	93.3	90	110	
Si	28	1	nogas	5161.741	3.452	19261922	2.24	5000	103.2	90	110	
Ca	43	1	nogas	9822.869	2.344	152915	0.74	10000	98.2	90	110	
Ca	44	1	nogas	9824.070	4.214	2530157	2.06	10000	98.2	90	110	
Fe	56	1	nogas	9846.775	0.686	118156373	2.21	10000	98.5	90	110	
Se	77	1	nogas	110.911	6.529	35482	4.50	100	110.9	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	96.614	4.554	10430	2.46	100	96.6	90	110	
Mo	95	1	nogas	94.896	2.650	275158	2.25	100	94.9	90	110	
Sn	118	1	nogas	90.110	1.579	444049	0.89	100	90.1	90	110	
Ba	137	1	nogas	93.449	0.997	215910	2.65	100	93.4	90	110	
Sb	121	2	He	108.671	0.079	75694	1.94	100	108.7	90	110	
Li	7	1	nogas	105.911	2.331	592479	4.55	100	105.9	90	110	
P	31	1	nogas	502.901	3.080	287894	2.71	500	100.6	90	110	
La	139	1	nogas	168.854	41.740	343	34.75	100	168.9	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-143.684	-231.081	27	86.60	100	-143.7	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	nogas	309269	2.46	327043	94.57	70	125	
Ge	72	1	nogas	1447672	1.95	1420865	101.89	70	125	
In	115	1	nogas	1575401	2.14	1584599	99.42	70	125	
Bi	209	1	nogas	1424638	3.54	1610392	88.47	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	104326	1.89	106219	98.22	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	348_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-02T23:44:11-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.146	69.3	350	65.9	1	
Na	23	1	nogas	-17.188	-88.5	4633149	1.2	100	
Mg	24	1	nogas	20.971	39.4	246127	19.6	100	
Al	27	1	nogas	0.996	6.0	23161	1.4	5	
K	39	1	nogas	1.652	469.2	3876872	0.7	100	
Ti	47	1	nogas	0.325	34.2	420	20.8	2.5	
V	51	1	nogas	3.669	19.8	468854	1.0	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.352	21.8	16541	6.0	2.5	
Mn	55	1	nogas	0.395	10.4	16021	5.0	2.5	
Co	59	1	nogas	0.154	61.4	1980	54.7	2.5	
Ni	60	1	nogas	-0.251	-8.9	1937	2.1	2.5	
Cu	63	1	nogas	0.330	30.0	4534	14.1	2.5	
Zn	66	1	nogas	-0.139	-52.9	1063	15.2	2.5	
As	75	1	nogas	2.807	36.2	72069	1.7	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	-0.590	-10.8	7625	12.1	2.5	
Ag	107	1	nogas	0.184	21.4	1937	18.0	2.5	
Cd	111	1	nogas	0.156	91.4	267	86.0	1	
Sb	121	1	nogas	0.233	20.1	2477	13.9	2.5	
Tl	205	1	nogas	0.207	43.6	3050	46.7	1	
Pb	208	1	nogas	0.168	48.2	4017	39.5	2.5	
U	238	1	nogas	0.260	24.6	5228	28.6	2.5	
[Pb]	206	1	nogas	0.194	39.5	1057	39.5	2.5	
[Pb]	207	1	nogas	0.136	54.2	787	45.6	2.5	
Na	23	2	He	-93.308	-21.6	103060	1.9	100	
Mg	24	2	He	13.643	4.8	2350	3.6	100	
Al	27	2	He	-2.586	-47.3	90	29.4	5	
K	39	2	He	-5.226	-162.0	10887	3.1	100	
Ca	43	2	He	44.240	157.3	10	100.0	100	
Ca	44	2	He	-11.758	-77.7	203	10.2	100	
V	51	2	He	0.219	14.2	550	5.1	2.5	
Cr	52	2	He	0.182	75.0	1307	12.3	2.5	
Mn	55	2	He	0.415	17.4	347	8.8	2.5	
Fe	56	2	He	25.642	7.1	31147	4.9	100	
Co	59	2	He	0.048	91.4	140	68.1	2.5	
Ni	60	2	He	-0.164	-72.4	373	18.8	2.5	
Cu	63	2	He	0.179	19.9	890	8.5	2.5	
Zn	66	2	He	0.072	187.3	90	40.1	2.5	
As	75	2	He	0.262	49.4	54	37.4	2.5	
Se	78	2	He	0.141	377.9	7	45.8	2.5	
B	11	1	nogas	16.389	11.0	74031	4.4	10	CCB Main CR1 Failed
Si	28	1	nogas	16.711	43.6	993847	2.3	5	CCB Main CR1 Failed
Ca	43	1	nogas	12.858	53.8	1620	6.9	100	
Ca	44	1	nogas	-273.972	-2.7	96122	0.4	100	
Fe	56	1	nogas	43.034	16.1	1350577	7.3	100	
Se	77	1	nogas	27.991	13.7	23018	0.5	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.040	-3283.8	563	24.1	2.5	
Mo	95	1	nogas	0.525	38.7	1657	36.9	2.5	
Sn	118	1	nogas	0.383	24.0	2560	14.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.164	59.9	627	32.9	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.176	21.2	207	14.0	2.5	
P	31	1	nogas	-3.455	-65.8	45575	0.7	10	
La	139	1	nogas	62.825	20.1	160	10.8	2.5	CCB Main CR1 Failed
Au	197	1	nogas	53.099	133.7	13	43.3	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	325056	2.18	327043	99.39	70	125	
Ge	72	1	nogas	1456661	2.16	1420865	102.52	70	125	
In	115	1	nogas	1549391	2.37	1584599	97.78	70	125	
Bi	209	1	nogas	1452617	4.80	1610392	90.20	70	125	
Ge	72	2	He	108694	1.65	106219	102.33	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	359_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-03T00:06:12-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	98.315	3.194	200720	1.60	100	98.3	90	110	
Na	23	1	nogas	10241.810	1.562	97882586	1.60	10000	102.4	90	110	
Mg	24	1	nogas	10342.463	1.042	65634406	0.72	10000	103.4	90	110	
Al	27	1	nogas	102.616	2.048	781842	1.81	100	102.6	90	110	
K	39	1	nogas	9375.956	2.395	73359972	1.79	10000	93.8	90	110	
Ti	47	1	nogas	93.161	2.227	74969	0.93	100	93.2	90	110	
V	51	1	nogas	108.041	2.885	1749743	1.51	100	108.0	90	110	
Cr	52	1	nogas	97.271	2.022	1000901	2.34	100	97.3	90	110	
Mn	55	1	nogas	99.792	3.145	1287003	3.87	100	99.8	90	110	
Co	59	1	nogas	95.853	1.189	1047815	1.95	100	95.9	90	110	
Ni	60	1	nogas	96.123	2.433	239876	2.88	100	96.1	90	110	
Cu	63	1	nogas	98.671	1.068	591400	2.33	100	98.7	90	110	
Zn	66	1	nogas	99.199	0.657	193006	2.98	100	99.2	90	110	
As	75	1	nogas	104.104	2.205	288181	2.07	100	104.1	90	110	
Sr	88	1	nogas	97.669	2.389	1304403	3.36	100	97.7	90	110	
Ag	107	1	nogas	94.153	1.961	741203	1.10	100	94.2	90	110	
Cd	111	1	nogas	100.468	2.762	162880	2.59	100	100.5	90	110	
Sb	121	1	nogas	101.407	4.133	697055	2.05	100	101.4	90	110	
Tl	205	1	nogas	104.168	4.507	1405951	1.89	100	104.2	90	110	
Pb	208	1	nogas	94.837	1.869	1861845	1.87	100	94.8	90	110	
U	238	1	nogas	100.892	4.117	1904028	1.90	100	100.9	90	110	
[Pb]	206	1	nogas	102.449	4.453	472474	2.12	100	102.4	90	110	
[Pb]	207	1	nogas	94.710	3.303	400881	1.17	100	94.7	90	110	
Na	23	2	He	9983.321	3.435	1723447	2.04	10000	99.8	90	110	
Mg	24	2	He	9586.922	4.607	767716	2.67	10000	95.9	90	110	
Al	27	2	He	105.106	13.560	2260	11.38	100	105.1	90	110	
K	39	2	He	9655.252	1.228	399232	1.19	10000	96.6	90	110	
Ca	43	2	He	10394.377	8.902	1427	7.75	10000	103.9	90	110	
Ca	44	2	He	9974.711	1.993	24583	2.02	10000	99.7	90	110	
V	51	2	He	99.610	2.925	91762	1.38	100	99.6	90	110	
Cr	52	2	He	94.284	2.374	119668	2.69	100	94.3	90	110	
Mn	55	2	He	98.034	0.310	47535	2.22	100	98.0	90	110	
Fe	56	2	He	9306.468	1.885	9253604	0.30	10000	93.1	90	110	
Co	59	2	He	99.672	2.595	214339	1.94	100	99.7	90	110	
Ni	60	2	He	99.224	4.829	60962	3.05	100	99.2	90	110	
Cu	63	2	He	97.451	3.013	169140	0.94	100	97.5	90	110	
Zn	66	2	He	98.055	3.983	24494	2.95	100	98.1	90	110	
As	75	2	He	104.643	4.259	16580	2.21	100	104.6	90	110	
Se	78	2	He	97.469	4.370	567	3.43	100	97.5	90	110	
B	11	1	nogas	491.619	2.322	722800	1.12	500	98.3	90	110	
Si	28	1	nogas	5059.421	1.254	18840318	1.94	5000	101.2	90	110	
Ca	43	1	nogas	9622.545	3.009	149306	0.59	10000	96.2	90	110	
Ca	44	1	nogas	9615.432	2.862	2472049	1.27	10000	96.2	90	110	
Fe	56	1	nogas	9595.018	3.265	114762411	3.49	10000	96.0	90	110	
Se	77	1	nogas	129.290	2.573	38144	3.34	100	129.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	97.130	2.478	10460	5.34	100	97.1	90	110	
Mo	95	1	nogas	94.540	2.521	273180	1.05	100	94.5	90	110	
Sn	118	1	nogas	89.701	3.208	422844	2.90	100	89.7	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	101.118	2.698	223379	1.38	100	101.1	90	110	
Sb	121	2	He	107.832	2.487	75232	0.41	100	107.8	90	110	
Li	7	1	nogas	105.338	2.053	563596	2.33	100	105.3	90	110	
P	31	1	nogas	480.366	1.039	276247	3.11	500	96.1	90	110	
La	139	1	nogas	237.253	16.292	440	13.64	100	237.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	142.869	58.289	7	86.60	100	142.9	90	110	CCV Main CR1-2 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	295854	2.44	327043	90.46	70	125	
Ge	72	1	nogas	1443104	3.08	1420865	101.57	70	125	
In	115	1	nogas	1507549	3.95	1584599	95.14	70	125	
Bi	209	1	nogas	1400948	2.69	1610392	86.99	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	104534	2.17	106219	98.41	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	360_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-03T00:08:10-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.155	45.1	380	41.8	1	
Na	23	1	nogas	-144.215	-2.7	3522420	1.0	100	
Mg	24	1	nogas	20.925	23.8	250056	13.0	100	
Al	27	1	nogas	0.492	8.5	19487	4.8	5	
K	39	1	nogas	-12.023	-133.2	3796473	1.9	100	
Ti	47	1	nogas	0.350	23.9	443	15.4	2.5	
V	51	1	nogas	9.827	21.6	548374	2.0	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.460	8.7	17749	1.9	2.5	
Mn	55	1	nogas	0.433	5.9	16594	1.9	2.5	
Co	59	1	nogas	0.150	41.5	1930	34.9	2.5	
Ni	60	1	nogas	-0.303	-23.1	1813	6.6	2.5	
Cu	63	1	nogas	0.344	9.1	4641	4.0	2.5	
Zn	66	1	nogas	0.036	145.6	1410	7.0	2.5	
As	75	1	nogas	6.182	24.4	79814	1.6	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	-0.625	-10.1	7185	9.1	2.5	
Ag	107	1	nogas	0.177	30.3	1890	21.2	2.5	
Cd	111	1	nogas	0.161	31.0	280	29.2	1	
Sb	121	1	nogas	0.384	21.0	3544	15.3	2.5	
Tl	205	1	nogas	0.223	40.7	3224	40.6	1	
Pb	208	1	nogas	0.168	51.0	4017	41.8	2.5	
U	238	1	nogas	0.257	29.0	5091	29.8	2.5	
[Pb]	206	1	nogas	0.186	42.4	1003	38.9	2.5	
[Pb]	207	1	nogas	0.183	61.6	980	51.6	2.5	
Na	23	2	He	-204.945	-3.9	83278	3.0	100	
Mg	24	2	He	17.658	36.0	2647	19.5	100	
Al	27	2	He	-2.552	-134.2	90	80.1	5	
K	39	2	He	-29.952	-11.2	9893	1.4	100	
Ca	43	2	He	139.674	115.9	23	99.0	100	CCB Main CR1 Failed
Ca	44	2	He	25.316	59.2	293	11.0	100	
V	51	2	He	0.195	21.2	520	6.4	2.5	
Cr	52	2	He	0.214	21.4	1333	6.1	2.5	
Mn	55	2	He	0.425	34.3	347	19.6	2.5	
Fe	56	2	He	24.298	3.3	29377	2.4	100	
Co	59	2	He	0.041	24.4	123	18.7	2.5	
Ni	60	2	He	-0.280	-20.3	297	10.8	2.5	
Cu	63	2	He	0.227	23.5	963	8.1	2.5	
Zn	66	2	He	0.039	199.7	80	25.0	2.5	
As	75	2	He	0.348	25.5	68	19.9	2.5	
Se	78	2	He	-0.074	-272.3	5	21.7	2.5	
B	11	1	nogas	11.841	19.6	69283	3.5	10	CCB Main CR1 Failed
Si	28	1	nogas	15.944	81.1	996538	2.4	5	CCB Main CR1 Failed
Ca	43	1	nogas	8.119	105.9	1553	5.8	100	
Ca	44	1	nogas	-279.510	-2.8	95348	1.2	100	
Fe	56	1	nogas	38.610	13.7	1303977	3.0	100	
Se	77	1	nogas	49.706	14.2	26486	2.0	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.022	-4657.7	567	15.8	2.5	
Mo	95	1	nogas	0.519	35.3	1640	31.4	2.5	
Sn	118	1	nogas	0.342	16.4	2387	10.8	5	

Continuing Calibration Blank (CCB) Report

Ba	137	1	nogas	0.169	31.5	647	18.1	2.5	
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Sb	121	2	He	0.398	10.6	363	9.7	2.5	
P	31	1	nogas	-6.310	-78.3	44436	2.2	10	
La	139	1	nogas	73.615	34.1	180	24.2	2.5	CCB Main CR1 Failed
Au	197	1	nogas	48.403	454.4	13	114.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	335669	1.91	327043	102.64	70	125	
Ge	72	1	nogas	1465660	3.22	1420865	103.15	70	125	
In	115	1	nogas	1561750	0.71	1584599	98.56	70	125	
Bi	209	1	nogas	1435185	1.36	1610392	89.12	70	125	
Ge	72	2	He	107267	1.73	106219	100.99	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	371_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-03T00:30:21-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	108.556	2.313	195313	1.85	100	108.6	90	110	
Na	23	1	nogas	22062.125	28.781	213751142	26.79	10000	220.6	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	10002.984	2.622	66224906	2.61	10000	100.0	90	110	
Al	27	1	nogas	98.919	3.090	773435	1.71	100	98.9	90	110	
K	39	1	nogas	9974.701	0.357	79804431	1.19	10000	99.7	90	110	
Ti	47	1	nogas	93.945	2.688	77534	1.35	100	93.9	90	110	
V	51	1	nogas	120.185	4.687	1947721	2.55	100	120.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	96.378	3.036	1017008	1.70	100	96.4	90	110	
Mn	55	1	nogas	103.836	0.154	1372862	1.19	100	103.8	90	110	
Co	59	1	nogas	98.784	3.397	1107192	2.09	100	98.8	90	110	
Ni	60	1	nogas	105.582	3.073	269901	1.72	100	105.6	90	110	
Cu	63	1	nogas	110.241	1.456	677328	1.93	100	110.2	90	110	CCV Main CR1-2 Failed
Zn	66	1	nogas	99.504	1.511	198491	0.65	100	99.5	90	110	
As	75	1	nogas	111.014	3.220	310673	1.21	100	111.0	90	110	CCV Main CR1-2 Failed
Sr	88	1	nogas	189.988	30.277	2594129	31.49	100	190.0	90	110	CCV Main CR1-2 Failed
Ag	107	1	nogas	92.608	1.525	747783	1.04	100	92.6	90	110	
Cd	111	1	nogas	97.535	2.040	163635	3.55	100	97.5	90	110	
Sb	121	1	nogas	102.275	0.105	721398	1.30	100	102.3	90	110	
Tl	205	1	nogas	103.577	7.360	1368540	3.11	100	103.6	90	110	
Pb	208	1	nogas	92.469	0.694	1815364	0.69	100	92.5	90	110	
U	238	1	nogas	97.501	6.037	1801858	2.29	100	97.5	90	110	
[Pb]	206	1	nogas	101.092	7.257	456353	2.70	100	101.1	90	110	
[Pb]	207	1	nogas	93.694	4.829	388415	0.61	100	93.7	90	110	
Na	23	2	He	15176.159	4.723	2778083	3.04	10000	151.8	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	9338.454	3.911	811580	1.86	10000	93.4	90	110	
Al	27	2	He	98.417	3.455	2310	5.27	100	98.4	90	110	
K	39	2	He	10681.512	2.140	440487	2.09	10000	106.8	90	110	
Ca	43	2	He	11097.881	3.192	1653	1.52	10000	111.0	90	110	CCV Main CR1-2 Failed
Ca	44	2	He	10023.241	1.015	26810	2.65	10000	100.2	90	110	
V	51	2	He	98.833	1.854	98812	0.74	100	98.8	90	110	
Cr	52	2	He	94.175	3.356	129657	1.26	100	94.2	90	110	
Mn	55	2	He	97.963	5.213	51519	4.05	100	98.0	90	110	
Fe	56	2	He	9216.962	3.621	9943272	2.16	10000	92.2	90	110	
Co	59	2	He	95.899	4.642	223702	2.77	100	95.9	90	110	
Ni	60	2	He	95.552	6.958	63699	4.91	100	95.6	90	110	
Cu	63	2	He	95.296	3.796	179478	2.01	100	95.3	90	110	
Zn	66	2	He	94.792	1.553	25702	0.96	100	94.8	90	110	
As	75	2	He	100.698	2.510	17320	2.29	100	100.7	90	110	
Se	78	2	He	112.839	12.112	711	11.12	100	112.8	90	110	CCV Main CR1-2 Failed
B	11	1	nogas	747.009	6.388	946957	5.02	500	149.4	90	110	CCV Main CR1-2 Failed
Si	28	1	nogas	5029.003	1.807	19210333	0.99	5000	100.6	90	110	
Ca	43	1	nogas	11589.097	8.249	184336	9.55	10000	115.9	90	110	CCV Main CR1-2 Failed
Ca	44	1	nogas	11519.101	8.001	3007383	8.83	10000	115.2	90	110	CCV Main CR1-2 Failed
Fe	56	1	nogas	9684.445	4.767	118744328	3.42	10000	96.8	90	110	
Se	77	1	nogas	171.287	4.416	45621	1.61	100	171.3	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	104.480	5.175	11484	3.77	100	104.5	90	110	
Mo	95	1	nogas	94.294	2.614	279461	1.37	100	94.3	90	110	
Sn	118	1	nogas	87.809	1.635	428224	0.42	100	87.8	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	97.421	1.742	222761	3.48	100	97.4	90	110	
Sb	121	2	He	101.454	1.692	76824	0.82	100	101.5	90	110	
Li	7	1	nogas	112.460	3.158	528483	3.54	100	112.5	90	110	CCV Main CR1-2 Failed
P	31	1	nogas	494.386	0.859	290146	1.97	500	98.9	90	110	
La	139	1	nogas	210.177	20.845	410	18.41	100	210.2	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	-218.712	-207.516	30	100.00	100	-218.7	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	nogas	260636	1.07	327043	79.69	70	125	
Ge	72	1	nogas	1479743	1.34	1420865	104.14	70	125	
In	115	1	nogas	1558969	1.77	1584599	98.38	70	125	
Bi	209	1	nogas	1373395	4.70	1610392	85.28	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	113432	2.09	106219	106.79	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	372_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-03T00:32:20-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.209	38.6	450	38.0	1	
Na	23	1	nogas	3513.152	13.5	38625581	10.2	100	CCB Main CR1 Failed
Mg	24	1	nogas	50.521	45.1	453923	31.8	100	
Al	27	1	nogas	0.190	35.1	17929	4.1	5	
K	39	1	nogas	76.467	9.8	4655681	1.1	100	
Ti	47	1	nogas	0.403	32.1	507	20.5	2.5	
V	51	1	nogas	19.077	3.7	692954	0.2	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.546	18.5	19434	5.5	2.5	
Mn	55	1	nogas	0.741	42.8	21480	20.1	2.5	
Co	59	1	nogas	0.154	57.9	2064	50.1	2.5	
Ni	60	1	nogas	3.058	5.5	10683	3.4	2.5	CCB Main CR1 Failed
Cu	63	1	nogas	2.518	8.0	18590	7.9	2.5	CCB Main CR1 Failed
Zn	66	1	nogas	0.164	21.9	1733	5.3	2.5	
As	75	1	nogas	12.623	7.2	97872	0.9	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	7.986	38.9	128010	34.2	2.5	CCB Main CR1 Failed
Ag	107	1	nogas	0.190	29.9	2083	22.8	2.5	
Cd	111	1	nogas	0.110	81.3	197	72.3	1	
Sb	121	1	nogas	0.253	24.2	2744	16.0	2.5	
Tl	205	1	nogas	0.214	30.6	3180	32.4	1	
Pb	208	1	nogas	0.148	49.7	3624	39.8	2.5	
U	238	1	nogas	0.232	29.0	4724	31.3	2.5	
[Pb]	206	1	nogas	0.181	38.0	1003	36.1	2.5	
[Pb]	207	1	nogas	0.105	67.0	660	50.7	2.5	
Na	23	2	He	3099.998	0.9	655515	1.8	100	CCB Main CR1 Failed
Mg	24	2	He	26.803	8.7	3537	6.4	100	
Al	27	2	He	-2.839	-27.1	87	17.6	5	
K	39	2	He	122.977	7.0	16040	2.1	100	CCB Main CR1 Failed
Ca	43	2	He	271.161	128.1	43	118.4	100	CCB Main CR1 Failed
Ca	44	2	He	98.094	44.2	497	24.3	100	
V	51	2	He	0.334	20.5	677	8.2	2.5	
Cr	52	2	He	0.396	30.9	1630	10.6	2.5	
Mn	55	2	He	0.517	26.6	410	19.4	2.5	
Fe	56	2	He	24.655	3.9	30946	4.1	100	
Co	59	2	He	0.047	50.9	143	38.4	2.5	
Ni	60	2	He	-0.226	-28.4	343	11.0	2.5	
Cu	63	2	He	0.493	17.0	1493	9.7	2.5	
Zn	66	2	He	0.039	43.7	83	6.9	2.5	
As	75	2	He	0.305	18.6	63	15.8	2.5	
Se	78	2	He	-0.001	-50518.7	6	33.3	2.5	
B	11	1	nogas	88.996	6.3	169181	3.7	10	CCB Main CR1 Failed
Si	28	1	nogas	8.582	252.6	1012389	8.1	5	CCB Main CR1 Failed
Ca	43	1	nogas	146.582	59.3	3881	36.7	100	CCB Main CR1 Failed
Ca	44	1	nogas	-96.653	-72.0	146056	12.4	100	
Fe	56	1	nogas	35.853	20.6	1326189	7.2	100	
Se	77	1	nogas	75.379	5.1	31748	0.8	2.5	CCB Main CR1 Failed
Se	82	1	nogas	1.040	96.6	707	14.3	2.5	
Mo	95	1	nogas	0.549	30.1	1810	28.3	2.5	
Sn	118	1	nogas	0.356	26.6	2530	14.2	5	
Ba	137	1	nogas	0.166	76.8	653	40.6	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.205	61.9	233	39.8	2.5	
P	31	1	nogas	-5.028	-44.9	47036	2.8	10	
La	139	1	nogas	90.914	37.6	217	29.7	2.5	CCB Main CR1 Failed
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	-144.830	-380.8	27	142.0	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	nogas	298837	1.57	327043	91.38	70	125	
Ge	72	1	nogas	1528237	1.34	1420865	107.56	70	125	
In	115	1	nogas	1615434	4.67	1584599	101.95	70	125	
Bi	209	1	nogas	1470198	3.52	1610392	91.29	70	125	
Ge	72	2	He	111596	2.34	106219	105.06	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	383_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-03T00:54:37-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	102.870	8.167	195182	5.07	100	102.9	90	110	
Na	23	1	nogas	11643.540	3.246	123015957	3.36	10000	116.4	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	9451.770	4.576	66687735	3.38	10000	94.5	90	110	
Al	27	1	nogas	98.137	1.622	820028	1.59	100	98.1	90	110	
K	39	1	nogas	9208.239	1.972	79019029	1.44	10000	92.1	90	110	
Ti	47	1	nogas	94.080	4.897	82966	5.02	100	94.1	90	110	
V	51	1	nogas	92.486	4.983	1708595	5.73	100	92.5	90	110	
Cr	52	1	nogas	92.482	4.855	1043373	4.98	100	92.5	90	110	
Mn	55	1	nogas	96.607	2.792	1365621	3.93	100	96.6	90	110	
Co	59	1	nogas	91.567	2.078	1096750	2.50	100	91.6	90	110	
Ni	60	1	nogas	95.041	2.805	259815	0.24	100	95.0	90	110	
Cu	63	1	nogas	97.281	3.366	638685	2.31	100	97.3	90	110	
Zn	66	1	nogas	98.385	2.861	209725	3.59	100	98.4	90	110	
As	75	1	nogas	96.472	2.139	297889	2.58	100	96.5	90	110	
Sr	88	1	nogas	99.444	5.161	1453594	2.14	100	99.4	90	110	
Ag	107	1	nogas	90.622	4.588	781389	2.60	100	90.6	90	110	
Cd	111	1	nogas	96.201	1.655	170102	1.28	100	96.2	90	110	
Sb	121	1	nogas	98.803	1.863	744616	2.86	100	98.8	90	110	
Tl	205	1	nogas	98.484	6.485	1376855	4.31	100	98.5	90	110	
Pb	208	1	nogas	95.557	2.130	1875970	2.13	100	95.6	90	110	
U	238	1	nogas	95.120	3.181	1860563	2.71	100	95.1	90	110	
[Pb]	206	1	nogas	98.530	5.213	470765	3.11	100	98.5	90	110	
[Pb]	207	1	nogas	90.641	5.034	397399	2.78	100	90.6	90	110	
Na	23	2	He	11767.635	2.098	2201882	2.52	10000	117.7	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	9055.095	0.425	794159	0.86	10000	90.6	90	110	
Al	27	2	He	96.989	4.542	2297	3.33	100	97.0	90	110	
K	39	2	He	10698.089	2.105	441153	2.05	10000	107.0	90	110	
Ca	43	2	He	9998.528	3.950	1503	4.06	10000	100.0	90	110	
Ca	44	2	He	9599.210	2.973	25902	2.48	10000	96.0	90	110	
V	51	2	He	98.387	0.968	99240	1.78	100	98.4	90	110	
Cr	52	2	He	95.092	1.308	132082	0.22	100	95.1	90	110	
Mn	55	2	He	94.404	2.717	50092	1.44	100	94.4	90	110	
Fe	56	2	He	9074.652	4.191	9874851	3.06	10000	90.7	90	110	
Co	59	2	He	96.872	2.260	228014	1.35	100	96.9	90	110	
Ni	60	2	He	96.753	0.381	65110	1.42	100	96.8	90	110	
Cu	63	2	He	95.595	0.978	181663	0.35	100	95.6	90	110	
Zn	66	2	He	98.324	0.861	26890	1.20	100	98.3	90	110	
As	75	2	He	104.125	3.061	18063	2.38	100	104.1	90	110	
Se	78	2	He	102.886	14.137	655	15.30	100	102.9	90	110	
B	11	1	nogas	535.513	8.588	727906	4.92	500	107.1	90	110	
Si	28	1	nogas	4808.193	1.097	19669289	2.11	5000	96.2	90	110	
Ca	43	1	nogas	9450.325	3.255	160751	3.53	10000	94.5	90	110	
Ca	44	1	nogas	9726.376	6.303	2737126	4.73	10000	97.3	90	110	
Fe	56	1	nogas	9163.528	2.394	120151090	3.58	10000	91.6	90	110	
Se	77	1	nogas	94.690	7.481	36033	0.67	100	94.7	90	110	
Se	82	1	nogas	97.648	3.381	11521	6.11	100	97.6	90	110	
Mo	95	1	nogas	91.159	3.109	288668	3.04	100	91.2	90	110	
Sn	118	1	nogas	88.381	1.479	454629	3.85	100	88.4	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	95.269	3.072	229534	1.02	100	95.3	90	110	
Sb	121	2	He	102.137	0.588	78024	1.69	100	102.1	90	110	
Li	7	1	nogas	108.334	3.970	538257	1.09	100	108.3	90	110	
P	31	1	nogas	460.639	1.539	292287	1.76	500	92.1	90	110	
La	139	1	nogas	307.312	17.357	603	13.40	100	307.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	99.949	137.551	10	100.00	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	nogas	275300	3.16	327043	84.18	70	125	
Ge	72	1	nogas	1581181	2.98	1420865	111.28	70	125	
In	115	1	nogas	1643715	2.41	1584599	103.73	70	125	
Bi	209	1	nogas	1451437	2.41	1610392	90.13	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	114407	1.28	106219	107.71	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	384_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-03T00:56:35-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.175	21.8	387	21.1	1	
Na	23	1	nogas	1447.062	3.0	19415697	0.9	100	CCB Main CR1 Failed
Mg	24	1	nogas	28.666	17.9	317812	8.2	100	
Al	27	1	nogas	0.794	12.2	23075	3.9	5	
K	39	1	nogas	35.341	20.8	4402859	0.9	100	
Ti	47	1	nogas	0.331	9.1	453	5.6	2.5	
V	51	1	nogas	-0.273	-360.4	447748	3.3	2.5	
Cr	52	1	nogas	0.276	28.5	16791	4.8	2.5	
Mn	55	1	nogas	0.119	81.6	13268	9.6	2.5	
Co	59	1	nogas	0.137	58.0	1893	49.0	2.5	
Ni	60	1	nogas	2.430	2.0	9189	1.9	2.5	
Cu	63	1	nogas	1.825	4.6	14429	3.3	2.5	
Zn	66	1	nogas	0.367	36.6	2184	12.6	2.5	
As	75	1	nogas	2.593	28.9	76373	2.5	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.419	7.1	22465	2.4	2.5	
Ag	107	1	nogas	0.183	14.5	2057	10.6	2.5	
Cd	111	1	nogas	0.158	57.2	287	52.9	1	
Sb	121	1	nogas	0.206	19.0	2440	11.4	2.5	
Tl	205	1	nogas	0.192	39.2	2927	40.3	1	
Pb	208	1	nogas	0.162	46.6	3900	37.9	2.5	
U	238	1	nogas	0.236	26.4	4918	28.7	2.5	
[Pb]	206	1	nogas	0.179	25.9	1013	25.3	2.5	
[Pb]	207	1	nogas	0.154	60.4	900	50.2	2.5	
Na	23	2	He	1713.728	2.9	427383	0.8	100	CCB Main CR1 Failed
Mg	24	2	He	29.823	9.5	3890	6.7	100	
Al	27	2	He	-2.944	-10.2	87	6.7	5	
K	39	2	He	93.350	11.4	14849	2.9	100	
Ca	43	2	He	152.740	26.2	27	21.7	100	CCB Main CR1 Failed
Ca	44	2	He	45.227	37.5	367	12.9	100	
V	51	2	He	0.177	34.5	537	11.4	2.5	
Cr	52	2	He	0.204	26.3	1407	4.1	2.5	
Mn	55	2	He	0.215	49.4	260	23.1	2.5	
Fe	56	2	He	27.816	4.0	35157	2.4	100	
Co	59	2	He	0.037	19.9	123	12.4	2.5	
Ni	60	2	He	-0.230	-9.9	350	4.9	2.5	
Cu	63	2	He	0.205	28.1	987	10.4	2.5	
Zn	66	2	He	0.177	39.0	123	16.9	2.5	
As	75	2	He	0.219	19.7	50	13.3	2.5	
Se	78	2	He	0.180	359.0	7	56.8	2.5	
B	11	1	nogas	25.751	5.9	82593	2.2	10	CCB Main CR1 Failed
Si	28	1	nogas	49.458	9.3	1184555	1.3	5	CCB Main CR1 Failed
Ca	43	1	nogas	19.406	94.9	1837	17.2	100	
Ca	44	1	nogas	-188.661	-4.1	124582	1.8	100	
Fe	56	1	nogas	22.557	47.9	1177189	11.3	100	
Se	77	1	nogas	32.223	15.7	25241	3.8	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-0.502	-46.2	550	4.8	2.5	
Mo	95	1	nogas	0.504	25.0	1697	22.7	2.5	
Sn	118	1	nogas	0.409	18.3	2842	11.9	5	
Ba	137	1	nogas	0.162	41.4	660	22.7	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.183	3.6	223	2.6	2.5	
P	31	1	nogas	-6.519	-10.5	47029	0.3	10	
La	139	1	nogas	96.157	54.5	230	42.8	2.5	CCB Main CR1 Failed
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	148.003	53.3	7	86.6	2.5	CCB Main CR1 Failed

QC ISTD Table

Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	304343	0.45	327043	93.06	70	125	
Ge	72	1	nogas	1552970	0.54	1420865	109.30	70	125	
In	115	1	nogas	1636048	3.23	1584599	103.25	70	125	
Bi	209	1	nogas	1503576	2.96	1610392	93.37	70	125	
Ge	72	2	He	114419	1.78	106219	107.72	70	125	

Continuing Calibration Verification (CCV) Report

Sample Table

Sample Name	CCV
Data File Name	395_CCV.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-03T01:18:46-06:00
Sample Type	CCV
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Exp Value	%Rec	%Low	%High2	QC Flag
Be	9	1	nogas	102.321	6.965	198447	3.40	100	102.3	90	110	
Na	23	1	nogas	11239.002	1.614	113719378	3.32	10000	112.4	90	110	CCV Main CR1-2 Failed
Mg	24	1	nogas	9560.256	2.047	64518062	3.32	10000	95.6	90	110	
Al	27	1	nogas	100.624	2.006	778992	3.26	100	100.6	90	110	
K	39	1	nogas	9930.741	1.931	78665604	0.25	10000	99.3	90	110	
Ti	47	1	nogas	93.878	2.226	76720	2.14	100	93.9	90	110	
V	51	1	nogas	110.199	3.544	1803639	1.91	100	110.2	90	110	CCV Main CR1-2 Failed
Cr	52	1	nogas	98.117	1.231	1025040	1.57	100	98.1	90	110	
Mn	55	1	nogas	103.870	2.960	1359687	3.43	100	103.9	90	110	
Co	59	1	nogas	99.164	3.010	1100616	2.98	100	99.2	90	110	
Ni	60	1	nogas	101.167	1.492	256260	3.09	100	101.2	90	110	
Cu	63	1	nogas	100.366	0.807	610748	1.65	100	100.4	90	110	
Zn	66	1	nogas	100.494	0.603	198497	2.22	100	100.5	90	110	
As	75	1	nogas	105.340	0.426	295328	1.84	100	105.3	90	110	
Sr	88	1	nogas	110.949	3.027	1502672	4.24	100	110.9	90	110	CCV Main CR1-2 Failed
Ag	107	1	nogas	95.013	2.574	759850	4.17	100	95.0	90	110	
Cd	111	1	nogas	96.174	1.645	164726	2.56	100	96.2	90	110	
Sb	121	1	nogas	106.369	1.572	742693	1.19	100	106.4	90	110	
Tl	205	1	nogas	99.607	6.696	1354138	4.22	100	99.6	90	110	
Pb	208	1	nogas	92.089	3.415	1807916	3.41	100	92.1	90	110	
U	238	1	nogas	96.214	7.726	1828345	5.15	100	96.2	90	110	
[Pb]	206	1	nogas	98.766	7.838	458668	5.26	100	98.8	90	110	
[Pb]	207	1	nogas	90.640	6.690	386335	4.11	100	90.6	90	110	
Na	23	2	He	11194.766	2.502	2024245	3.41	10000	111.9	90	110	CCV Main CR1-2 Failed
Mg	24	2	He	9269.349	2.103	783158	1.76	10000	92.7	90	110	
Al	27	2	He	97.724	6.514	2230	7.22	100	97.7	90	110	
K	39	2	He	10260.148	2.681	423548	2.61	10000	102.6	90	110	
Ca	43	2	He	9875.706	4.510	1430	2.80	10000	98.8	90	110	
Ca	44	2	He	9807.723	0.589	25498	2.15	10000	98.1	90	110	
V	51	2	He	99.297	2.485	96472	1.26	100	99.3	90	110	
Cr	52	2	He	96.086	3.888	128536	2.08	100	96.1	90	110	
Mn	55	2	He	96.192	2.399	49173	0.63	100	96.2	90	110	
Fe	56	2	He	9110.399	1.508	9554283	1.72	10000	91.1	90	110	
Co	59	2	He	98.317	1.126	222996	1.79	100	98.3	90	110	
Ni	60	2	He	97.562	2.101	63250	2.41	100	97.6	90	110	
Cu	63	2	He	96.536	2.194	176719	0.56	100	96.5	90	110	
Zn	66	2	He	97.412	2.694	25662	0.91	100	97.4	90	110	
As	75	2	He	101.940	2.192	17040	2.16	100	101.9	90	110	
Se	78	2	He	98.571	6.470	605	7.35	100	98.6	90	110	
B	11	1	nogas	525.839	3.762	731950	0.31	500	105.2	90	110	
Si	28	1	nogas	5036.249	1.199	19046048	1.11	5000	100.7	90	110	
Ca	43	1	nogas	10007.931	2.175	157659	1.66	10000	100.1	90	110	
Ca	44	1	nogas	10026.267	2.582	2610750	2.01	10000	100.3	90	110	
Fe	56	1	nogas	9924.511	4.302	120533594	5.21	10000	99.2	90	110	
Se	77	1	nogas	124.610	6.211	37993	1.98	100	124.6	90	110	CCV Main CR1-2 Failed
Se	82	1	nogas	104.064	2.509	11330	2.56	100	104.1	90	110	
Mo	95	1	nogas	96.206	1.763	282345	2.25	100	96.2	90	110	
Sn	118	1	nogas	88.972	1.109	443044	0.17	100	89.0	90	110	CCV Main CR1-2 Failed
Ba	137	1	nogas	94.594	2.818	220799	2.93	100	94.6	90	110	
Sb	121	2	He	102.847	2.133	75677	0.37	100	102.8	90	110	
Li	7	1	nogas	108.706	4.474	551813	0.57	100	108.7	90	110	
P	31	1	nogas	485.305	1.857	282826	1.80	500	97.1	90	110	
La	139	1	nogas	207.293	2.628	413	1.40	100	207.3	90	110	CCV Main CR1-2 Failed
Au	197	1	nogas	142.022	59.200	7	86.60	100	142.0	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	nogas	281398	3.79	327043	86.04	70	125	
Ge	72	1	nogas	1465038	1.68	1420865	103.11	70	125	
In	115	1	nogas	1591701	1.12	1584599	100.45	70	125	
Bi	209	1	nogas	1411525	2.54	1610392	87.65	70	125	

Continuing Calibration Verification (CCV) Report

Ge	72	2	He	110231	1.75	106219	103.78	70	125	

Continuing Calibration Blank (CCB) Report

Sample Table

Sample Name	CCB
Data File Name	396_CCB.d
Data Path Name	C:\Agilent\ICPMH\1\DATA\010218A.b
Acq Date Time	2018-01-03T01:20:44-06:00
Sample Type	CCB
Dilution	1
Comment	
ISTD Ref File Name	114CALB.d
Sample QC Pass/Fail	Fail
ISTD Pass/Fail	Pass

QC Analyte Table

Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Be	9	1	nogas	0.200	23.5	443	26.3	1	
Na	23	1	nogas	777.610	4.4	12819167	2.5	100	CCB Main CR1 Failed
Mg	24	1	nogas	14.852	27.6	223639	13.3	100	
Al	27	1	nogas	0.328	25.3	19230	0.6	5	
K	39	1	nogas	17.442	93.0	4239096	0.8	100	
Ti	47	1	nogas	0.371	56.6	483	34.5	2.5	
V	51	1	nogas	7.160	11.1	543652	0.9	2.5	CCB Main CR1 Failed
Cr	52	1	nogas	0.379	24.8	17826	3.0	2.5	
Mn	55	1	nogas	0.103	75.9	12975	5.4	2.5	
Co	59	1	nogas	0.162	54.0	2157	44.5	2.5	
Ni	60	1	nogas	1.738	5.8	7315	2.7	2.5	
Cu	63	1	nogas	1.045	7.1	9369	2.4	2.5	
Zn	66	1	nogas	0.288	69.8	2003	17.9	2.5	
As	75	1	nogas	5.437	8.4	82536	1.6	2.5	CCB Main CR1 Failed
Sr	88	1	nogas	0.492	4.9	23406	4.3	2.5	
Ag	107	1	nogas	0.192	12.2	2117	6.6	2.5	
Cd	111	1	nogas	0.166	63.0	293	61.1	1	
Sb	121	1	nogas	0.378	17.5	3690	10.9	2.5	
Tl	205	1	nogas	0.231	40.7	3304	40.2	1	
Pb	208	1	nogas	0.178	35.2	4207	29.1	2.5	
U	238	1	nogas	0.233	33.8	4587	34.0	2.5	
[Pb]	206	1	nogas	0.224	36.2	1170	33.4	2.5	
[Pb]	207	1	nogas	0.159	42.4	867	33.9	2.5	
Na	23	2	He	950.403	2.1	287703	0.9	100	CCB Main CR1 Failed
Mg	24	2	He	11.941	29.7	2284	12.9	100	
Al	27	2	He	-2.876	-33.8	87	24.0	5	
K	39	2	He	67.874	12.3	13825	2.4	100	
Ca	43	2	He	200.755	70.5	33	62.4	100	CCB Main CR1 Failed
Ca	44	2	He	17.194	30.7	287	5.3	100	
V	51	2	He	0.196	32.7	547	12.2	2.5	
Cr	52	2	He	0.355	39.6	1587	11.6	2.5	
Mn	55	2	He	0.199	37.4	247	15.3	2.5	
Fe	56	2	He	24.356	5.8	30860	4.4	100	
Co	59	2	He	0.071	29.7	200	25.0	2.5	
Ni	60	2	He	-0.292	-10.8	303	6.9	2.5	
Cu	63	2	He	0.107	46.3	787	11.8	2.5	
Zn	66	2	He	0.049	90.1	87	13.3	2.5	
As	75	2	He	0.296	9.9	62	8.2	2.5	
Se	78	2	He	-0.332	-98.0	4	50.0	2.5	
B	11	1	nogas	20.395	3.9	75136	3.6	10	CCB Main CR1 Failed
Si	28	1	nogas	63.142	20.3	1230469	1.9	5	CCB Main CR1 Failed
Ca	43	1	nogas	-13.473	-76.2	1283	10.9	100	
Ca	44	1	nogas	-181.825	-8.0	125725	0.5	100	
Fe	56	1	nogas	30.538	38.2	1271279	8.8	100	
Se	77	1	nogas	44.427	11.9	27097	2.9	2.5	CCB Main CR1 Failed
Se	82	1	nogas	-1.115	-31.1	480	5.5	2.5	
Mo	95	1	nogas	0.567	16.8	1880	12.8	2.5	
Sn	118	1	nogas	0.387	16.9	2647	12.4	5	
Ba	137	1	nogas	0.189	53.1	703	33.3	2.5	

Continuing Calibration Blank (CCB) Report

Sb	121	2	He	0.411	10.8	390	8.9	2.5	
P	31	1	nogas	-15.985	-20.5	41954	2.4	10	
La	139	1	nogas	128.523	22.6	277	18.2	2.5	CCB Main CR1 Failed
Name	Mass	Tune Step	Tune Mode	Conc	Conc %RSD	CPS	CPS %RSD	Upper Limit	QC Flag
Au	197	1	nogas	191.144	43.4	3	173.2	2.5	CCB Main CR1 Failed

QC ISTD Table

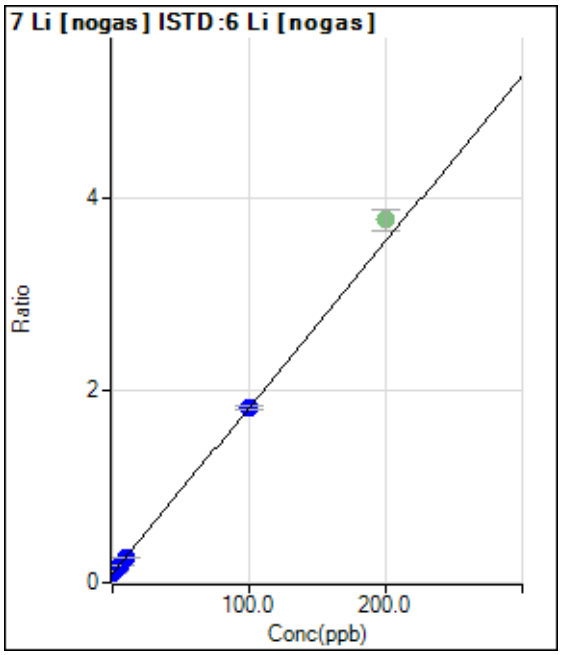
Name	Mass	Tune Step	Tune Mode	CPS	%RSD	Ref CPS	%Rec	%QC Low	%QC High	QC Flag
Li	6	1	nogas	304945	3.78	327043	93.24	70	125	
Ge	72	1	nogas	1546152	2.85	1420865	108.82	70	125	
In	115	1	nogas	1584949	0.17	1584599	100.02	70	125	
Bi	209	1	nogas	1426012	1.24	1610392	88.55	70	125	
Ge	72	2	He	112451	0.60	106219	105.87	70	125	

Calibration for 015_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\010218A.b\
Analysis File: 010218A.batch.bin
DA Date-Time: 2018-01-02 16:21:47
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	004CALB.d	CAL BLK	2018-01-02 10:53:30
2	005CALS.d	2/10/200	2018-01-02 10:55:31
3	006CALS.d	5/25/500	2018-01-02 10:57:33
4	007CALS.d	10/50/1000	2018-01-02 10:59:33
5	008CALS.d	100/500/10K	2018-01-02 11:01:34
6	009CALS.d	200/1000/20K	2018-01-02 11:03:34
7			

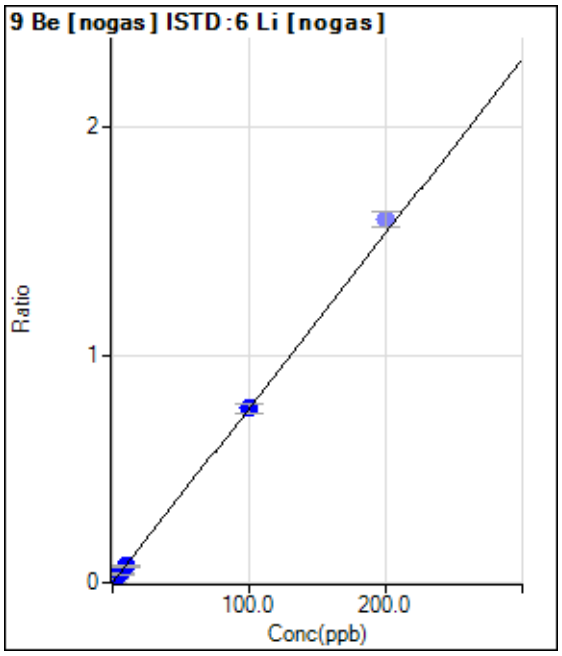
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30408.47	0.0959	P	2.3
2	☐	2.000	1.921	41279.14	0.1291	P	4.7
3	☐	5.000	4.732	56917.13	0.1777	P	6.1
4	☐	10.000	9.685	88625.62	0.2633	P	1.1
5	☐	100.000	100.046	549042.66	1.8251	P	1.7
6	☑	200.000		1076778.21	3.7787	A	5.9
7	☐	1.000					

y = 0.0173 * x + 0.0959
R = 1.0000
DL = 0.3833
BEC = 5.55

Weight: <None>
Min Conc: <None>

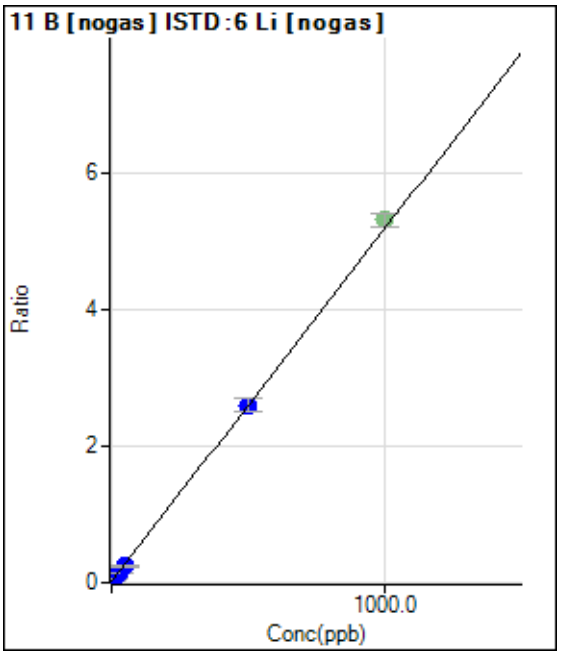


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	98.2
2	☐	2.000	1.890	4637.32	0.0145	P	10.6
3	☐	5.000	4.975	12210.92	0.0382	P	13.1
4	☐	10.000	9.435	24352.87	0.0724	P	3.5
5	☐	100.000	100.060	230635.79	0.7673	P	5.6
6	☑	200.000		454057.44	1.5938	P	4.2
7	☐	1.000					

y = 0.0077 * x + 3.0807E-005
R = 1.0000
DL = 0.01183
BEC = 0.004018

Weight: <None>
Min Conc: <None>

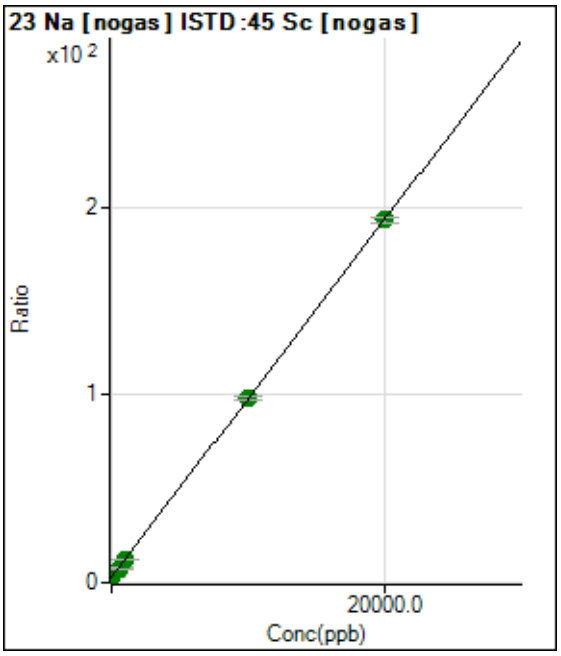
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5290.82	0.0167	P	11.9
2	☐	10.000	9.024	20241.16	0.0634	P	8.8
3	☐	25.000	23.369	44094.88	0.1376	P	4.1
4	☐	50.000	44.218	82587.31	0.2455	P	4.8
5	☐	500.000	500.679	783255.77	2.6068	P	7.4
6	☑	1000.000		1516591.28	5.3245	A	3.6
7	☐	5.000					

y = 0.0052 * x + 0.0167
R = 0.9999
DL = 1.151
BEC = 3.233

Weight: <None>
Min Conc: <None>

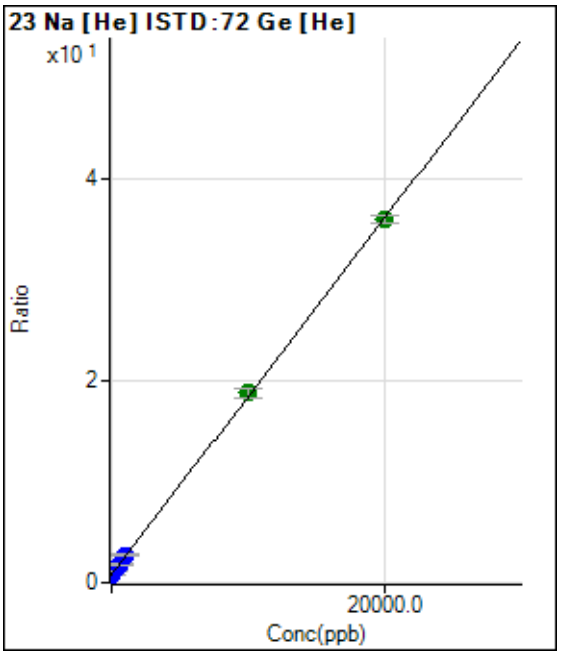


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3057312.57	2.9589	A	2.6
2	☐	200.000	195.481	5100622.64	4.8197	A	2.0
3	☐	500.000	495.226	8031913.98	7.6731	A	0.5
4	☐	1000.000	980.320	13092333.37	12.2908	A	1.7
5	☐	10000.00	10022.910	101787281.4	98.3691	A	1.7
6	☐	20000.00	19989.693	198598662.7	193.244	A	1.7
7	☐	100.000					

y = 0.0095 * x + 2.9589
R = 1.0000
DL = 24.61
BEC = 310.8

Weight: <None>
Min Conc: <None>

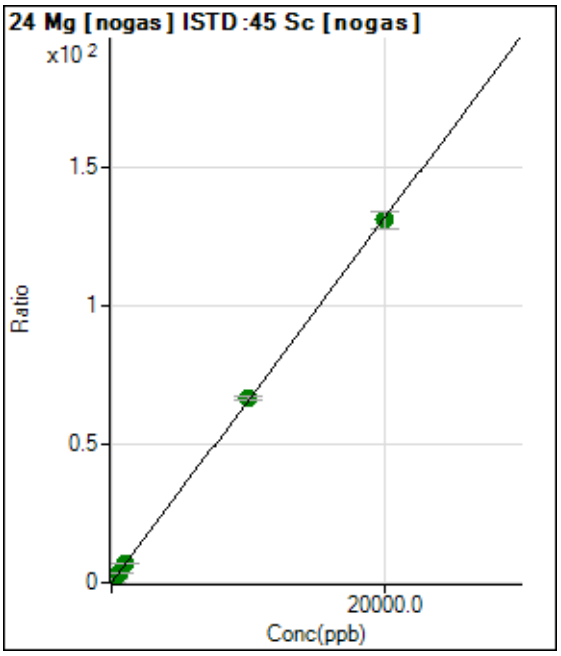
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	79318.72	0.7976	P	4.4
2	☐	200.000	215.956	117815.34	1.1793	P	5.0
3	☐	500.000	564.830	176561.97	1.7960	P	4.9
4	☐	1000.000	1099.645	275091.70	2.7414	P	2.7
5	☐	10000.00	10178.469	1892468.36	18.7897	A	4.6
6	☐	20000.00	19904.003	3586911.30	35.9811	A	2.0
7	☐	100.000					

y = 0.0018 * x + 0.7976
R = 0.9999
DL = 60
BEC = 451.2

Weight: <None>
Min Conc: <None>

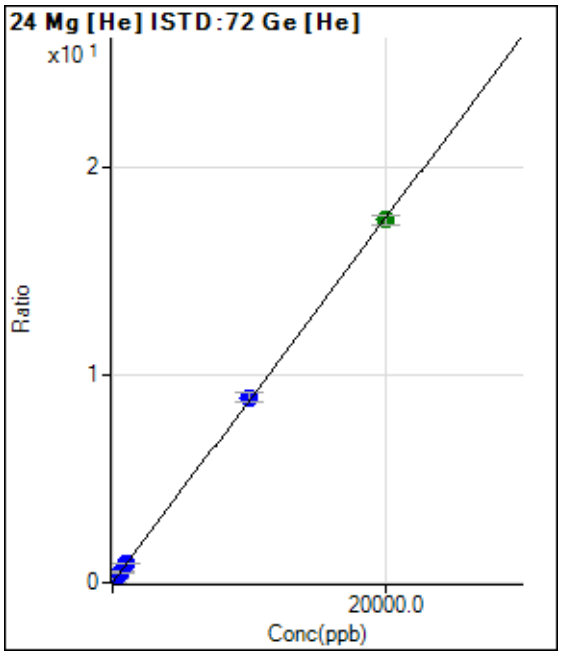


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4442.24	0.0043	P	64.6
2	☐	200.000	205.362	1437399.51	1.3584	A	2.7
3	☐	500.000	517.141	3572667.92	3.4141	A	2.2
4	☐	1000.000	1021.402	7177566.57	6.7389	A	1.1
5	☐	10000.00	10169.965	69389364.05	67.0601	A	1.9
6	☐	20000.00	19913.465	134913711.3	131.304	A	4.5
7	☐	100.000					

y = 0.0066 * x + 0.0043
R = 1.0000
DL = 1.272
BEC = 0.656

Weight: <None>
Min Conc: <None>

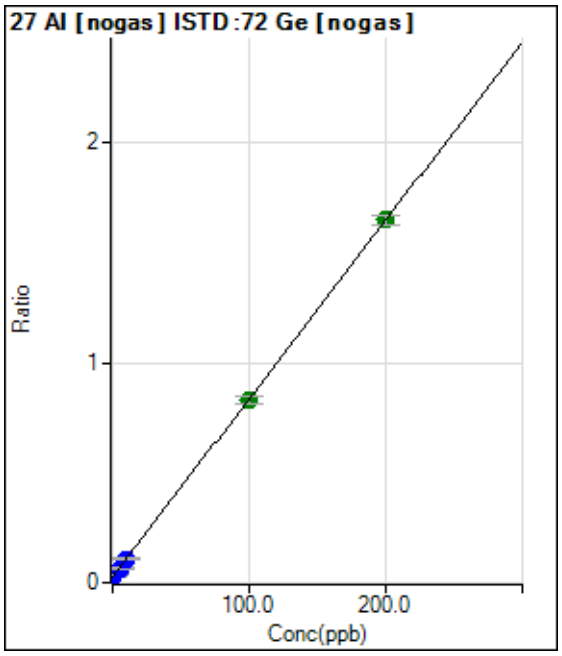
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	230.00	0.0023	P	32.2
2	☐	200.000	214.821	19073.30	0.1907	P	1.5
3	☐	500.000	560.823	48509.37	0.4942	P	10.1
4	☐	1000.000	1074.601	94834.58	0.9449	P	1.3
5	☐	10000.00	10160.808	897980.56	8.9147	P	4.9
6	☐	20000.00	19914.197	1741404.09	17.4696	A	2.7
7	☐	100.000					

y = 8.7713E-004 * x + 0.0023
R = 1.0000
DL = 2.558
BEC = 2.645

Weight: <None>
Min Conc: <None>

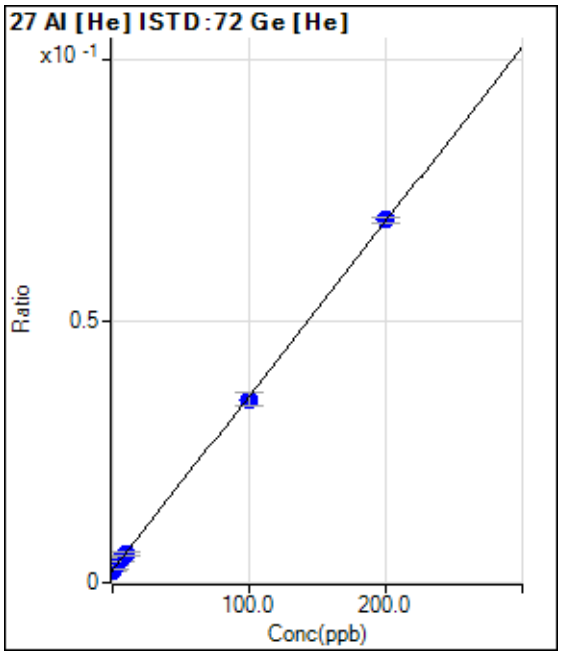


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	35679.68	0.0263	P	8.0
2	☐	2.000	1.637	55292.18	0.0396	P	2.9
3	☐	5.000	4.831	90080.32	0.0654	P	3.2
4	☐	10.000	10.168	149163.49	0.1086	P	4.8
5	☐	100.000	99.235	1144105.61	0.8294	A	4.6
6	☐	200.000	200.382	2270734.39	1.6479	A	2.7
7	☐	1.000					

y = 0.0081 * x + 0.0263
R = 1.0000
DL = 0.7805
BEC = 3.252

Weight: <None>
Min Conc: <None>

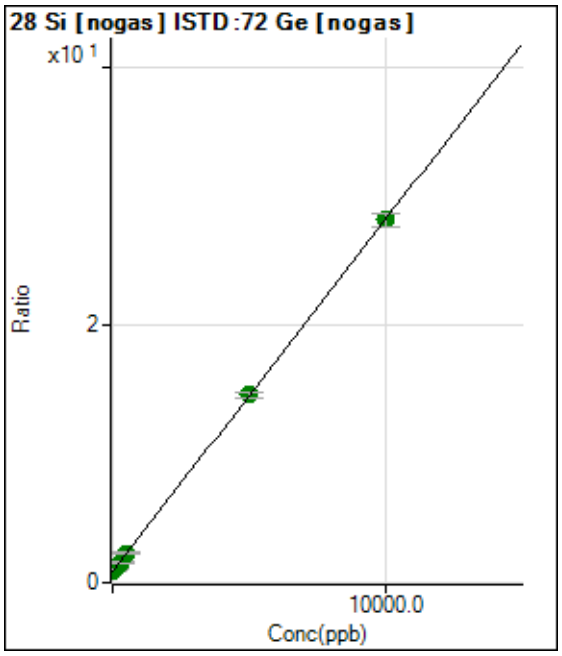
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.014	233.34	0.0024	P	19.7
2	☐	2.000	2.000	300.01	0.0030	P	18.6
3	☐	5.000	6.419	440.01	0.0045	P	15.3
4	☐	10.000	9.514	553.35	0.0055	P	15.7
5	☐	100.000	98.128	3537.08	0.0350	P	6.5
6	☐	200.000	200.925	6908.06	0.0693	P	1.7
7	☐	1.000					

y = 3.3321E-004 * x + 0.0023
R = 0.9999
DL = 4.166
BEC = 7.04

Weight: <None>
Min Conc: <None>

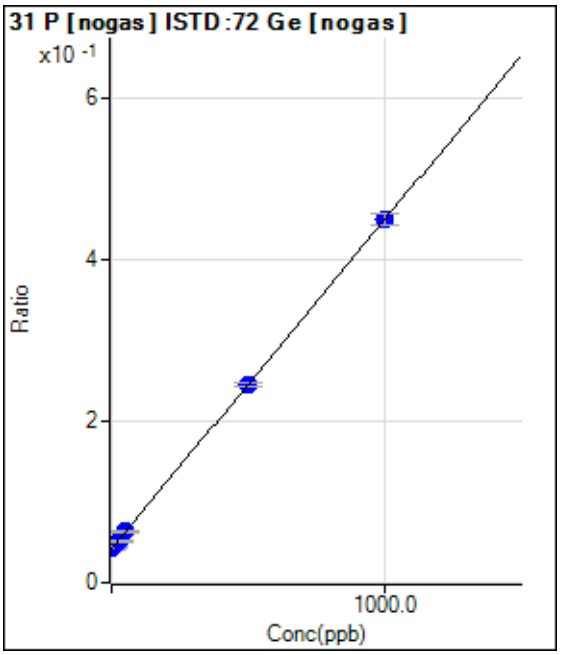


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1173962.14	0.8661	A	1.9
2	☐	100.000	86.345	1539980.50	1.1020	A	3.5
3	☐	250.000	251.640	2139017.99	1.5536	A	4.8
4	☐	500.000	506.866	3090866.72	2.2509	A	6.1
5	☐	5000.000	5021.766	20122494.70	14.5861	A	2.7
6	☐	10000.00	9988.869	38788193.59	28.1568	A	3.7
7	☐	5.000					

y = 0.0027 * x + 0.8661
R = 1.0000
DL = 18.36
BEC = 317

Weight: <None>
Min Conc: <None>

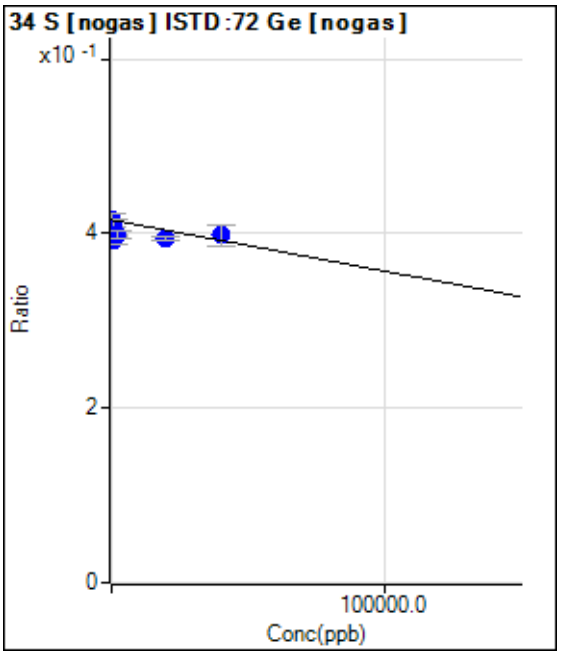
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56945.77	0.0420	P	3.5
2	☐	10.000	6.758	62583.39	0.0448	P	3.8
3	☐	25.000	24.914	71812.96	0.0522	P	4.3
4	☐	50.000	52.567	87069.90	0.0634	P	4.9
5	☐	500.000	500.527	338698.82	0.2455	P	2.2
6	☐	1000.000	999.643	617774.30	0.4484	P	3.0
7	☐	5.000					

y = 4.0653E-004 * x + 0.0420
R = 1.0000
DL = 10.9
BEC = 103.4

Weight: <None>
Min Conc: <None>

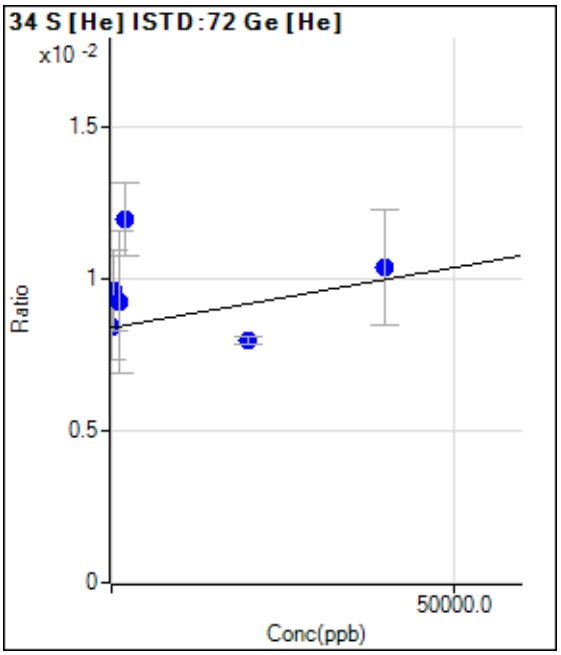


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	562925.49	0.4155	P	3.6
2	☐	400.000	40769.728	547571.49	0.3916	P	2.2
3	☐	1000.000	14234.999	560646.59	0.4071	P	4.0
4	☐	2000.000	28564.162	548016.60	0.3988	P	2.0
5	☐	20000.00	36039.888	544097.60	0.3944	P	0.9
6	☐	40000.00	29917.276	547775.88	0.3980	P	5.9
7	☐	100.000					

y = -5.8566E-007 * x + 0.4155
R = -0.3434
DL = -7.698E+04
BEC = -7.094E+05

Weight: <None>
Min Conc: <None>

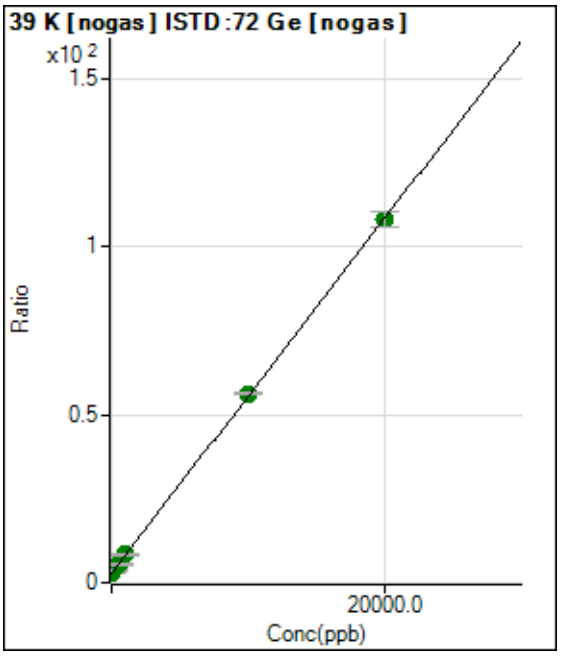
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	833.53	0.0084	P	25.4
2	☐	400.000	30971.230	966.87	0.0096	P	27.8
3	☐	1000.000	21071.266	900.25	0.0092	P	50.4
4	☐	2000.000	89677.464	1200.25	0.0119	P	20.3
5	☐	20000.00	-11108.40	800.18	0.0079	P	3.4
6	☐	40000.00	50362.835	1033.62	0.0104	P	36.7
7	☐	100.000					

y = 3.9509E-008 * x + 0.0084
R = 0.0312
DL = 1.617E+05
BEC = 2.121E+05

Weight: <None>
Min Conc: <None>

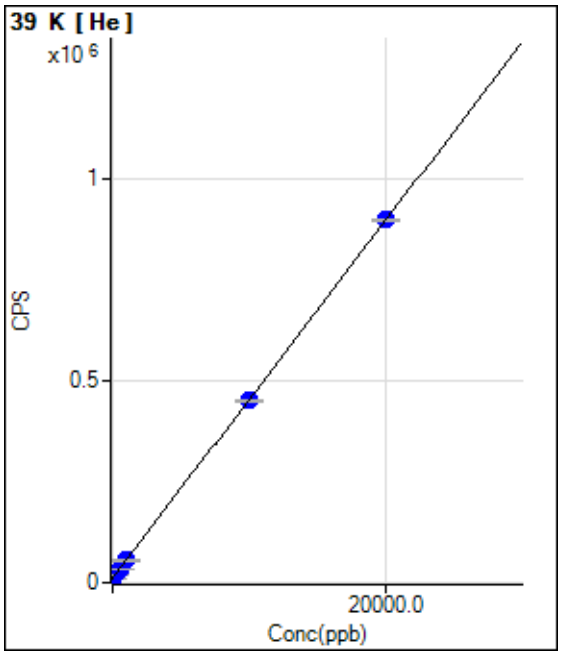


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3763415.32	2.7776	A	3.3
2	☐	200.000	183.249	5229377.33	3.7439	A	5.2
3	☐	500.000	506.507	7501750.17	5.4485	A	4.5
4	☐	1000.000	1073.866	11593779.95	8.4404	A	4.4
5	☐	10000.00	10146.884	77651491.32	56.2847	A	1.0
6	☐	20000.00	19922.869	148509932.4	107.836	A	4.4
7	☐	100.000					

y = 0.0053 * x + 2.7776
R = 1.0000
DL = 52.79
BEC = 526.7

Weight: <None>
Min Conc: <None>

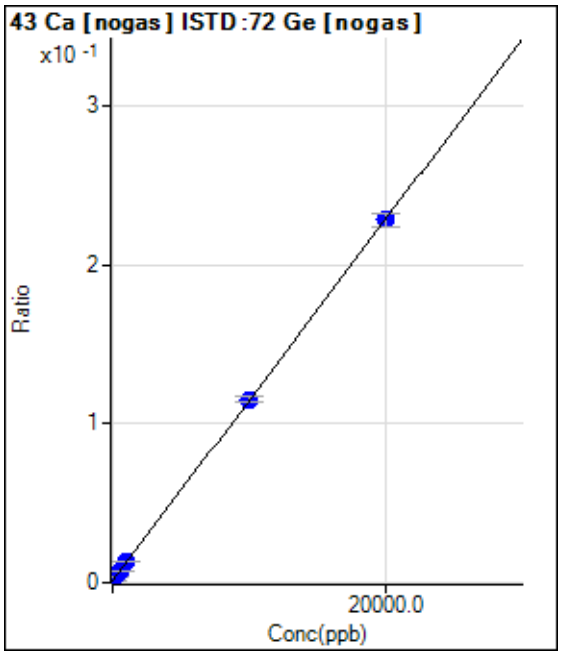
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10980.04		P	2.8
2	☐	200.000	196.799	19700.62		P	3.8
3	☐	500.000	501.966	33223.23		P	5.0
4	☐	1000.000	1007.781	55636.99		P	5.7
5	☐	10000.00	9923.422	450708.23		P	0.6
6	☐	20000.00	20037.883	898901.78		P	0.7
7	☐	100.000					

y = 44.3122 * x + 10980.0400
R = 1.0000
DL = 20.99
BEC = 247.8

Weight: <None>
Min Conc: <None>

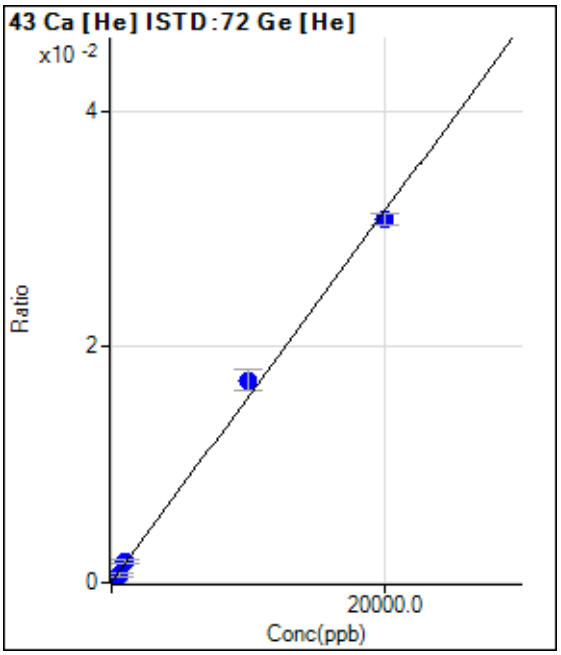


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1493.42	0.0011	P	9.1
2	☐	200.000	199.039	4700.68	0.0034	P	5.0
3	☐	500.000	539.396	9949.51	0.0072	P	8.5
4	☐	1000.000	1075.322	18309.33	0.0133	P	2.8
5	☐	10000.00	10028.039	158758.59	0.1151	P	3.3
6	☐	20000.00	19981.239	314319.16	0.2282	P	3.9
7	☐	100.000					

y = 1.1366E-005 * x + 0.0011
R = 1.0000
DL = 26.45
BEC = 96.99

Weight: <None>
Min Conc: <None>

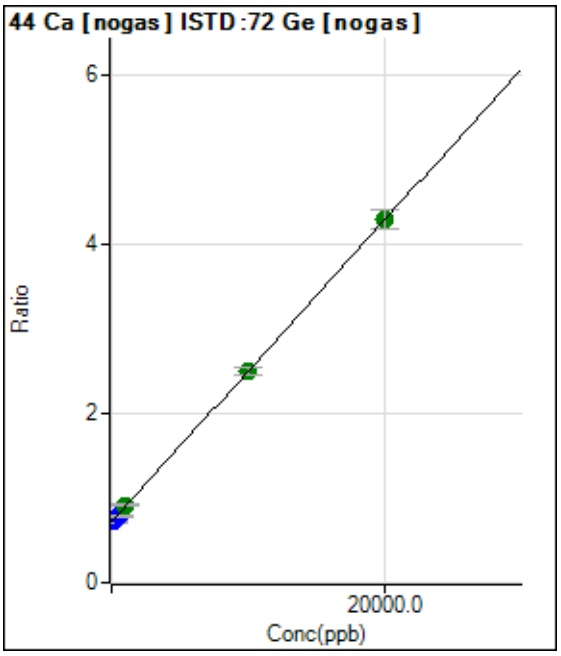
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	200.000	172.940	30.00	0.0003	P	68.6
3	☐	500.000	394.659	63.33	0.0007	P	60.3
4	☐	1000.000	1115.404	180.00	0.0018	P	23.6
5	☐	10000.00	10906.045	1733.45	0.0172	P	10.1
6	☐	20000.00	19544.112	3070.31	0.0308	P	3.3
7	☐	100.000					

y = 1.5743E-006 * x + 3.2794E-005
R = 0.9985
DL = 108.2
BEC = 20.83

Weight: <None>
Min Conc: <None>

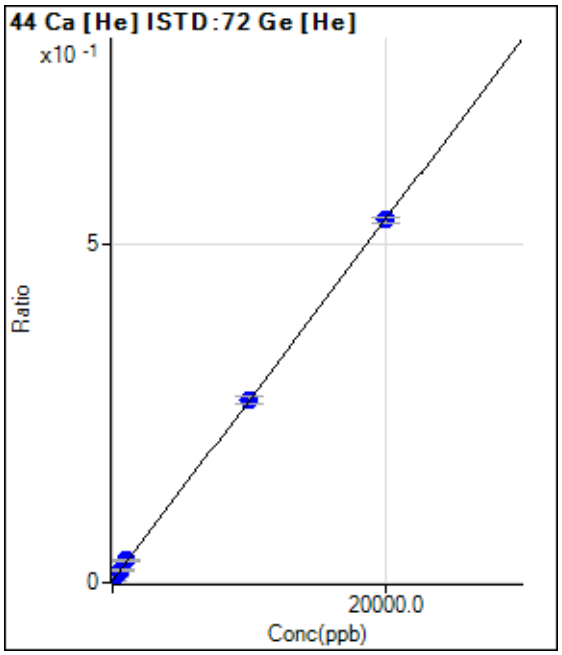


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	972246.26	0.7175	P	2.8
2	☐	200.000	14.957	1006237.17	0.7202	P	4.2
3	☐	500.000	374.578	1079835.32	0.7842	P	4.4
4	☐	1000.000	1103.733	1256103.24	0.9141	A	2.9
5	☐	10000.00	9988.052	3444166.82	2.4966	A	3.1
6	☐	20000.00	20005.773	5893830.75	4.2810	A	5.4
7	☐	100.000					

y = 1.7813E-004 * x + 0.7175
R = 0.9999
DL = 341.7
BEC = 4028

Weight: <None>
Min Conc: <None>

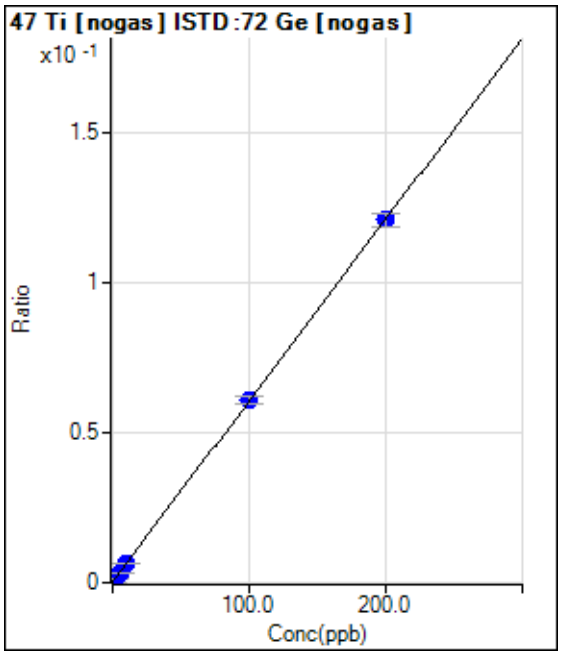
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	300.01	0.0030	P	1.4
2	☐	200.000	204.350	846.70	0.0084	P	10.7
3	☐	500.000	553.696	1736.79	0.0177	P	18.6
4	☐	1000.000	1125.988	3303.68	0.0330	P	10.2
5	☐	10000.00	10007.931	27116.77	0.2692	P	4.2
6	☐	20000.00	19988.349	53293.42	0.5346	P	1.6
7	☐	100.000					

y = 2.6595E-005 * x + 0.0030
R = 1.0000
DL = 4.822
BEC = 113.4

Weight: <None>
Min Conc: <None>

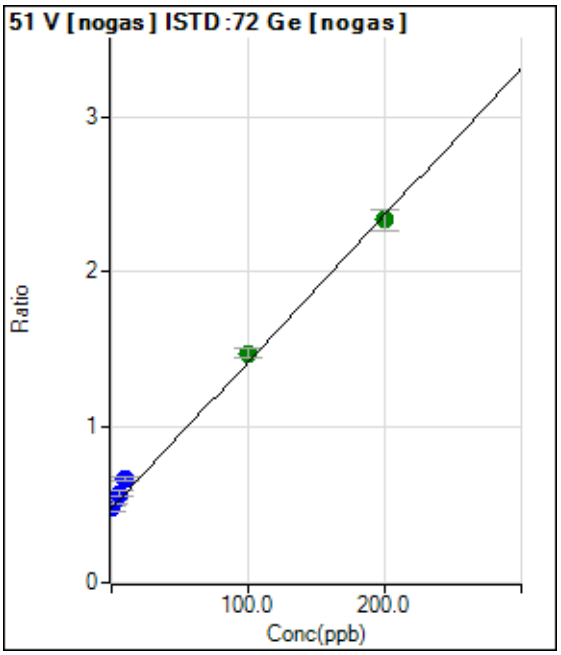


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	350.01	0.0003	P	36.2
2	☐	2.000	2.142	2166.83	0.0016	P	7.5
3	☐	5.000	5.271	4744.01	0.0034	P	3.2
4	☐	10.000	10.205	8828.96	0.0064	P	1.6
5	☐	100.000	100.314	83897.92	0.0608	P	4.3
6	☐	200.000	199.825	166518.71	0.1209	P	3.9
7	☐	1.000					

y = 6.0371E-004 * x + 2.5894E-004
R = 1.0000
DL = 0.4654
BEC = 0.4289

Weight: <None>
Min Conc: <None>

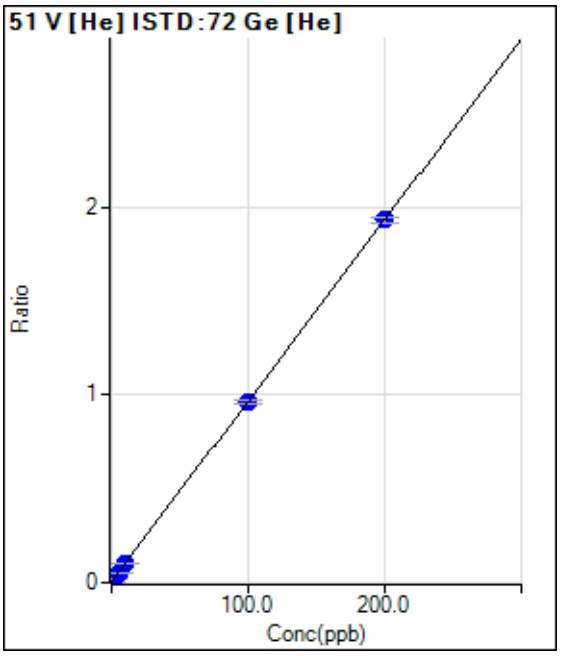
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	647958.30	0.4784	P	6.0
2	☐	2.000	4.373	725760.14	0.5197	P	6.0
3	☐	5.000	10.119	790222.45	0.5740	P	5.6
4	☐	10.000	19.746	913500.87	0.6650	P	3.9
5	☐	100.000	105.462	2034527.19	1.4749	A	4.3
6	☐	200.000	196.630	3216179.04	2.3363	A	5.5
7	☐	1.000					

y = 0.0094 * x + 0.4784
R = 0.9988
DL = 9.104
BEC = 50.63

Weight: <None>
Min Conc: <None>

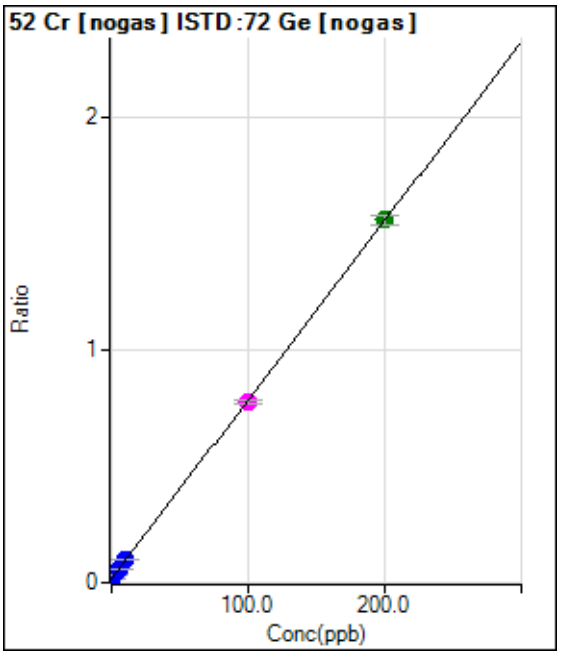


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.104	363.34	0.0037	P	9.2
2	☐	2.000	1.921	2318.15	0.0232	P	2.4
3	☐	5.000	5.097	5288.10	0.0538	P	5.8
4	☐	10.000	10.183	10327.55	0.1029	P	1.4
5	☐	100.000	99.828	97486.68	0.9673	P	2.2
6	☐	200.000	200.075	192828.29	1.9340	P	1.3
7	☐	1.000					

y = 0.0096 * x + 0.0047
R = 1.0000
DL = 0.1046
BEC = 0.4833

Weight: <None>
Min Conc: <None>

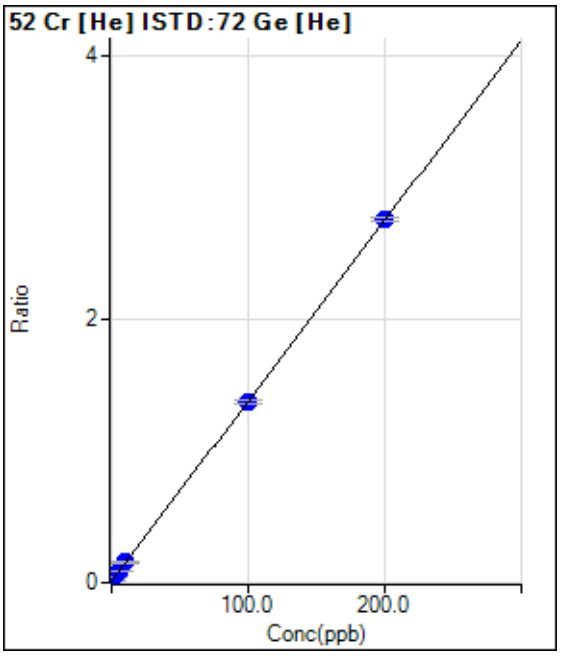
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	22624.11	0.0167	P	1.9
2	☐	2.000	2.003	44828.09	0.0321	P	2.6
3	☐	5.000	5.327	79267.65	0.0576	P	5.3
4	☐	10.000	10.932	138226.34	0.1006	P	3.0
5	☐	100.000	98.759	1068732.04	0.7747	M	1.9
6	☐	200.000	200.566	2145023.62	1.5561	A	2.4
7	☐	1.000					

y = 0.0077 * x + 0.0167
R = 1.0000
DL = 0.1224
BEC = 2.175

Weight: <None>
Min Conc: <None>

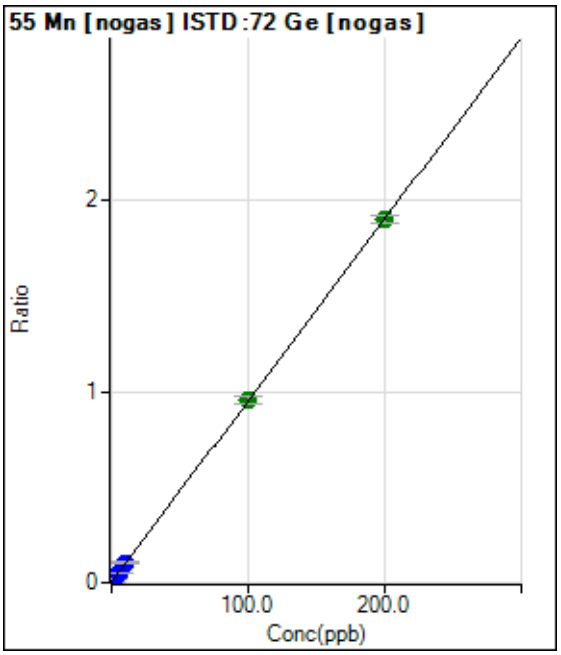


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1170.06	0.0117	P	8.5
2	☐	2.000	1.964	3855.47	0.0386	P	8.3
3	☐	5.000	5.382	8382.08	0.0853	P	5.4
4	☐	10.000	10.369	15396.65	0.1534	P	1.5
5	☐	100.000	99.091	137625.11	1.3653	P	2.0
6	☐	200.000	200.427	274108.93	2.7496	P	1.2
7	☐	1.000					

y = 0.0137 * x + 0.0117
R = 1.0000
DL = 0.219
BEC = 0.8599

Weight: <None>
Min Conc: <None>

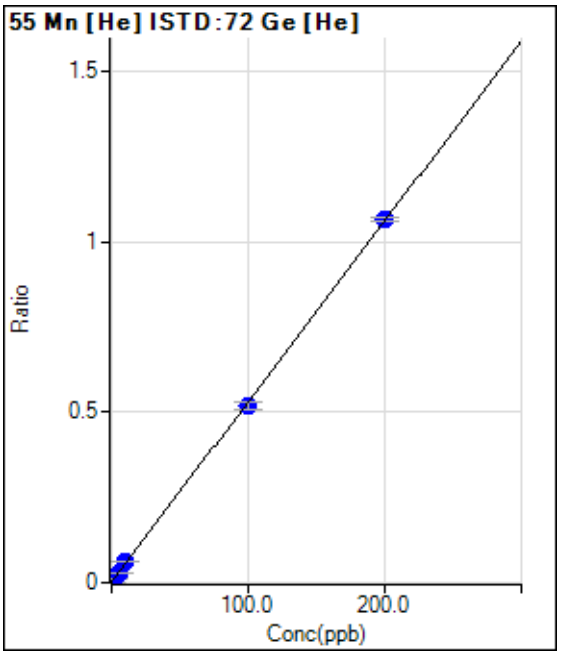
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3373.70	0.0025	P	10.8
2	☐	2.000	2.081	31100.19	0.0222	P	4.7
3	☐	5.000	5.200	71433.67	0.0519	P	4.9
4	☐	10.000	10.705	143044.88	0.1041	P	5.0
5	☐	100.000	100.586	1320991.60	0.9576	A	4.9
6	☐	200.000	199.666	2617750.22	1.8984	A	2.2
7	☐	1.000					

y = 0.0095 * x + 0.0025
R = 1.0000
DL = 0.08477
BEC = 0.2625

Weight: <None>
Min Conc: <None>

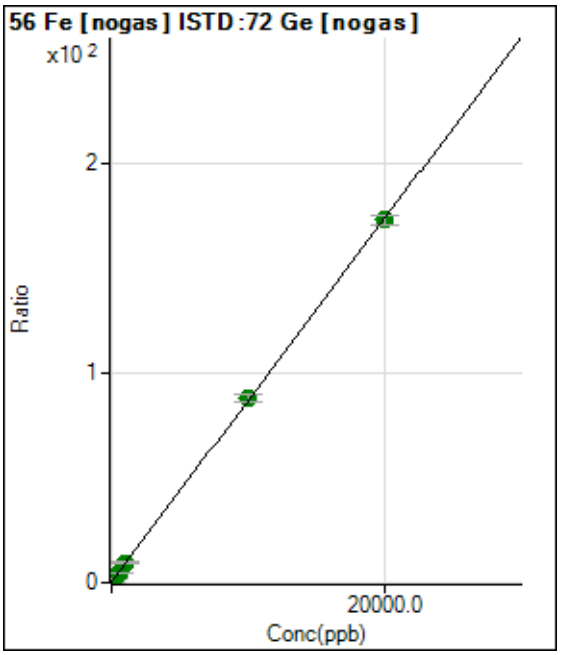


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	160.00	0.0016	P	8.9
2	☐	2.000	1.979	1210.06	0.0121	P	6.4
3	☐	5.000	5.392	2963.62	0.0301	P	4.7
4	☐	10.000	10.965	5984.44	0.0596	P	1.2
5	☐	100.000	98.067	52418.39	0.5204	P	4.5
6	☐	200.000	200.909	106125.88	1.0645	P	0.9
7	☐	1.000					

y = 0.0053 * x + 0.0016
R = 0.9999
DL = 0.0811
BEC = 0.3036

Weight: <None>
Min Conc: <None>

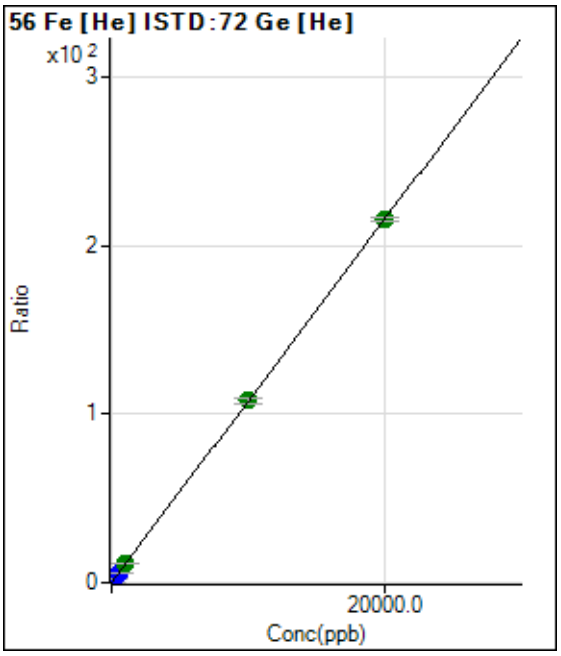
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	527519.36	0.3893	P	2.7
2	☐	200.000	196.259	2918964.65	2.0898	A	5.5
3	☐	500.000	518.159	6717085.83	4.8791	A	5.7
4	☐	1000.000	1057.003	13115930.24	9.5482	A	4.4
5	☐	10000.00	10118.931	121496894.3	88.0698	A	3.9
6	☐	20000.00	19937.268	238588547.0	173.145	A	2.5
7	☐	100.000					

y = 0.0087 * x + 0.3893
R = 1.0000
DL = 3.62
BEC = 44.92

Weight: <None>
Min Conc: <None>

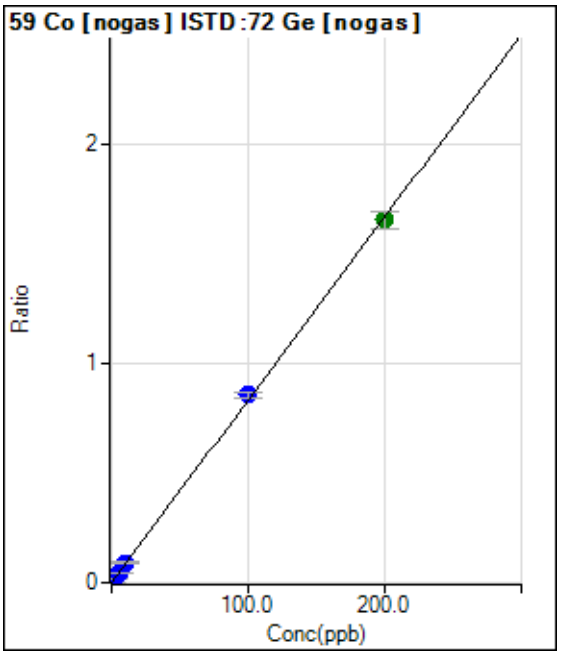


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5524.25	0.0555	P	4.5
2	☐	200.000	207.002	228384.67	2.2856	P	4.1
3	☐	500.000	517.938	553837.13	5.6353	P	6.0
4	☐	1000.000	1066.197	1157798.91	11.5418	A	5.1
5	☐	10000.00	10021.637	10882181.51	108.019	A	3.5
6	☐	20000.00	19985.353	21469781.35	215.359	A	1.1
7	☐	100.000					

y = 0.0108 * x + 0.0555
R = 1.0000
DL = 0.6945
BEC = 5.156

Weight: <None>
Min Conc: <None>

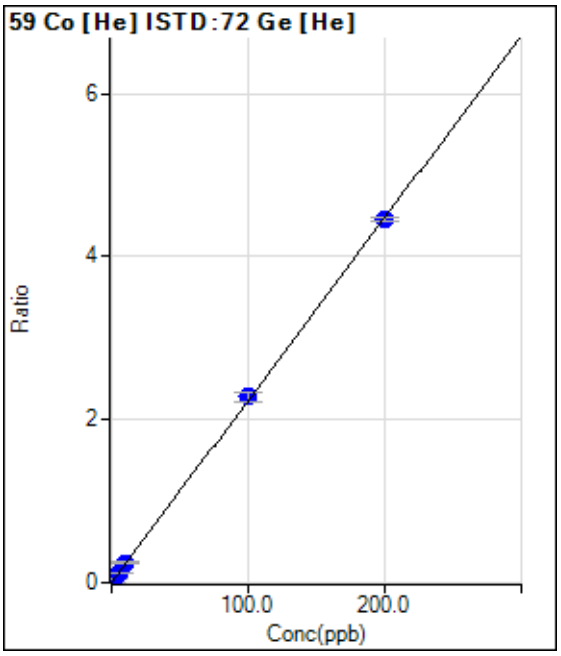
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	223.34	0.0002	P	30.7
2	☐	2.000	2.129	24977.59	0.0179	P	6.2
3	☐	5.000	5.538	63702.27	0.0463	P	4.4
4	☐	10.000	10.957	125462.60	0.0914	P	5.9
5	☐	100.000	102.676	1179190.43	0.8548	P	2.8
6	☐	200.000	198.599	2276948.04	1.6532	A	4.4
7	☐	1.000					

y = 0.0083 * x + 1.6403E-004
R = 0.9999
DL = 0.01817
BEC = 0.01971

Weight: <None>
Min Conc: <None>

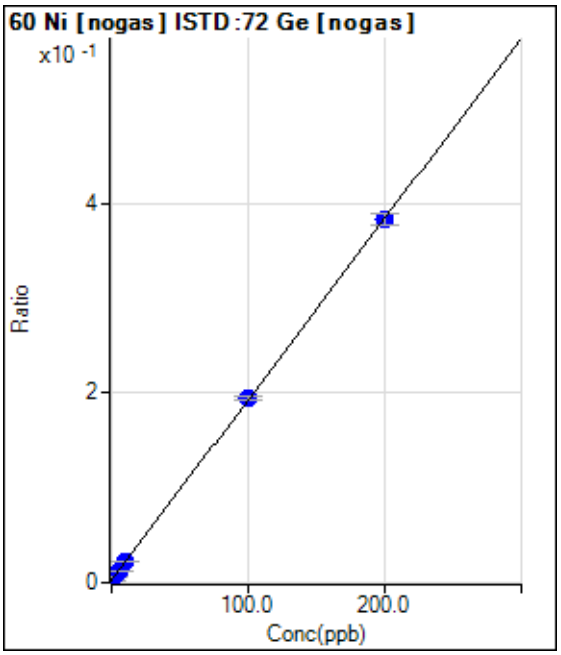


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	13.33	0.0001	P	86.7
2	☐	2.000	2.121	4750.70	0.0475	P	5.8
3	☐	5.000	5.149	11317.01	0.1152	P	7.1
4	☐	10.000	10.935	24536.79	0.2446	P	4.6
5	☐	100.000	101.872	229295.04	2.2771	P	5.5
6	☐	200.000	199.012	443458.55	4.4482	P	1.1
7	☐	1.000					

y = 0.0224 * x + 1.3379E-004
R = 0.9999
DL = 0.01556
BEC = 0.005986

Weight: <None>
Min Conc: <None>

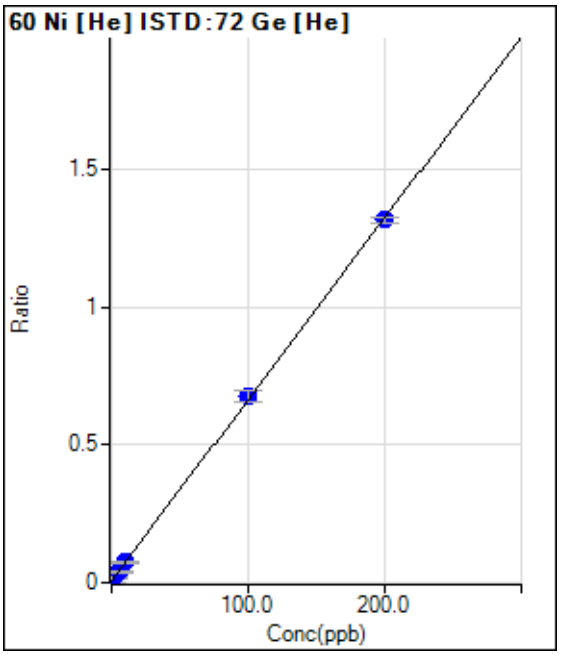
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.378	2410.19	0.0018	P	4.5
2	☐	2.000	1.752	8155.30	0.0058	P	7.0
3	☐	5.000	4.853	16184.07	0.0118	P	4.4
4	☐	10.000	10.286	30375.66	0.0221	P	4.5
5	☐	100.000	100.990	269110.02	0.1951	P	2.6
6	☐	200.000	199.497	527548.95	0.3829	P	3.1
7	☐	1.000					

y = 0.0019 * x + 0.0025
R = 1.0000
DL = 0.125
BEC = 1.311

Weight: <None>
Min Conc: <None>

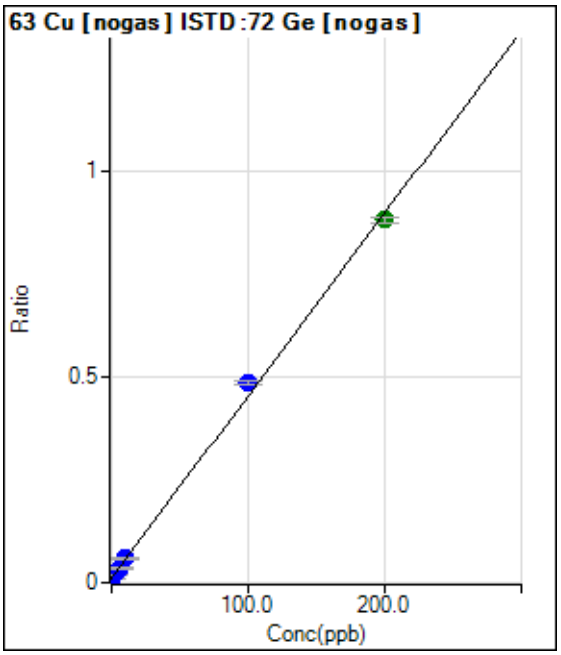


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.586	340.01	0.0034	P	2.9
2	☐	2.000	1.674	1823.46	0.0183	P	17.6
3	☐	5.000	4.838	3827.14	0.0391	P	20.2
4	☐	10.000	10.172	7455.00	0.0743	P	2.5
5	☐	100.000	101.805	68248.49	0.6779	P	6.9
6	☐	200.000	199.096	131476.84	1.3188	P	1.9
7	☐	1.000					

y = 0.0066 * x + 0.0073
R = 0.9999
DL = 0.04536
BEC = 1.104

Weight: <None>
Min Conc: <None>

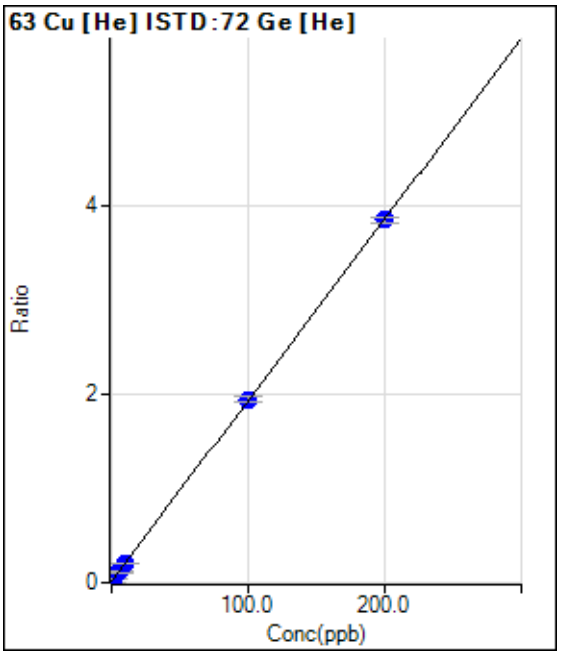
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15156.50	0.0112	P	7.0
2	☐	2.000	2.170	29029.90	0.0208	P	6.0
3	☐	5.000	5.257	47418.60	0.0344	P	4.8
4	☐	10.000	10.834	81180.95	0.0591	P	5.4
5	☐	100.000	106.983	668312.13	0.4844	P	1.6
6	☐	200.000	196.459	1213546.81	0.8802	A	1.5
7	☐	1.000					

y = 0.0044 * x + 0.0112
R = 0.9991
DL = 0.5314
BEC = 2.529

Weight: <None>
Min Conc: <None>

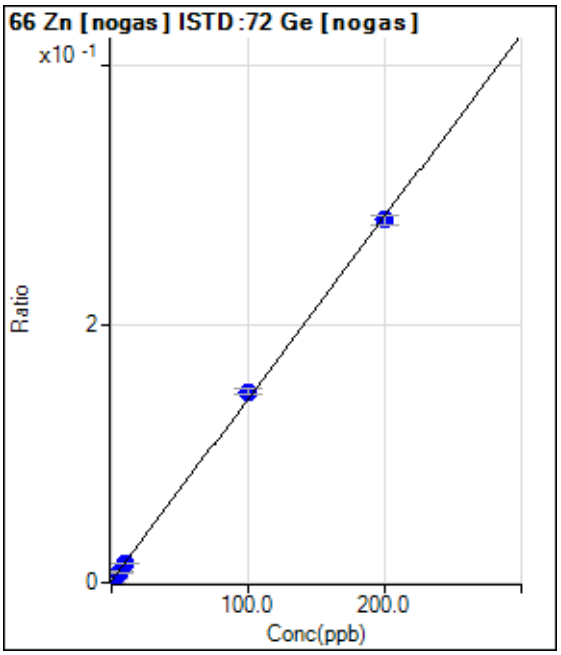


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.334	786.70	0.0079	P	15.3
2	☐	2.000	1.770	4827.40	0.0483	P	5.6
3	☐	5.000	5.154	11123.57	0.1133	P	7.9
4	☐	10.000	10.143	20982.37	0.2091	P	2.9
5	☐	100.000	100.551	195950.20	1.9448	P	3.5
6	☐	200.000	199.716	383670.98	3.8486	P	1.5
7	☐	1.000					

y = 0.0192 * x + 0.0143
R = 1.0000
DL = 0.1895
BEC = 0.7464

Weight: <None>
Min Conc: <None>

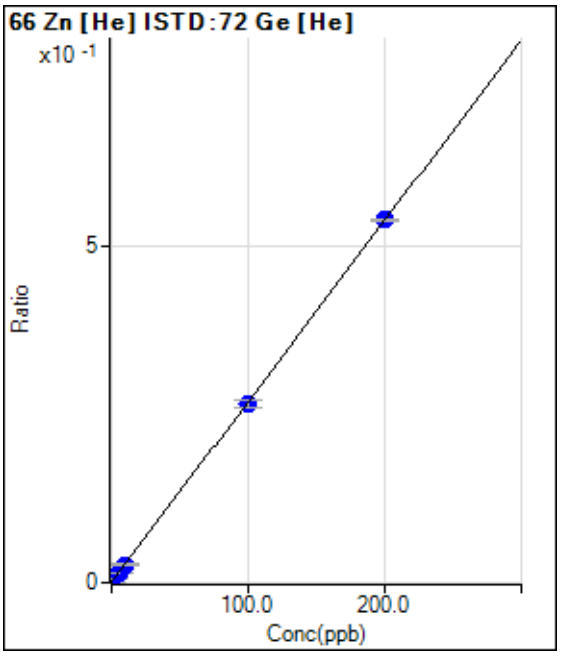
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.784	373.35	0.0003	P	38.5
2	☐	2.000	1.300	4483.95	0.0032	P	9.1
3	☐	5.000	4.772	11170.27	0.0081	P	3.2
4	☐	10.000	9.843	20965.75	0.0153	P	4.1
5	☐	100.000	103.699	203630.19	0.1476	P	3.2
6	☐	200.000	198.171	387055.60	0.2808	P	2.3
7	☐	1.000					

y = 0.0014 * x + 0.0014
R = 0.9997
DL = 0.2243
BEC = 0.9788

Weight: <None>
Min Conc: <None>

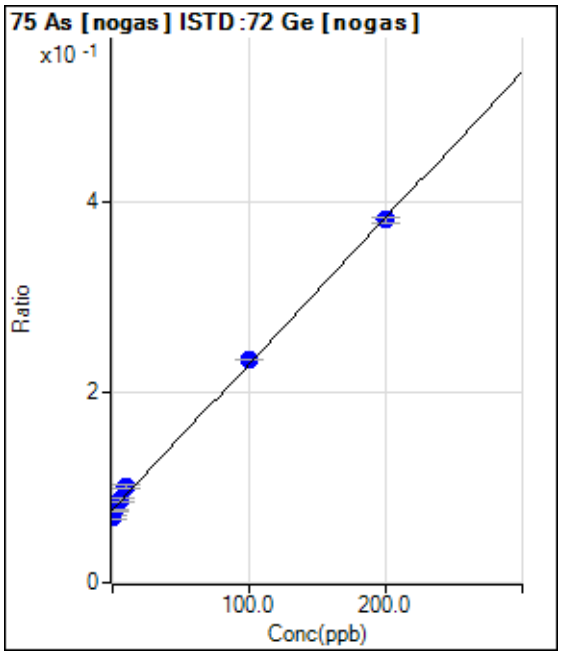


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.022	56.67	0.0006	P	52.7
2	☐	2.000	2.476	723.36	0.0073	P	25.8
3	☐	5.000	5.223	1440.08	0.0146	P	12.1
4	☐	10.000	9.830	2713.59	0.0270	P	7.8
5	☐	100.000	98.990	26823.41	0.2663	P	4.0
6	☐	200.000	200.503	53709.61	0.5387	P	0.3
7	☐	1.000					

y = 0.0027 * x + 6.3213E-004
R = 1.0000
DL = 0.3371
BEC = 0.2356

Weight: <None>
Min Conc: <None>

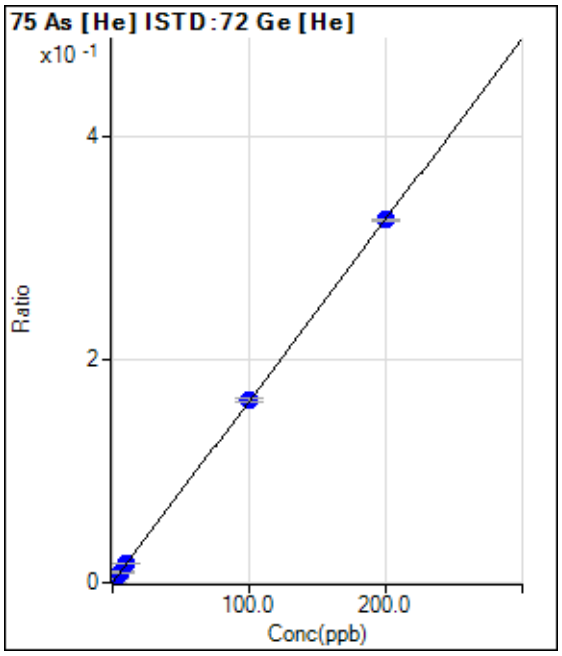
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-5.675	92135.62	0.0680	P	6.2
2	☐	2.000	-0.279	106606.12	0.0763	P	3.6
3	☐	5.000	6.268	118855.07	0.0863	P	4.9
4	☐	10.000	15.737	138458.60	0.1008	P	5.2
5	☐	100.000	102.488	322375.60	0.2337	P	0.3
6	☐	200.000	198.460	524601.10	0.3807	P	1.8
7	☐	1.000					

y = 0.0015 * x + 0.0767
R = 0.9988
DL = 8.221
BEC = 50.09

Weight: <None>
Min Conc: <None>

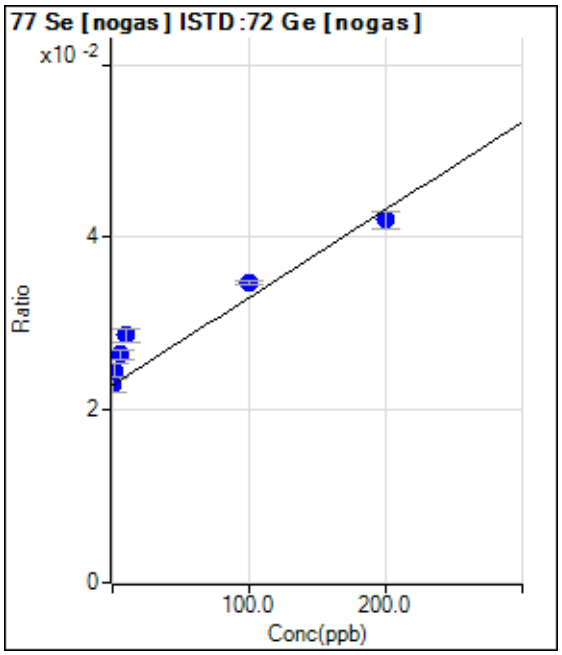


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0001	P	35.0
2	☐	2.000	2.115	354.45	0.0035	P	6.7
3	☐	5.000	5.566	896.70	0.0092	P	17.1
4	☐	10.000	10.430	1714.54	0.0171	P	0.6
5	☐	100.000	100.208	16450.80	0.1632	P	2.0
6	☐	200.000	199.859	32450.03	0.3255	P	0.7
7	☐	1.000					

y = 0.0016 * x + 1.0096E-004
R = 1.0000
DL = 0.0652
BEC = 0.06202

Weight: <None>
Min Conc: <None>

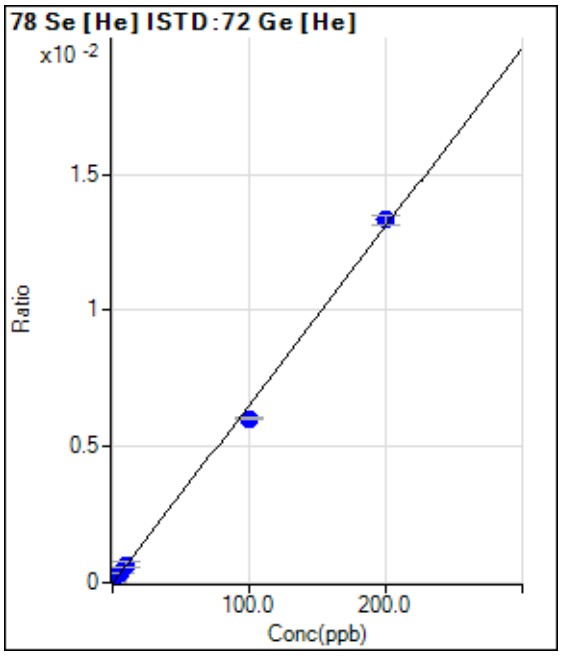
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	30993.43	0.0229	P	6.4
2	☐	2.000	16.300	34269.31	0.0245	P	6.7
3	☐	5.000	35.042	36416.64	0.0264	P	3.8
4	☐	10.000	56.960	39379.51	0.0287	P	5.4
5	☐	100.000	117.049	47983.43	0.0348	P	1.5
6	☐	200.000	188.234	57865.28	0.0420	P	4.5
7	☐	1.000					

y = 1.0166E-004 * x + 0.0229
R = 0.9719
DL = 43.54
BEC = 225.1

Weight: <None>
Min Conc: <None>

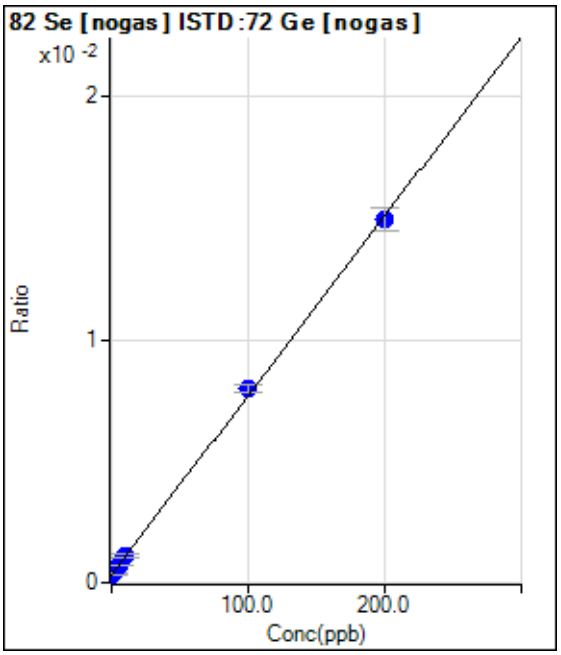


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	1.032	4.00	0.0000	P	86.7
2	☐	2.000	3.368	19.33	0.0002	P	4.8
3	☐	5.000	5.872	35.33	0.0004	P	12.3
4	☐	10.000	10.586	66.67	0.0007	P	23.2
5	☐	100.000	92.413	608.01	0.0060	P	0.7
6	☐	200.000	203.729	1328.72	0.0133	P	2.7
7	☐	1.000					

y = 6.5558E-005 * x - 2.7542E-005
R = 0.9989
DL = 1.592
BEC = -0.4201

Weight: <None>
Min Conc: <None>

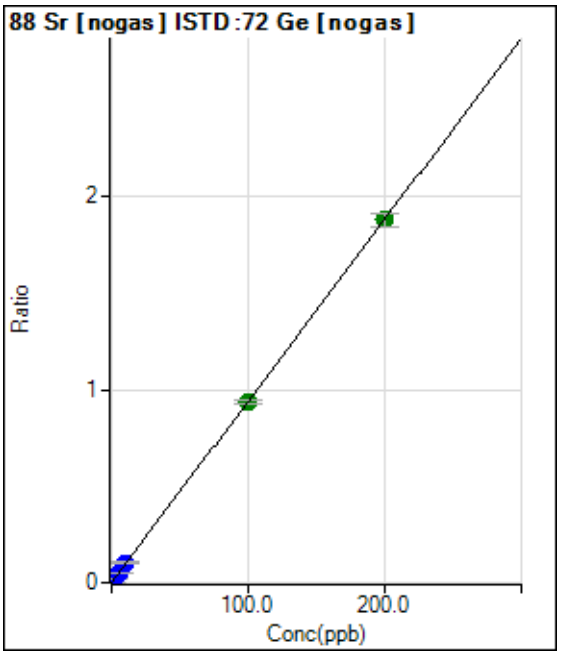
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	446.68	0.0003	P	7.7
2	☐	2.000	0.816	543.35	0.0004	P	21.6
3	☐	5.000	5.084	970.04	0.0007	P	6.9
4	☐	10.000	11.025	1566.76	0.0011	P	14.3
5	☐	100.000	103.945	11036.92	0.0080	P	4.4
6	☐	200.000	197.986	20575.40	0.0149	P	6.4
7	☐	1.000					

y = 7.3789E-005 * x + 3.2943E-004
R = 0.9997
DL = 1.029
BEC = 4.464

Weight: <None>
Min Conc: <None>

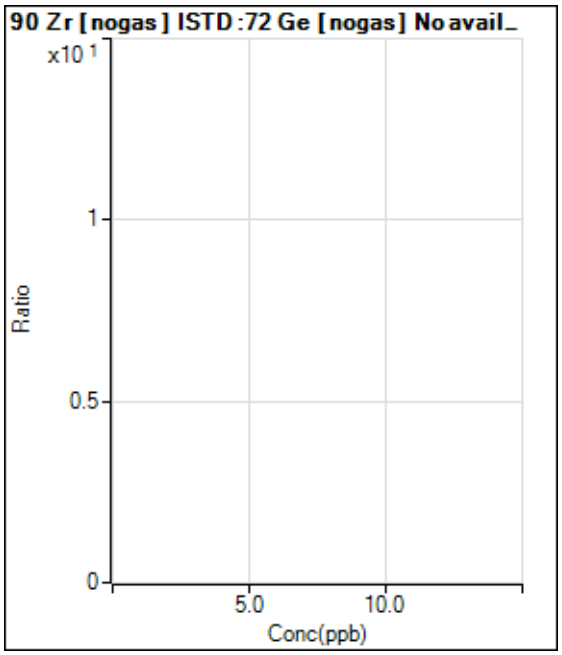


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	370.01	0.0003	P	3.4
2	☐	2.000	2.122	28202.68	0.0202	P	7.0
3	☐	5.000	5.252	68307.78	0.0496	P	2.5
4	☐	10.000	11.000	142194.57	0.1036	P	6.5
5	☐	100.000	100.083	1296937.61	0.9401	A	2.1
6	☐	200.000	199.901	2585771.78	1.8774	A	3.9
7	☐	1.000					

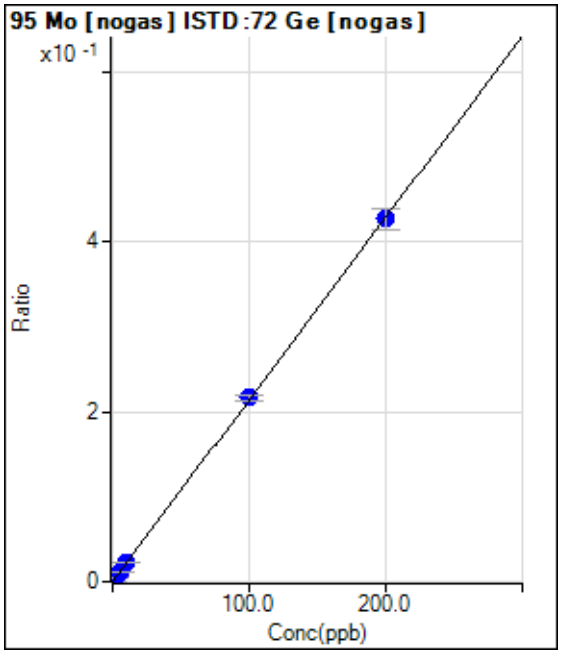
y = 0.0094 * x + 2.7284E-004
R = 1.0000
DL = 0.002981
BEC = 0.02905

Weight: <None>
Min Conc: <None>

Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

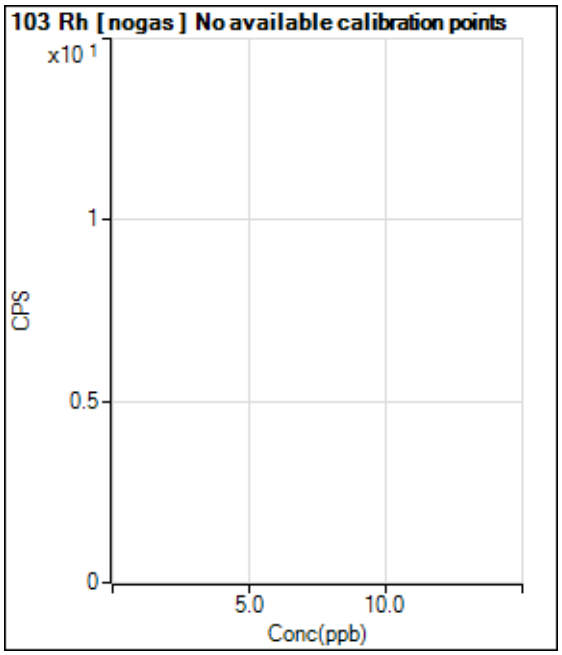


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	163.33	0.0001	P	13.5
2	☐	2.000	2.010	6177.85	0.0044	P	5.7
3	☐	5.000	5.191	15477.06	0.0112	P	4.4
4	☐	10.000	10.565	31228.10	0.0227	P	5.7
5	☐	100.000	101.023	298537.65	0.2164	P	2.6
6	☐	200.000	199.455	587936.51	0.4271	P	6.0
7	☐	1.000					

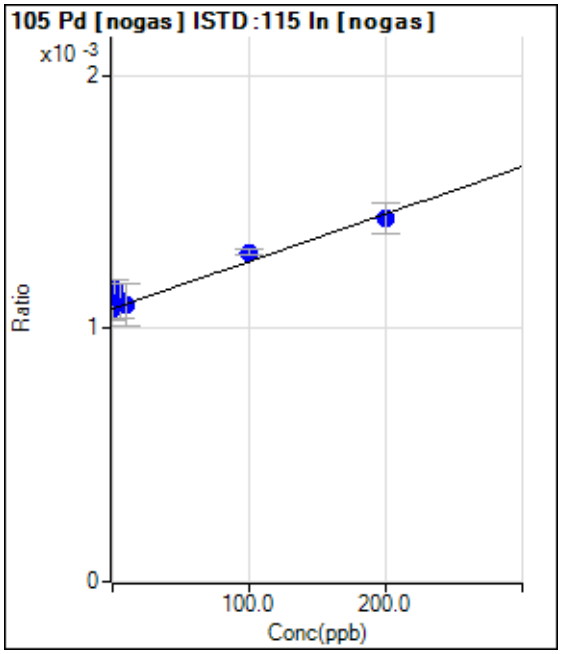
y = 0.0021 * x + 1.2044E-004
R = 1.0000
DL = 0.02274
BEC = 0.05626

Weight: <None>
Min Conc: <None>

Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			310.01		P	11.2
2	☐			193.34		P	43.4
3	☐			116.67		P	26.2
4	☐			173.34		P	17.6
5	☐			236.67		P	14.8
6	☐			293.34		P	20.0
7	☐						

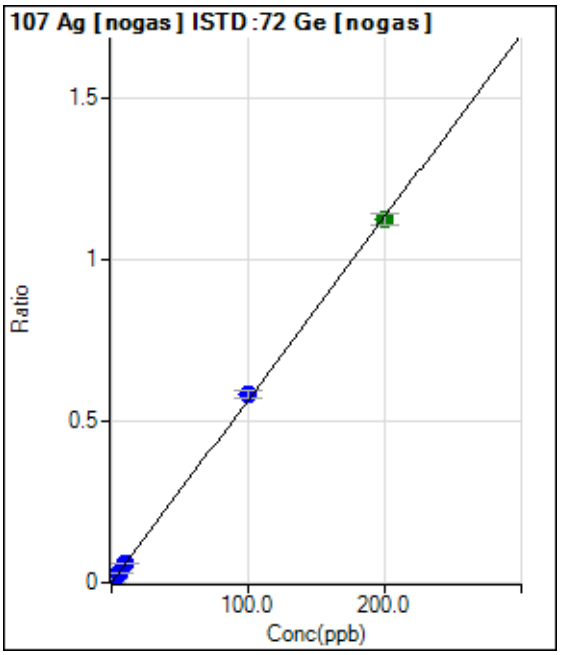


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1536.76	0.0011	P	8.2
2	☐	2.000	40.408	1666.78	0.0012	P	6.8
3	☐	5.000	16.626	1656.78	0.0011	P	11.8
4	☐	10.000	8.682	1693.44	0.0011	P	15.0
5	☐	100.000	119.801	1933.48	0.0013	P	2.1
6	☐	200.000	189.491	2120.17	0.0014	P	8.3
7	☐	1.000					

y = 1.8719E-006 * x + 0.0011
R = 0.9777
DL = 141.1
BEC = 575.9

Weight: <None>
Min Conc: <None>

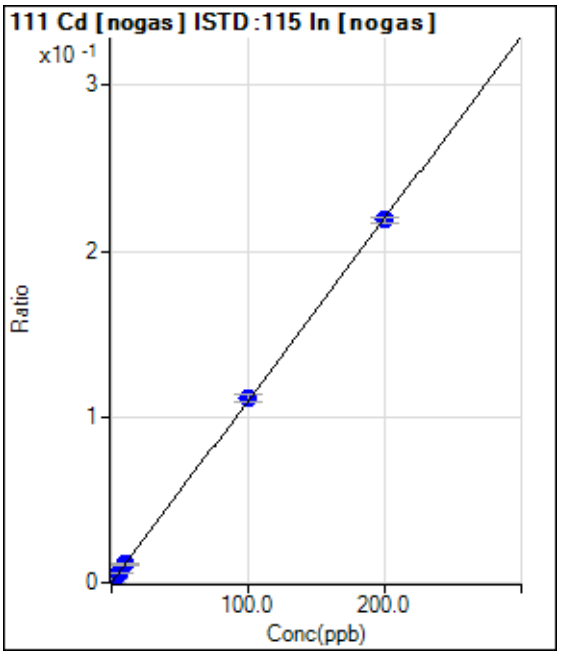
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	293.34	0.0002	P	6.7
2	☐	2.000	2.057	16591.50	0.0119	P	4.0
3	☐	5.000	5.259	41339.31	0.0300	P	3.7
4	☐	10.000	10.687	83505.22	0.0608	P	2.9
5	☐	100.000	103.007	805477.10	0.5839	P	3.5
6	☐	200.000	198.455	1549428.10	1.1247	A	3.1
7	☐	1.000					

y = 0.0057 * x + 2.1622E-004
R = 0.9998
DL = 0.007644
BEC = 0.03816

Weight: <None>
Min Conc: <None>

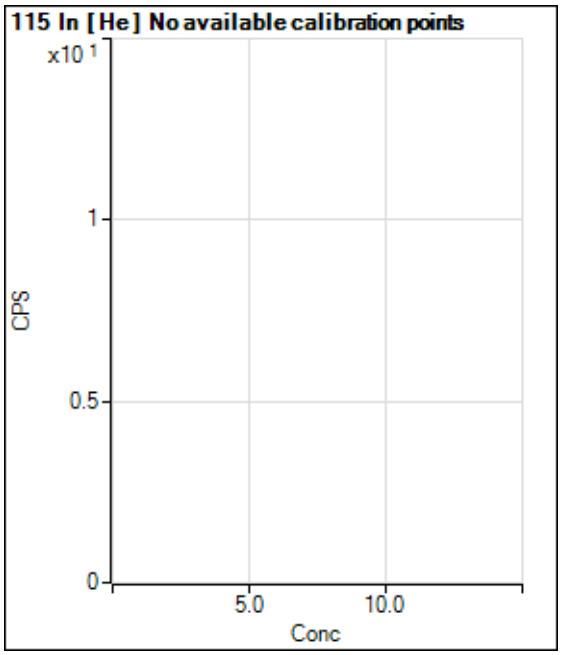


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	2.000	2.102	3340.39	0.0023	P	3.4
3	☐	5.000	5.183	8522.22	0.0057	P	2.3
4	☐	10.000	10.091	17202.03	0.0111	P	3.2
5	☐	100.000	101.507	165585.94	0.1115	P	3.6
6	☐	200.000	199.236	324325.18	0.2189	P	1.9
7	☐	1.000					

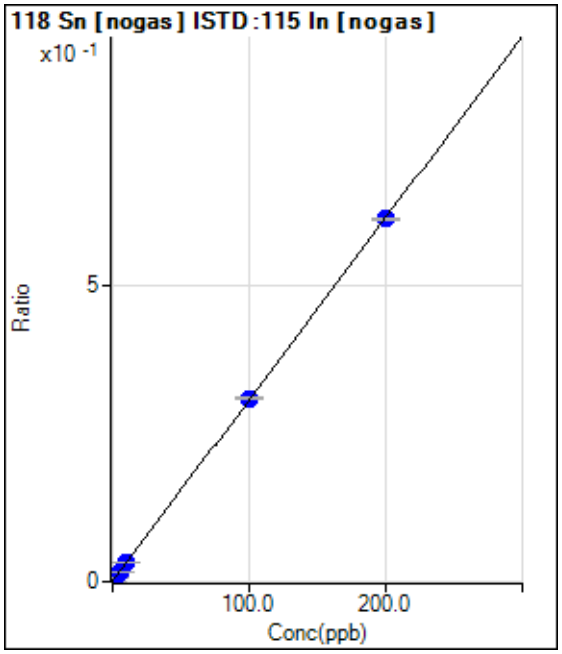
y = 0.0011 * x + 2.3354E-006
R = 1.0000
DL = 0.01104
BEC = 0.002125

Weight: <None>
Min Conc: <None>

Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			123712.87		P	2.0
2	☐			123862.74		P	1.7
3	☐			125395.12		P	3.6
4	☐			124496.20		P	2.1
5	☐			125051.30		P	3.7
6	☐			126234.24		P	2.4
7	☐						

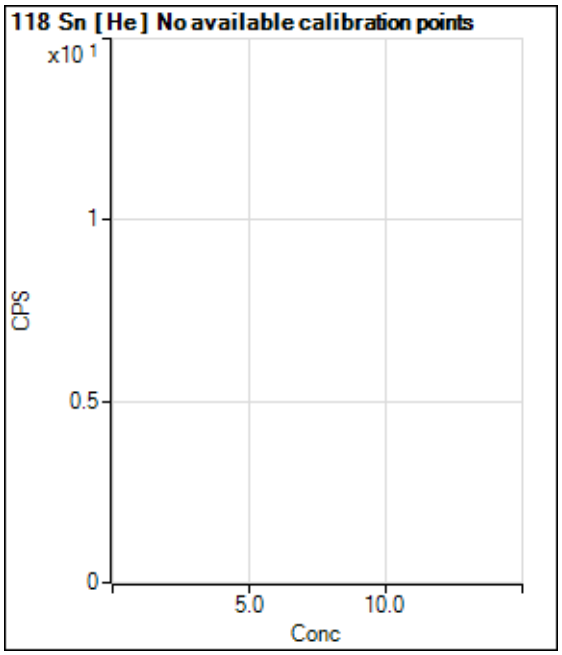


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	770.03	0.0005	P	12.6
2	☐	2.000	2.128	10236.52	0.0071	P	2.6
3	☐	5.000	5.064	24110.37	0.0161	P	0.7
4	☐	10.000	10.113	49109.52	0.0316	P	0.7
5	☐	100.000	100.878	461506.21	0.3108	P	1.0
6	☐	200.000	199.553	910393.73	0.6144	P	0.3
7	☐	1.000					

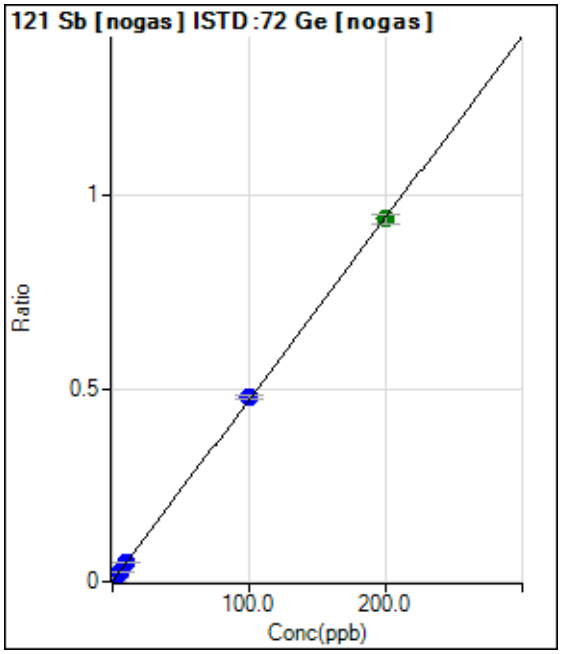
y = 0.0031 * x + 5.3930E-004
R = 1.0000
DL = 0.0662
BEC = 0.1753

Weight: <None>
Min Conc: <None>

Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			60.00		P	60.1
2	☐			1233.40		P	12.2
3	☐			2590.24		P	7.5
4	☐			5254.20		P	5.1
5	☐			50917.94		P	1.1
6	☐			100057.80		P	0.6
7	☐						

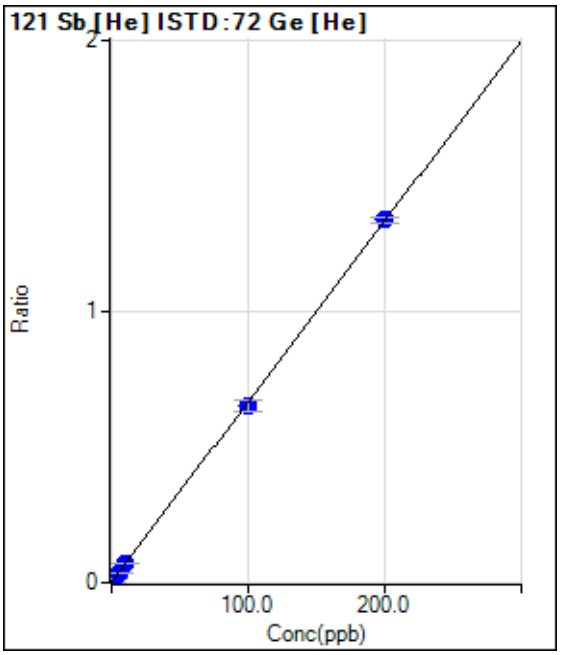


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	970.05	0.0007	P	7.6
2	☐	2.000	2.090	14756.50	0.0106	P	4.2
3	☐	5.000	5.443	36298.25	0.0264	P	3.4
4	☐	10.000	10.357	67999.27	0.0495	P	4.7
5	☐	100.000	101.150	658317.13	0.4772	P	2.6
6	☐	200.000	199.395	1296618.26	0.9400	A	2.3
7	☐	1.000					

y = 0.0047 * x + 7.1613E-004
R = 1.0000
DL = 0.0347
BEC = 0.152

Weight: <None>
Min Conc: <None>

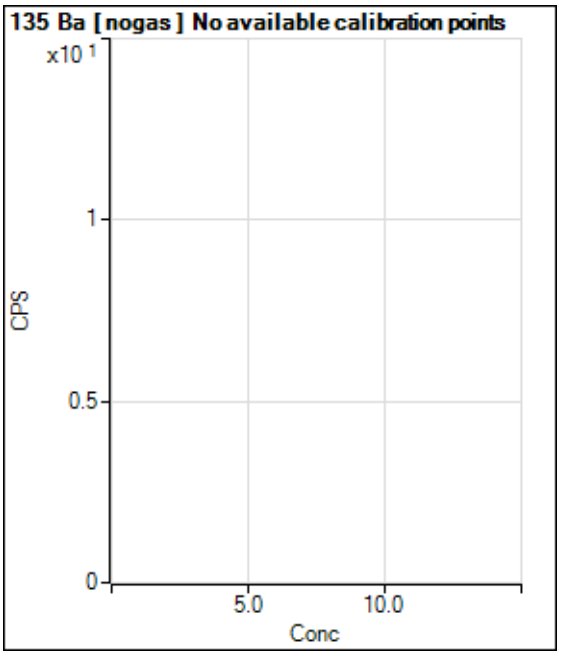
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0014	P	45.8
2	☐	2.000	2.014	1473.42	0.0148	P	20.1
3	☐	5.000	5.370	3653.78	0.0371	P	2.8
4	☐	10.000	10.176	6934.83	0.0691	P	1.7
5	☐	100.000	98.104	65858.00	0.6541	P	6.2
6	☐	200.000	200.930	133413.06	1.3383	P	1.6
7	☐	1.000					

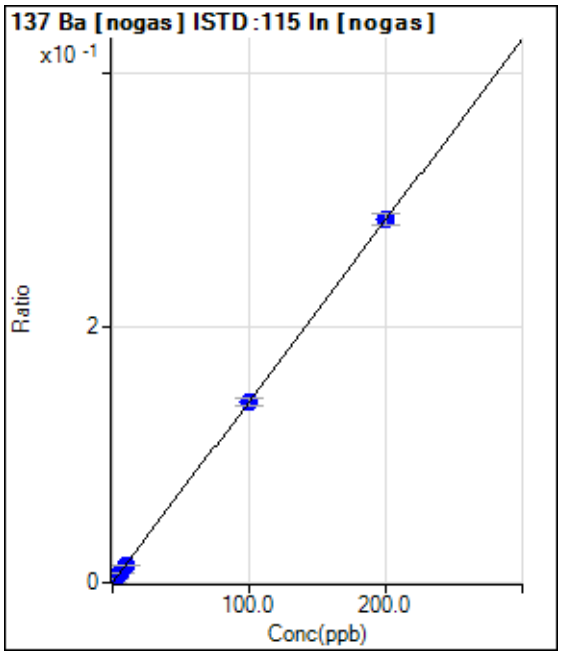
y = 0.0067 * x + 0.0014
R = 0.9999
DL = 0.2852
BEC = 0.2077

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			110.00		P	24.1
2	☐			2643.59		P	5.9
3	☐			6034.50		P	6.5
4	☐			12191.21		P	2.1
5	☐			119020.03		P	4.5
6	☐			239900.53		P	1.6
7	☐						

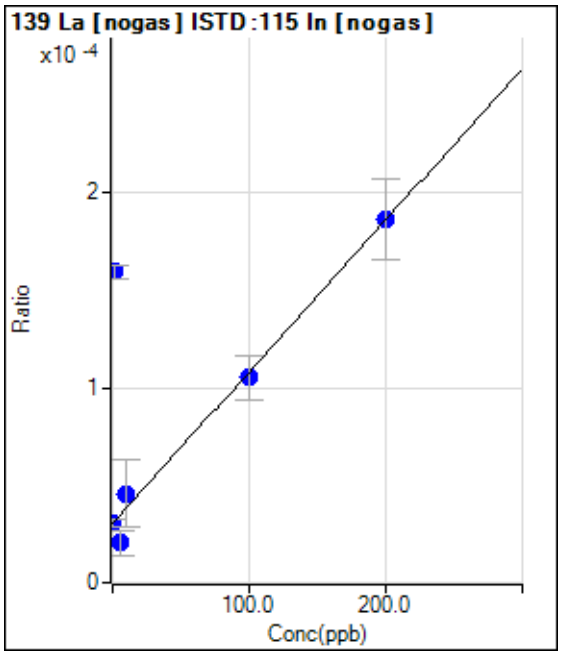
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	103.33	0.0001	P	21.2
2	☐	2.000	2.078	4370.65	0.0030	P	4.5
3	☐	5.000	5.367	11507.36	0.0077	P	8.2
4	☐	10.000	9.779	21660.63	0.0140	P	4.9
5	☐	100.000	99.621	210288.63	0.1417	P	3.6
6	☐	200.000	200.191	421462.65	0.2846	P	3.3
7	☐	1.000					

y = 0.0014 * x + 7.2336E-005
R = 1.0000
DL = 0.03231
BEC = 0.0509

Weight: <None>
Min Conc: <None>

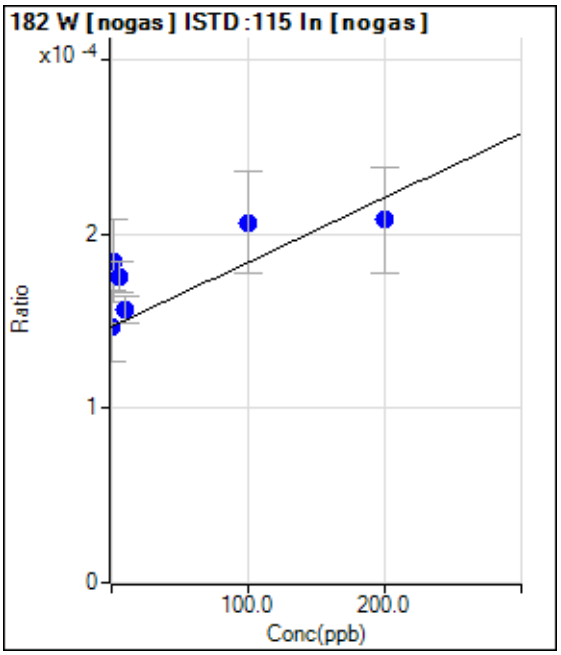


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	43.33	0.0000	P	13.3
2	☐	2.000	165.714	230.01	0.0002	P	4.2
3	☐	5.000	-13.075	30.00	0.0000	P	58.6
4	☐	10.000	19.351	70.00	0.0000	P	76.2
5	☐	100.000	96.451	156.67	0.0001	P	21.5
6	☐	200.000	200.122	276.67	0.0002	P	22.4
7	☐	100.000					

y = 7.7741E-007 * x + 3.0382E-005
R = 0.6878
DL = 15.6
BEC = 39.08

Weight: <None>
Min Conc: <None>

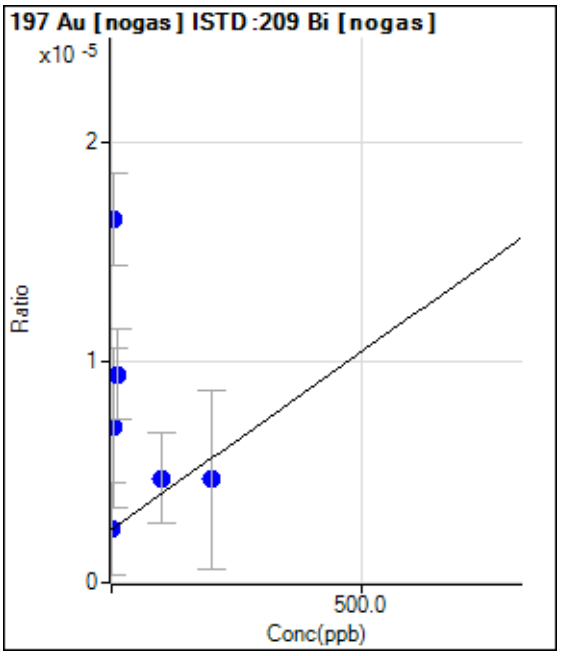
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	210.01	0.0001	P	27.7
2	☐	2.000	101.931	266.68	0.0002	P	25.3
3	☐	5.000	78.206	263.34	0.0002	P	9.9
4	☐	10.000	25.862	243.34	0.0002	P	10.3
5	☐	100.000	161.879	306.68	0.0002	P	28.1
6	☐	200.000	165.438	306.68	0.0002	P	29.3
7	☐	1.000					

y = 3.7059E-007 * x + 1.4692E-004
R = 0.7864
DL = 329.8
BEC = 396.5

Weight: <None>
Min Conc: <None>

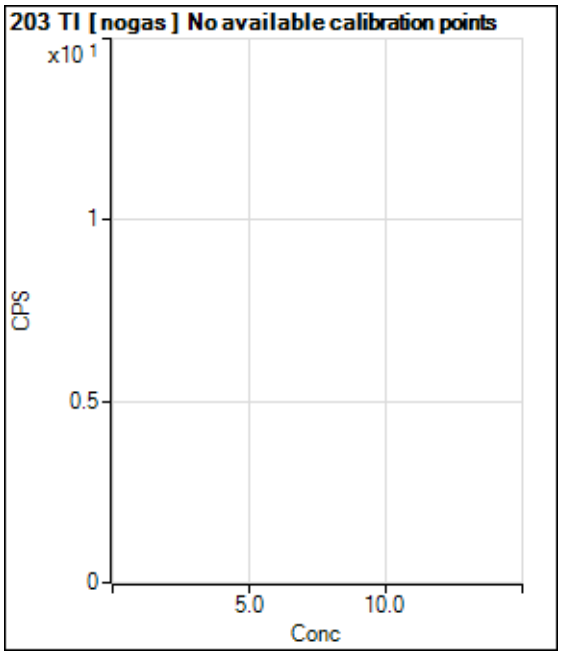


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	2.000	872.531	23.33	0.0000	P	25.6
3	☐	5.000	287.838	10.00	0.0000	P	102.
4	☐	10.000	436.355	13.33	0.0000	P	43.2
5	☐	100.000	144.195	6.67	0.0000	P	86.6
6	☐	200.000	140.809	6.67	0.0000	P	173.
7	☐	100.000					

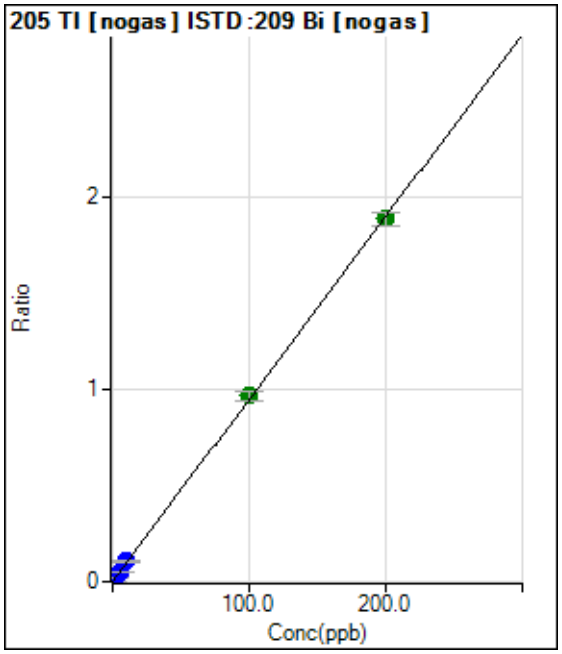
y = 1.6083E-008 * x + 2.4169E-006
R = -0.3874
DL = 780.9
BEC = 150.3

Weight: <None>
Min Conc: <None>

Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			83.33		P	18.3
2	☐			11547.65		P	0.4
3	☐			28932.71		P	1.8
4	☐			62577.17		P	2.2
5	☐			582931.87		P	2.9
6	☐			1144858.89		P	2.4
7	☐						

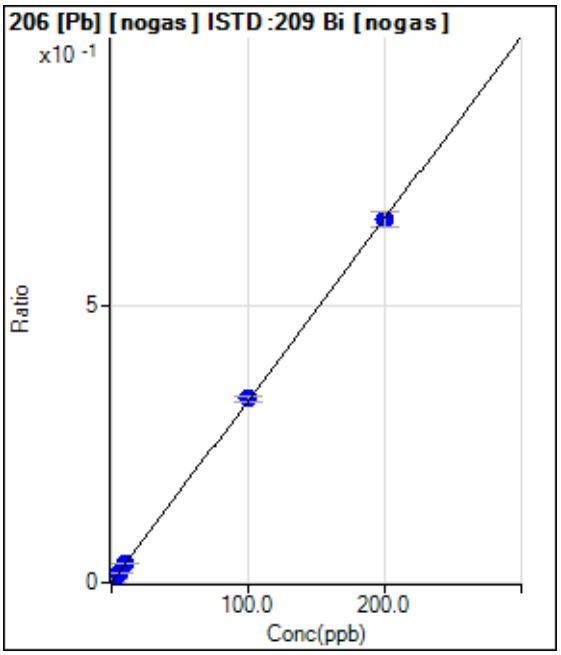


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	160.00	0.0001	P	26.8
2	☐	2.000	2.002	27113.02	0.0191	P	1.6
3	☐	5.000	5.214	70653.84	0.0495	P	6.5
4	☐	10.000	11.113	148961.52	0.1054	P	1.5
5	☐	100.000	102.044	1363195.76	0.9674	A	4.8
6	☐	200.000	198.917	2639336.11	1.8856	A	3.9
7	☐	1.000					

y = 0.0095 * x + 1.1381E-004
R = 0.9999
DL = 0.009668
BEC = 0.01201

Weight: <None>
Min Conc: <None>

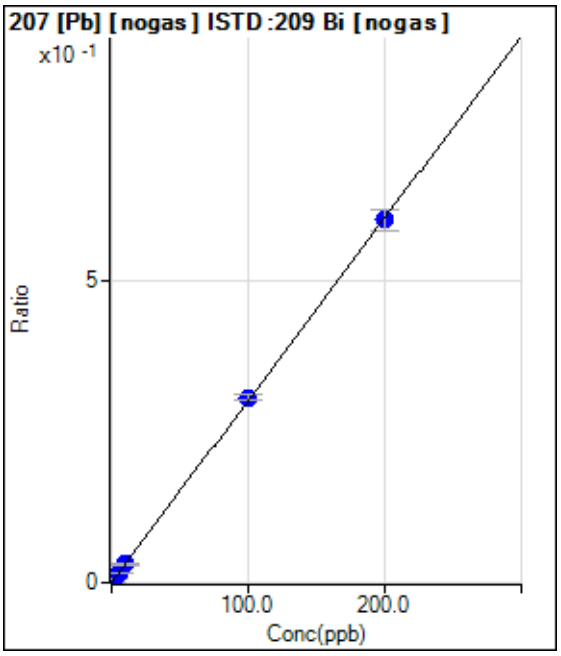
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	286.68	0.0002	P	12.1
2	☐	2.000	2.015	9696.36	0.0068	P	0.4
3	☐	5.000	5.291	25093.01	0.0176	P	6.0
4	☐	10.000	10.411	48623.11	0.0344	P	2.4
5	☐	100.000	101.177	468889.15	0.3327	P	3.3
6	☐	200.000	199.383	917534.10	0.6554	P	4.2
7	☐	1.000					

y = 0.0033 * x + 2.0428E-004
R = 1.0000
DL = 0.0226
BEC = 0.06216

Weight: <None>
Min Conc: <None>

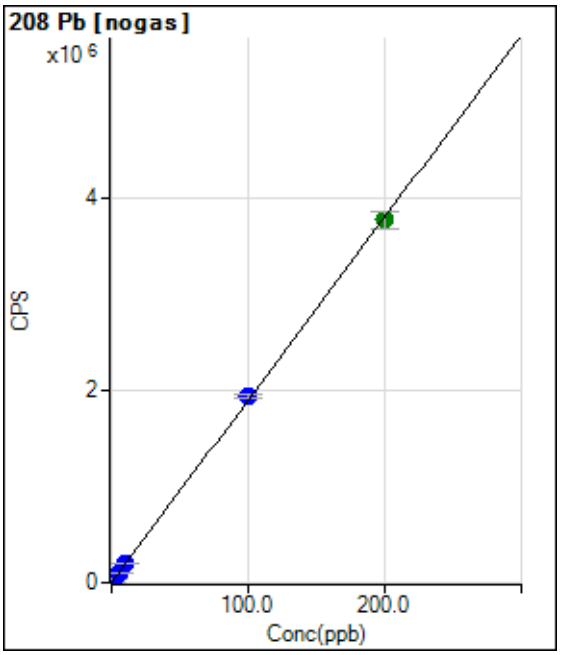


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	243.34	0.0002	P	18.7
2	☐	2.000	1.987	8785.87	0.0062	P	6.5
3	☐	5.000	5.171	22559.25	0.0158	P	8.4
4	☐	10.000	10.065	43258.23	0.0306	P	3.6
5	☐	100.000	101.665	433673.18	0.3077	P	3.2
6	☐	200.000	199.160	843635.09	0.6026	P	5.6
7	☐	1.000					

y = 0.0030 * x + 1.7351E-004
R = 1.0000
DL = 0.03216
BEC = 0.05736

Weight: <None>
Min Conc: <None>

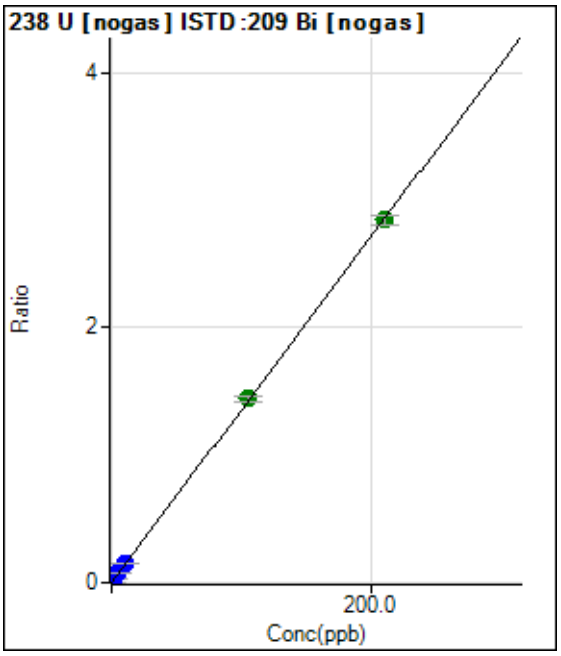
Calibration for 015_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1133.37		P	12.4
2	☐	2.000	2.073	40477.46		P	5.9
3	☐	5.000	5.282	101361.43		P	1.8
4	☐	10.000	10.431	199071.01		P	3.0
5	☐	100.000	102.576	1947593.93		P	2.0
6	☐	200.000	198.683	3771289.79		A	4.9
7	☐	1.000					

y = 18975.7734 * x + 1133.3700
R = 0.9999
DL = 0.02221
BEC = 0.05973

Weight: <None>
Min Conc: <None>

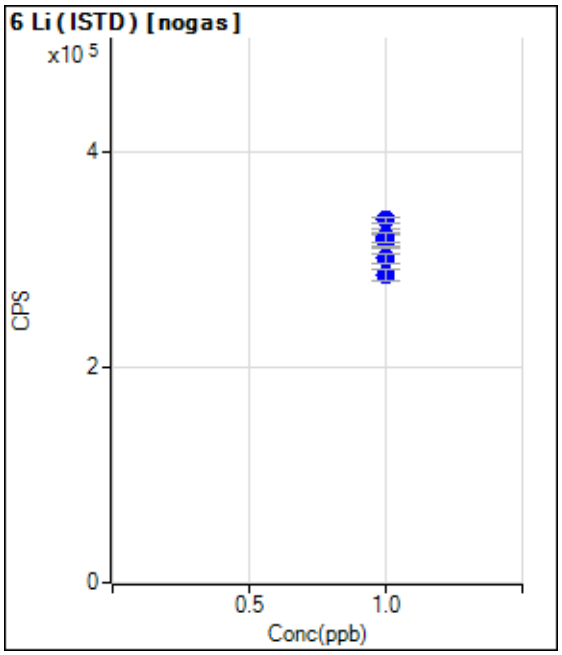


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	160.00	0.0001	P	7.5
2	☐	2.000	2.136	41424.85	0.0292	P	5.0
3	☐	5.000	5.312	103207.67	0.0723	P	4.4
4	☐	10.000	11.104	213399.82	0.1511	P	4.4
5	☐	105.000	106.190	2035092.94	1.4439	A	3.2
6	☐	210.000	209.344	3984911.19	2.8463	A	2.3
7	☐	1.000					

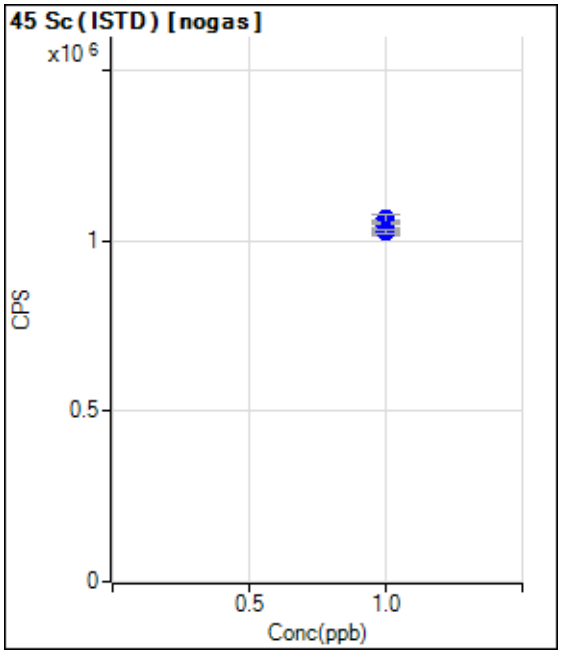
y = 0.0136 * x + 1.1396E-004
R = 1.0000
DL = 0.001888
BEC = 0.008382

Weight: <None>
Min Conc: <None>

Calibration for 015_ICV.d

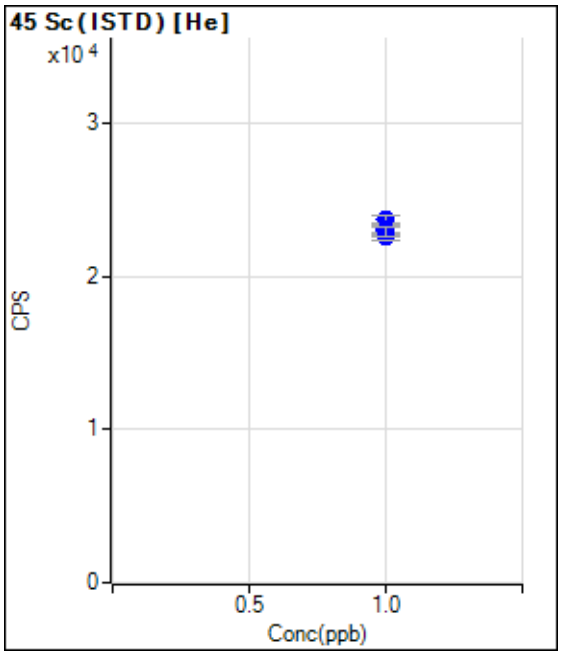


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		317177.93		P	3.8
2	☐	1.000		320177.10		P	5.2
3	☐	1.000		320622.21		P	2.8
4	☐	1.000		336557.75		P	1.3
5	☐	1.000		300946.54		P	3.3
6	☐	1.000		285113.70		P	4.1
7	☐	1.000					

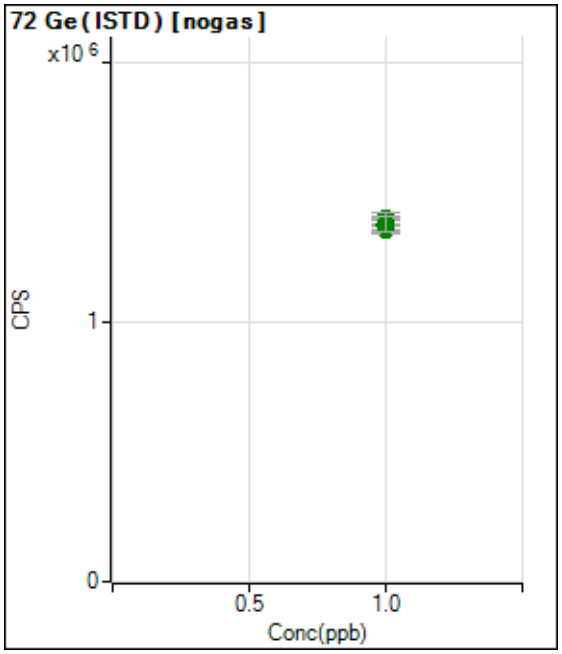


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1033422.98		P	1.5
2	☐	1.000		1058718.03		P	3.2
3	☐	1.000		1046860.97		P	2.7
4	☐	1.000		1065074.12		P	2.0
5	☐	1.000		1034422.15		P	3.3
6	☐	1.000		1027585.14		P	1.1
7	☐	1.000					

Calibration for 015_ICV.d

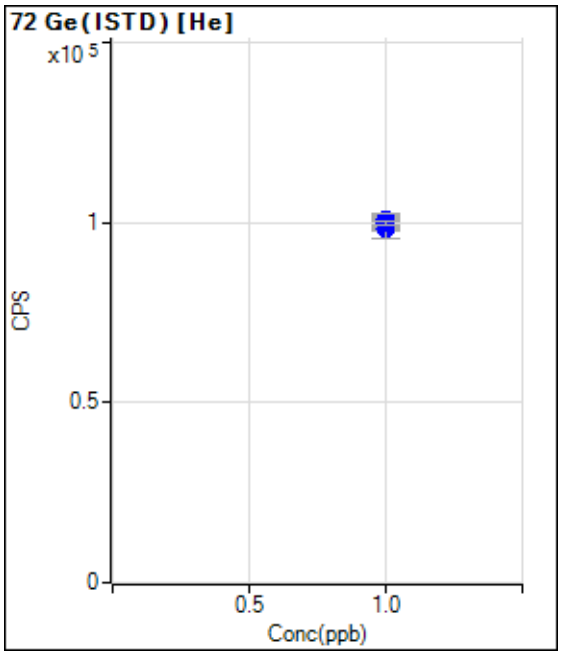


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		23695.58		P	3.0
2	☐	1.000		23038.04		P	1.6
3	☐	1.000		23171.52		P	2.2
4	☐	1.000		23078.07		P	2.6
5	☐	1.000		22594.26		P	2.6
6	☐	1.000		22937.82		P	2.5
7	☐	1.000					

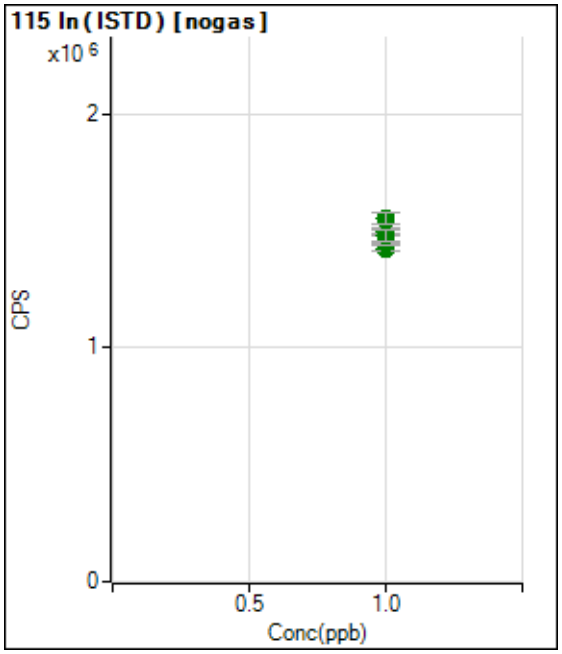


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1355582.95		A	2.2
2	☐	1.000		1398709.25		A	4.0
3	☐	1.000		1378304.41		A	3.5
4	☐	1.000		1374905.50		A	3.2
5	☐	1.000		1379618.42		A	0.4
6	☐	1.000		1378915.50		A	4.5
7	☐	1.000					

Calibration for 015_ICV.d

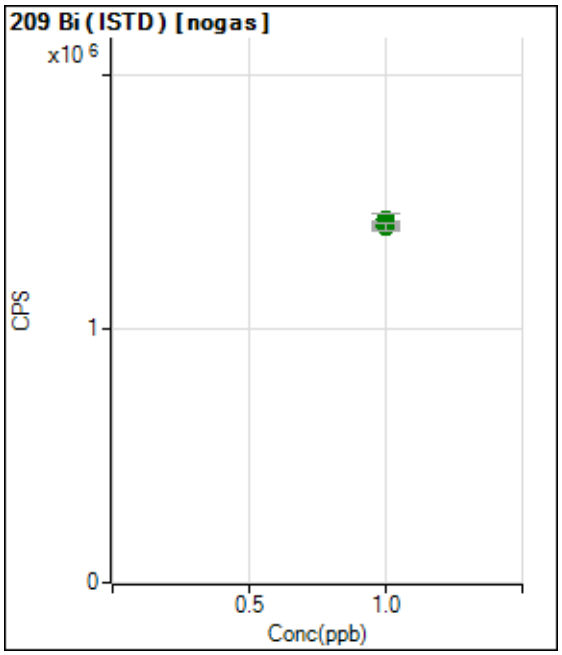


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		99503.04		P	2.0
2	☐	1.000		100032.73		P	4.0
3	☐	1.000		98481.44		P	5.4
4	☐	1.000		100384.53		P	2.3
5	☐	1.000		100823.78		P	3.4
6	☐	1.000		99700.19		P	1.0
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1426361.44		A	1.3
2	☐	1.000		1444660.94		A	0.3
3	☐	1.000		1496119.98		A	2.1
4	☐	1.000		1551979.94		A	3.1
5	☐	1.000		1484798.32		A	1.0
6	☐	1.000		1481873.22		A	3.3
7	☐	1.000					

Calibration for 015_ICV.d



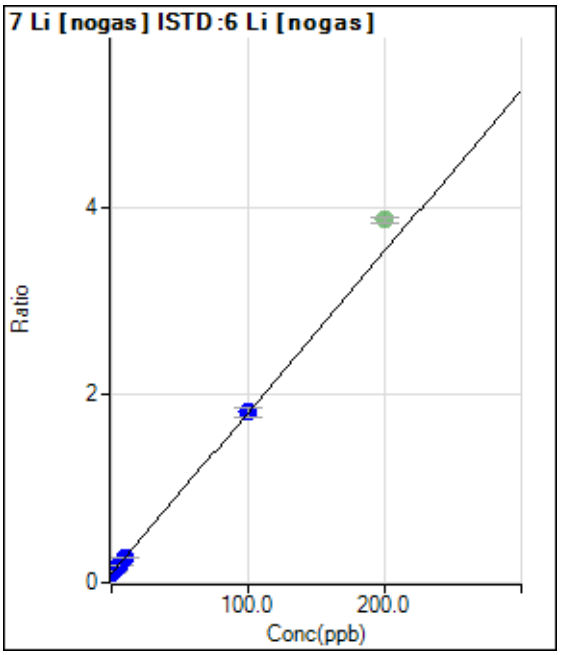
	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1404967.64		A	1.7
2	☐	1.000		1420247.48		A	0.9
3	☐	1.000		1428414.25		A	3.7
4	☐	1.000		1412677.63		A	0.4
5	☐	1.000		1409788.57		A	1.3
6	☐	1.000		1400387.17		A	1.8
7	☐	1.000					

Calibration for 120_ICV.d

Batch Folder: C:\Agilent\ICPMH\1\DATA\010218A.b\
Analysis File: 010218A.batch.bin
DA Date-Time: 2018-01-02 16:21:47
Calibration Title:
Calibration Method: External Calibration
VIS Interpolation Fit:

Level	Standard Data File	Sample Name	Acq. Date-Time
1	114CALB.d	CAL BLK	2018-01-02 14:47:26
2	115CALS.d	2/10/200	2018-01-02 14:49:27
3	116CALS.d	5/25/500	2018-01-02 14:51:26
4	117CALS.d	10/50/1000	2018-01-02 14:53:25
5	118CALS.d	100/500/10K	2018-01-02 14:55:25
6	119CALS.d	200/1000/20K	2018-01-02 14:57:24
7			

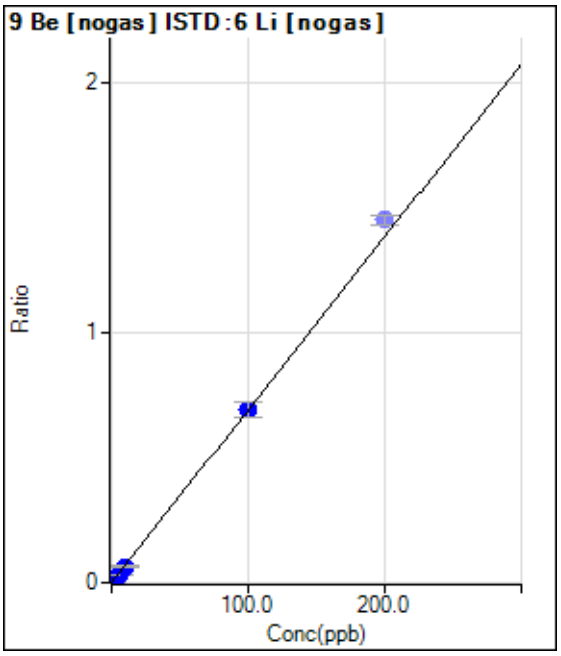
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	31790.91	0.0973	P	2.6
2	☐	2.000	1.583	41446.39	0.1244	P	3.0
3	☐	5.000	4.592	58464.81	0.1761	P	1.7
4	☐	10.000	9.660	85072.11	0.2631	P	5.2
5	☐	100.000	100.063	546308.08	1.8147	P	5.2
6	☑	200.000		1110217.22	3.8653	A	1.5
7	☐	1.000					

y = 0.0172 * x + 0.0973
R = 1.0000
DL = 0.4349
BEC = 5.666

Weight: <None>
Min Conc: <None>

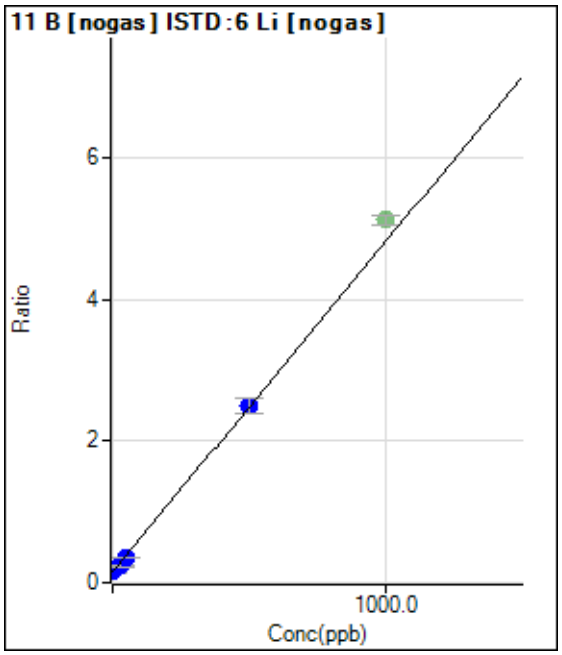


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0001	P	88.3
2	☐	2.000	1.880	4343.94	0.0130	P	7.0
3	☐	5.000	4.583	10513.12	0.0317	P	5.6
4	☐	10.000	9.231	20628.30	0.0638	P	5.3
5	☐	100.000	100.100	207639.97	0.6911	P	9.6
6	☑	200.000		416349.29	1.4493	P	2.4
7	☐	1.000					

y = 0.0069 * x + 6.1800E-005
R = 1.0000
DL = 0.02371
BEC = 0.008952

Weight: <None>
Min Conc: <None>

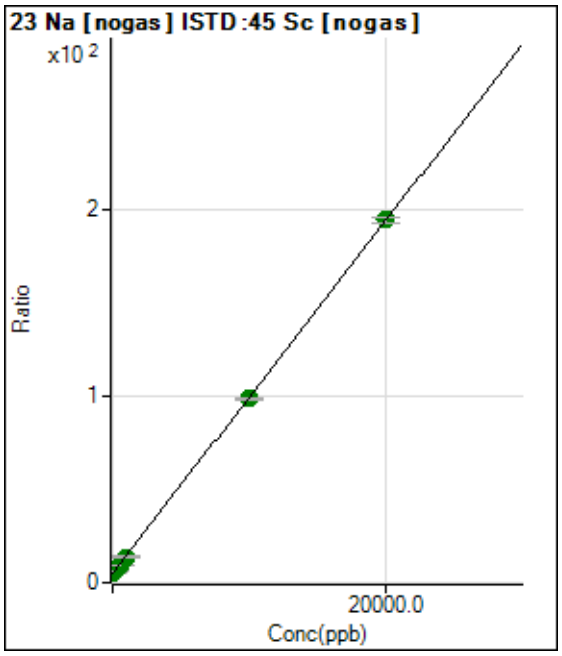
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	49455.49	0.1513	P	3.9
2	☐	10.000	6.325	60229.23	0.1808	P	1.1
3	☐	25.000	18.334	78525.63	0.2368	P	5.8
4	☐	50.000	42.139	112499.64	0.3478	P	3.3
5	☐	500.000	501.193	747981.55	2.4885	P	8.9
6	☑	1000.000		1472001.90	5.1238	A	2.6
7	☐	5.000					

y = 0.0047 * x + 0.1513
R = 0.9999
DL = 3.778
BEC = 32.45

Weight: <None>
Min Conc: <None>

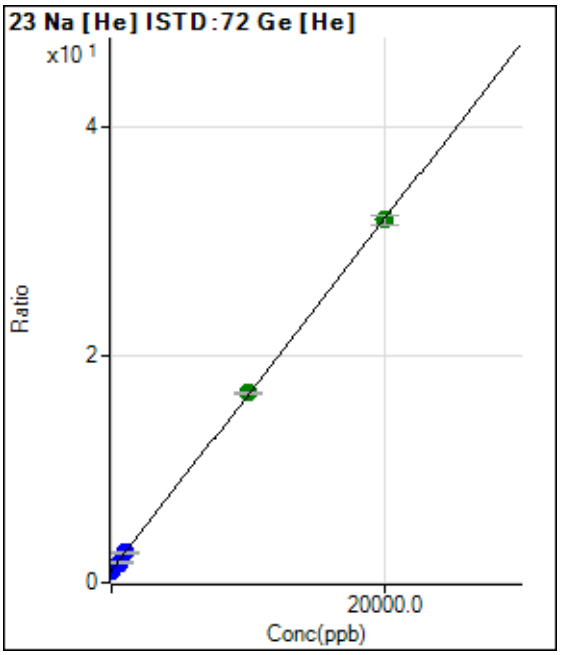


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	5003643.99	4.9532	A	1.9
2	☐	200.000	153.125	6554764.73	6.4024	A	3.6
3	☐	500.000	434.018	9150183.80	9.0608	A	1.2
4	☐	1000.000	935.472	13889014.37	13.8066	A	2.2
5	☐	10000.00	9897.941	97487150.10	98.6290	A	0.9
6	☐	20000.00	20056.374	190468908.4	194.770	A	1.6
7	☐	100.000					

y = 0.0095 * x + 4.9532
R = 1.0000
DL = 29.66
BEC = 523.4

Weight: <None>
Min Conc: <None>

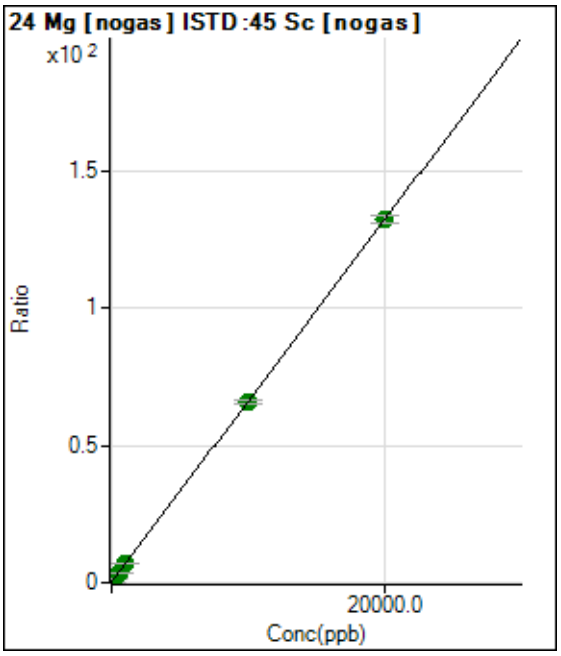
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	115855.62	1.0924	P	4.9
2	☐	200.000	184.234	146078.40	1.3766	P	2.8
3	☐	500.000	438.033	190040.74	1.7681	P	2.2
4	☐	1000.000	989.714	280576.07	2.6192	P	4.5
5	☐	10000.00	10100.034	1770850.96	16.6731	A	1.6
6	☐	20000.00	19952.204	3330345.68	31.8714	A	2.4
7	☐	100.000					

y = 0.0015 * x + 1.0924
R = 1.0000
DL = 103.3
BEC = 708.2

Weight: <None>
Min Conc: <None>

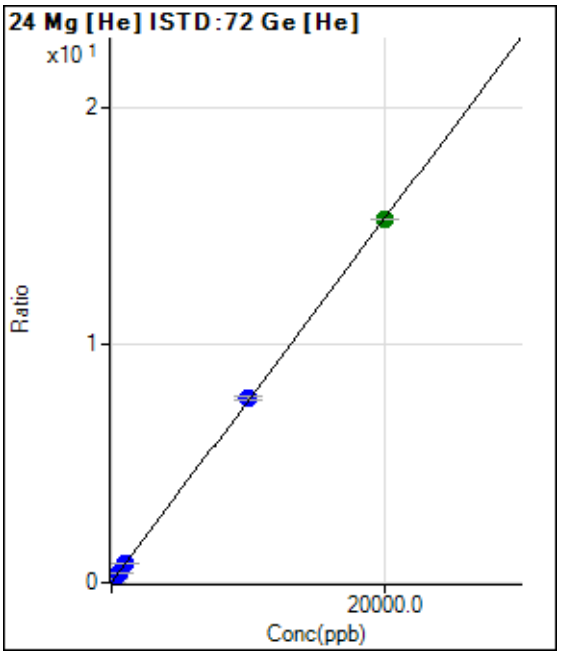


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	117971.65	0.1167	P	19.1
2	☐	200.000	195.094	1437425.13	1.4033	A	1.3
3	☐	500.000	506.891	3493783.67	3.4594	A	1.0
4	☐	1000.000	1027.386	6933417.60	6.8917	A	3.1
5	☐	10000.00	9992.777	65244438.96	66.0133	A	2.2
6	☐	20000.00	20002.119	129084661.2	132.019	A	2.1
7	☐	100.000					

y = 0.0066 * x + 0.1167
R = 1.0000
DL = 10.13
BEC = 17.7

Weight: <None>
Min Conc: <None>

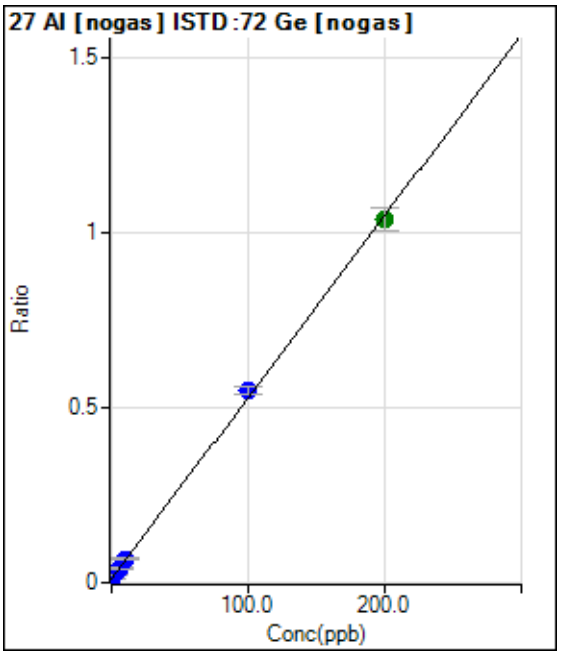
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1190.06	0.0112	P	8.0
2	☐	200.000	210.842	18292.51	0.1726	P	6.4
3	☐	500.000	515.014	43550.66	0.4054	P	6.0
4	☐	1000.000	1034.549	86015.85	0.8030	P	4.8
5	☐	10000.00	10106.370	822539.34	7.7464	P	2.1
6	☐	20000.00	19944.604	1596232.42	15.2764	A	0.0
7	☐	100.000					

y = 7.6538E-004 * x + 0.0112
R = 1.0000
DL = 3.487
BEC = 14.6

Weight: <None>
Min Conc: <None>

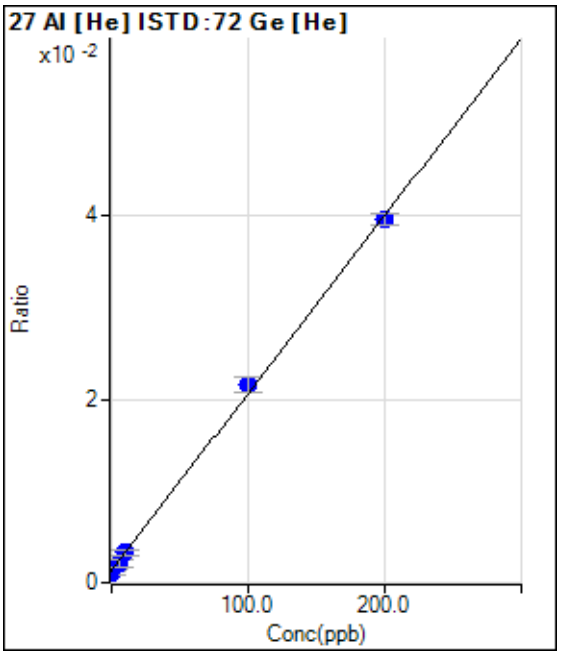


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15269.84	0.0107	P	5.2
2	☐	2.000	2.214	32461.89	0.0222	P	1.2
3	☐	5.000	5.613	58633.31	0.0398	P	11.8
4	☐	10.000	10.917	96286.96	0.0673	P	4.6
5	☐	100.000	104.163	783676.19	0.5500	P	3.9
6	☐	200.000	197.855	1462523.57	1.0350	A	6.3
7	☐	1.000					

y = 0.0052 * x + 0.0107
R = 0.9997
DL = 0.3253
BEC = 2.076

Weight: <None>
Min Conc: <None>

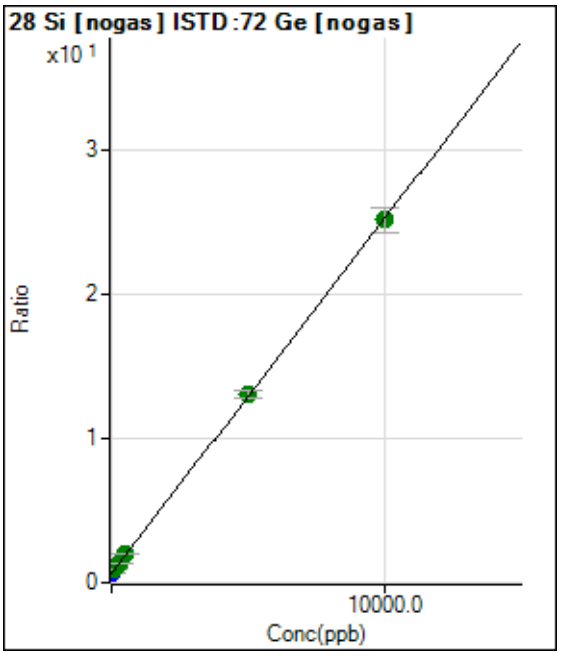
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-1.143	116.67	0.0011	P	44.2
2	☐	2.000	1.468	170.00	0.0016	P	24.9
3	☐	5.000	4.333	233.34	0.0022	P	36.1
4	☐	10.000	10.054	350.01	0.0033	P	15.2
5	☐	100.000	104.539	2286.85	0.0215	P	7.7
6	☐	200.000	197.750	4133.88	0.0396	P	3.2
7	☐	1.000					

y = 1.9337E-004 * x + 0.0013
R = 0.9996
DL = 7.586
BEC = 6.863

Weight: <None>
Min Conc: <None>

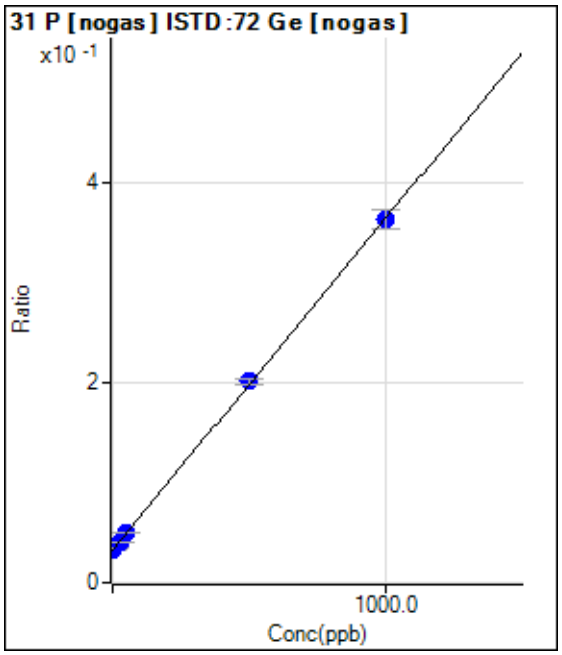


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	911182.02	0.6414	P	1.5
2	☐	100.000	130.526	1405980.81	0.9617	A	0.7
3	☐	250.000	269.241	1920608.67	1.3022	A	4.2
4	☐	500.000	547.262	2841772.56	1.9845	A	1.8
5	☐	5000.000	5058.819	18605630.55	13.0570	A	4.0
6	☐	10000.00	9967.441	35462198.64	25.1040	A	7.1
7	☐	5.000					

y = 0.0025 * x + 0.6414
R = 1.0000
DL = 11.88
BEC = 261.3

Weight: <None>
Min Conc: <None>

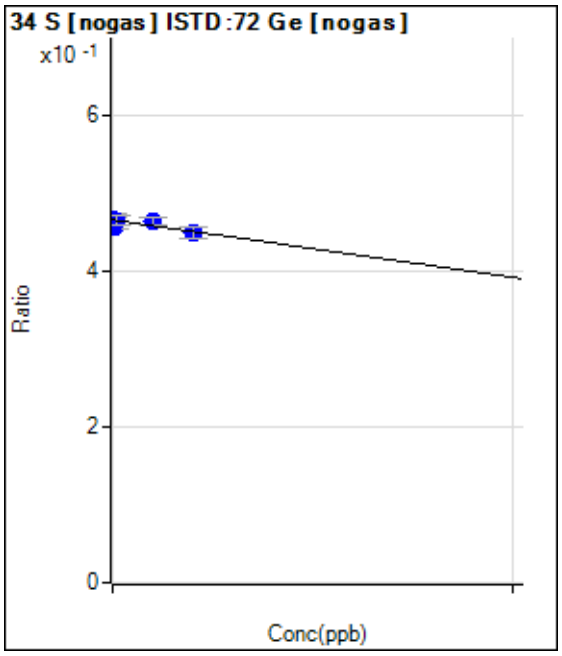
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	46083.42	0.0324	P	3.3
2	☐	10.000	9.305	51928.36	0.0355	P	0.6
3	☐	25.000	24.396	59781.21	0.0405	P	2.0
4	☐	50.000	52.966	71552.70	0.0500	P	2.5
5	☐	500.000	508.523	286063.86	0.2007	P	2.7
6	☐	1000.000	995.612	511453.09	0.3620	P	5.5
7	☐	5.000					

y = 3.3097E-004 * x + 0.0324
R = 0.9999
DL = 9.617
BEC = 98.02

Weight: <None>
Min Conc: <None>

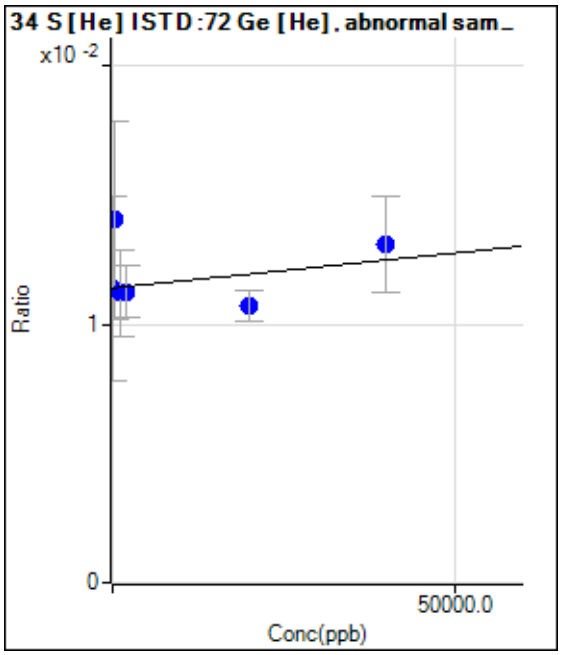


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	661772.12	0.4659	P	3.1
2	☐	400.000	4393.994	678754.64	0.4643	P	2.1
3	☐	1000.000	22977.761	675008.63	0.4574	P	1.0
4	☐	2000.000	1194.088	666489.03	0.4655	P	2.3
5	☐	20000.00	5669.429	660990.72	0.4638	P	2.2
6	☐	40000.00	46616.197	634393.68	0.4487	P	3.3
7	☐	100.000					

y = -3.6887E-007 * x + 0.4659
R = -0.7720
DL = -1.162E+05
BEC = -1.263E+06

Weight: <None>
Min Conc: <None>

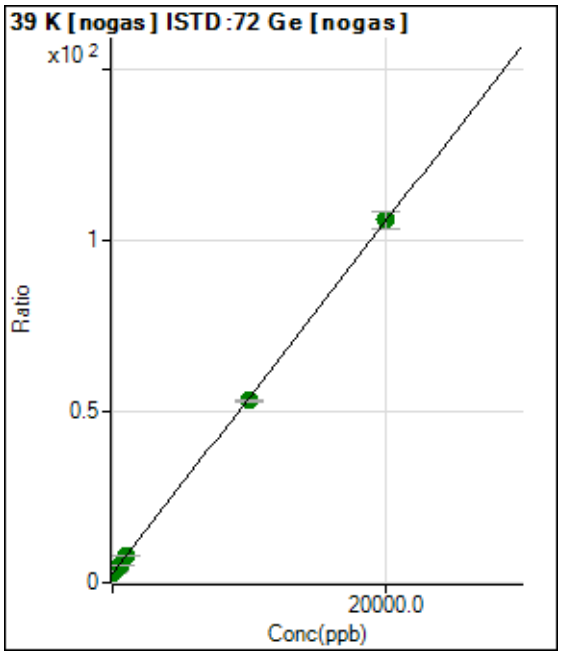
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1200.30	0.0114	P	62.5
2	☐	400.000	97487.323	1500.40	0.0140	P	54.6
3	☐	1000.000	-7366.482	1200.33	0.0112	P	29.9
4	☐	2000.000	-5820.206	1200.27	0.0112	P	18.0
5	☐	20000.00	-26384.34	1133.62	0.0107	P	11.2
6	☐	40000.00	62821.470	1367.02	0.0131	P	28.1
7	☐	100.000					

y = 2.6999E-008 * x + 0.0114
R = 0.1837
DL = 7.915E+05
BEC = 4.221E+05

Weight: <None>
Min Conc: <None>

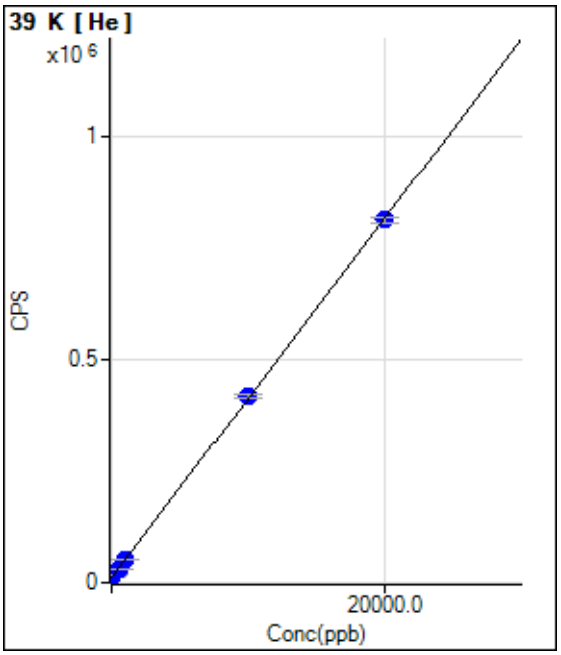


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3769606.86	2.6536	A	1.6
2	☐	200.000	182.406	5250335.27	3.5913	A	1.5
3	☐	500.000	474.526	7515229.07	5.0930	A	1.5
4	☐	1000.000	994.269	11118888.53	7.7650	A	2.2
5	☐	10000.00	9820.358	75727855.86	53.1387	A	0.9
6	☐	20000.00	20090.920	149701428.3	105.938	A	5.1
7	☐	100.000					

y = 0.0051 * x + 2.6536
R = 0.9999
DL = 25.53
BEC = 516.2

Weight: <None>
Min Conc: <None>

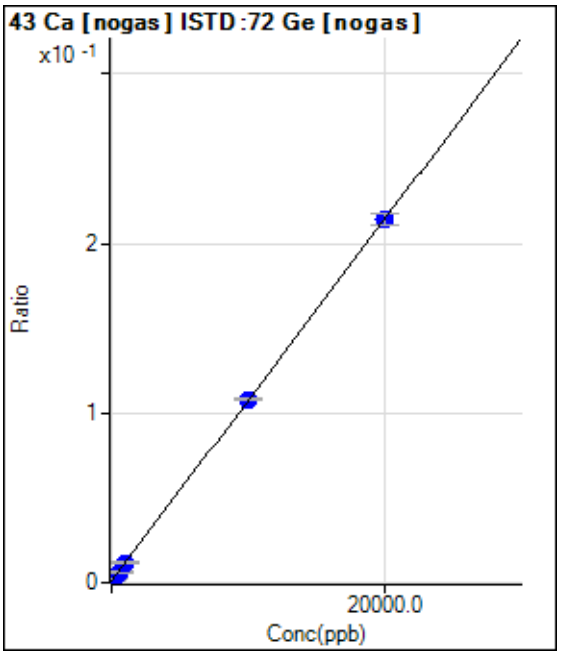
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11096.80		P	4.2
2	☐	200.000	212.119	19623.84		P	2.5
3	☐	500.000	503.233	31326.44		P	4.2
4	☐	1000.000	1033.948	52660.82		P	3.5
5	☐	10000.00	10114.310	417685.44		P	1.7
6	☐	20000.00	19940.946	812709.75		P	1.5
7	☐	100.000					

y = 40.1993 * x + 11096.7967
R = 1.0000
DL = 35.1
BEC = 276

Weight: <None>
Min Conc: <None>

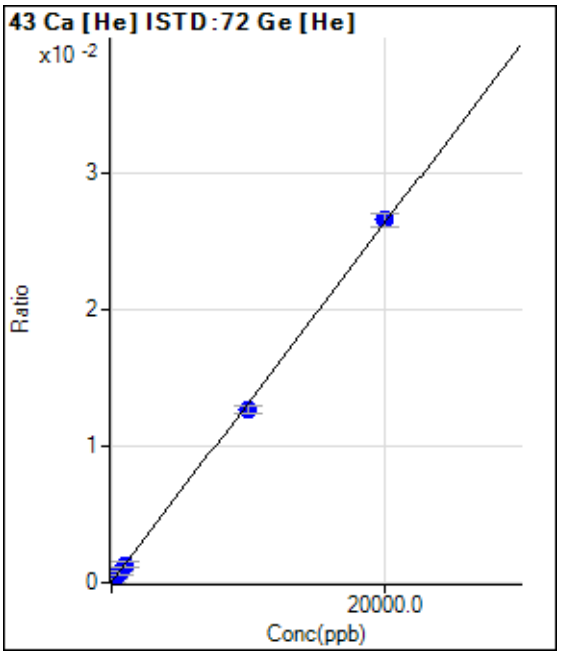


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1386.74	0.0010	P	7.1
2	☐	200.000	168.711	4053.85	0.0028	P	3.5
3	☐	500.000	485.416	9069.04	0.0061	P	3.9
4	☐	1000.000	1008.709	16791.19	0.0117	P	4.7
5	☐	10000.00	10051.551	154051.81	0.1081	P	1.7
6	☐	20000.00	19974.466	302363.26	0.2138	P	3.2
7	☐	100.000					

y = 1.0657E-005 * x + 9.7525E-004
R = 1.0000
DL = 19.5
BEC = 91.51

Weight: <None>
Min Conc: <None>

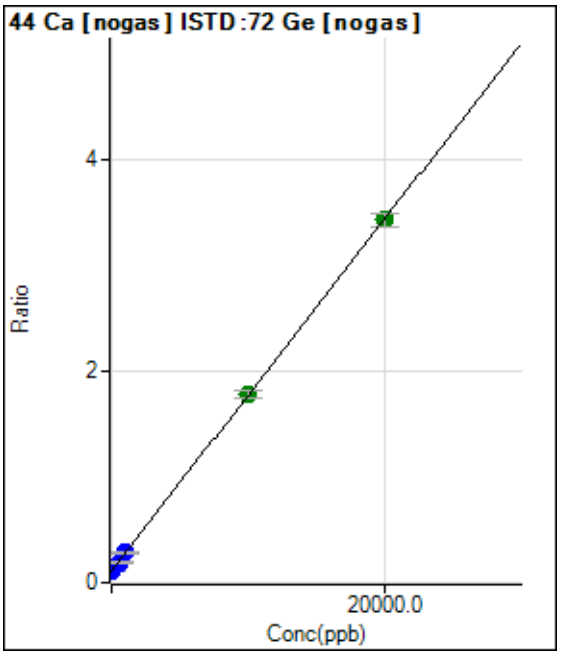
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	3.33	0.0000	P	173.
2	☐	200.000	236.151	36.67	0.0003	P	69.0
3	☐	500.000	493.628	73.33	0.0007	P	30.0
4	☐	1000.000	976.159	140.00	0.0013	P	29.0
5	☐	10000.00	9603.149	1340.07	0.0126	P	4.9
6	☐	20000.00	20199.415	2770.26	0.0265	P	3.8
7	☐	100.000					

y = 1.3110E-006 * x + 3.3165E-005
R = 0.9997
DL = 131.4
BEC = 25.3

Weight: <None>
Min Conc: <None>

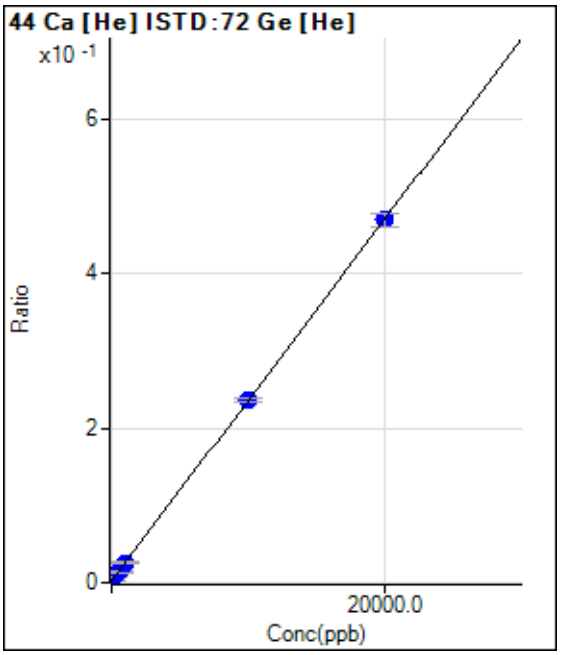


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	158632.32	0.1117	P	1.0
2	☐	200.000	173.321	205447.46	0.1405	P	1.2
3	☐	500.000	459.503	277659.80	0.1882	P	4.0
4	☐	1000.000	1031.450	405901.72	0.2835	P	4.5
5	☐	10000.00	10076.810	2551935.80	1.7907	A	4.5
6	☐	20000.00	19961.302	4860527.53	3.4378	A	3.7
7	☐	100.000					

y = 1.6663E-004 * x + 0.1117
R = 1.0000
DL = 20.65
BEC = 670.1

Weight: <None>
Min Conc: <None>

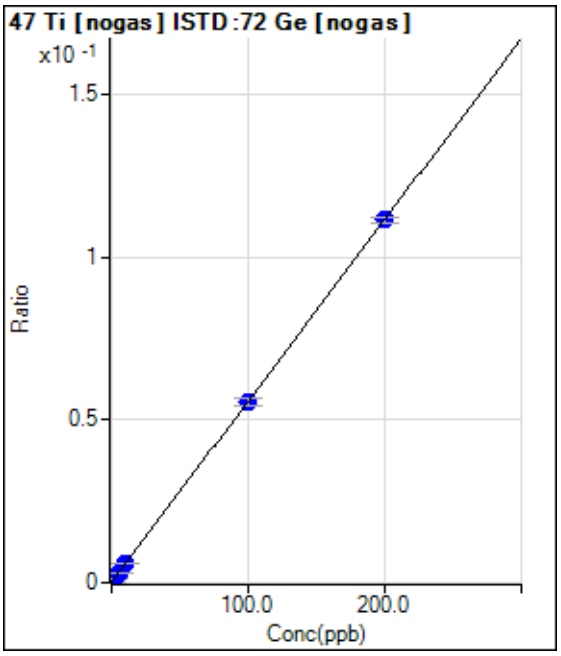
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	226.67	0.0021	P	28.1
2	☐	200.000	240.135	823.37	0.0078	P	3.8
3	☐	500.000	505.814	1500.09	0.0140	P	11.6
4	☐	1000.000	975.474	2673.57	0.0249	P	9.8
5	☐	10000.00	10024.424	25104.05	0.2364	P	1.5
6	☐	20000.00	19988.467	49025.43	0.4692	P	3.7
7	☐	100.000					

y = 2.3365E-005 * x + 0.0021
R = 1.0000
DL = 77.46
BEC = 91.9

Weight: <None>
Min Conc: <None>

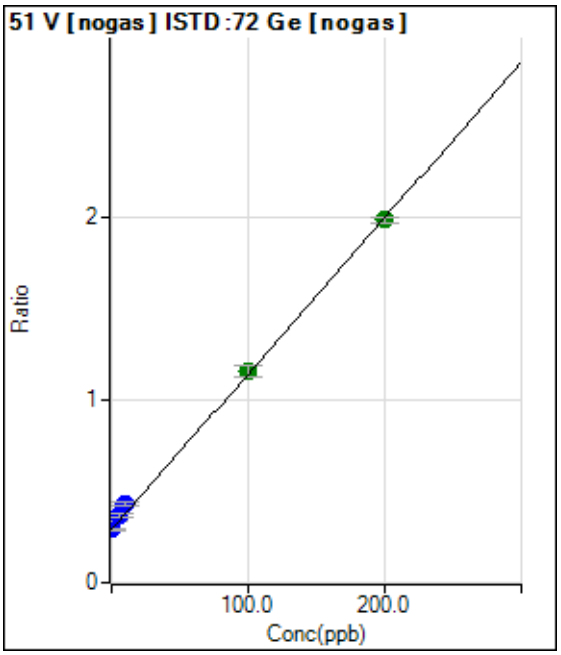


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	153.33	0.0001	P	9.6
2	☐	2.000	2.087	1856.80	0.0013	P	7.0
3	☐	5.000	4.982	4250.58	0.0029	P	3.8
4	☐	10.000	10.130	8231.99	0.0057	P	4.1
5	☐	100.000	99.953	79451.15	0.0558	P	4.0
6	☐	200.000	200.017	157684.16	0.1115	P	1.4
7	☐	1.000					

y = 5.5673E-004 * x + 1.0791E-004
R = 1.0000
DL = 0.05593
BEC = 0.1938

Weight: <None>
Min Conc: <None>

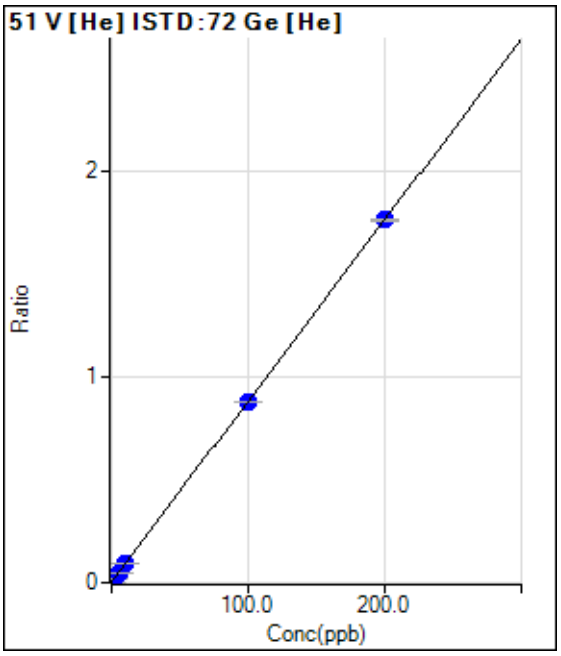
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	412840.74	0.2906	P	5.2
2	☐	2.000	6.301	503459.34	0.3444	P	4.6
3	☐	5.000	9.157	544054.10	0.3688	P	4.3
4	☐	10.000	16.947	623216.80	0.4353	P	4.9
5	☐	100.000	101.506	1649001.96	1.1572	A	5.1
6	☐	200.000	198.753	2811163.99	1.9874	A	1.9
7	☐	1.000					

y = 0.0085 * x + 0.2906
R = 0.9996
DL = 5.319
BEC = 34.04

Weight: <None>
Min Conc: <None>

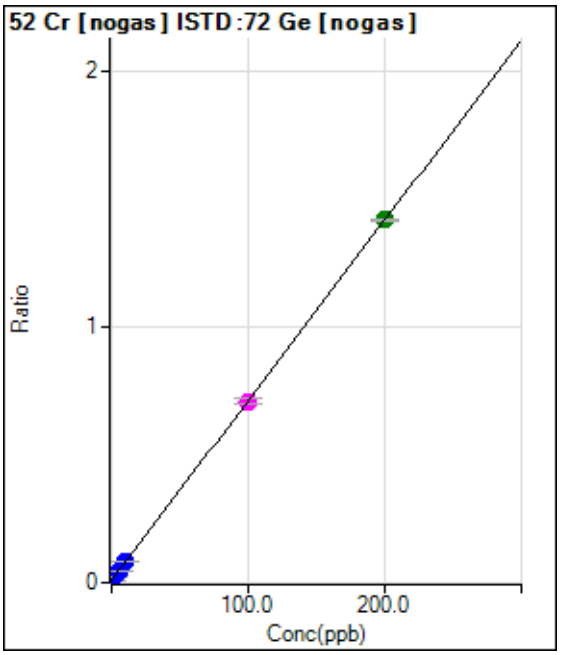


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.112	229.33	0.0022	P	2.2
2	☐	2.000	2.019	2212.81	0.0209	P	6.2
3	☐	5.000	4.962	5022.03	0.0467	P	3.0
4	☐	10.000	10.319	10055.41	0.0938	P	1.1
5	☐	100.000	99.655	93296.69	0.8785	P	0.8
6	☐	200.000	200.158	184048.08	1.7614	P	0.4
7	☐	1.000					

y = 0.0088 * x + 0.0031
R = 1.0000
DL = 0.01607
BEC = 0.3574

Weight: <None>
Min Conc: <None>

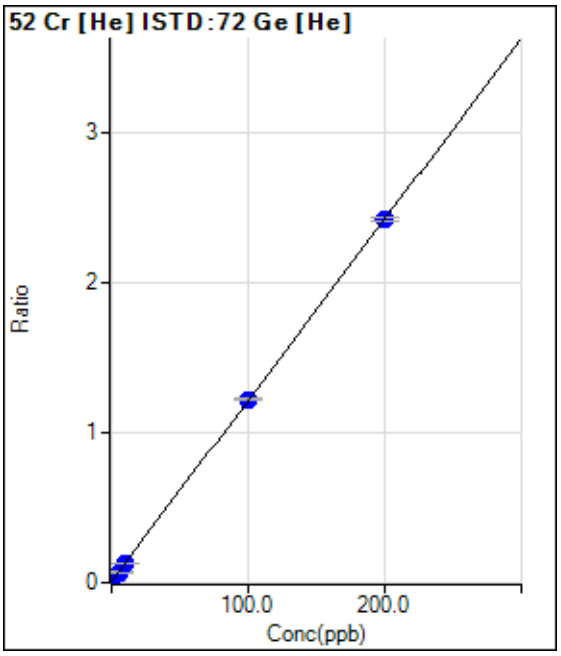
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	12604.44	0.0089	P	4.4
2	☐	2.000	2.059	34165.31	0.0234	P	1.0
3	☐	5.000	5.111	66185.90	0.0449	P	2.0
4	☐	10.000	10.716	120750.22	0.0843	P	1.8
5	☐	100.000	99.334	1009319.54	0.7083	M	2.9
6	☐	200.000	200.294	2008810.85	1.4191	A	0.6
7	☐	1.000					

y = 0.0070 * x + 0.0089
R = 1.0000
DL = 0.1668
BEC = 1.26

Weight: <None>
Min Conc: <None>

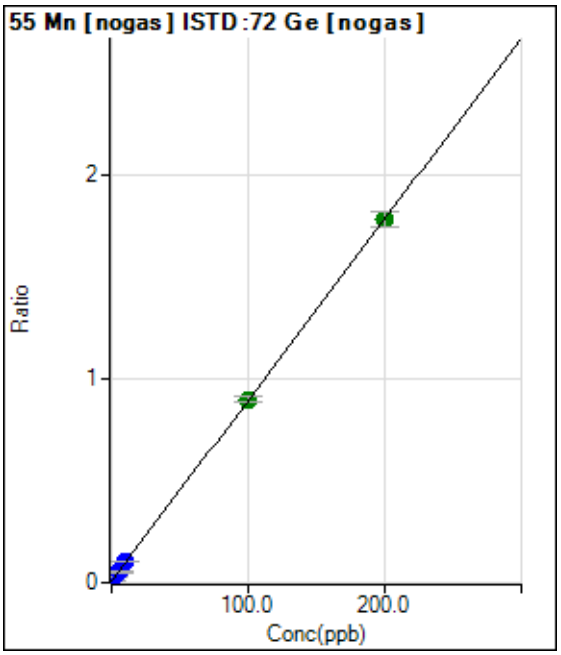


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1043.38	0.0098	P	7.2
2	☐	2.000	2.126	3757.12	0.0354	P	6.5
3	☐	5.000	5.007	7534.99	0.0701	P	5.7
4	☐	10.000	9.906	13828.76	0.1291	P	5.9
5	☐	100.000	100.487	129511.05	1.2196	P	0.7
6	☐	200.000	199.760	252305.10	2.4147	P	1.2
7	☐	1.000					

y = 0.0120 * x + 0.0098
R = 1.0000
DL = 0.1759
BEC = 0.8176

Weight: <None>
Min Conc: <None>

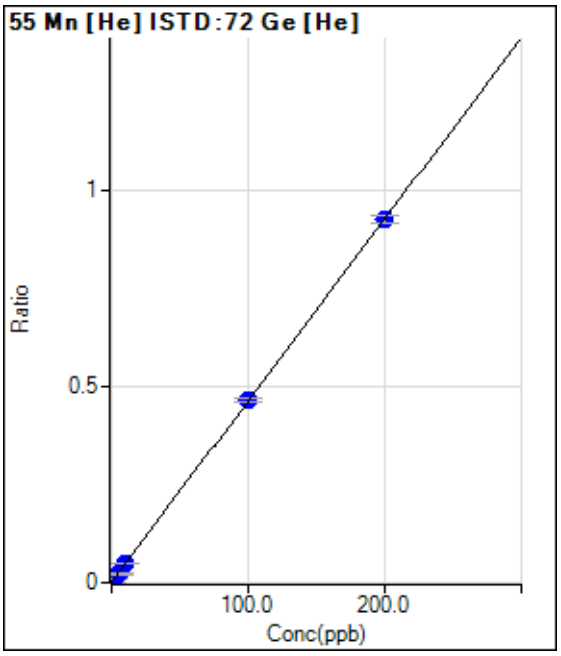
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10643.25	0.0075	P	5.0
2	☐	2.000	2.021	37137.92	0.0254	P	2.5
3	☐	5.000	5.042	76984.89	0.0522	P	3.4
4	☐	10.000	10.660	145998.49	0.1020	P	4.4
5	☐	100.000	100.633	1281721.02	0.8994	A	2.3
6	☐	200.000	199.649	2511660.95	1.7770	A	4.2
7	☐	1.000					

y = 0.0089 * x + 0.0075
R = 1.0000
DL = 0.127
BEC = 0.8452

Weight: <None>
Min Conc: <None>

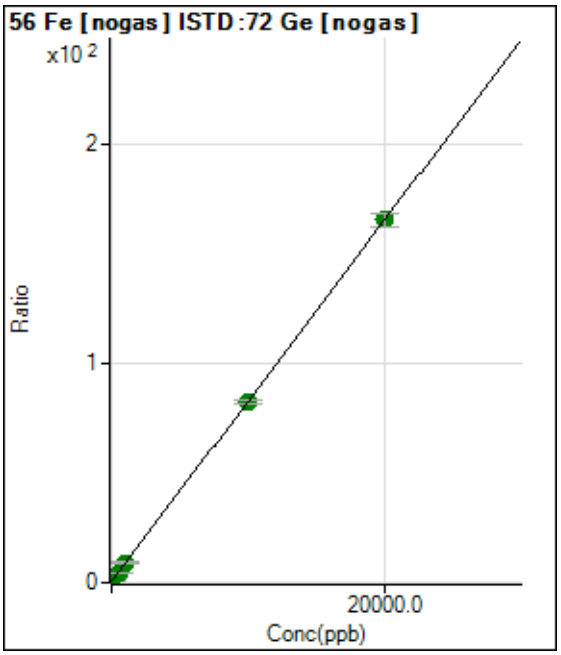


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	133.33	0.0013	P	43.6
2	☐	2.000	1.984	1110.06	0.0105	P	12.0
3	☐	5.000	4.673	2460.22	0.0229	P	8.2
4	☐	10.000	10.300	5244.15	0.0489	P	2.0
5	☐	100.000	100.604	49547.07	0.4666	P	2.3
6	☐	200.000	199.691	96644.16	0.9250	P	2.3
7	☐	1.000					

y = 0.0046 * x + 0.0013
R = 1.0000
DL = 0.3599
BEC = 0.2752

Weight: <None>
Min Conc: <None>

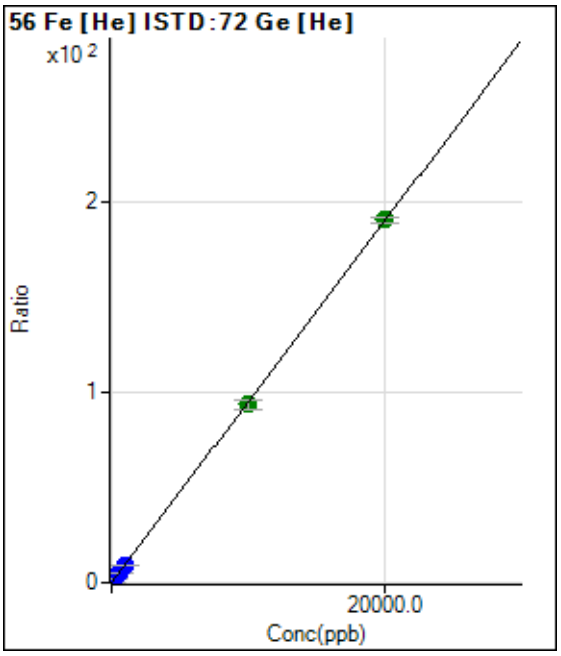
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	813482.98	0.5727	P	2.2
2	☐	200.000	200.108	3244841.35	2.2197	A	1.8
3	☐	500.000	496.438	6870692.60	4.6586	A	4.9
4	☐	1000.000	1027.532	12927020.86	9.0298	A	5.9
5	☐	10000.00	9940.394	117407498.4	82.3871	A	2.1
6	☐	20000.00	20028.514	233878296.8	165.417	A	3.4
7	☐	100.000					

y = 0.0082 * x + 0.5727
R = 1.0000
DL = 4.61
BEC = 69.58

Weight: <None>
Min Conc: <None>

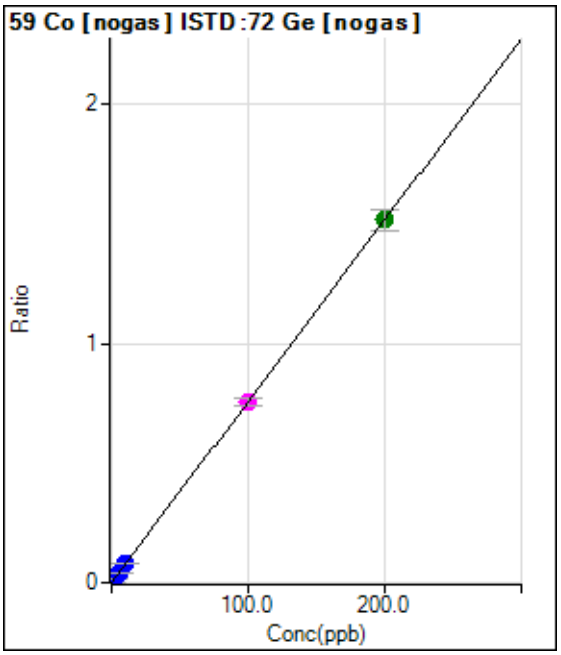


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	4547.32	0.0428	P	3.3
2	☐	200.000	204.693	211141.15	1.9895	P	2.2
3	☐	500.000	494.493	510184.60	4.7454	P	3.1
4	☐	1000.000	987.705	1011096.28	9.4359	P	3.3
5	☐	10000.00	9845.839	9946119.23	93.6762	A	4.7
6	☐	20000.00	20077.786	19955107.62	190.981	A	1.4
7	☐	100.000					

y = 0.0095 * x + 0.0428
R = 1.0000
DL = 0.447
BEC = 4.505

Weight: <None>
Min Conc: <None>

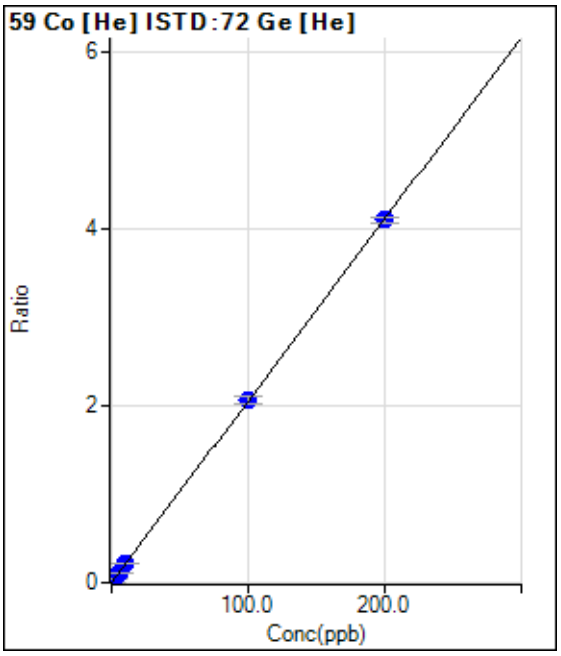
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	260.01	0.0002	P	32.5
2	☐	2.000	2.066	23141.61	0.0158	P	3.4
3	☐	5.000	5.161	57938.99	0.0393	P	3.6
4	☐	10.000	10.520	114320.89	0.0799	P	6.5
5	☐	100.000	99.676	1076220.06	0.7552	M	3.6
6	☐	200.000	200.132	2141750.12	1.5161	A	6.1
7	☐	1.000					

y = 0.0076 * x + 1.8370E-004
R = 1.0000
DL = 0.02365
BEC = 0.02425

Weight: <None>
Min Conc: <None>

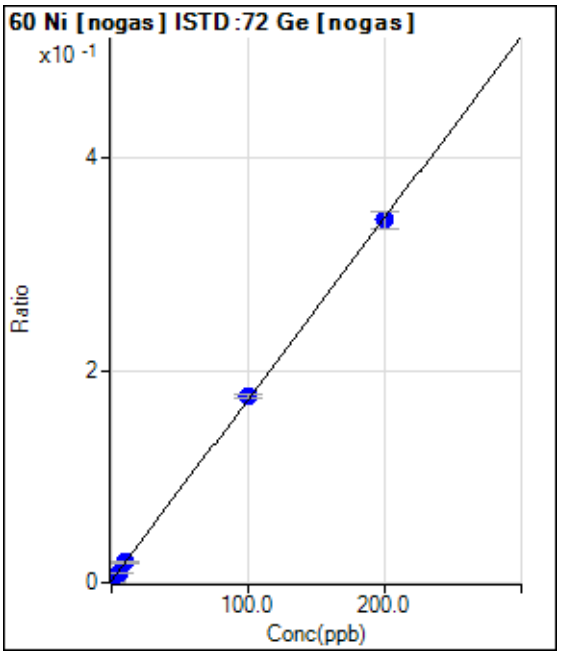


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	33.33	0.0003	P	74.6
2	☐	2.000	2.105	4630.67	0.0436	P	5.0
3	☐	5.000	5.265	11677.27	0.1086	P	1.5
4	☐	10.000	10.382	22924.77	0.2139	P	2.9
5	☐	100.000	100.634	219869.60	2.0707	P	4.1
6	☐	200.000	199.656	429232.56	4.1080	P	1.5
7	☐	1.000					

y = 0.0206 * x + 3.0927E-004
R = 1.0000
DL = 0.03364
BEC = 0.01503

Weight: <None>
Min Conc: <None>

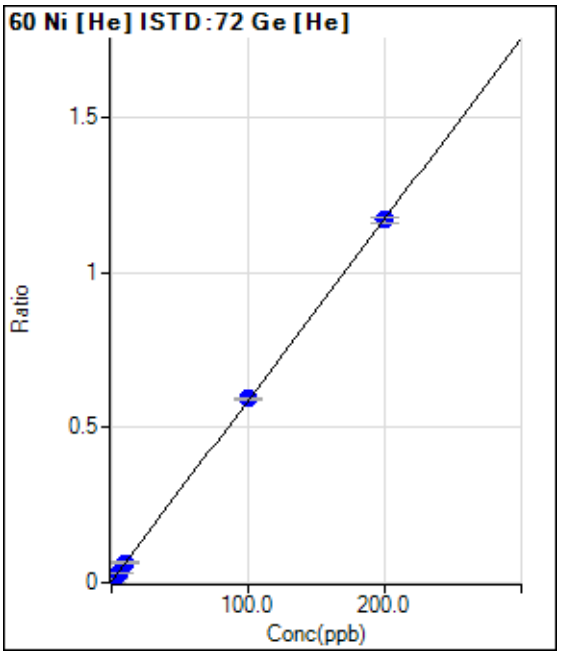
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.516	1243.40	0.0009	P	8.5
2	☐	2.000	1.676	6764.71	0.0046	P	3.4
3	☐	5.000	4.611	14235.75	0.0097	P	3.3
4	☐	10.000	10.161	27407.75	0.0191	P	5.6
5	☐	100.000	102.126	251571.21	0.1765	P	2.4
6	☐	200.000	198.942	483709.30	0.3422	P	5.1
7	☐	1.000					

y = 0.0017 * x + 0.0018
R = 0.9999
DL = 0.1307
BEC = 1.028

Weight: <None>
Min Conc: <None>

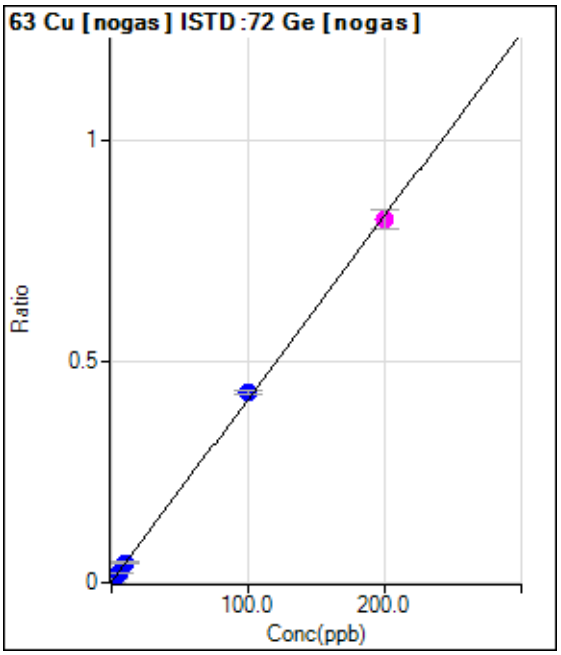


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.316	273.34	0.0026	P	28.6
2	☐	2.000	1.734	1540.10	0.0145	P	17.1
3	☐	5.000	4.884	3537.07	0.0329	P	1.5
4	☐	10.000	10.357	6951.44	0.0648	P	2.3
5	☐	100.000	100.708	62881.90	0.5922	P	1.9
6	☐	200.000	199.634	122207.13	1.1696	P	1.3
7	☐	1.000					

y = 0.0058 * x + 0.0044
R = 1.0000
DL = 0.3752
BEC = 0.754

Weight: <None>
Min Conc: <None>

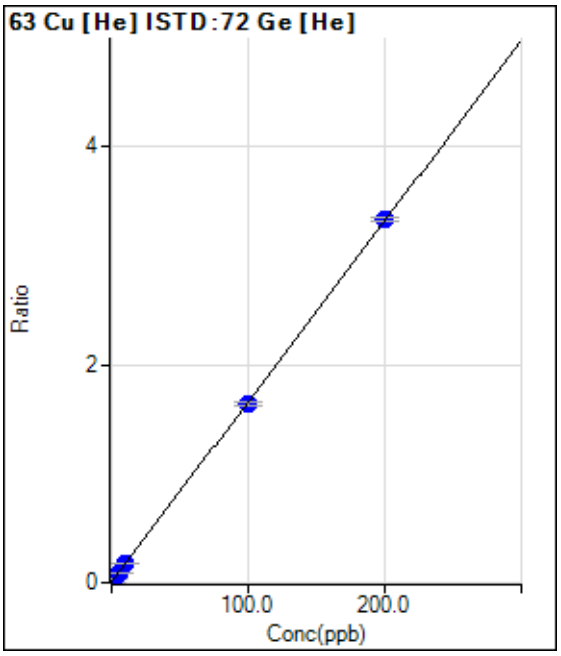
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	2476.88	0.0017	P	10.7
2	☐	2.000	2.135	15460.20	0.0106	P	8.1
3	☐	5.000	5.085	33601.12	0.0228	P	3.8
4	☐	10.000	10.591	65207.07	0.0456	P	5.0
5	☐	100.000	104.087	616032.39	0.4323	P	2.1
6	☐	200.000	197.924	1159305.89	0.8204	M	5.2
7	☐	1.000					

y = 0.0041 * x + 0.0017
R = 0.9997
DL = 0.1359
BEC = 0.4218

Weight: <None>
Min Conc: <None>

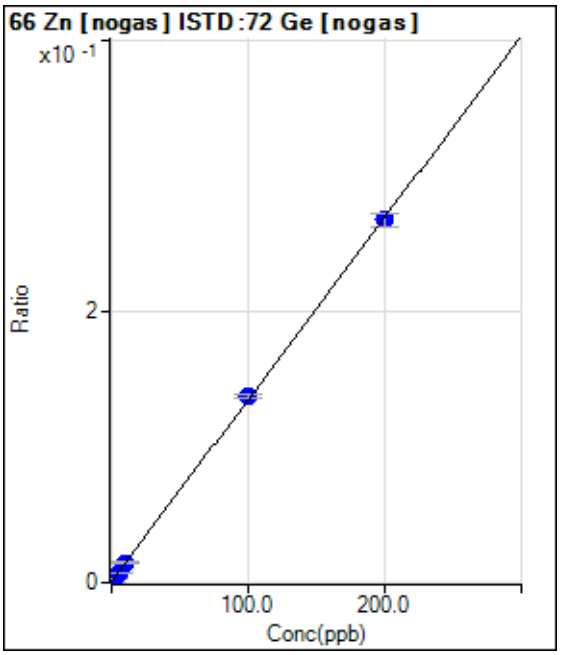


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.052	646.69	0.0061	P	2.7
2	☐	2.000	2.154	4333.93	0.0409	P	10.9
3	☐	5.000	5.110	9652.71	0.0898	P	5.5
4	☐	10.000	10.426	19043.50	0.1779	P	7.2
5	☐	100.000	98.567	173860.32	1.6372	P	2.8
6	☐	200.000	200.691	347740.11	3.3281	P	1.2
7	☐	1.000					

y = 0.0166 * x + 0.0052
R = 1.0000
DL = 0.02931
BEC = 0.3157

Weight: <None>
Min Conc: <None>

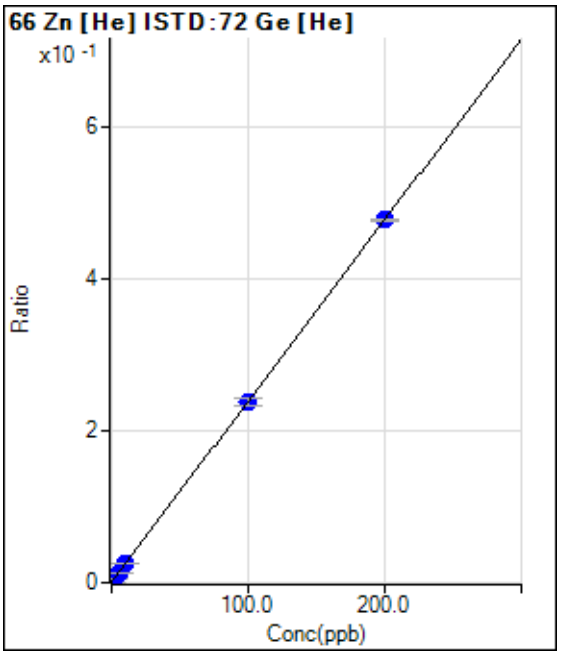
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.488	370.01	0.0003	P	17.2
2	☐	2.000	1.607	4483.98	0.0031	P	6.4
3	☐	5.000	4.611	10459.82	0.0071	P	2.6
4	☐	10.000	10.152	20762.03	0.0145	P	8.5
5	☐	100.000	102.224	196367.32	0.1378	P	2.1
6	☐	200.000	198.894	377893.85	0.2672	P	3.5
7	☐	1.000					

y = 0.0013 * x + 9.1477E-004
R = 0.9999
DL = 0.1007
BEC = 0.6832

Weight: <None>
Min Conc: <None>

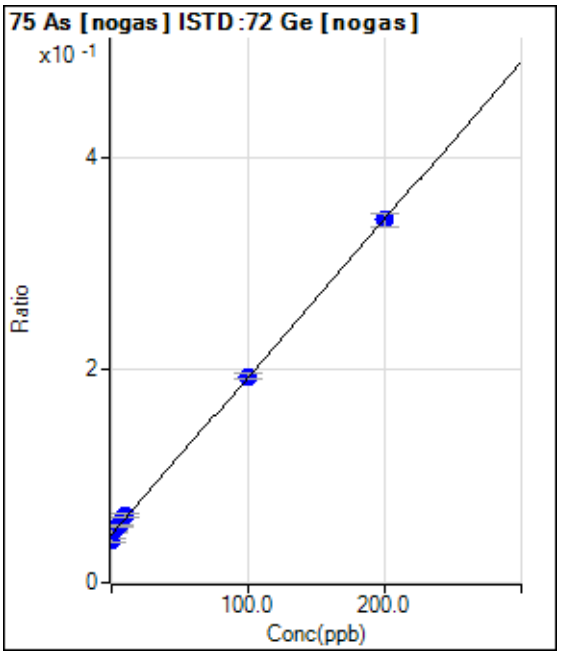


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.171	26.67	0.0002	P	75.0
2	☐	2.000	2.125	606.69	0.0057	P	23.5
3	☐	5.000	5.007	1353.41	0.0126	P	0.9
4	☐	10.000	10.321	2713.57	0.0253	P	8.0
5	☐	100.000	99.469	25257.76	0.2378	P	4.7
6	☐	200.000	200.248	49948.85	0.4780	P	0.6
7	☐	1.000					

y = 0.0024 * x + 6.5338E-004
R = 1.0000
DL = 0.2323
BEC = 0.2741

Weight: <None>
Min Conc: <None>

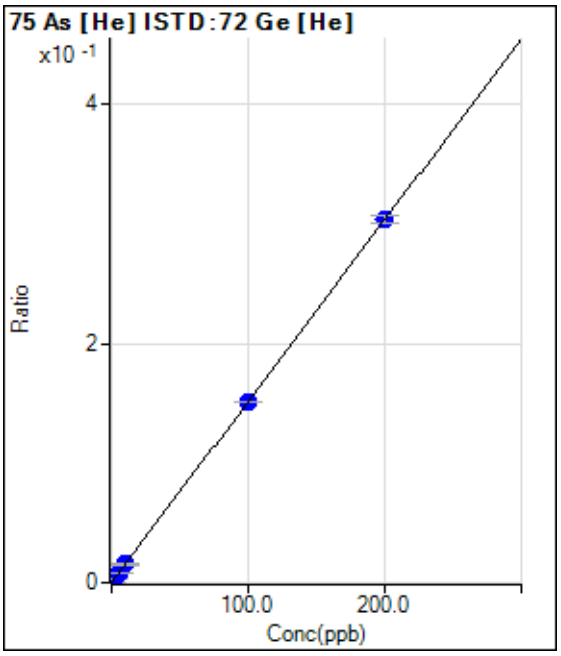
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-3.600	56815.96	0.0400	P	9.6
2	☐	2.000	2.151	70931.05	0.0485	P	4.5
3	☐	5.000	5.744	79465.91	0.0539	P	4.6
4	☐	10.000	12.623	91699.71	0.0641	P	5.4
5	☐	100.000	100.467	276951.58	0.1944	P	2.7
6	☐	200.000	199.615	482707.64	0.3414	P	3.6
7	☐	1.000					

y = 0.0015 * x + 0.0453
R = 0.9997
DL = 7.779
BEC = 30.56

Weight: <None>
Min Conc: <None>

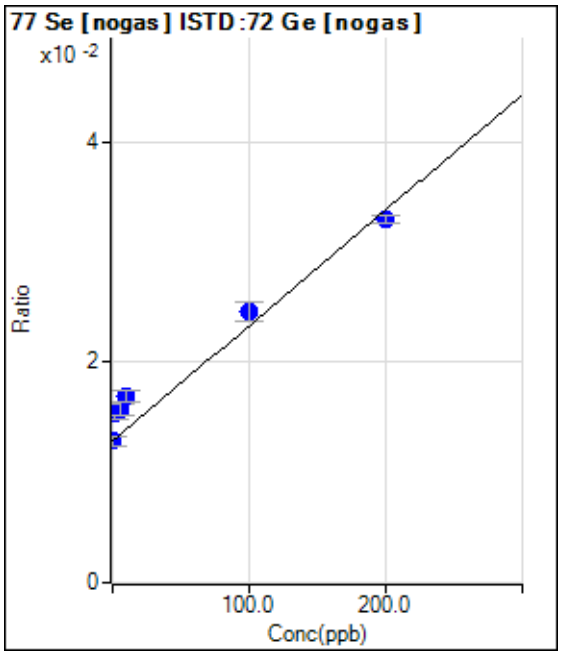


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	11.11	0.0001	P	36.1
2	☐	2.000	1.990	332.23	0.0031	P	8.6
3	☐	5.000	5.019	828.91	0.0077	P	0.8
4	☐	10.000	10.221	1667.86	0.0156	P	12.0
5	☐	100.000	99.692	16057.14	0.1512	P	0.2
6	☐	200.000	200.143	31707.63	0.3034	P	2.1
7	☐	1.000					

y = 0.0015 * x + 1.0511E-004
R = 1.0000
DL = 0.07508
BEC = 0.06935

Weight: <None>
Min Conc: <None>

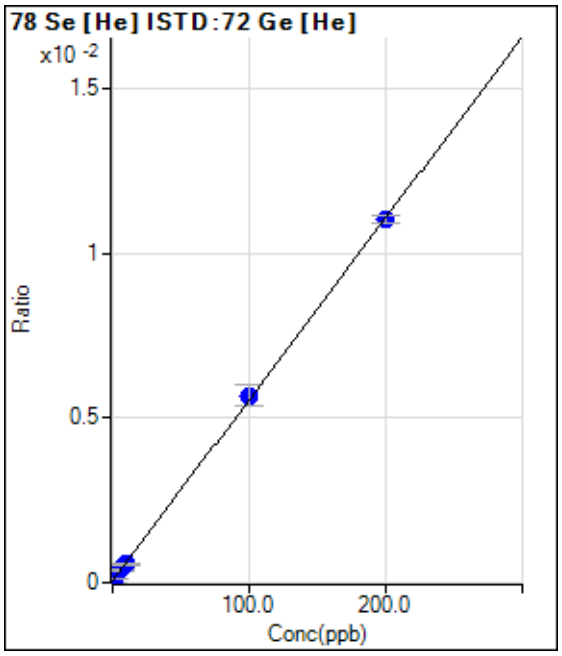
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	18286.11	0.0129	P	7.3
2	☐	2.000	23.886	22477.51	0.0154	P	6.5
3	☐	5.000	26.934	23158.35	0.0157	P	7.3
4	☐	10.000	38.765	24246.56	0.0169	P	5.8
5	☐	100.000	112.707	35184.42	0.0247	P	6.9
6	☐	200.000	191.441	46623.25	0.0329	P	2.0
7	☐	1.000					

y = 1.0488E-004 * x + 0.0129
R = 0.9895
DL = 26.72
BEC = 122.7

Weight: <None>
Min Conc: <None>

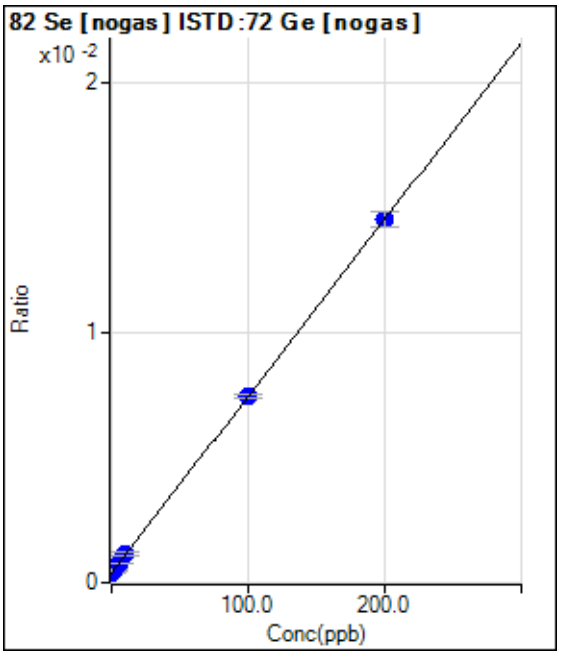


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	-0.756	1.33	0.0000	P	86.6
2	☐	2.000	1.167	12.67	0.0001	P	35.8
3	☐	5.000	6.231	42.67	0.0004	P	19.9
4	☐	10.000	9.404	61.33	0.0006	P	10.7
5	☐	100.000	101.895	601.34	0.0057	P	11.3
6	☐	200.000	199.060	1151.37	0.0110	P	2.0
7	☐	1.000					

y = 5.5087E-005 * x + 5.3892E-005
R = 0.9999
DL = 0.5767
BEC = 0.9783

Weight: <None>
Min Conc: <None>

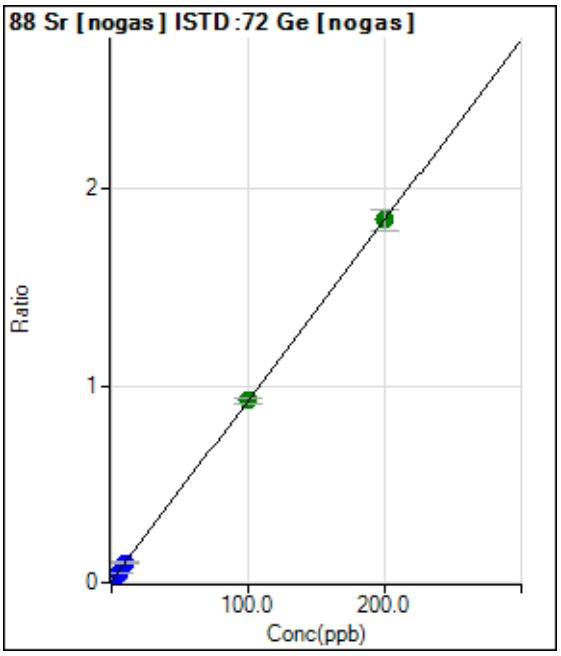
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	553.35	0.0004	P	3.4
2	☐	2.000	1.331	706.69	0.0005	P	10.6
3	☐	5.000	5.261	1123.39	0.0008	P	4.5
4	☐	10.000	10.348	1603.43	0.0011	P	14.5
5	☐	100.000	100.303	10643.30	0.0075	P	2.2
6	☐	200.000	199.831	20485.26	0.0145	P	4.3
7	☐	1.000					

y = 7.0580E-005 * x + 3.8958E-004
R = 1.0000
DL = 0.5556
BEC = 5.52

Weight: <None>
Min Conc: <None>

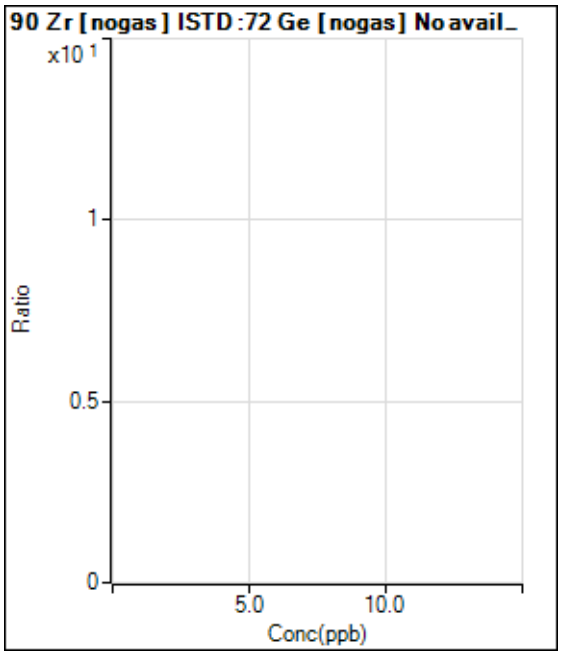


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	15103.45	0.0106	P	17.1
2	☐	2.000	1.436	34741.07	0.0238	P	4.2
3	☐	5.000	4.449	75700.50	0.0513	P	5.0
4	☐	10.000	9.984	145953.41	0.1020	P	4.5
5	☐	100.000	99.813	1316136.52	0.9236	A	3.6
6	☐	200.000	200.114	2600962.98	1.8410	A	6.0
7	☐	1.000					

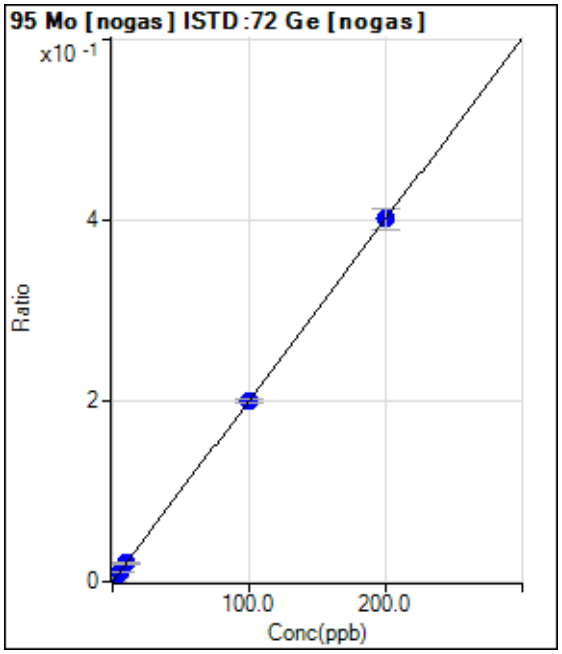
y = 0.0091 * x + 0.0106
R = 1.0000
DL = 0.5964
BEC = 1.162

Weight: <None>
Min Conc: <None>

Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000					
2	☐	2.000					
3	☐	5.000					
4	☐	10.000					
5	☐	100.000					
6	☐	200.000					
7	☐	1.000					

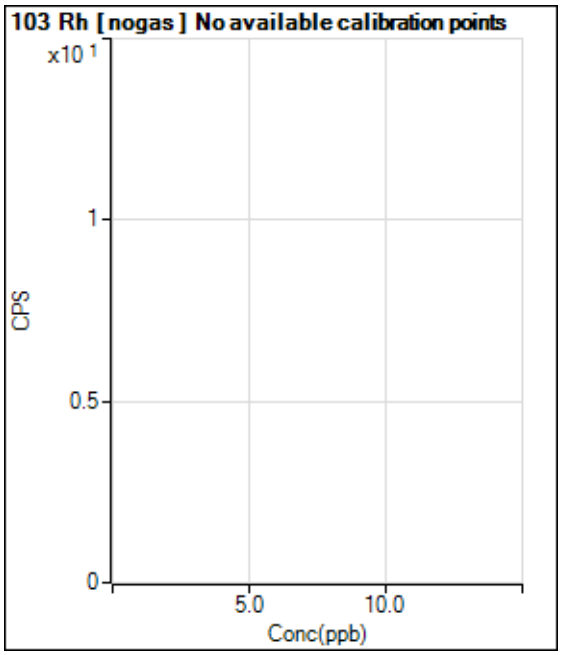


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	120.00	0.0001	P	37.1
2	☐	2.000	2.064	6164.54	0.0042	P	3.8
3	☐	5.000	5.190	15443.57	0.0105	P	8.3
4	☐	10.000	10.150	29217.77	0.0204	P	4.8
5	☐	100.000	99.646	284476.70	0.1996	P	2.8
6	☐	200.000	200.164	566399.00	0.4009	P	5.9
7	☐	1.000					

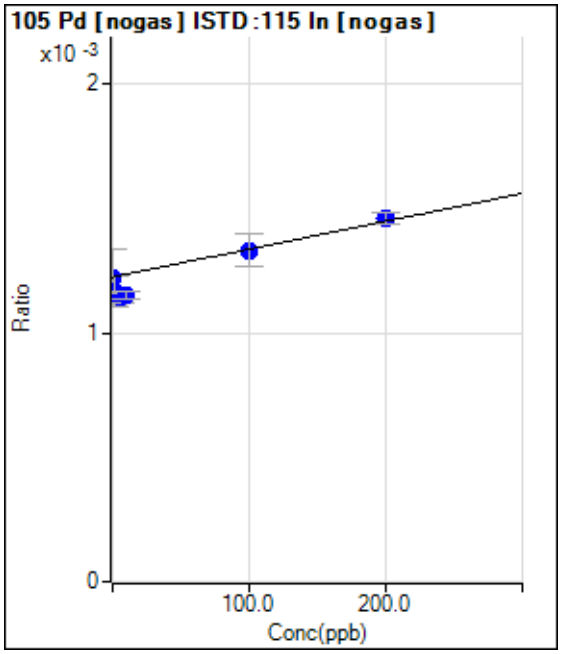
y = 0.0020 * x + 8.4189E-005
R = 1.0000
DL = 0.04675
BEC = 0.04204

Weight: <None>
Min Conc: <None>

Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			20.00		P	100.
2	☐			3.33		P	173.
3	☐			20.00		P	132.
4	☐			16.67		P	91.7
5	☐			90.00		P	61.9
6	☐			136.67		P	37.5
7	☐						

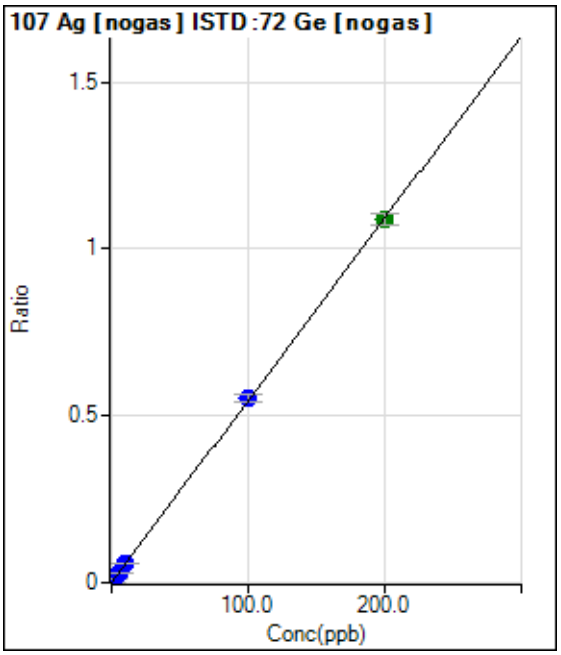


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	1933.48	0.0012	P	18.8
2	☐	2.000	-54.012	1866.80	0.0012	P	10.4
3	☐	5.000	-74.745	1816.80	0.0011	P	3.8
4	☐	10.000	-64.209	1820.12	0.0012	P	3.1
5	☐	100.000	96.231	2036.83	0.0013	P	10.2
6	☐	200.000	208.149	2143.50	0.0015	P	3.3
7	☐	1.000					

y = 1.1209E-006 * x + 0.0012
R = 0.9637
DL = 615.6
BEC = 1093

Weight: <None>
Min Conc: <None>

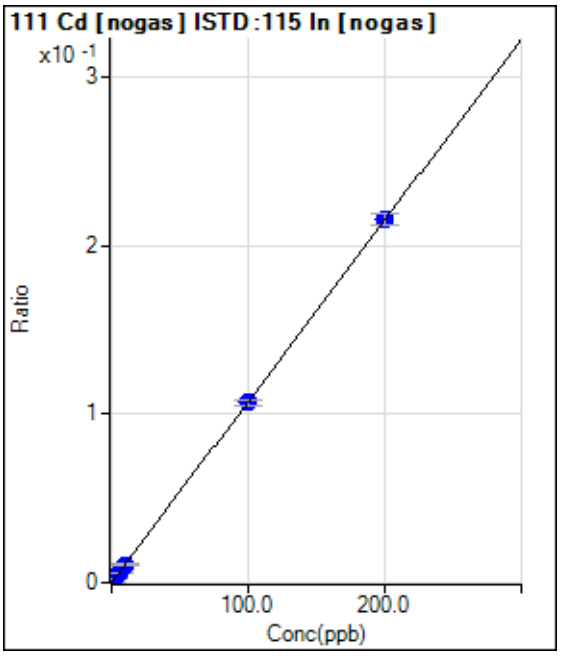
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	463.35	0.0003	P	8.3
2	☐	2.000	2.087	17115.32	0.0117	P	5.3
3	☐	5.000	5.040	41011.66	0.0278	P	5.9
4	☐	10.000	10.489	82390.59	0.0575	P	1.9
5	☐	100.000	101.462	788976.83	0.5537	P	4.0
6	☐	200.000	199.242	1536791.80	1.0870	A	3.3
7	☐	1.000					

y = 0.0055 * x + 3.2584E-004
R = 1.0000
DL = 0.01482
BEC = 0.05975

Weight: <None>
Min Conc: <None>

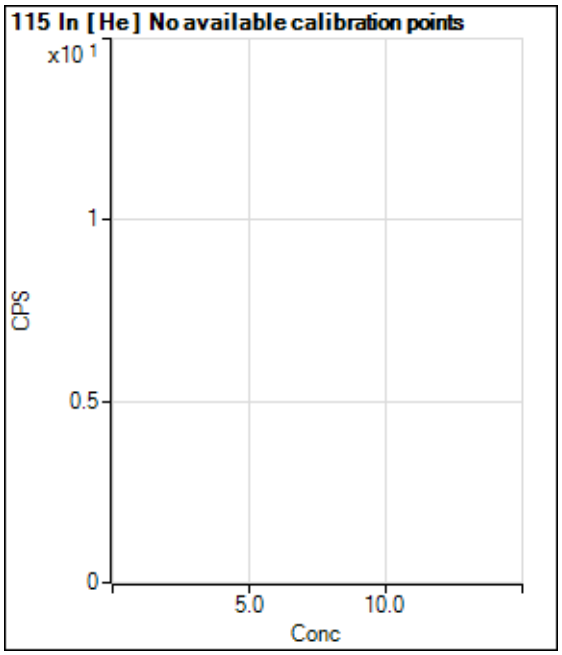


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	10.00	0.0000	P	100.
2	☐	2.000	1.937	3350.39	0.0021	P	5.2
3	☐	5.000	4.925	8438.83	0.0053	P	3.1
4	☐	10.000	9.998	16991.84	0.0108	P	2.8
5	☐	100.000	99.310	163363.58	0.1069	P	3.2
6	☐	200.000	200.348	316783.40	0.2156	P	3.3
7	☐	1.000					

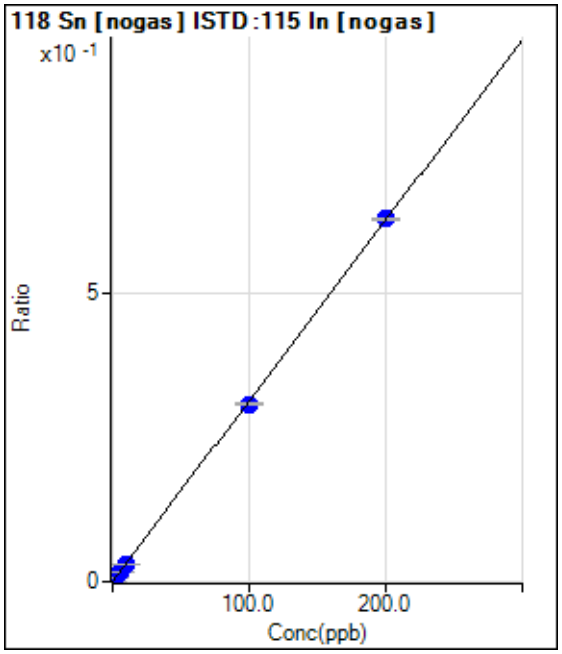
y = 0.0011 * x + 6.1549E-006
R = 1.0000
DL = 0.01717
BEC = 0.005721

Weight: <None>
Min Conc: <None>

Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			130139.72		P	1.4
2	☐			128484.31		P	3.8
3	☐			133073.85		P	3.6
4	☐			129885.11		P	0.7
5	☐			127499.02		P	0.6
6	☐			122197.32		P	0.9
7	☐						

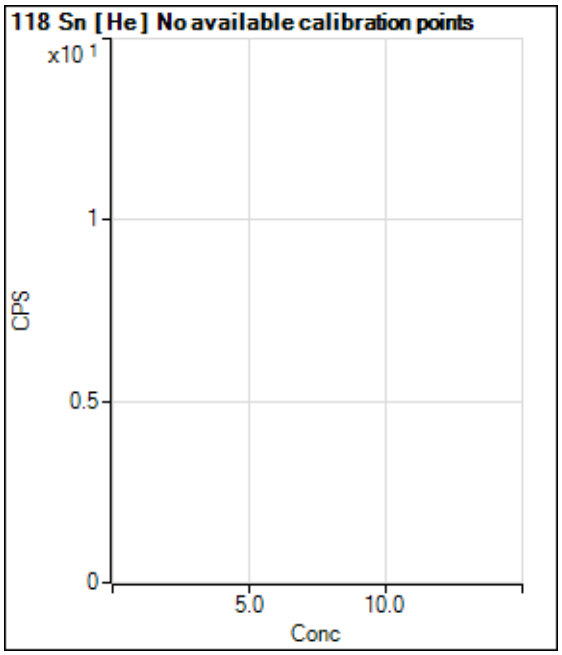


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	733.37	0.0005	P	10.7
2	☐	2.000	1.854	10023.05	0.0063	P	0.9
3	☐	5.000	4.868	24921.57	0.0157	P	2.3
4	☐	10.000	9.637	48247.25	0.0306	P	2.6
5	☐	100.000	98.252	469781.61	0.3074	P	1.0
6	☐	200.000	200.897	923252.96	0.6280	P	0.5
7	☐	1.000					

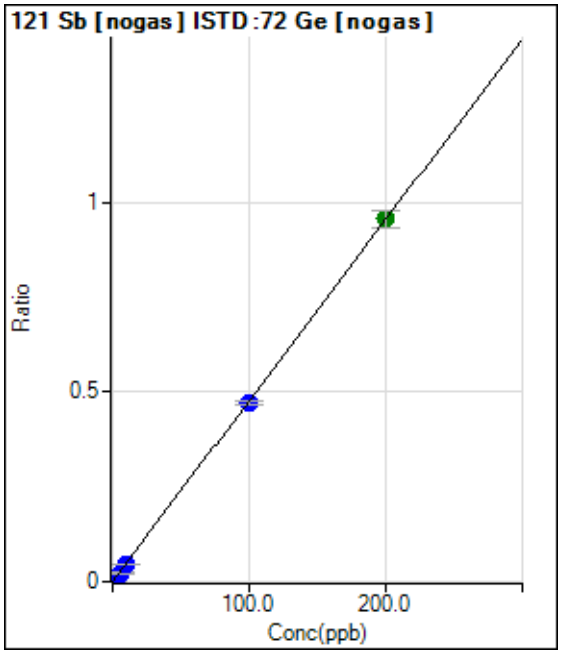
y = 0.0031 * x + 4.6156E-004
R = 0.9999
DL = 0.04743
BEC = 0.1478

Weight: <None>
Min Conc: <None>

Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			56.67		P	53.9
2	☐			1206.73		P	3.1
3	☐			2740.27		P	12.7
4	☐			5510.96		P	3.8
5	☐			54074.17		P	1.7
6	☐			104847.45		P	1.9
7	☐						

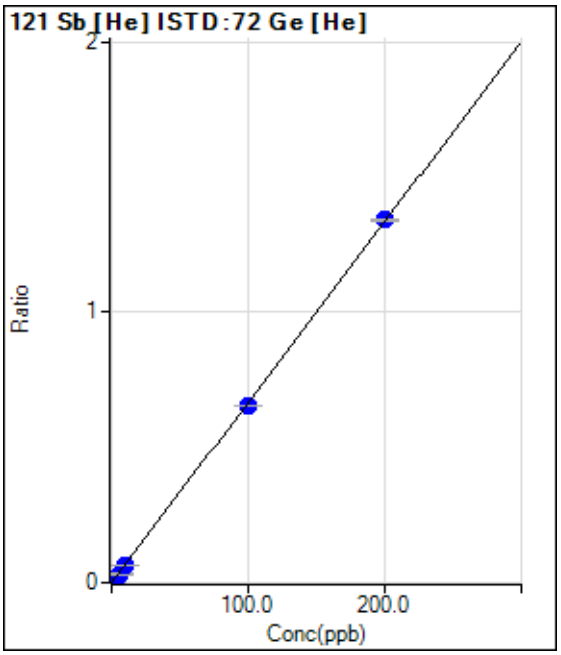


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	836.70	0.0006	P	13.3
2	☐	2.000	1.981	14646.51	0.0100	P	2.0
3	☐	5.000	4.605	33222.03	0.0225	P	3.6
4	☐	10.000	9.703	66972.17	0.0468	P	5.1
5	☐	100.000	98.814	671275.49	0.4710	P	1.7
6	☐	200.000	200.618	1351406.12	0.9557	A	4.5
7	☐	1.000					

y = 0.0048 * x + 5.8977E-004
R = 1.0000
DL = 0.0494
BEC = 0.1239

Weight: <None>
Min Conc: <None>

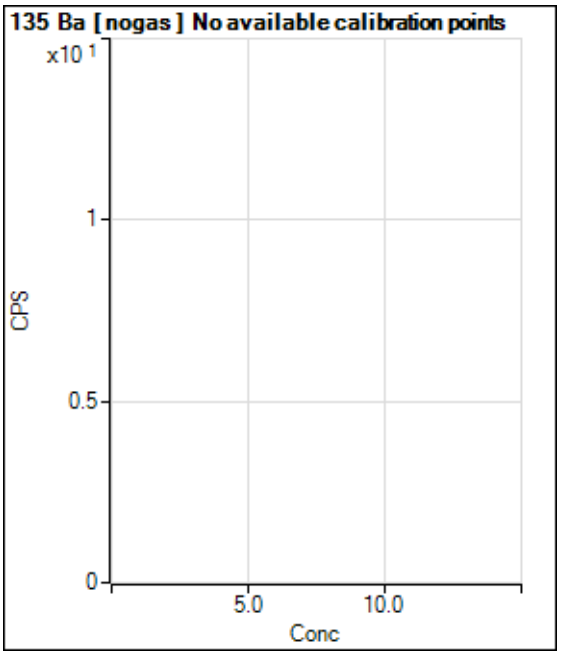
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	76.67	0.0007	P	32.1
2	☐	2.000	1.989	1490.09	0.0140	P	9.6
3	☐	5.000	4.668	3427.06	0.0319	P	5.0
4	☐	10.000	9.570	6914.81	0.0646	P	5.9
5	☐	100.000	97.969	69468.56	0.6542	P	0.9
6	☐	200.000	201.046	140189.71	1.3417	P	0.7
7	☐	1.000					

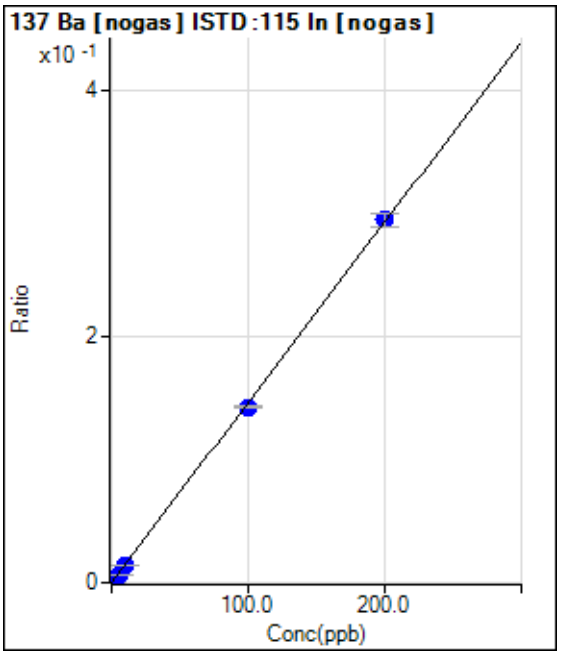
y = 0.0067 * x + 7.2864E-004
R = 0.9999
DL = 0.1052
BEC = 0.1092

Weight: <None>
Min Conc: <None>



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			190.01		P	36.5
2	☐			2833.62		P	13.9
3	☐			6361.29		P	1.6
4	☐			12738.24		P	1.4
5	☐			125082.83		P	1.8
6	☐			245889.96		P	4.9
7	☐						

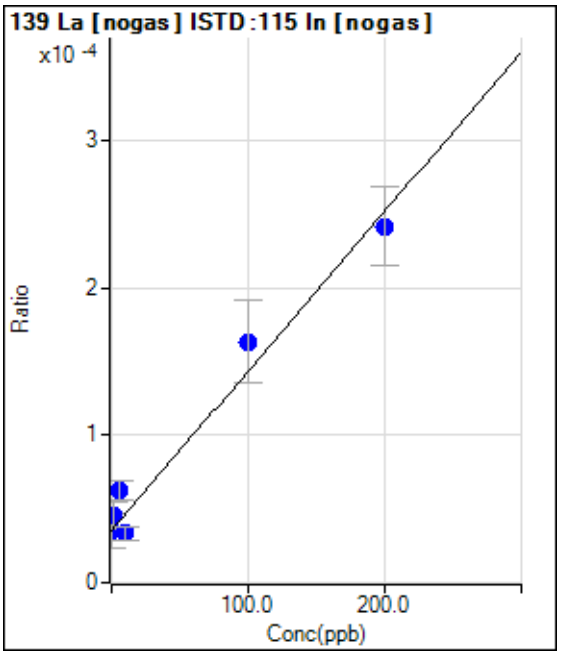
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	263.34	0.0002	P	20.7
2	☐	2.000	1.822	4544.01	0.0028	P	5.2
3	☐	5.000	4.517	10790.25	0.0068	P	0.9
4	☐	10.000	9.661	22591.77	0.0143	P	4.4
5	☐	100.000	97.314	218143.41	0.1427	P	1.4
6	☐	200.000	201.374	433741.63	0.2951	P	4.0
7	☐	1.000					

y = 0.0015 * x + 1.6637E-004
R = 0.9999
DL = 0.07047
BEC = 0.1136

Weight: <None>
Min Conc: <None>

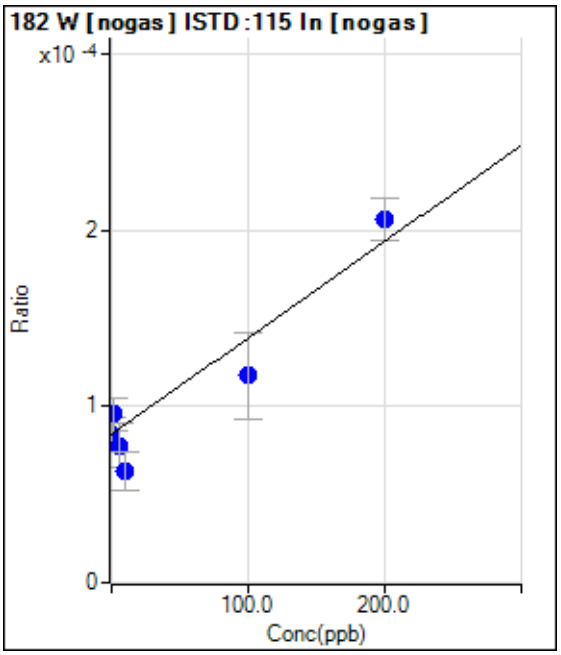


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	56.67	0.0000	P	64.4
2	☐	2.000	9.461	73.33	0.0000	P	41.6
3	☐	5.000	25.243	100.00	0.0001	P	19.4
4	☐	10.000	-1.663	53.33	0.0000	P	28.1
5	☐	100.000	118.259	250.01	0.0002	P	34.5
6	☐	200.000	190.873	356.68	0.0002	P	22.2
7	☐	100.000					

y = 1.0816E-006 * x + 3.5525E-005
R = 0.9863
DL = 63.41
BEC = 32.85

Weight: <None>
Min Conc: <None>

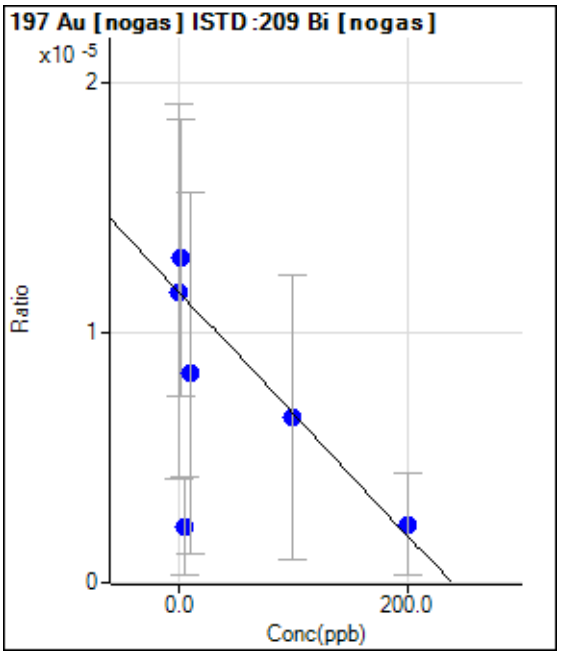
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	133.33	0.0001	P	23.6
2	☐	2.000	20.713	153.33	0.0001	P	20.2
3	☐	5.000	-12.051	123.33	0.0001	P	31.9
4	☐	10.000	-38.604	100.00	0.0001	P	35.2
5	☐	100.000	60.589	180.00	0.0001	P	41.3
6	☐	200.000	222.375	303.34	0.0002	P	11.7
7	☐	1.000					

y = 5.4708E-007 * x + 8.4359E-005
R = 0.9536
DL = 109.2
BEC = 154.2

Weight: <None>
Min Conc: <None>

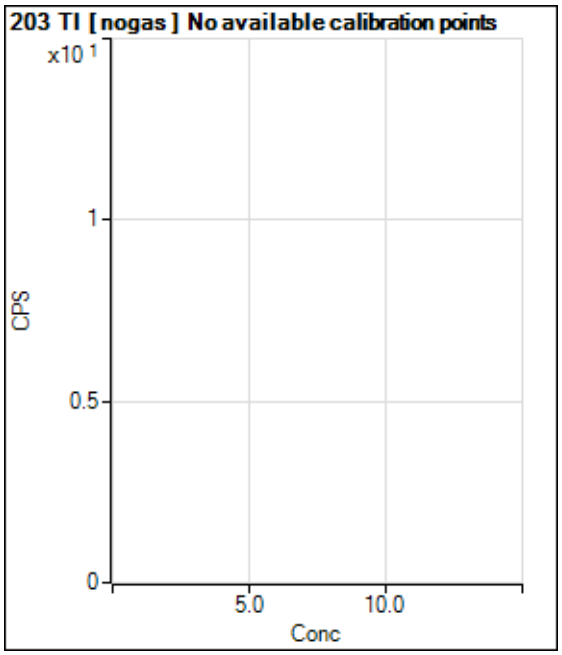


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	20.00	0.0000	P	128.
2	☐	2.000	-27.057	20.00	0.0000	P	85.5
3	☐	5.000	192.683	3.33	0.0000	P	173.
4	☐	10.000	67.200	13.33	0.0000	P	173.
5	☐	100.000	103.335	10.00	0.0000	P	173.
6	☐	200.000	191.071	3.33	0.0000	P	173.
7	☐	100.000					

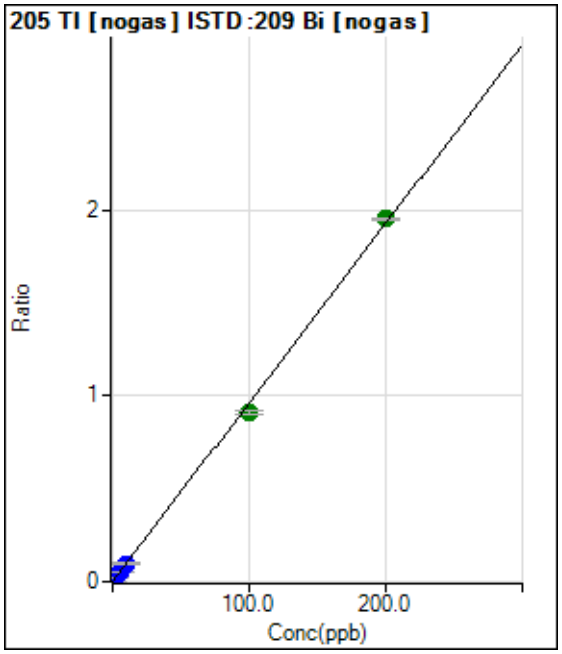
y = -4.8803E-008 * x + 1.1665E-005
R = -0.5863
DL = -920.6
BEC = -239

Weight: <None>
Min Conc: <None>

Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐			93.33		P	30.9
2	☐			12441.62		P	5.7
3	☐			30796.05		P	2.3
4	☐			60519.23		P	1.3
5	☐			587976.41		P	1.5
6	☐			1167220.63		P	3.0
7	☐						

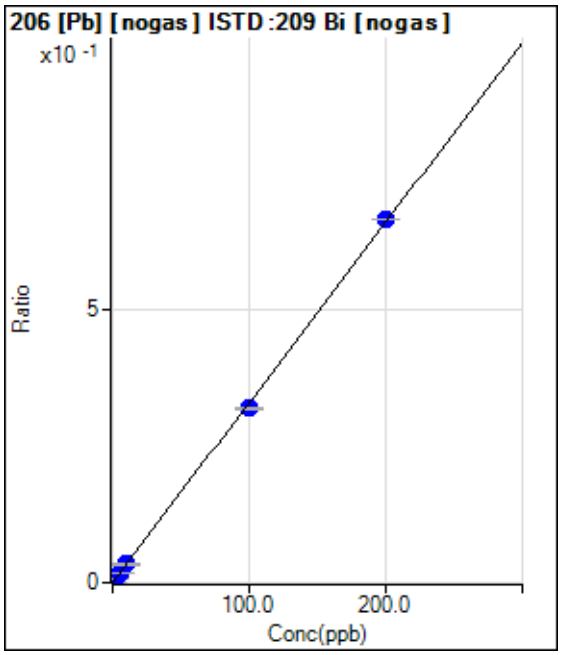


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	136.67	0.0001	P	19.8
2	☐	2.000	2.007	29724.22	0.0194	P	3.7
3	☐	5.000	5.051	73820.50	0.0488	P	2.1
4	☐	10.000	9.989	146575.33	0.0964	P	4.7
5	☐	100.000	94.469	1375320.39	0.9109	A	2.2
6	☐	200.000	202.765	2804417.04	1.9549	A	0.7
7	☐	1.000					

y = 0.0096 * x + 8.4068E-005
R = 0.9995
DL = 0.005187
BEC = 0.00872

Weight: <None>
Min Conc: <None>

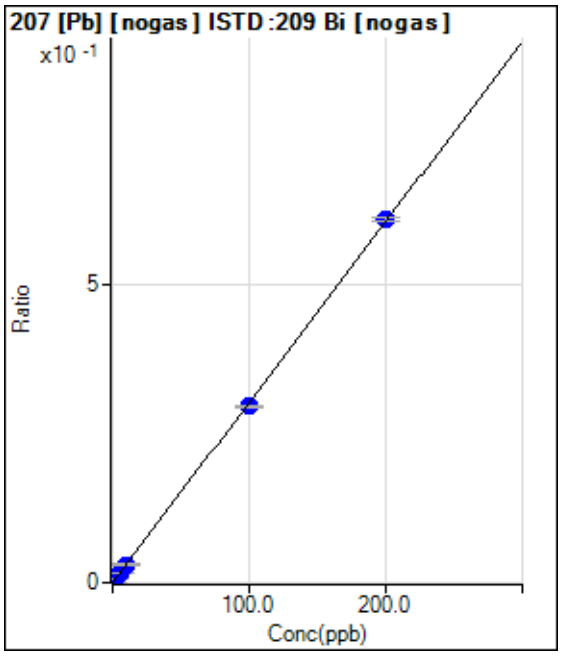
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	130.00	0.0001	P	71.2
2	☐	2.000	1.969	10046.65	0.0066	P	6.3
3	☐	5.000	5.092	25483.57	0.0169	P	4.8
4	☐	10.000	10.226	51327.72	0.0338	P	5.9
5	☐	100.000	96.860	481840.19	0.3191	P	1.1
6	☐	200.000	201.557	952512.90	0.6639	P	0.1
7	☐	1.000					

y = 0.0033 * x + 8.2624E-005
R = 0.9998
DL = 0.0536
BEC = 0.02509

Weight: <None>
Min Conc: <None>

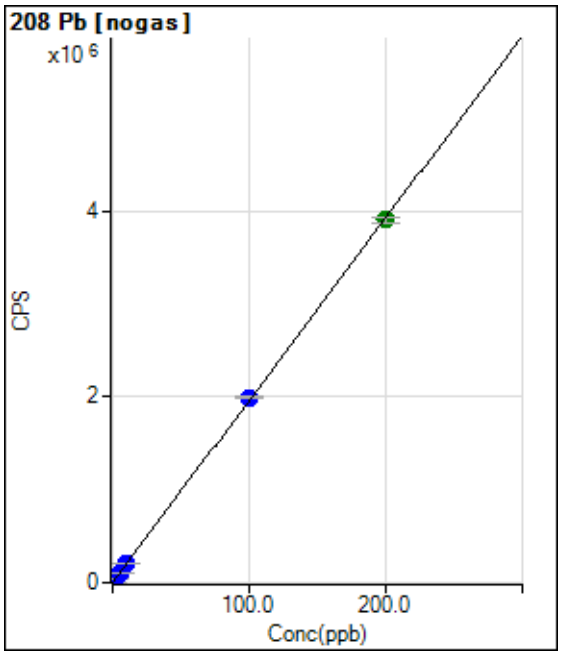


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	206.67	0.0001	P	26.9
2	☐	2.000	1.918	9059.33	0.0059	P	7.9
3	☐	5.000	5.035	23193.50	0.0153	P	5.4
4	☐	10.000	10.081	46507.09	0.0306	P	5.4
5	☐	100.000	97.626	445630.80	0.2951	P	0.3
6	☐	200.000	201.183	872236.99	0.6080	P	1.2
7	☐	1.000					

y = 0.0030 * x + 1.2679E-004
R = 0.9999
DL = 0.03392
BEC = 0.04196

Weight: <None>
Min Conc: <None>

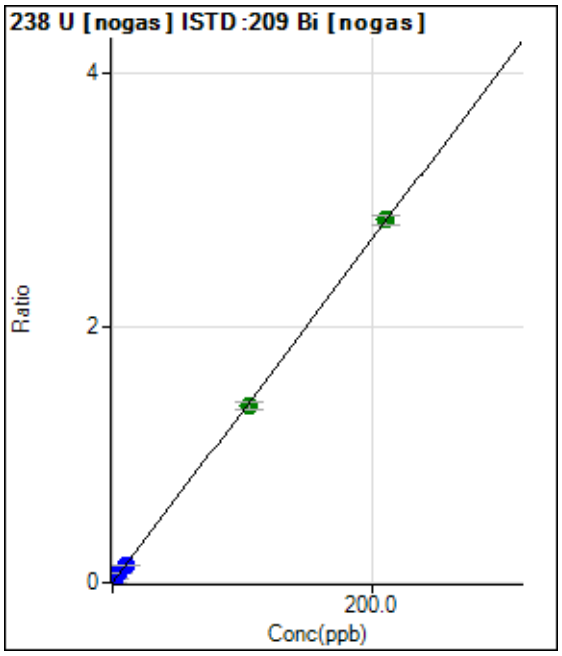
Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	723.35		P	11.3
2	☐	2.000	2.053	41004.52		P	4.8
3	☐	5.000	5.282	104372.61		P	2.6
4	☐	10.000	10.501	206792.44		P	1.4
5	☐	100.000	101.730	1997118.52		P	0.4
6	☐	200.000	199.102	3907987.42		A	1.5
7	☐	1.000					

y = 19624.4056 * x + 723.3500
R = 0.9999
DL = 0.01245
BEC = 0.03686

Weight: <None>
Min Conc: <None>

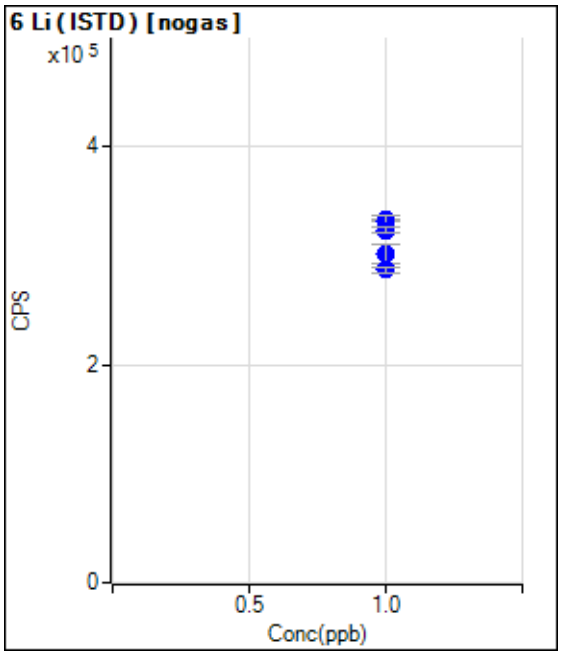


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	0.000	0.000	110.00	0.0001	P	33.2
2	☐	2.000	2.032	41999.64	0.0275	P	4.2
3	☐	5.000	5.203	106169.91	0.0702	P	3.0
4	☐	10.000	10.421	213798.00	0.1405	P	2.9
5	☐	105.000	102.975	2095865.23	1.3881	A	5.1
6	☐	210.000	210.987	4079109.10	2.8441	A	2.4
7	☐	1.000					

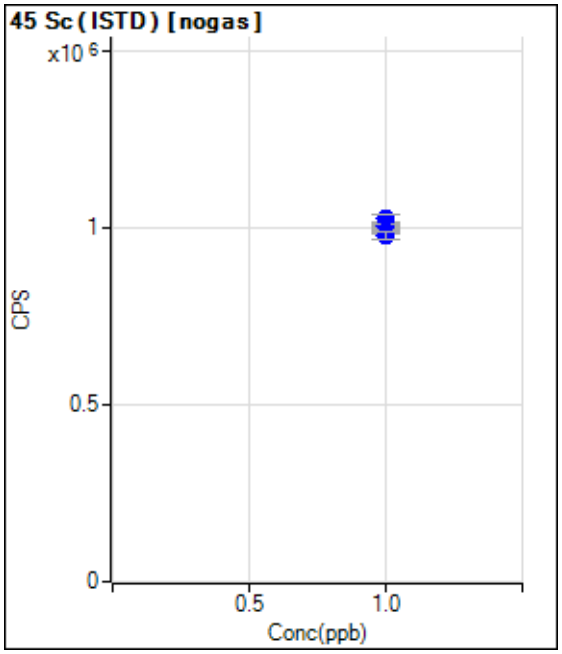
y = 0.0135 * x + 6.9397E-005
R = 0.9999
DL = 0.005124
BEC = 0.005148

Weight: <None>
Min Conc: <None>

Calibration for 120_ICV.d

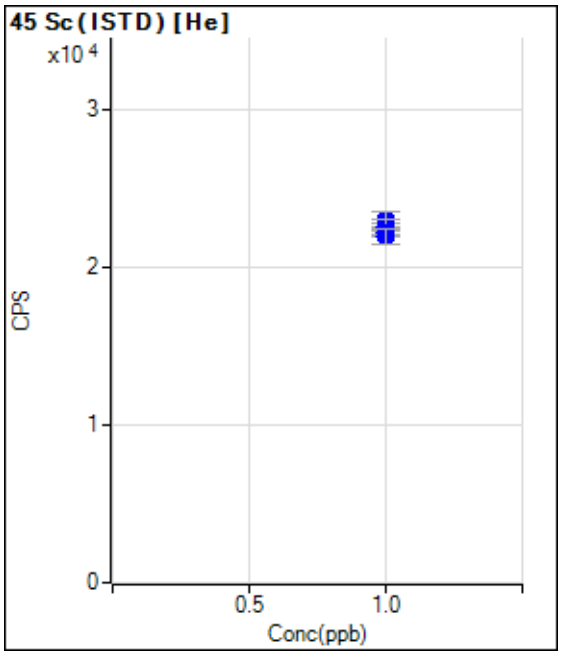


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		327043.41		P	3.4
2	☐	1.000		333110.75		P	0.1
3	☐	1.000		331990.29		P	3.1
4	☐	1.000		323537.78		P	1.6
5	☐	1.000		301589.24		P	6.0
6	☐	1.000		287215.97		P	1.5
7	☐	1.000					

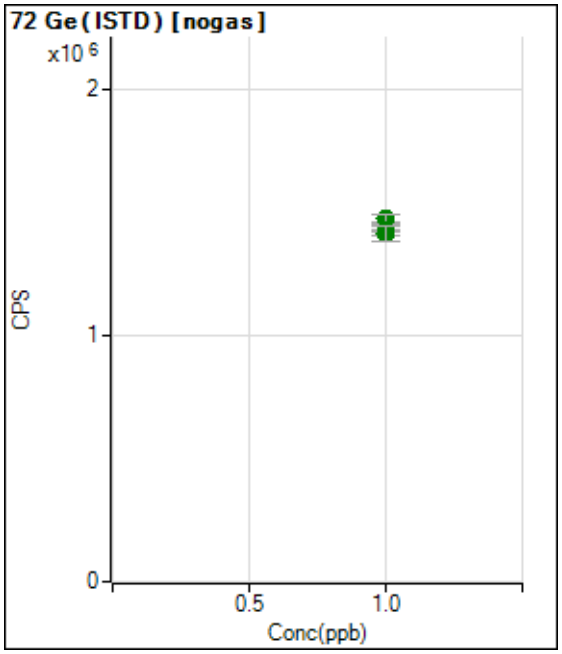


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1010141.65		P	0.4
2	☐	1.000		1024510.50		P	3.0
3	☐	1.000		1009859.00		P	1.5
4	☐	1.000		1006050.09		P	0.9
5	☐	1.000		988487.09		P	1.1
6	☐	1.000		977745.38		P	2.5
7	☐	1.000					

Calibration for 120_ICV.d

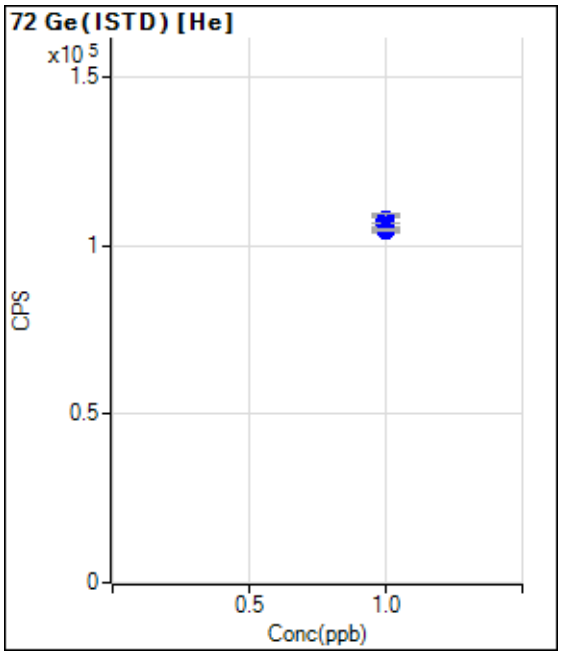


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		22013.45		P	4.7
2	☐	1.000		22991.24		P	4.9
3	☐	1.000		22540.66		P	2.4
4	☐	1.000		22557.49		P	3.9
5	☐	1.000		22156.89		P	2.0
6	☐	1.000		21893.28		P	4.4
7	☐	1.000					

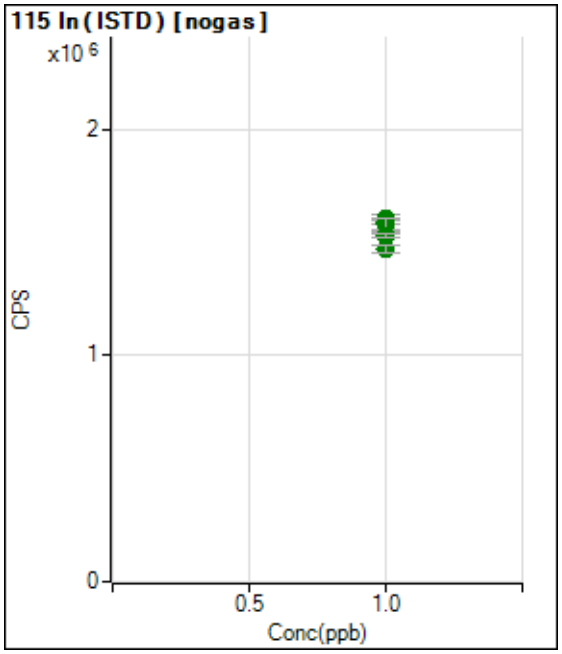


	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1420865.19		A	1.8
2	☐	1.000		1461922.12		A	0.4
3	☐	1.000		1475890.34		A	2.4
4	☐	1.000		1432246.90		A	1.6
5	☐	1.000		1425091.75		A	0.4
6	☐	1.000		1415256.59		A	4.6
7	☐	1.000					

Calibration for 120_ICV.d



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		106218.63		P	4.8
2	☐	1.000		106190.00		P	4.0
3	☐	1.000		107504.13		P	1.6
4	☐	1.000		107237.86		P	3.6
5	☐	1.000		106199.68		P	1.1
6	☐	1.000		104490.03		P	0.4
7	☐	1.000					



	Rjct	Conc.	Calc Conc.	CPS	Ratio	Det.	RSD
1	☐	1.000		1584599.40		A	4.4
2	☐	1.000		1602903.04		A	0.3
3	☐	1.000		1591039.09		A	1.8
4	☐	1.000		1579242.74		A	2.9
5	☐	1.000		1528557.77		A	0.9
6	☐	1.000		1470301.88		A	2.3
7	☐	1.000					